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A Companion to Early Modern Philosophy

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1

Introduction

STEVEN NADLER

The seventeenth and eighteenth centuries represent an extraordinarly rich period for philosophy in Western Europe. This is due not only to the fortuitous appearance of individuals of great natural genius – Descartes, Leibniz, Newton, et al. – but also, in no small part, to a confluence of various historical, intellectual, spiritual and even material factors: the rise of the new modern science, with its devotion to clear and fruitful mechanistic explanations of natural phenomena, along with the development of sophisticated conceptions of experiment and theory and consequent reformulations of the canons of knowledge; the radical rethinking of the cosmos entailed by new developments and discoveries in particular sciences, especially physics and astronomy; the culture-shock generated by the relatively recent confrontation by the West with theretofore unknown civilizations half a world away; the proliferation of centers of learning and channels of communication; and, not the least, the Protestant Reformation of the previous century, combined with the reactionary forces of the counter-Reformation.

In addition to all of these factors, some of which existed in tension with each other, there are also the important changes that took place in the social context of philosophizing itself. During the Middle Ages, philosophizing took place in the arts faculties of the schools and colleges – where ethics, logic, metaphysics, and physics were taught – and in the theological faculties of the universities. It thus came under the direct and censorious scrutiny of the Church. By the seventeenth century, however, although it was still the case that anyone who would earn a living by doing philosophical thinking and writing had either to belong to a university faculty or to teach in a college, it had become more common to find original philosophical minds working outside the strictures of the university – i.e., ecclesiastic – framework. Newton, to be sure, did have a professorship at Cambridge; Berkeley was an Anglican bishop, and Arnauld and Malebranche were Catholic priests. But Spinoza was an excommunicated Jew; Leibniz was employed as a librarian, diplomatic adviser and historian to German dukes; and Bacon, Descartes, Locke, Hume and many others were what would today be called "independent scholars." At the end of the sixteenth century, in other words, although there had already been a number of independent thinkers of great importance (such as Erasmus, Machiavelli and Pico della Mirandola), philosophy was still, for the most part, under the aegis of

ecclesiastics and their schools; by the end of the eighteenth century, it was a secular enterprise. Part of the reason for this may, in fact, have been that philosophers who sought to break out of the prevailing orthodoxy sought to create for themselves some space, and even institutions, for philosophizing outside of the universities.

On the other hand, I do not want to suggest that there is a radical discontinuity between early modern philosophy and what went before. The history of philosophy tends not to proceed by large-scale paradigm shifts. Descartes and his colleagues did indeed take themselves to be instigating a renewal of philosophy; but it is also the case that both the structure and the content of much of their philosophy has at least one foot in the scholastic mindset in which they were educated and against which they were reacting. They could not leave the influence and the material of the schools entirely behind, even if their intention was to move philosophy well beyond them.

What we tend to think of now as "philosophy," a broad but relatively precise discipline distinct from what we call "the sciences" and "religion" and characterized by certain kinds of (apparently unresolvable) questions, would have struck an early modern thinker as unreasonably narrow. The term "philosophy" included in the seventeenth century a great deal more than it does today, including much of what we take to be the physical and biological sciences. The makeup of the world around us – both the terrestrial and celestial realms – was, in the early modern period, as much an object of the philosopher's attention as the logical structure of an argument, the conception of the good life and metaphysical questions about being. Natural science was, indeed, simply "natural philosophy." Similarly, when studying the thought of the seventeenth and eighteenth centuries, we would do wrong to separate those figures who are properly "philosophical" from those who are "theologians" or "political theorists" or "jurists." The study of early modern philosophy demands that we pay attention to a wide variety of questions and an expansive pantheon of thinkers: the traditional canonical figures (Descartes, Spinoza, Leibniz, Locke, Berkeley, and Hume), to be sure, but also a large "supporting cast," including Christian apologists, mechanistic chemists, Jansenist polemicists, political pamphleteers, country priests, rabbinical messianists, and intellectually gifted queens, princesses and noblewomen.

As the editor of this volume, I have tried to insure that the essays reflect these facts, and that the reader will get a reasonably fair sense of the richness and variety of philosophy in the period. Of course, not all of the philosophers discussed in the chapters that follow are of equal significance. As essential as it is to be ecumenical in deciding whom to include, it would be absurd to treat all figures and movements as being of the same importance. Thus, a number of thinkers are given essays of their own, some longer than others; other thinkers are incorporated into extended discussions of movements or context. Another editor might have done things differently in these regards; and a discussion of that question would be of great value in its own right.

Two particular questions about inclusion, however, do need to be addressed briefly here. Naturally, the division of the history of a field into distinct periods involves a great deal of arbitrariness. Why should the early modern period in

philosophy begin with Descartes and Bacon, for example, rather than with Erasmus and Montaigne? (How, in fact, are we supposed to separate "early modern" thought from that of the late Renaissance?) And why should it end just before Kant rather than, say, with Hegel? There are no answers to these questions that will satisfy everyone. Suffice it to say that at the beginning of the seventeenth century, and especially with Bacon and Descartes, certain questions and concerns come to the fore – a variety of issues that motivated the inquiries and debates that would characterize much philosophical thinking for the next two centuries. As for Kant, the only reasonable answer that comes to mind is that Kant's philosophy does indeed represent so much of a break from what went before that it seems more of a new beginning than the culmination of a preceding tradition.

Perhaps less arbitrary, and certainly – in terms of realistically containing the scope of this book – practically necessary, is the limitation of our geographical attention to Western Europe. In many respects, it is the Western European philosophers in the early modern period who set the agenda for philosophy today as it is practiced in much of the English-speaking world (and the French-, German-, Italian-, Spanish-, and Dutch-speaking worlds as well) – not only with regard to its aims and problems, but also in terms of method. Moreover, confining our attention to this part of the world in this particular time period, and starting and ending with these specific philosophers and movements, is also useful for allowing some kind of narrative unity – or, better, a series of narrative unities – to emerge from the essays. The history of philosophy in the seventeenth and eighteenth centuries in Western Europe contains a number of very interesting stories, stories that readers will see develop not only in individual chapters, but especially as they carry on through a number of essays. Some of these are success stories; others are tales of failure. All of them are enlightening for what they tell us about the practice of philosophy not only in the period, but also today.

Steven Nadler

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Part I

THE SEVENTEENTH CENTURY: THE CONTINENT

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2

Aristotelianism and Scholasticism in Early Modern Philosophy

M. W. F. STONE

Any English-speaking student bold enough to study the so-called Aristotelian Scholastic philosophy of early modern times will immediately confront several difficulties. The first concerns terminology. To describe the distinctive traditions and quite different personalities of early modern non-canonical philosophy as wholly "Aristotelian" or else as irreducibly "Scholastic" is to run the risk of caricature and simplification. For whenever the multifaceted traditions of Aristotelian Scholastic thought are viewed in the context of their times, or seen in terms of their vast resources of texts and argument, or analyzed with reference to the institutions of learning that hosted their speculations in the years from the Reformation to the Enlightenment, it becomes evident that the actual terms "Aristotelian" and "Scholastic" invite further specification.

The reason for this is as follows. Those movements in philosophy that looked to the work of Aristotle or else to the heritage of medieval masters were far from homogenous. From the universities and Reformed Academies of England, Scotland, Germany, Scandinavia, Central Europe, and the Low Countries in the north, to the universities, salons and religious houses of France, Spain, Portugal and Italy in the south, one can find self-styled "Aristotelians" and committed "Scholastics" pursuing miscellaneous lines of inquiry, and arriving at radically different conclusions in logic, natural philosophy, metaphysics, ethics, and theology. In so many cases what appears to unite seemingly monolithic groups of philosophers can just as much prove a stimulus to dissension and disagreement. Just because a particular thinker in seventeenth-century Oxford might define himself as an "Aristotelian" or "Scholastic," we cannot presume that he will share the same set of methodological assumptions, let alone embrace similar conclusions as an "Aristotelian" or "Scholastic" thinker in (say) Paris, Rome, Salamanca, Evora, Heidelberg, Cracow, Danzig, Louvain, or Utrecht. Only detailed study of individual texts and thinkers at different times and places can establish whether any commonality of purpose existed among the many philosophical thinkers who were influenced by Aristotle and the medieval scholastics. For the purposes of this chapter, the unsatisfactory term "Aristotelian Scholastic" will mean no more than a thinker who looked to the works of Aristotle and the medieval schoolmen for stimulus and guidance.

This last point brings us to a second complication. Despite a developing interest among English-speaking historians of philosophy in certain aspects of the non-canonical philosophy of the early modern period, we remain in a position of profound ignorance about what is referred to as Aristotelian Scholasticism. With the exception of a number of recent studies that have sought to illuminate the thought of influential thinkers such as GALILEO (chapter 4), DESCARTES (chapter 5), HOBBES (chapter 22), and LEIBNIZ (chapter 18), by considering the context in which they worked, the institutional philosophy of the period remains unstudied by contemporary historians of philosophy. Because of this it is extremely difficult for a student who lacks the ability to read Latin and modern European languages to access the issues and arguments of Aristotelian Scholasticism. Until such times as English-speaking scholars display a greater willingness to translate a much more representative selection of Aristotelian and Scholastic texts (other than those of immediate relevance to understanding the work of canonical authors), it will be difficult to present students with anything like a comprehensive picture of Aristotelian Scholasticism.

A further difficulty that confronts the student concerns the fact that whenever Aristotelian Scholasticism is studied by English-speaking scholars, it is rarely presented as an area of intrinsic interest. For the most part, contemporary historians of philosophy tend to imitate the disparaging comments that "modern" philosophers such as Bacon, Hobbes, Descartes, and Locke directed at their scholastic teachers. Thus, they are moved to present an evaluative contrast between "conservative," "backward looking," or "inept" scholastics and Aristotelians and the true "innovators" and "revolutionaries" of modern philosophical thought. The governing assumption here is that as the seventeenth century witnessed a profound shift in the direction and quality of philosophical thought, the progenitors of modern philosophy advanced philosophical reasoning to new levels of accomplishment. For good or for ill, the prevailing belief that modern European philosophy was born out of a systematic and self-conscious attempt to jettison its past, has conspired to diminish the importance of Aristotelian and scholastic traditions of philosophy.

A final complication that surrounds this area of study has to do with the fact that a significant part of its philosophical subject-matter is to be found in discussions and debates that today would be classified as "theology" or "science." In the case of the former, it is important to realize that "Aristotelian" theories of method as well as scholastic principles of metaphysics, were familiar features of different types of theological argument. Sixteenth and seventeenth-century theologians of different denominations advanced arguments that were framed in the language of the medieval schools and the Aristotelian tradition. For this reason, many subjects relevant to the study of the philosophy of the period are to be found in theological debates. In the case of "science," a subject treated more formally in later chapters of this book, we find many thinkers promulgating theories of place and motion that were indebted to the texts of Aristotle and his medieval interpreters. Seen thus, Aristotelian Scholastic philosophy is not just to be found in the textbooks of the period, but is also evident in other forms of theological and scientific discourse.

Viewed from the perspective of these complications, it is hardly surprising that Aristotelian Scholasticism has for so long been considered marginal to the interests

of scholars of the history of philosophy. Should we allow these difficulties to determine our view of the subject, there would be little point continuing this essay, since the problems that surround the study of early modern Aristotelian Scholasticism would be impossible to resolve at this level of secondary commentary. Yet despite these obstacles, it is possible to relate something of the philosophical contribution made by early modern scholastics and Aristotelians. This is to be observed not so much by comparing the methods and arguments of these thinkers with the ideas and theories of the canonical philosophers of the period, but by examining the work of Aristotelian and scholastic thinkers in terms of the intellectual heritage and specific influences that shaped their work. In this way, we need to be much more attentive to the actual problems that such philosophers attempted to resolve, to the institutional contexts in which they worked, and to the interaction they had, both among themselves, and with thinkers from other philosophical traditions.

In order to relay something of the significance of Aristotelian Scholastic philosophy, I shall divide the essay into the following sections. In the first part I shall consider the place of Aristotle in the philosophical curriculum of the sixteenth and seventeenth centuries. This discussion will enable the reader to appreciate why Aristotelian positions dominated the philosophical discussion of the period. Going on from there, we shall have cause to examine the diversity of medieval sources and traditions of argument that Aristotelian Scholastic philosophers reflected in their work. This discussion will enable us to show that the use and appropriation of the medieval past was complicated, subtle and varied. This last point will support one of the main contentions of this chapter that the Aristotelian Scholasticism of early modern philosophy was a much more variated and pluralistic movement than is commonly assumed. Having sketched the use and influence of Aristotelian arguments and medieval thinkers on early modern philosophy, we shall proceed to consider one of the chief products of Aristotelian Scholasticism: the "philosophical textbook." Our survey will conclude with some general observations concerning the place of Aristotelian Scholasticism in any reliable cartography of early modern philosophy.

1 Aristotle and Early Modern Philosophy

Since the official adoption of his books as appropriate objects of study by the arts faculty of the University of Paris in 1255, Aristotle has been a constant feature of the European world of learning. For medieval philosophers he was known as the "philosopher" and despite innumerable criticisms of his work, was looked upon as the first, and often the last word on philosophical matters. In the later middle ages, Aristotle's writings on logic and natural philosophy formed the centerpiece of university studies in the arts and provided an essential preparation for a career in medicine, law or theology, while his works on ethics, poetics and politics were widely read and discussed by a learned public increasingly educated in the methods of the cultural movement we now know as "humanism."

The place of Aristotle in early modern philosophy is best viewed retrospectively as deriving from the diverse debates and movements that his work initiated in the

fifteenth and sixteenth centuries. Despite the emphasis accorded to Platonism in the period from 1400 to 1600 in general histories of culture, philosophy at this time reveals itself to be as much preoccupied with the study of Aristotle as it was influenced by the work of Plato. Since most students of philosophy in these years received their intellectual apprenticeship in the arts faculties of major European universities, a training which was based on a thorough study of the works of Aristotle, it is unsurprising that those who became professors continued to base their instruction on the Aristotelian corpus. Many individual writings reflect these preoccupations as can be observed in treatises like *On the Immortality of the Soul* (1516) by Pietro Pomponazzi (1462–1524) and *On the Nature of Natural Science* (1586) by Jacopo Zabarella (1532–89). While both works address themes that were peculiar to the authors' time and context – in this case psychology and natural science – they can still be viewed as a systematic exposition of a particular topic that is strongly grounded in a text of Aristotle.

Much of the continued predominance of Aristotle in early modern philosophy was due to the industry of individual humanists, their expertise in Greek, and the new critical editions they produced. The Greek text of Aristotle's work was published in Aldo Manuzio's edition of 1495–98. From that date new editions were produced at regular intervals, with the advent by 1530 of bilingual editions containing Greek, Latin, and vernacular languages. The cause of disseminating Aristotelian philosophy with its variant readings and different methods of exegesis was further assisted by the production of new editions of Aristotle's Greek and Arab commentators. Further to this, editions of the great medieval commentaries by Albert the Great (1200–80) and Thomas Aquinas (1224–74) were also printed, with the result that by the end of the sixteenth century, readers had unprecedented access not only to the original Greek texts and commentaries, but also to Arab and medieval sources that had helped to promote and condition "Aristotelian" philosophy from ancient and medieval times.

One obvious consequence of this wealth of material is that it occasioned many different ways in which the philosophy of Aristotle came to be read and appropriated. The plurality of positions and views that claimed a warrant in the texts and arguments of Aristotle were constructed out of a protracted conversation with the *corpus Aristotelicum*. This can be observed in the individual fields of logic and methodology, natural philosophy, psychology, ethics, and political philosophy. Given the gargantuan body of texts and materials that attend these areas of study, I shall select from this profusion of sources the subjects of logic and method, and psychology, in order to illustrate how seemingly similar "Aristotelian philosophers" could arrive at radically different views.

In logic and methodology sixteenth-century thinkers developed an account of scientific method that built upon the account of demonstration set down by Aristotle in his *Posterior Analytics*. Nicoletto Vernia (*fl.* 1471) examined questions concerning demonstration and method in his Paduan lectures on Aristotle's text. Among the subjects he considered, Vernia discussed the question whether demonstration is circular. This topic was also treated by his pupil Agostino Nifo (1473–1538), who argued in his youth that a movement of the intellect could discern a true cause thereby making a genuine demonstration possible. In his maturity, Nifo

would change his views on the basis of reading Aristotle's Greek commentators, in particular Alexander of Aphrodisias (*c.* 200), Themistius (*c.* 317–*c.* 388), Simplicius (after 529) and Philoponus (*fl.* 529), and would deny the need for a special movement of the intellect. He came to embrace the thesis that the very best that could be achieved in natural science was a form of hypothetical demonstration.

A similar discussion of methodology can also be found in the work of very different "Aristotelian" philosophers such as Bernardinus Tomitanus (d. 1576) and his able pupil Zabarella. In his treatise *On the Regress*, Zabarella considers the very nature of scientific investigation and argues for a rapprochement between Aristotle and Galen (*c.* 129–199). He argues that the first type of demonstration mentioned by Aristotle, so-called demonstration *quia*, provides us with a method of reasoning from effect to cause, without ever supplying us with a proper reason for the effect. Nevertheless, from the cause to which our initial knowledge of the effect leads, we can eventually achieve a full account of the proximate cause of the effect. That is, we can arrive at an argument that fully reveals the cause by providing a *propter quid* demonstration that states the reason why the effect has come about.

Another issue to which sixteenth-century Aristotelians devoted time and attention was the traditional medieval problem of the "hierarchy of the science," and of the place of natural philosophy within that hierarchy. Zabarella was again at the forefront of this discussion. He believed that natural philosophy must aim at a perfect understanding of natural effects through their causes, but that metaphysics being dependent on human reason is unable to attain such perfection. For Zabarella, metaphysics can prove all the principles of other science, but it can do so only in the context of its own discourse and not in the realm of special sciences. So, for example, the principles of natural science must be proved through the principles proper to that science.

One of Zabarella's significant discussions of this topic takes place in his *Commentary on Aristotle's On the Soul*, a work published after his death. There, he states that many have said the nobility of the subject-matter should be given precedence, because only then can the absolute primacy of any individual science be entertained. Zabarella then proceeds to qualify this statement by adding that in most cases, the science with the nobler subject-matter can be considered superior, but not in every case. All human knowledge can be compared, and there are no grounds for giving either of these criteria absolute priority. In his works on method Zabarella states that in the contemplative sciences, the nobility of the subject-matter should be considered superior to the causality of the knowledge. Yet in logic, where the claims of science are considered, the nobler end of any science is that which is concerned with more precise and more certain knowledge.

With regard to the topic of the certainty of demonstration, the sixteenth century witnessed a debate about the correct translation of Aristotle's use of the Greek word *akribeia*. According to Zabarella, it had been traditionally translated into Latin as *certitudo or certus* (certain), but it should be rendered as *exactus* (exact). What is known by the senses is known with certainty, but perhaps not exactly because it does not reveal the causes and nature of things, and is thus incomplete. Knowledge for Zabarella is "exact" not only when it is certain but also when it is complete. Seen from this perspective, Zabarella wanted to emphasize the nobility of

demonstrative knowledge compared with knowledge obtained through one's perception, knowledge he refused to classify as genuinely "scientific."

It is important to remember that during this time of considerable religious change and political upheaval, Aristotle was by no means the property of scholars in countries that remained faithful to the Catholic faith. In the Reformed Academies and Lutheran universities of northern Europe, we find thinkers who looked to Aristotle to provide sound and lucid instruction especially in matters concerning logic and metaphysics. Among the best known "Lutheran Aristotelians" are Jacob Schegk (1511–87), and Philip Melancthon (1497–1560), while Bartholomeus Keckermann (1571–1609) and Rudolph Goclenius (1547–1628) and Clemens Timpler (1563/4–1624) achieved distinction among the ranks of Calvinist thinkers.

The publication at Basle in 1594 of Zabarella's *Opera logica (Logical Writings)* played an important part in the development of Lutheran theology, where the need was increasingly felt to make the presentation of revealed theology more "scientific." The neo-Aristotelian or "analytic method" worked out in part by Zabarella was applied to theology in the hope that the claims of doctrine could be made more coherent. Following accepted teaching, Lutheran theologians held that the theoretical sciences employed a synthetic method in the presentation of doctrine drawing conclusions from first principles, but that the practical sciences (such as revealed theology) make use of the analytic method, which takes as its point of departure the end or purpose of an action, and seeks to discover the means and principles by which the end is attained. When applied to theology, this method presents the Christian aspiration of eternal beatitude as the end to be achieved, soteriology as the means to the end, Christology as its principle, and the doctrine of man and creation as concerning the subject by whom the end is attained. With the publication of Georg Calixt's *Summary of Theology (Epitome theologiae)* in 1619, the analytic method became the standard way of ordering doctrine in Lutheran dogmatic theology.

The analytic method enjoyed relatively little success in those German territories that leaned towards Calvinism. In accordance with the spirit of Reformed Scholasticism, many Calvinist theologians at the universities of Heidelberg, Marburg and later at Herborn and Burgsteinfurt regarded the science of theology as essentially speculative rather than practical. Thus Reformed dogmatics began with God as the first cause and final goal of all things, and treated His eternal decrees of providence and predestination, before considering the government of the created order in time. Consequently, whereas Lutheran authors only admitted with reluctance the necessity of an independent natural theology, Calvinist thinkers tended to distinguish clearly between two sciences: a science of God (to the extent that such a body of knowledge is accessible to sinful human reason) and a science of being (understood as a universal science which supplies principles for all particular sciences).

Towards the end of the sixteenth century the term "system" (*systema*) began to be used by Reformed theologians for ordered compilations of Christian teaching and other branches of human knowledge. The term acquired its technical sense of a body of knowledge unified by a single idea or principle in writers like Keckermann. These thinkers understood each of the liberal arts as a system of precepts and rules according to which a subject-matter is arranged for correct explanation. The

enthusiasm for this methodology in Reformed circles stretched from Keckermann to the work of Timpler in the mid-seventeenth century. In many ways, Timpler stood at the end of an epoch, for the Thirty Years War (1618–48) was to put an end to Calvinist Aristotelianism. That said, the prevalence of the idea among Reformed thinkers that the sum total of human knowledge could be codified as a "system," prepared the way for the development of the modern encyclopedia. In this way neo-Aristotelian ideas about method would continue to influence European thought well into the eighteenth and nineteenth centuries.

Turning to psychology, we find that the basis for reflection in this subject was provided by Aristotle's *On the Soul* and the many different modes of interpreting that text that had come down to early modern thinkers. Three problems, two of which concern human cognition and the third of which addressed immortality are deserving of mention. The first concerns the nature of sensation as presented by the theory of "agent sense" which was proposed as an analogue to the existing model of the agent intellect. Inspired by the teaching of Averroës (1126–98), medieval thinkers like John of Jadun (*c.* 1258/9–d. 1328) had proposed that the object of sensation had to be spiritualized by an active power, an agent sense (*sensus agens*), if sensation was to take place. The agent sense was discussed by other fourteenth-century philosophers like John Buridan (*c.* 1300–*c.* 1358) and Marsilius of Inghen (d. 1396) and in the fifteenth century by Cajetan of Thiene (1387–1465). He proposed that a separate "intelligence" is responsible for the spiritual mechanism required for sensation to occur. Agostino Nifo took issue with this thought and conjectured that God was the "intelligence" and cause of sensation that Cajetan of Thiene had talked about. Significantly, Nifo's work was later criticized by Cardinal Cajetan (1469–1534), Pomponazzi, and Zabarella who discussed and then rejected the theory of the agent sense as either a "corruption" of Aristotelian teaching, or else as a doctrine incompatible with Christian teaching.

The second problem concerned the problem of the relation of the rational soul to the human body. The reception of the varied opinions of Aristotle's Greek, Arab and Latin commentators helped to complicate discussion of this issue. The availability by the end of the fifteenth century of Latin translations of Alexander of Aphrodisias' own *On the Soul*, Themistius' paraphrases of Aristotle's *On the Soul* and the commentary on that same work traditionally attributed to Simplicius, provided students of Aristotle's psychology with many different interpretative techniques. Alexander's work presented a view of the soul as resulting from a harmony of bodily parts, while the commentary attributed to Simplicius presented a strikingly dualistic conception of the relation of the soul to the body.

While those Aristotelians who read Alexander and Simplicius would have found the human soul to be many, that is, one soul for each human being, the interpretation of Averroës was quite different. His theory set out in his *Long Commentary on Aristotle On the Soul* was that each human being had an individual sensitive soul and a set of internal senses that were numerically distinct in each human being. On the other hand, there was numerically only one intellect for the entire human race, and this intellect served as an "intellective soul" for each human being. Renaissance and early modern Aristotelians like Vernia, Nifo, Alessandro Achillini (1463–1512), Marcantonio Zimara (d. 1532), Pietro Trapolin (1451–1506),

Marcantonio Genua (d. 1563) and Zabarella expended much time and effort in expounding the Averroist interpretation of Aristotelian psychology and were prepared to confront the serious problems that lurked in this theory of the soul. Their attempts to resolve the long-standing issue as to whether or not an Averroist view of the soul could be made to fit the requirements of Christian teaching would have profound implications for later writers.

The third problem concerned whether the immortality of the rational soul could be demonstrated. Drawing on the precedent of medieval thinkers such as Thomas Aquinas, Siger of Brabant (*c.* 1240–84) and John Duns Scotus (1275–1308) who had addressed this question and had arrived at differing conclusions, sixteenth- and seventeenth-century Aristotelians found it difficult to construct any lasting consensus. Again the influence of Greek and Arab commentaries on Aristotle's *On the Soul* proved decisive, not only in recasting the terms of reference of the debate but in grounding the respective conclusions of the participants. This last point can be illustrated first by calling attention to Pomponazzi's *On the Immortality of the Soul.* In his earlier work Pomponazzi had regarded Averroës as the best interpreter of Aristotle's psychology, although he did use to great effect Alexander's *On the Soul* in the translation by Donato. By the time he wrote the above treatise in 1516 he had changed his mind and now drew on the arguments contained in Thomas Aquinas's anti-Averroist treatise *On the Unity of the Intellect* (1269) to discredit the doctrine of "monopsychism" or the view that there is only one intellect. Significantly, he then draws on arguments from Alexander to discredit Aquinas's attempt to demonstrate the soul's independence from the body. Pomponazzi concluded his treatise by stating that the soul cannot be demonstrated to be immortal by means of philosophical argument; one must believe that it is so on the basis of faith.

Throughout the sixteenth century the debate on the immortality of the soul continued with many incompatible positions advanced in the name of Aristotle. For instance, Simone Porzio (1496–1554) in *On the Human Mind* (1551) postulated that generation and corruption of human beings is not that different from other animals, and that the intellect of the human being is purely material. Zabarella in his *Commentary on Aristotle's On the Soul* candidly stated that according to true philosophy the human soul is a form giving existence to matter and yet separable and immortal, since it is not educed from the potency of matter but created by God. This, he says, is in accord with Christian teaching but is contrary to the views of Aristotle.

Elsewhere in his *On the Human Mind* (published 1590) Zabarella is skeptical that Aristotle ever knew of the immortality of the soul, and praises Pomponazzi as providing the best account of Aristotle's views. That said, Zabarella then proceeds to criticize Pomponazzi's interpretation of one of Aristotle's most suggestive of phrases that the "intellect comes from without" (*On the Generation of Animals*, 2. 3 736b27). These thinkers aside, there were others who held that Aristotle had demonstrated that the soul was immortal. One such was Francesco Piccolomini (1520–1604), who maintained, contrary to Pomponazzi, Cardinal Cajetan and Zabarella, that Aristotle held that the human soul was not the form of the body but was related to the body as its actuality in the manner in which a sailor is the actuality of a ship.

Nothwithstanding these efforts, it should be stressed that as the sixteenth century drew to a close we find many Jesuit thinkers like Franciscus Toletus (1536–96) and Francisco Suarez (1548–1617), both enthusiasts for Aristotelian metaphysics, arguing that the statements of Christian thinkers like Thomas Aquinas were a much better source for speculation on the intellect and its immortality than the work of Aristotle. In the case of Suarez's account of human psychology, his real philosophical innovation resided in the question of the cooperation of the agent intellect with the *phantasma* in producing intelligible species, which involved the transition from the materiality of the sensible object to the immateriality of the intelligible object as the precondition of knowledge. The attempts of Suarez's predecessors to account for this transition were inadequate in his eyes, since in principle there seemed to be no way for the material and the immaterial to cooperate, and the only thing imagination and intellect had in common was that they were rooted in one and the same soul. Suarez argued that imagination and intellect acted in harmony and in parallel, so that whenever the imagination produced a phantasm (or image), the intellect produced an intelligible species and vice versa. In this way, Suarez might be said to anticipate, if only in part, the psychophysical parallelism which Leibniz postulated more than a century later to overcome what he considered to be problems with Descartes's account of mind–body interaction.

Even from this briefest of surveys (and remember that I have not considered other important subjects like metaphysics, natural science, moral philosophy, and politics), what emerges is that early modern philosophy nourished many different "Aristotelianisms." We have had cause to note a "Scholastic Aristotelianism" that looked mainly to medieval interpretative authorities to expound Aristotle's teaching and which stressed its compatibility with the Christian tradition, a "Secular Aristotelianism" that looked more to the Greek text and commentators in order to recover more authentic readings, a "Lutheran Aristotelianism" that was concerned with how the "analytic method" could be transposed to the revealed theology, and a "Calvinist Aristotelianism" that sought to codify the sum total of human knowledge in a finite set of scientific principles. These very different practices of interpretation licensed philosophical positions that were at odds with one another. Yet, considered in terms of a common lineage, they were all "Aristotelian" since they looked to the texts of the Stagirite for guidance and inspiration.

II Medieval Thought in Early Modern Scholasticism

The diversity of "Aristotelianisms" is matched by the different medieval influences that are evident in the scholastic thought of the period. If sixteenth- and seventeenth-century thinkers learnt to engage with Aristotle in novel ways as a result of having at their disposal new editions and interpretative devices, then the same can be said of the intellectual heritage of medieval philosophy and theology. As a result of the revolution in print and the educational reforms initiated by the events of the Reformation – here one thinks of either the establishment of Roman Catholic colleges and seminaries after the Council of Trent or the advent of the

Reformed Academies – early modern thinkers were able to appropriate different aspects of medieval philosophical and theological thought.

Attention was now given over to establishing intellectual continuity with the medieval past in order that a thinker or denominational school could defend a particular thesis against attack from sectarian opponents. In many disputes between Catholics and Protestants, or among the different denominations of Protestants, the scholasticism of the Middle Ages would feature as an area of intellectual controversy. Significantly, Lutherans, Calvinists, and Anglicans, particularly in the first five decades after their break with Rome, chose to preserve a form of dogmatic theology that was indebted to the methods and procedures of late medieval scholasticism. For this reason, many of the able minds of the thirteenth and fourteenth centuries such as Thomas Aquinas, John Duns Scotus, and William Ockham (1285–1349) continued to figure in their work. However, great care was expended in showing that the arguments of medieval authorities were never at variance with the teachings of scripture, or that they contravened the requirements of Christian orthodoxy as set down by early Fathers of the Church such as Augustine.

What we now refer to as "Protestant Scholasticism" continued to promote a form of natural theology in which it was held that the existence of God could be demonstrated by human reason. These stock arguments which were indebted, in part, to the writings of Aquinas, are in evidence along with the other basic principles of scholastic metaphysics in the work of Calvinist thinkers like Peter Martyr Virmigli (1499–1562), in Anglicans like Jeremy Taylor (1613–67), and Lutherans such as Johann Gerhard (1582–1637). Only as the seventeenth century progressed do we witness a reduction in enthusiasm for natural theology and scholastic metaphysics in some Reformed circles, although it remained a recognizable feature of the philosophical scene in some Dutch universities – especially at Leiden – up to the close of the first half of the century.

Among Catholics, the appropriation of the medieval past was less problematic. After the Council of Trent (1545–63) much effort was expended in selecting and prioritizing those individuals, texts, and arguments that could be used to advance the Catholic cause. At this time, the main authority in all matters related to theology was Thomas Aquinas. The early modern period witnessed his growing reputation leading to his "coronation" as the "Prince of Theologians" when his *Summa theologiae* was laid beside the Sacred Scriptures at Trent. Further to this Pope Pius V in 1567, proclaimed Thomas a "Doctor of the Universal Church," thereby ensuring his indispensability to theological posterity. The publication of the Piana edition of Thomas's works in 1570, and the multiplication of editions of the *Summa theologiae* and other works in most Catholic countries, testify to the extent of his reputation at this time. It is further significant that Thomas's work was adopted by the Jesuits, who with the Dominicans (the traditional custodians of Thomism) did much to promote the study of Thomas's theology and philosophy both as end in itself, and as part of their many polemics against the Protestants. Jesuit commentators who wrote able commentaries on the texts of Thomas were Suarez and Gabriel Vasquez (*c.* 1549–1604).

In the sixteenth century one of the main centers for the study of Thomas was Spain, especially the University of Salamanca. When the very able political thinker

and theologian Dominican Francisco de Vitoria (1483–1546) returned to Spain from his studies at the University of Paris in 1523, he brought with him the newly acquired practice of commenting on the *Summa theologiae* as opposed to the *Sentences* of Peter Lombard (*c.* 1100–60). In the remaining years of the sixteenth century, Salamanca would house the most creative Dominican logicians, political theorists, and theologians in the Catholic world. What is interesting about their work is that their contributions to a philosophical subject are to be found in their commentaries on Thomas's *Summa*, especially the *Prima secundae* and the *Secunda secundae*. Thinkers worthy of mention in this regard, all of whom followed in Vitoria's footsteps and held the *cathedra de prima* at Salamanca, are: Melchior Cano (1509–60); Dominic de Soto (1494/5–1560); Pedro de Sotomayor (d. 1564); Joannes Mancio de Corpore Christi (1497–1576); Bartholomeo de Medina (1528–81); and Domingo Bañez (1528–1604).

Despite the theoretical and practical accomplishments of the Salamancans, a distinguishing feature of Thomism at this time was its lack of anything that could be meaningfully referred to as consensus. The pattern and degree of disagreement in Thomist circles is nicely illustrated with reference to one of the more acrimonious disputes of early modern times: the "*De auxiliis*" controversy. At its most basic, this was a debate over the extent to which human free will could be guaranteed in the light of divine foreknowledge and predestination. It raged from 1588 when the Jesuit Luís de Molina (1535–1600) published his *The Compatibility of Free Choice with the Gifts of Grace, Divine Foreknowledge, Providence, Predestination and Reprobation*. This event moved theologians like Francisco Zumel (1540–1607) and the Dominican Bañez to respond with detailed criticisms of Molina's thesis, which they held had departed not merely from the letter of Thomas's texts but also from their spirit. With daggers now drawn and reputations at stake, a whole generation of Catholic theologians took sides, some siding with Molina, such as his fellow Jesuits, with others, notably members of the Dominican order, following Banez's lead. In the midst of all this *odium theologicum* we find figures such as the imposing Cardinal Robert Bellarmine (1542–1621) arguing for moderation on all sides. In an effort to quell the anger and dilute the bile, Pope Clement VII established in 1597 the "Congregation on Grace" which met for ten years to resolve the problem. At the end of this period Pope Paul V, clearly fed up with the inability of his learned doctors to reach a conclusion, issued a decree forbidding the parties to accuse one another of heresy and added that the papacy would resolve the issue "at an opportune time." To this day the papacy has still to reach a verdict.

In its early inception the *De auxiliis* debate was as much a dispute as to how to read Thomas, especially crucial passages in *De veritate (On Truth)* q. 1 a. 2, as it was a debate about grace and nature. As a solution to the invidious problem created by the existence of divine predestination and human free will, Molina proposed the novel notion of "middle knowledge" (*scientia media*). Put briefly, this is the view that God has knowledge of particular kinds of propositions, or what are referred to in contemporary philosophy as "counterfactuals of freedom." These propositions state, concerning each possible free creature that God could create, what that creature would do in a situation of free choice in which it could possibly find itself. For Molina, the claim that God knows these propositions offers the theological benefit

that one can now explain both how God can have foreknowledge of free actions, and how God can maintain close providential control over a world containing genuine human freedom.

It is important to remember that the *De auxiliis* dispute was by no means a heated spat among Thomists or the sole preserve of scholastic authors. It permeated its way to the very heart of early modern philosophical thought and can be seen as a problem that preoccupied thinkers as diverse and creative as the French Jansenist ANTOINE ARNAULD (1612–94, chapter 8), the Oratorian NICOLAS MALEBRANCHE (1638–1715, chapter 11), and even the ecumenically minded Leibniz. The more general issues concerning grace and nature that the debate had identified were also an important theme in the Jansenist critique of Jesuit moral theology, a dispute that bequeathed one of the greatest (if unjust) satires of the seventeenth century, Blaise Pascal's (1623–62) *Les Proviniciales (Provinicial Letters)*. Further to this, the *De auxiliis* controversy did not just affect the Catholic world. In Calvinist circles, especially in the Netherlands, theologians struggled to come to terms with the teaching of Jacob Arminius (d. 1606) who advanced a view on providence that drew upon aspects of Molinism. The position of Arminius was later taken up by HUGO GROTIUS (1583–1645, chapter 15) whose theological opinions were criticized at length by Antonius Walaeus (1573–1639).

One of the more interesting Thomist thinkers of the seventeenth century was the Louvain theologian Johannes Wiggers (1571–1639). Wiggers's *magnum opus* was his posthumously published commentary on the first part of Aquinas's *Summa theologiae* in 1641. Unlike his many contemporaries, Wiggers does not paraphrase Thomas's text, but frequently explains that Thomas's meaning is sufficiently clear not to stand in need of commentary. Rather than glossing the text, he uses it as a means by which other positions, notably those of Scotist theologians, can be assessed and debated. In this respect the text of Thomas is used as a stimulus to philosophical and theological debate, it is not treated as an infallible guide to be followed at all times. His independence of mind is to be observed in his treatment of the divine attributes and the soul. Further research is needed before we can gauge the extent of Wiggers's contribution to seventeenth-century Thomism, as well as understanding his relation to the Neo-Augustinian or Jansenist thought present in Louvain at that time.

The University of Louvain also produced one of the few seventeenth-century scholastic theologians known to modern readers. Johannes Caterus (1590–1655), the author of the first set of objections to Descartes's *Meditations*, was a thinker steeped in the Thomism of the Low Countries that had been shaped by the commentaries of Wiggers. Although his objections to Descartes are not studied and commented on to the degree to which the complaints of Arnauld and PIERRE GASSENDI (1592–1655, chapter 6) receive attention, they still remain a important source for examining how scholastic thinkers reacted to new ideas. Caterus was most exercised by the theological implications of Descartes's metaphysics, especially his arguments for the existence of God. He was troubled by the ontological argument, which is not surprising given his Thomist allegiances, and can be said to have anticipated Kant's argument about the impossibility of conceiving of existence as a predicate. Significantly, Caterus's critical remarks are not just directed to

Descartes, but are also dismisssive of Suarez's argument that anything that is the cause of itself is necessarily infinite. In this respect, Caterus reveals himself to be just as attentive to the pretensions of the new philosophical ideas, as he was cognisant of on-going debates within established Scholastic circles.

Caterus was by no means the only scholastic author to cross swords with Descartes. An interesting thinker who engaged with the Cartesian corpus was the Spanish Cistercian Juan Caramuel y Lobkowitz (1606–82). A colorful character, Caramuel's encyclopedic corpus, which stretches from logic, mathematics, metaphysics and natural science, to theology, moral philosophy, and casuistry, reveals a myriad of influences from Plato, Ramón Lull (*c.* 1235–1315) to more established scholastic sources like Aristotle, Thomas and Scotus. In a time of considerable change in the arts, sciences, and politics of the Catholic Europe, Caramuel was on hand to witness these intellectual shifts by virtue of his prolonged residencies in Spain, Portugal, the Low Countries, Bohemia, and Italy. His philosophical writings from 1660 onwards are especially important in that they display a detailed appreciation of the work of DESCARTES (chapter 5) and other innovators in the natural sciences. Ever willing to acknowledge the force of a good argument, Caramuel reveals himself open to the claims of the new learning and tries to appropriate many of its insights within the accepted parameters of Scholastic discourse. Of particular interest is his discussion of the Cartesian method of hyperbolic doubt and his thoughts on that nature of logic. Woefully ignored by English-speaking historians, Caramuel is deserving of further study.

The other great tradition of medieval thought that influenced early modern scholasticism was Scotism. Despite having had many able followers among Franciscan authors throughout the fourteenth and fifteenth centuries, it is only at the beginning of the sixteenth century that distinctive Scotist schools begin to emerge. By 1664 these schools were to be found all over Catholic Europe, so much so that Caramuel was moved to remark that "the school of Scotus is more numerous than all the other schools taken together" (*Scoti schola numerosior est omnibus aliis simul sumptis*). Much more homogeneous than the rival versions of Thomism, Scotism was mainly concerned with the exposition, clarification and subtle amelioration of the complicated views of its founder. As a "school" of philosophy Scotism appears to have attained its greatest popularity at the beginning of the seventeenth century. Throughout that time we also find special Scotist chairs in existence at important centers of learning such as Paris, Rome, Coimbra, Salamanca, Alcalá, Padua, and Pavia.

The early modern period is rich in distinguished interpreters of Scotus. Several are worthy of mention. Anthony Trombetta, Archbishop of Athens (d. 1518), who wrote and edited able Scotist works; Cardinal Sarnanus (d. 1595), a highly distinguished scholar, wrote a commentary on some philosophical works of Scotus, and edited the works of many Scotists. Perhaps the best known is Luke Wadding (d. 1657), a well-known annalist of the Franciscans, who edited with other Irishmen in the College of San Isidore at Rome the complete works of Scotus. This was published in twelve volumes at Lyons in 1639. What is so distinctive about Wadding's edition is that he corrected the text throughout according to the best manuscripts and earliest impressions, inserted everywhere critical notes and learned

scholia, and enriched the edition with the commentaries of Pitigianus of Arezzo (d. 1616), Poncius (d. 1660), Mauritius a Portu (a.k.a. Mac Caughwell), Archbishop of Armagh and Primate of Ireland (d. 1626), and Anthony Illckey (d. 1641). His edition remains today an invaluable resource for the study of Scotus and Scotism.

Aquinas and Scotus were by no means the only medieval masters who were read by early modern scholastics. Other important figures from the Dominican and Franciscan past were studied and their respective works were edited and published. Thus we find new critical editions of the works of Albert the Great (1200–80), Pierre de la Palud (d. 1342), John Capreolus (1380–1444) and Dominic of Flanders (d. 1500) among the Dominicans, and Bonaventure (1221–74) and William Ockham, among the Franciscans.

Further to editions of works by these individuals, other medieval theologians and philosophers of consequence were published during this period. The religious orders were at the forefront of this publishing explosion. If an influential medieval thinker had been a member of a monastic religious order such as the Benedictines (like Anselm of Canterbury 1033–1109), Cistercians (like Bernard of Clairvaux 1090–1153) or Carthusians (Denys the Carthusian *c.* 1402–71), or had been a member of another order of friars such as the Augustinians (Giles of Rome 1243–1316) or Carmelites (John Baconthorpe d. 1348), his work would be printed in order that it could be used in the instruction of current members, or else deployed as a means to promote order within the Church and world of learning. Further to this, other important thirteenth century thinkers such as "secular masters," or individuals who were not members of a religious order, were also published, as is witnessed in important early modern editions of Henry of Ghent (d. 1293). Seen from this perspective, sixteenth- and seventeenth-century scholastics had unparalleled access to the riches of medieval philosophy and theology. For this reason the varied sources on which they drew and which conditioned their contributions to philosophy help to account for the fact that early modern scholasticism, just like early modern Aristotelianism, was eclectic, complex, and could accommodate many diverse positions.

III The Philosophical Textbook

As mentioned above, the sixteenth and seventeenth centuries saw an unprecedented expansion in institutes of higher learning. As a result of religious conflict, political unrest, scientific innovation, and economic development, as well as different forms of cultural renewal, many European countries and their recently colonized territories in the Americas and in the Far East, saw the establishment of new universities, colleges and academies. An example of the ways in which individuals became much more conscious of the new demands of pedagogy can be illustrated with reference to the Jesuits. Following the lead of the University of Paris, they became especially preoccupied in the last years of the sixteenth century with the reorganization and revision of the educational curriculum. This led to the promulgation of the famous *Ratio Studiorum* (Programme of Studies) of 1599, which would influence education in the Catholic world for many years to come. Similar reflections on the nature of education are in evidence in Protestant Europe as can be

observed in the *School Order* of 1625 issued by the States of Holland and West-Friesland, that sought to regulate the Latin schools within their jurisdiction.

Given the need for teaching materials, Aristotelian Scholastic authors were moved to produce works for the classroom. This is why so many aspects of early modern scholasticism appear in numerous textbooks on logic, metaphysics, psychology, natural science, and ethics. It is by no means easy to summarize the contributions made by these textbooks to the philosophy of the period. For one thing, many textbooks were written by anonymous authors, or else were written by individuals of whom we know very little. Further to this, as many works were only intended to be read by schoolboys in either Jesuit colleges or Reformed academies, they made no claim to advance a particular subject beyond clarifying and explaining existing views. Because of this fact, it would be invidious to attempt to compare a great many of these textbooks with the works of the canonical authors who, in most cases, tended to write for a more sophisticated readership. That said, it is still possible to draw attention to some of the themes contained in the textbooks.

Two much used textbooks that presented creative interpretations of the philosophy and theology of Thomas Aquinas were the *Course on Philosophy* (*Cursus philosophicus*) and the *Course of Theology* (*Cursus theologicus*) of John of St Thomas (John Poinsot, 1589–1644). Much less adventurous works were produced by Eustachius a Sancto Paulo (d. 1640) who was the author of two widely read books *A Summary of Philosophy in Four Parts* (1609) and *A Summary of Theology* (1613–14). As is well known *The Summary of Philosophy* was the object of Descartes's admiration, and it was a work that was frequently printed throughout the first half of the seventeenth century and beyond. In that work Eustachius's aim is to present his reader with a compendium of philosophical thought. To this end, the subject and nature of dialectic or logic, ethics, physics, and the metaphysics of abstract and spiritual things, are put before the reader in clear and simple terms. Standard authorities such as Aristotle and Aquinas are used to introduce and explain a certain topic, and controversial points of interpretation and doctrine are disarmed, corrected, and harmonized. That said, Eustachius' commitment to his authorities, especially to Thomas, is not as slavish as one might think. Coming out of the intellectual tradition of the University of Paris, his textbooks tended to reflect a much more inclusive scholasticism that does not easily invite classification as "Thomist." A later textbook by his near contemporary, Charles d'Abra Raconis (1590–1646), *Sum of all Philosophy* (1617), further displays the eclecticism of the University of Paris at this time by revealing many Scotist influences.

Other widely read textbooks of the period were the individual commentaries on the works of Aristotle made by the Jesuits at the Colègio das Artes, Coimbra (Portugal), collectively known as the "Coimbra Commentators." The Coimbrans published a series of encyclopedic commentaries on Aristotle's works. These highly sophisticated works, which attained the very highest standards of philological rigor and philosophical insight, provided a comprehensive introduction to Aristotle's system of human knowledge. The principal Coimbran was Petrus Fonseca (1528–97) who separately published his own commentary on Aristotle's *Metaphysics*. A further feature of Fonseca's work was an attempt to reconcile the conflict between grace and free will by the use of *scientia media* or "middle knowledge." In this respect his

writings exerted a great influence on his pupil Molina. The previously mentioned Jesuit Franciscus Toletus, professor at the Collegio Romano, similarly published commentaries on Aristotle's works, including an important *Logic* (1572), *Physics* (1573) and *On the Soul* (1574).

Early modern philosophical textbooks were also written in vernacular languages. First among these was French. In the early years of the seventeenth century, a number of such tomes were written by tutors to the aristocracy (themselves often nobles). For the most part, these books tended to be commentaries on the works of Aristotle, and often addressed themes in moral philosophy. Similar works existed in Italian and Spanish. Among French textbooks works worthy of mention here are the writings of Théophraste Bonju and Réne de Cerziers. In part, if not in whole, the increasing popularity of French language primers helps to explain Descartes's own decision in 1640 to write his own "textbook" the *Principles of Philosophy* in French, as opposed to the more established language of Latin. Perhaps the best known French work of the period was the *Corpus of Philosophy* (1623) by Scipion Dupleix (1569–1661). Similar in scope and content to the Eustachius, Dupleix sets out a full account of logic and physics which draws heavily on the writings of Aristotle and established scholastic principles.

Scholastic writers in Catholic countries were not the only ones responsible for the production of philosophical textbooks. In Protestant lands, thinkers like Keckermann had been producing accounts of all the branches of human learning. From 1600 to his death in 1609, Keckermann produced and revised textbooks on logic, metaphysics, and ethics, all of which were designed to suit the pedagogical requirements of a Reformed Academy. British authors like the Anglican divine Robert Sanderson (1587–1663) produced a textbook on logic that was to become the standard introduction to that subject at Oxford for many decades. After Keckermann, the next most important Protestant writer of textbooks was the Dutch thinker Franco Burgesdijk (1590–1635). A professor of philosophy at University of Leiden, Burgesdijk exercised a lasting influence upon the intellectual life of the Dutch Republic and also gained a reputation abroad, particularly in the English-speaking world. There, his manuals on logic, metaphysics, and ethics were published in various editions and in a number of translations that continued to be used well into the eighteenth century. While Burgesdijk's reputation as an original philosophical thinker is a matter of some controversy, the success of his textbooks can be attributed to a clarity of thought and thoroughness of exposition that was agreeable to teachers and students alike.

IV Conclusions

If this chapter has shown anything, I trust it has illustrated the claim made at its outset that early modern philosophy witnessed many "Aristotelianisms" and nourished different varieties of scholasticism. It has also been the burden of this essay to argue that the thinkers influenced by Aristotle and by medieval theologians did make a distinctive contribution to the philosophy of their day. Even though they might not have attained the dizzy heights of "originality" that we rightly associate

with Bacon, Hobbes, Descartes, Spinoza, Locke and Leibniz, the very best Aristotelian Scholastic thinkers did scrutinize new initiatives by bringing to bear subtle and complicated arguments that provided pause for thought and re-examination. Their contribution to the philosophy of the period is to be observed in their patient scrutiny of novel ideas by recourse to arguments of authority and the weight of tradition. Here one thinks of Caterus's plausible criticisms of Descartes, the innovations of Caramuel, or the repeated attempts to keep the Aristotelian and scholastic traditions fresh by means of producing new editions and imaginative interpretations. Putting these considerations together, it should not be too difficult to appreciate why the non-canonical philosophers of the early modern period are worthy of much more extensive study. They are important to the history of philosophy not simply because they cast much needed light on the founding fathers of modern thought, or because they provide a clear window on how ancient and medieval thought was read and appropriated in the early modern era. They repay serious study because they attempted to explain to an age so preoccupied and smitten with thoughts of change and innovation, the verities of a rich philosophical heritage. For this reason alone, their value to the history of philosophy is palpable.

Further Reading

Ariew, Roger, 1999, *Descartes and the Last Scholastics*. Ithaca, NY: Cornell University Press.

Ariew, Roger and Grene, Marjorie (eds), 1995, *Descartes and his Contemporaries. Meditations, Objections and Replies*. Chicago: The University of Chicago Press.

Ashworth, E. J., 1985, *Post Medieval Semantics*. London: Variorum.

Blackwell, Constance and Kusukawa, Sachiko (eds), 1999, *Philosophy in the Sixteenth and Seventeenth Centuries: Conversations with Aristotle*. Aldershot: Ashgate.

Dear, Peter, 1988, *Mersenne and the Learning of the Schools*. Ithaca, NY: Cornell University Press.

Des Chene, Dennis, 1996, *Physiologia. Natural Philosophy in Late Aristotelian and Cartesian Thought*. Ithaca, NY: Cornell University Press.

—— 2000, *Life's Form: Late Aristotelian Conceptions of the Soul*. Ithaca, NY: Cornell University Press.

—— 2001, *Spirits and Clocks: Machine and Organism in Descartes*. Ithaca: Cornell University Press.

Di Liscia, Daniel, Kessler, Eckhard, Methuen, Charlotte (eds.), 1997, *Method and Order in Renaissance Philosophy of Nature: The Aristotelian Commentary Tradition*. Aldershot: Ashgate.

Freedman, Joseph S., 1999, *Philosophy and the Arts in Central Europe, 1500–1700. Teaching and Texts at Schools and Universities*. London: Variorum.

Kraye, Jill and Stone, M. W. F. (eds.), 2000, *Humanism and Early Modern Philosophy*. London: Routledge.

Kusukawa, Sachiko, 1995, *The Transformation of Natural Philosophy. The Case of Philip Melanchthon*. Cambridge: Cambridge University Press.

Muller, Richard, 1978–, *Post-Reformation Reformed Dogmatics*, 3 vols. Grand Rapids: Baker.

—— 1991, *God, Creation and Providence in the Thought of Jacob Arminius*. Grand Rapids: Baker.

Platt, John E., 1982, *Reformed Thought and Scholasticism: The Argument for the Existence of God in Dutch Theology, 1575–1650*. Leiden: E. J. Brill.

Schmitt, Charles, 1981, *Studies in Renaissance Philosophy and Science*. London: Variorum.

Schmitt, Charles, 1983, *Aristotle and the Renaissance*. Cambridge MA: Harvard University Press.

Secada, Jorge, 2000, *Cartesian Metaphysics: The Scholastic Origins of Modern Philosophy*. Cambridge: Cambridge University Press.

Trueman, Carl R., and Clark, R. S. (eds.), 1999, *Protestant Scholasticism: Essays in Reassessment*. Carlisle: Paternoster Press.

Verbeek, Theo, 1992, *Descartes and the Dutch: Early Reaction to Cartesian Philosophy 1637–1650*. Carbondale and Edwardsville: Southern Illinois University Press.

White, Kevin A., 1997, *Hispanic Philosophy in the Age of Discovery*. Washington, DC: Catholic University of America Press.

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3

Platonism and Philosophical Humanism on the Continent

CHRISTIA MERCER

Historical Background

In the mid-thirteenth century, professors at the relatively new university in Paris were troubled by the popularity of the Aristotelian philosophy. Some considered it frighteningly anti-Christian. The reaction was to condemn a number of its most problematic claims. But despite the condemnations of 1270 and 1277, a thoroughly Christianized Aristotelianism won the philosophical contest and quickly became the pedagogical basis of the university curriculum in Paris, and in the other universities developing in Europe at the time. Scholastic Aristotelianism formed the philosophical core of university education on the continent through most of the seventeenth century. Despite the spectacular ascendancy of the Aristotelian philosophy in the twelfth and thirteen centuries, it is important to recognize that medieval Europe, both before and after the victory of scholasticism, was thoroughly familiar with Platonism. Whether the philosopher is the early Christian saint, Augustine of Hippo (354–430), the Jewish theologian, Maimonides (1135–1204), the English scholastic, Anselm of Canterbury (1033–1109), or the great Thomas Aquinas himself (1225–74), the medieval conception of the world and God is thoroughly rooted in Platonist ideas and assumptions. Obviously medieval philosophers differ greatly both in the degree of their endorsement of Platonic doctrines and in the explicitness of their commitment to Platonism, but Platonist views about God, nature, causation, and knowledge are part of the intellectual currency of medieval Europe.

Despite the ubiquity of Platonism in medieval Europe, it is enormously difficult to identify its precise elements and trace its history. There are several related problems, each of which is relevant to an account of early modern Platonism. Already in late antiquity, followers of Plato and Aristotle assumed that these philosophies were in fundamental agreement, and important commentators like Porphyry (*c.* 232–*c.* 306) proposed a Platonism that was thoroughly mixed with Aristotelianism. This sort of Aristotelianized Platonism formed the intellectual background to medieval Europe, and informed the theological and doctrinal commitments of the early Christian church. The vitality of Platonism in the Latin west is striking, especially since so very few works by Plato himself were available. Only the *Meno*, the *Phaedo*, some of the *Timaeus*, and a piece of the *Parmenides* existed in Latin translation, and only

the *Timaeus* was widely obtainable. Dialogues as important as the *Republic*, *Symposium*, and *Theaetetus* were unavailable to the Latin west and had to be "rediscovered" in the Renaissance. Moreover, the Aristotelianism imported to Europe from the Arab world in the thirteenth century was itself tainted with Platonism. Scholasticism resulted from the blending together of this Platonized Aristotelianism and medieval Christianity which was itself rooted in Platonism. Besides the fact that most scholastics based their interpretations of Aristotle's texts on Latin translations, there were a number of pseudo-Aristotelian works, some of which were thoroughly Platonic (for example *Liber de causis*). Thus, despite the philosophical subtlety of many scholastic thinkers and despite their commitment to the Philosopher, they promulgated an Aristotelianism that had been mixed with a good deal of Platonism. Finally, it is an awkward truth about prominent Platonists that they put forward elaborate theories that are sometimes only remotely connected to the texts of the Athenian philosopher himself. In a sense, from late antiquity through the height of scholasticism, Platonism appears to be everywhere while the historic Plato seems nowhere to be found.

For our purposes, it will be important to distinguish between the views of Plato and those of his followers. Traditionally, scholars have tended to distinguish between Platonism and Neoplatonism where the latter applies to the class of thinkers inspired by Plato and his works. Sometimes "Neoplatonism" has been used in a pejorative sense where the underlying assumption is that the Neoplatonic philosopher was not quite up to a thorough understanding of Plato or (for example in the case of the important Renaissance commentator, Marsilio Ficino) had his own specific Christian agenda. But recent scholars have come to be dissatisfied with this way of making the distinction. It is noteworthy that scholastic philosophers bear the same sort of relation to the historic Aristotle that most of the Neoplatonists bear to Plato. In the same way that Aristotelians like Aquinas, Scotus, and LEIBNIZ (chapter 18) thought that they were explicating the real views of Aristotle, so did Platonists like Plotinus, Ficino, and Leibniz think they were exploring the real doctrines of Plato. With these historical facts in mind, I will refer to those doctrines which can reasonably be attributed to Plato himself as "Platonic," and to those that evolved during the long course of medieval philosophy as "Platonist." Nor do these designations yield neat and tidy categories. Rather, many of the thinkers whom we consider paradigm examples of committed scholastics (for example Aquinas) accept Platonist tenets; some of the prominent Platonists in the history of philosophy (for example Marsilio Ficino) happily endorse Aristotelian distinctions; while some prominent Renaissance and early modern figures (for example Giovanni Pico della Mirandola, Leibniz) are committed to combining key Aristotelian doctrines with central Platonist views. However odd it may seem to us now, many Renaissance and early modern thinkers believed that the philosophies of Plato and Aristotle could (and should) be made to cohere.

Eclecticism

As these introductory remarks suggest, the task of tracing the history of Platonism in western thought is enormously problematic. Besides the variety of Platonisms and

Aristotelianisms, medieval Europe inherited Stoicism, Epicureanism, Skepticism, Atomism, and sundry other ancient traditions. These ideas were combined and mixed together into philosophical systems whose authors were often ignorant of their original sources. Augustine is a case in point. In Book VII (sect. 9 (15)) of the *Confessions*, when he describes the crucial role that the books of the Platonists played in his epistemological journey toward God, he was unaware that along with the Platonist philosophy of Plotinus (205–71) he was absorbing elements of Stoicism and Aristotelianism. While scholars have begun to identify the Stoic and Aristotelian sources for some of Augustine's views, neither he nor his contemporaries were in a position to do so.

Given our interests, it is especially important that the history of medieval and Renaissance Platonism is fundamentally eclectic in the sense that philosophers were prepared to combine ideas from a variety of sources. Like Augustine, many thinkers considered the truth to be Christian, and yet they were prepared to borrow materials from any available pagan source in order to construct a philosophy consistent with Christianity. Platonism was one of those sources. Dante Alighieri (1265–1321) offers a striking example of this tendency. In his *Divine Comedy*, Dante must traverse hell with his guide, Virgil, before finding his way to paradise and God. In limbo he meets the great pagan thinkers: first the poets and then the philosophers. He writes about the latter:

> When I had raised my eyes a little higher,
> I saw the master of the men who know,
> seated in philosophic family.
> There all look up to him, all do him honor:
> there I beheld both Socrates and Plato,
> closest to him, in front of all the rest;
> Democritus, who ascribes the world to chance,
> Diogenes, Empedocles, and Zeno,
> and Thales, Anaxagoras, Heraclitus;
> I saw the good collector of medicinals,
> I mean Dioscorides; and I saw Orpheus,
> and Tully, Linus, moral Seneca;
> and Euclid the geometer, and Ptolemy,
> Hippocrates and Galen, Avicenna,
> Averroës, of the great Commentary.
> (Canto IV, lines 130–44)

Although some of Dante's contemporaries might have disagreed with his placement of Aristotle at the head of the "philosophic family," most would have endorsed the idea that the main figures in the history of philosophy stood in close relation.

Philosophical Humanism

The features, goals, and sources of Renaissance humanism have been much discussed. Whatever its origins, by the second half of the fifteenth century in Florence, Italy, humanism was a flourishing intellectual tradition. Although there continue to

be scholarly debates about the movement as a major component in Renaissance cultural, political, and social history, we will ignore these topics and move directly to the humanist assumptions particularly relevant to early modern philosophy. First and foremost, many philosophical humanists believed that the ancient texts were a treasure-trove of truths which could be combined into a single unified philosophy. Because the doctrines proposed in the texts (many of which had been rediscovered) of even the most prominent ancients (for example Plato and Aristotle) did not obviously cohere, humanists often engaged in elaborate interpretative schemes. Many practiced and preached what might be called *conciliatory eclecticism* where the basic idea was that the major schools of philosophy could be combined to form a coherent philosophical system. Most used the ancients as their primary source, but some extended their eclectic scope to include more recent authors. For such conciliators, the assumption was that the diverse philosophical traditions were not as incompatible as they at first appeared; the goal was to forge a reconciliation among the worthy schools; the result was a mixture of ancient and modern ideas; and the hope was that the proper synthesis would effect peace among contemporary philosophers.

The early Renaissance philosopher, Giovanni Pico della Mirandola (1463–94), formulates one of the defining statements of Renaissance eclecticism in his *On the Dignity of Man* of 1486. Pico demands that we not devote ourselves "to any one of the schools of philosophy" and notes that "it was a practice of the ancients to study every school of writers, and if possible, not to pass over any treatise." He declares: "I have resolved not to accept anyone's words, but to roam through all the masters of philosophy, to investigate every opinion and to know all the schools." According to Pico, each philosophical tradition had a share of the truth so that once the truths in each were discovered, they could be combined into one comprehensive and true philosophy. One of the main points of his project was to show that "the philosophies of Plato and Aristotle should be reconciled" and "a concord" between the two systems effected (*On the Dignity of Man*, 21–4, 33). In fact, Pico's texts are more steeped in Platonism than Aristotelianism, but it is important that unlike many of his contemporary humanists he speaks favorably of Aristotle and the scholastics. He was prepared to add Aquinas, Scotus, Avicenna, and Averroës to his eclectic mixture. Pico was also the most prominent humanist to include Jewish and kabbalistic teachings in his syncretist vision.

For most Renaissance conciliatory eclectics, the philosophy that they proclaimed had a religious goal: because they assumed that one truth "flowed through" all philosophical schools and that this truth was Christian, they firmly believed that the ancient pagan texts contained Christian truths. Two obvious questions faced the conciliatory humanist: if there is a single truth to be discovered within the ancient philosophical schools, then why had it not been previously discovered; and if the truth is fundamentally Christian, then how did the philosophies of pagans like Plato and Aristotle come to contain so much of it? In answer to the first question, most Renaissance and early modern humanists believed that they were able to excavate the long-buried truth because of newly developed intellectual abilities. Many Renaissance scholars believed that because they were equipped with new linguistic and philological tools and with a much wider collection of ancient texts, they were able

to study more accurately the whole history of philosophy. For example, Renaissance thinkers frequently proclaimed that the real philosophy of Aristotle was very different than the verbose scholastism of the dim-witted schoolmen. By the seventeenth century, many Protestant thinkers had come to believe that because of the insights afforded by the new theology, they were able to recognize the true worth of previously misunderstood ancient ideas.

As for the second question, humanists offered two distinct answers. Many accepted an account of history that allowed them to sanctify pagan learning. This historiography, usually called the *prisca theologia* or ancient theology, was a brilliant melding of religion and philosophy. The story runs roughly as follows: Moses did not write down all the wisdom bestowed on him by God, but transmitted it in an oral tradition that continued until it found its way into the writings of Plato, Pythagoras, and others; moreover, Plato and other ancient authors intentionally obscured these divine truths because they were not appropriate for the uninitiated. In the Renaissance, with the help of the newly discovered texts and the proper scholarly and philological tools, humanists like Pico believed that the wisdom in the ancient theology could be recovered and the single, unifying philosophy forged. This philosophy would of course be firmly rooted in Christianity so that the unique truth of the Judeo-Christian tradition would coincide with philosophical truth. According to Pico, for example, the Jewish kabbalah was an important source of knowledge which was ultimately about Christian truths. On this reading of history, ancient and Jewish philosophers (for example Maimonides) became a source of divine wisdom. Pico and many other humanists insisted that with "the divine light" of Christian revelation, the wisdom of the ancients could be fully discerned.

The ancient theology was wildly popular. But it would not do for all. Some humanists offered another explanation for how the one truth could "flow through" all philosophical schools so that even pagan philosophers like Aristotle and Plato could contain Christian truths. For these humanists, the divine truths could be read in the "Book of Nature." Many philosophers took the following Biblical passage to endorse this point: "That which may be known of God is manifest among them; for God hath showed it unto them. For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead" (Romans 1. 19–20). That the ancient pagan texts were a proper source of some divine truths was a tradition with a long and respectable history. The philosophical profundity of the texts of Plato and Aristotle gave dramatic support to this thesis. To our sensibilities, the resulting coherence may seem a perversion of the original tenets; to the sincere Renaissance conciliator, it was a step towards philosophical truth and intellectual peace.

Platonism

As a philosophical school, Platonism has been many things to many people. There is no set of doctrines that constitutes Platonism, nor is it easy to know when to identify either a philosopher or a philosophical system as Platonist. As noted previously, scholastic philosophers like Anselm and Aquinas themselves endorse views which are Platonist while Platonists like Ficino make important use of scholastic

distinctions. There is an obvious sense in which the terms "Platonism" and "Platonist" are hopelessly vague. However, despite the vagueness of the terms, we can piece together a set of doctrines that is (for the most part) endorsed by prominent Platonists and whose presence in a philosophical system reveal Platonist sources and concerns.

First, it is important to remember that for many ancient thinkers, ontological priority was to be explained mainly in terms of self-sufficiency. The basic idea is that what stands in need of nothing for being what it is is ontologically primary. For most prominent Platonists, there was a hierarchy of self-sufficiency and being such that each of the lower strata in the hierarchy was supposed to depend on and be caused by the higher. In Plato's *Republic* the sensible things depend on the Ideas which themselves depend on the Good. For many of the philosophers who followed Plato, it was taken as obvious that unity and perfection were intimately related to self-sufficiency and being, so that the more reality something has, the more unified and perfect it would be. Both Christian and non-Christian Platonists assumed that there is a supremely perfect, wholly simple, and unified being on which all else depends. The implication was that only the highest being was wholly perfect, self-sufficient, simple, and real and that the beings in the lower strata had diminishing degrees of these features. What is less a unity, for instance, is less real and what is less real is constituted and explained by what is more unified and hence more real. For easy reference, let's call this the *Supreme Being Assumption*.

The second point to remember about the Platonism of medieval Europe is that, for Jewish and Christian thinkers, it was true that everything depends entirely on God, that everything is *in* God, and that God is *in* everything. The Bible is full of such demands. As Paul writes to the Ephesians, there is: "one God and Father of all, who is above all, and through all, and in all" (Ephesians 4.6). Concerning the fact that everything is *in* God, consider this passage from Acts: "For in Him we live and move and have our being" (Acts 17.28); while Paul writes about God: "For from him and through him and in him are all things" (Romans 11.36). These sorts of Biblical passages encouraged early theists, whether the first-century Jew, Philo of Alexandria, or the fourth-century Christian, Augustine of Hippo, to believe that God was *in* everything and everything was *in* God. In the fifteenth century, Marsilio Ficino wrote a letter to a friend that contains a brief dialogue between God and the soul. In Ficino's dialogue, God explains: "I am both with you and within you. I am indeed with you, because I am in you; I am in you, because you are in me. If you were not in me you would not be in yourself, indeed, you would not be at all." God continues: "Behold, I say, do you not see? I fill heaven and earth, I penetrate and contain them... Behold, do you not see? I pass into everything unmingled, so that I may surpass all; for I am also able to enter and permeate at the same time, to enter completely and to make one, being unity itself, through which all things are made and endure, and which all things seek." In brief, God exclaims: "in me are all things, out of me come all things and by me are all things sustained forever and everywhere" (*The Letters of Marsilio Ficino*, vol. 1, p. 36).

Nor were such theists either philosophically or theologically unsophisticated. They were perfectly aware of the grave theological problems that such views about the relation between God and creatures posed. As Augustine nicely makes the

point, worrying aloud to God in Book I (sect. 2) of the *Confessions*: "Without you, whatever exists would not exist. But does what exists contain you? I also have being . . . which I would not have unless you were in me. Or rather, I would have no being if I were not in you." For such theists, there were two closely related questions: how can creatures be in the transcendent God; and how can the transcendent God be in its creatures? For inspiration, early Christians like Augustine turned to Plotinus and Philo, who themselves of course were thoroughly indebted to Plato, or at least their version of Plato. Concerning the first question, namely, how creatures can be *in* the transcendent God, theists endorsed a distinction between the supreme Being as wholly independent and as that on which all else depends. Whereas the divinity is self-sufficient and exists independently of all its creatures, the creatures depend fully and constantly on it. In this sense, a creature can be said to exist in God just in case the whole being and nature of the creature depends continually on the divine. To use the language of these philosophers, a creature "exists in" God because the being and nature of the creature "flows from" the divine. The classic analogy is to the sun whose rays depend entirely on it while it depends on nothing.

As to the second question, namely, how the transcendent God is supposed to be *in* its creatures, the same problem occurs in the great Plotinus himself. According to him, the One or Supreme Being is "alone by itself" and simple, while it is also "everywhere" and "fills all things" (*Enneads*, III.8.4). For many theists, the Platonic Forms were taken to be Ideas in the mind of God. Many Renaissance and early modern Platonists considered these Ideas to be the attributes of God, where the basic point was that these attributes were the eternal simple essences which the divine mind conceives and then uses as models for the things of the world. Platonists like Augustine and Philo employed this account of the divine intellect to explain how the transcendent God can be said to be *in* creatures. The explanation depends on the Plotinian notion of emanative causation. Oversimplifying somewhat, the basic assumption is that any product of God contains the divine essence but in an inferior way. If the perfect God has an attribute f, then God can emanate f-ness to a lower being or creature. In the emanative relation, God loses nothing while the creature comes to instantiate f-ness. God remains transcendent and pure, while the creature becomes an imperfect manifestation of the perfect f. The emanative process is assumed to be continual so that the creature will have f just in case God emanates f-ness to it. The point here may be summarized as follows: the *Theory of Emanative Causation* claims that, for a being A that is more perfect than a being B, A can emanate its attribute f-ness to B in such a way that neither A nor A's f-ness is depleted in any way, while B has f-ness, though in a manner inferior to the way it exists in A. The emanative process is continual so that B will instantiate f-ness if and only if A emanates f-ness to it.

This account of emanation helps explain how it is that the divine transcends its products and yet is in them. The perfection and transcendence of God remains unchanged while it continually emanates its attributes to its products, which then have those attributes in an imperfect and hence distinctive manner. Plotinus distinguishes neatly between the transcendent One and its products when he explains that the One "is like the things, which have come to be" except that they are "on

their level" and "it [the One] is better" (*Enneads*, VI.8.14.33–34). To put it in non-Plotinian language, the Supreme Being is *in* the creatures in the sense that it emanates its attributes to them; it remains transcendent from them because it neither loses anything in the emanative process nor gives them any part of itself. In the *Confessions*, Augustine suggests that it was Platonists like Plotinus who helped him see the solution to the problem. As he confesses in Book VII (xi (17)):

> I considered all the other things that are of a lower order than yourself, and I saw that they have not absolute being in themselves, nor are they entirely without being. They are real in so far as they have their being from you, but unreal in the sense that they are not what you are. For it is only that which remains in being without change that truly is... [God] himself [remains] ever unchanged, all things [are made constantly] new.

Here the "exists in" relation is to be understood in terms of emanation where the basic idea is that attributes or Ideas of the divine emanate to its products and, in that sense, exist in them. The crucial point to understand however is that the attributes exist in the products in a manner *inferior* to the way in which they exist in the Divine. God has f perfectly; creatures have it imperfectly. The f-ness of God is not equivalent to the f-ness of the creature. The f-ness of the creature is in Augustine's words "of a lower order." However undivine we may feel, each of us is in some sense an emanation of the divine attributes. Let's summarize the general point here as follows: *Creaturely Inferiority* entails that, although creatures are emanations of God and in a sense contain the divine attributes, they are nonetheless inferior to God so that the creatures have the attribute in a manner inferior to the way in which they exist in the supreme being.

The third point that I want to emphasize about the Platonist tradition concerns some of its epistemological assumptions. Plato famously distinguished between being and becoming where the eternal and immutable Ideas constitute the former while the temporary and mutable sensible objects constitute the latter. For Plato the realm of being and the realm of the intelligible is the same so that the only objects of knowledge are the Ideas. Although the sensory realm lulls us into thinking that it is real, we must turn away from the senses in order to grasp the Ideas. In Book VII of the *Republic*, Plato offers the famous parable of the cave, the point of which is to make vividly clear how easy it is to be trapped in a world in which shadows are mistaken for the real things themselves.

Many Platonists placed the Ideas, as objects of knowledge, within us. According to Plotinus, for example, the Ideas reside in us and are constantly present to us, although we are unaware of them because our surface consciousness is only one level of awareness. Although Platonists differed about the precise role played by the senses in the acquisition of knowledge, most agreed that the process of coming to know the Ideas was one of removing oneself from the mutable world of the senses and letting one's understanding (*intellectus*) grasp the immutable Ideas within one's own mind. The acquisition of knowledge was considered an arduous, internal journey which required rigorous intellectual and moral discipline. The point of philosophy therefore was to raise oneself above the petty concerns of this world, to

concentrate on the eternal truths, and eventually to acquire knowledge of the Supreme Being. For most theists, the acquisition of knowledge of the Ideas was a necessary step toward knowledge of God.

Many Jewish and Christian Platonists endorsed roughly the same basic steps in this epistemological journey. For Augustine, the objects of knowledge are to be found within one's self. In the *Confessions*, he writes to God:

> These books [of the Platonists] served to remind me to return to my own self. Under Your guidance I entered into the depths of my soul... I entered, and with the eye of my soul, such as it was, I saw the Light that never changes casting its rays over the same eye of my soul, over my mind... What I saw was something quite, quite different from any light we know on earth... It was above me because it was itself the Light that made me, and I was below because I was made by it. All who know the truth know this Light, and all who know this Light know eternity. (VII, x (16))

In *On the Trinity*, Augustine explains that the possibility of knowledge is grounded in God's intimate presence in the human mind. According to Augustine, the mind acquires knowledge "by turning towards the Lord, as to the light which in some fashion had reached it even while it had been turned away from him" (*On the Trinity*, XIV, vi (8)). But even with divine help, "I cannot grasp all that I am. The mind is not large enough to contain itself" (*On the Trinity*, X, viii (15)). The goal of life is to remove oneself as much as possible from the ties to the material world and to contemplate the eternal and immutable Ideas within. Because the mind is mutable and finite, it can never grasp the whole of its contents; with the help of God, however, the human intellect or understanding can grasp some part of it.

For the sake of simplicity, let's summarize the basic points here as follows: the *Epistemological Assumption* claims (1) that the mind is the object of knowledge in the sense that it contains the eternal truths or Ideas, (2) that the mind, which is mutable and finite, will become aware of those objects only if it both turns away from the material world and is aided by the divine light, and (3) that it is the intellect or understanding that is capable of grasping those truths.

Early Modern Eclecticism and Philosophical Humanism

The appeal and popularity of conciliatory eclecticism persisted through the sixteenth and seventeenth centuries, and only began to wane toward the very end of the latter. Although in 1614 Isaac Casaubon dealt a severe blow to the defenders of the ancient theology by showing that many of the texts on which they had based their argument had been misdated by centuries, the commitment to ancient philosophy did not end. While it is true that many early modern philosophers were eagerly in search of a new philosophy to replace the out-moded scholasticism of the schools, most were happy to construct a new philosophy out of traditional elements. There evolved a startling number of philosophical options, each with its ardent followers, and a wide array of religious zealots who argued passionately against one another. Although the new mechanical philosophy promulgated by GALILEO

(chapter 4), DESCARTES (chapter 5), and GASSENDI (chapter 6) had gained enormous popularity by the mid-seventeenth century, many philosophers were prepared to combine the mechanical natural philosophy with more traditional elements. Jean-Baptiste du Hamel (1624–1706) of Paris, Johannes de Raey (1622–1707) of Leiden, and Johann Clauberg (1622–65) of Duisburg claimed, for example, that the new mechanical physics was consistent with Aristotelian metaphysics. The era's religious wars deeply disturbed survivors, many of whom were further repelled by the sectarianism of their contemporaries. It was common for philosophers of the period to say that "there are as many definitions as definers, as many philosophies as philosophers." In the face of such intellectual confusion, it is not surprising that conciliatory eclecticism was the methodological choice of many. As much as these conciliatory eclectics differed in the details of their proposals, their basic assumptions are strikingly similar: each is committed both to the goal of intellectual harmony among the philosophical and religious sects and to the idea that the harmony evident in God's world somehow guarantees intellectual concord. In the words of the French philosopher, Jean Bodin, "just as the different natures of singular things combine for the harmony of the universe," so can "the individual citizens" combine "for the harmony of all peoples" (*Colloquium*, p. 166).

Johann Christoph Sturm (1635–1703)

Johann Christoph Sturm's *Eclectic Philosophy* of 1686 wonderfully represents what happens to the conciliatory methodology when it is charged with the task of assimilating the new mechanical philosophy. Like many of his colleagues, Sturm bemoans the sectarianism of his time, which has reached a dangerous state of "envy and malice." The Cartesians, who loudly proclaim that only they possess the way to truth, are especially guilty. Sturm intends "to pounce upon those who are hostile to one another" – whether to the ancients, moderns, or skeptics – and to prove to such dogmatists that as long as they "do not open their eyes" to what is valuable in the other systems they will remain "cut off" from the truth. In the same way that a person "who wants to comprehend the globe cannot focus only on one part," so a person who "wants to acquire real knowledge cannot attach himself to one authority." According to Sturm, the only means to "true wisdom" is to open ourselves to all sources and all methods (Mercer, p. 48).

Sturm promises to show his reader how "to break through the fortress of the concealed truth" so as to discover the "secret workings of Nature." To this end, he demands only that they put aside the authority of any one thinker and take up the proper conciliatory method. This eclecticism does not propose "to collect ideas indiscriminately," but rather requires that its practioners "avoid blindness," "seek a variety of opinions," be willing to use "any method," and "extend" their minds "to the whole of Nature and Reason" so as "to recognize the truth and to distinguish it from the untruth." But how are we to know which philosophies are worth serious study? Sturm explains that when intellectuals all over Europe recommend a philosophy, it must be taken seriously: everyone is thereby obligated to get to the heart of it. In his opinion the most important authoritative leaders are Descartes, Gassendi, Plato, and Aristotle, but he also maintains that if we want to understand "the

phenomena of Nature" we must learn from "other great Men." He applauds the advances of these new thinkers and their new discoveries (for example the circulation of the blood), but insists that their contributions depend crucially on the work of the ancients and especially of Aristotle. Although many of his contemporaries "have been taught" that Cartesianism "differs fundamentally from the Peripatetic philosophy" and that it "can be demonstrated" in a way the ancient system cannot, these are falsehoods promulgated by the "dictatorial Cartesian philosophy." If his fellow Cartesians will but "open their eyes" and remove themselves from "this danger," it will become clear that no single philosopher is sufficient when it comes to understanding "the whole wonderful immensity of Nature." Rather, the "strength and power" of each must be combined into a coherent system. The ancient wisdom must be combined with the new physics, and the various philosophical sects must be turned into the "one true system." Only the proper eclectic philosophy can discover the truth among "the many and diverse" sources and then demonstrate "the one true and genuine philosophical foundation" (Mercer, pp. 48–9).

With his eclectic methodology clearly articulated, Sturm attempts to use it in the remainder of his book. He turns mainly to Aristotle for help in his account of concrete individual substances, to the Platonists as the main source for his views about the relation between God and creatures, and to the new mechanical physics of Descartes and Gassendi for his natural philosophy. Like many other philosophers of his generation, Sturm is prepared to extend the conciliatory method to the new natural philosophies, to forge a synthesis of the ancient and the modern systems, and to assume that the use of a modest mode of argumentation will facilitate intellectual concord.

Gottfried Wilhelm Leibniz (1646–1716)

Leibniz was profoundly influenced by the methodological pronouncements of seventeenth-century humanists and as a young man committed himself to conciliatory eclecticism. Throughout his life, he thinks more highly of past authors than present ones and never relies too heavily on any philosopher who could be considered either modern or radical. While he is enormously impressed by HOBBES (chapter 22), Descartes, Gassendi, and other "moderns," he always "corrects" them with the help of some ancient author. For matters concerning created substance, Leibniz's favorite author was Aristotle. His account of substance was strongly influenced by his interpretation of Aristotle. But when it came to the details of the relation between God and creatures, Leibniz turned to the Platonist tradition. Like Pico, Leibniz thought that the fundamental truths were (mostly) those offered by the illustrious ancient thinkers and that one came to intuit these insights through a careful analysis of the grand metaphysical systems. For Leibniz, the road to knowledge was paved with the profound texts of the great thinkers. Like Sturm, Leibniz believed that the conciliatory eclectic constructs the true philosophy out of all the best philosophies. Some of Leibniz's most basic metaphysical beliefs were taken directly from the Aristotelian, Platonist, and mechanical philosophies: that a substance is something wholly self-sufficient, that each creature is an emanation of

God's essence, and that all corporeal features are to be explained mechanically are such truths. Leibniz's system is the result of the clever combining of these sorts of assumptions. As such, it is a brilliant blending of ancient and modern doctrines. In his *New Essays*, written in 1703–5, Leibniz offers a summary of his philosophy and the methodology that produced it. He writes:

> This system appears to unite Plato with Democritus, Aristotle with Descartes, the Scholastics with the moderns, theology and morality with reason. Apparently it takes the best from all systems and then advances further than anyone has yet done... I now see what Plato had in mind when he talked about matter as an imperfect and transitory being; what Aristotle meant by his "entelechy"; how far the sceptics were right in decrying the senses... How to make sense of those who put life and perception into everything... I see everything to be regular and rich beyond what anyone has previously conceived... Well, sir, you will be surprised at all I have to tell you, especially when you grasp how much it elevates our knowledge of the greatness and perfection of God. (Academy, VI ii 71–73)

Nor was Leibniz satisfied merely to practice conciliation himself. Throughout his life, he encourages others to do the same. As he explains in a letter of March 1678:

> I am concerned, as are all who wish to hold a middle ground, not to seem too much inclined toward either of the two opposed adversaries. Whenever I discuss matters with the Cartesians... I extol Aristotle where he deserves it and undertake a defense of the ancient philosophy, because I see that many Cartesians read their one master only,... and thus unwisely impose limits on their own ability... I think that the two philosophies should be combined and that where the old leaves off, the new should begin. (Academy, II i 402: Loemker, p. 190)

In summary, for Leibniz, the true metaphysics will be constructed from the underlying truths in the great philosophical systems, will be consistent with Christian doctrine and the claims of the revelation, and will explain the phenomena (including the new experimental findings).

Early Modern Platonism

Early modern continental Platonism has not been properly explored. The great scholar of Renaissance Platonism, Paul O. Kristeller, summarizes the main reason for this: "ever since classical antiquity, Platonist philosophers have tried not so much to repeat or restate Plato's doctrines in their original form, as to combine them with notions of diverse origin, and these accretions, like the tributaries of a broadening river, became integral parts of the continuing tradition" (*Eight Philosophers*, 48–49). Due to the tendency on the part of early modern thinkers to combine ideas from diverse sources, and given the different ways in which Platonist doctrines had been interpreted and used in the Renaissance, the task of identifying and then tracing the course of Platonism through the period is extremely difficult. Although recent scholars have begun to identify some of the Platonist components

in major and minor continental philosophers, the extent and diversity of Platonism has not yet been properly studied. I offer here some representative examples of continental philosophers who make significant use of one or more of the Platonist doctrines summarized above.

Descartes (1596–1650)

In Book VII of the *Republic*, when Plato describes the arduous journey from the shadows of the cave to the illuminated reality of the sun outside, he documents the difficulty of each step in that journey. When the truth-seeker turns from the shadows, he looks with difficulty at the fire within the cave. Then, having accustomed himself to the illumination of the fire, he is nearly blinded by the brightness of the sun outside, only to discover that after careful preparation, it is possible both to look upon the sun and to see the realities that the sun so beautifully illuminates. As Plato explains, once the truth-seeker "is able to see . . . the sun itself," he can "infer and conclude that the sun . . . governs everything in the visible world, and is . . . the cause of all the things that he sees" (516b).

Descartes' *Meditations on First Philosophy* is a handbook on how to escape the shadows of the cave and discover the illuminating truth beyond. For Descartes, the end of the epistemological journey is God who governs all things and is the cause of all things. As the Epistemological Assumption claims and as Descartes wholeheartedly endorses, the means to that epistemological end is one's own mind. In the First Meditation, radical skepticism sentences Descartes to self-contemplation. In the Second Meditation, he escapes inward and begins to contemplate himself as a thinking thing. Consistent with claim (3) of the Epistemological Assumption, he begins to recognize that it is the intellect and not the senses that grasps the eternal truths. By learning how to ignore the shadows and accustom himself to "the light of nature," he is able to acquire a proper understanding of himself and his relation to God. Consistent with the Supreme Being Assumption, Descartes discovers in the Third Meditation that he is "an incomplete" being who is "dependent on" God who "has within him all those greater things . . . actually and infinitely" and "who is the possessor of all perfections." Having come to grasp the real superiority of God, Descartes proclaims in the conclusion to the Third Meditation the need "to reflect on" the divine attributes and "to gaze with wonder and adoration on the beauty of this immense light, so far as the eye of my darkened intellect can bear it." Just as Plato's journeyer must slowly prepare himself to approach the truth beyond the cave, so Descartes' meditator must seek the truths within his mind, by slow and steady steps.

In the Fifth Meditation, Descartes focuses more fully on "the attributes of God and the nature of myself, or my mind." It is at the end of this exploration of "the ideas" of things "insofar as they exist in my thought" that the meditator reaches the epistemological climax of his journey: it is at the end of this Meditation when Descartes realizes the utter necessity of God and the fact that the truth of everything else depends on the divine nature. Descartes is explicit about the three claims of the Epistemological Assumption. Concerning (1), he explains that the "true ideas are innate in me, of which the first and most significant is the idea of God." Concerning

(2), he proclaims about God: "if I were not overwhelmed by preconceived opinions, and if the images of things perceived by the senses did not besiege my thought on every side, I would certainly acknowledge him sooner and more easily than anything else." Concerning (3), having suggested in the Second Meditation that it is "the intellect alone" that contemplates the truths, Descartes explains in the Fifth the process by which the intellect comes to recognize the truth of its own innate ideas. In the conclusion to that Meditation, he announces:

> Thus I see plainly that the certainty and truth of all knowledge depends uniquely on my awareness of the true God, to such an extent that I was incapable of perfect knowledge about anything else until I became aware of him. And now it is possible for me to achieve full and certain knowledge of countless matters, both concerning God himself and other things whose nature is intellectual.

With knowledge of God in hand, he can now complete the task of examining more fully his own nature. By the end of the Sixth Meditation, Descartes has discovered the fundamental truths that constitute "first philosophy."

Descartes was not explicit about his Platonist epistemology because there was no reason to be: his contemporaries were thoroughly familiar with that tradition, and could recognize this part of his philosophy for what it is. In his *Philosophia Eclectica*, for example, Sturm explains that the originality of Descartes' thought should not be over-emphasized because much of what is interesting in the *Meditations* is taken from Plato and other ancient sources (p. 52).

German Platonism

As a university student first in Leipzig and then in Jena, Leibniz became well-versed in ancient, medieval, and Renaissance Platonism and thoroughly familiar with the whole range of Platonist tenets. Jakob Thomasius (1622–84) was Professor of Rhetoric and Moral Philosophy in Leipzig, and had a major influence on the development of Leibniz's early thought. Johann Adam Scherzer (1628–83) was Professor of Hebrew and Theology in Leipzig, while Erhard Weigel (1625–99) was Professor of Mathematics in Jena, where Leibniz visited in the summer semester of 1663. All three of these thinkers used Platonist doctrines as a central component in their philosophical systems.

Leibniz's predecessors were not scholars of Plato, but they were inheritors of a vast literature of writings that they called Platonic and that they considered a treasure-trove of ideas. Making frequent use of images that one finds throughout the history of Platonism, they speak of that philosophy both as a source of divine wisdom that, like the sun, illuminates everything it shines upon and as a fountain of truth that has flowed through the thinkers of many centuries and that nourishes their own thought. The scope of their erudition in this area is impressive: they refer to the whole range of ancient, medieval, and Renaissance thinkers and move easily between pagan and Christian authors. It is important to emphasize that these German philosophers often do not distinguish among sources, but tend to treat Platonism as a warehouse of ideas to rummage through. Thomasius, Scherzer, and

Weigel turned to the Aristotelian tradition for its views about nature and substance, and to the Platonist school for its account of the relation between God and creatures. Each of these thinkers offers a (more or less) elaborate account of the relation between God and the material world, and each assumes the Supreme Being Assumption, Creaturely Inferiority, the Theory of Emanative Causation, and the Epistemological Assumption.

For Thomasius, Scherzer, and Weigel, the objects of scientific knowledge are the (Platonic) Forms, which are the Ideas of God; the ultimate goal of science is insight into the mind of God; the careful empirical study of the natural order is the first part of the means to that goal while the use of mathematics is the next part. In brief, to study the world systematically and to explain it thoroughly is an exercise in divinity. Because the thought of Pythagoras, Plato, and other Platonists was associated with the study of numbers and numerical relations, many early modern Platonists were interested in mathematics. Weigel claimed, for example, that the Platonic philosophy was fundamentally mathematical and therefore that it offered the key to science. It was Weigel's opinion that Plato and his followers had understood that God thinks mathematically. According to Weigel, "everything can be reduced to numbers" (Mercer, p. 39).

Leibniz's mentor, Thomasius, was particularly articulate about the relation between God and creatures. Thomasius agrees with those Platonist philosophers who claim that "everything is God and God is everything," but he demands that we understand exactly the relation between God and nature. According to Thomasius, it is important to grasp that everything "is wholly part of the divine" and yet that God is not in nature. He writes:

> Things are in God as in a fount and first cause, i.e., most eminently; secondly, they are in Mind as Ideas and form; thirdly, they are in Soul as reasons placed in its essence; fourthly, they are in Nature as seeds. For nature is the seminal power effused in universal matter by the soul of the World. Fifth, they are in Matter, although as a shadow, through imitation and participation. (Mercer, p. 203)

Leibniz's Platonism

Nearly from the beginning of his philosophical career, Leibniz accepted the Supreme Being Assumption, the Theory of Emanative Causation, the Epistemological Assumption, and Creaturely Inferiority. Let's consider each of these Platonist assumptions (very briefly) in turn.

As a very young man, Leibniz endorsed the view that God is the supremely perfect source of everything that continually emanates the divine essence to all creatures, and he conceived of each creature as an inferior instantiation of that essence. Concerning the Theory of Emanative Causation, consider the following texts. In the well-known *Dissertation on the Combinatorial Art* of 1666, the young Leibniz briefly turns to the topic of the relation between God and creatures. After the title page of the published text, he presents the following metaphysical "corollary": "God is substance; creature is accident." Throughout the 1660s, Leibniz uses the Latin term (*accidens*) in a fairly standard scholastic way: an accident is a

non-essential property that can be said "to flow" from the essence of the thing of which it is a property. Leibniz's use of this term in describing the relation between God and creatures is important. It implies that creatures both flow from God's nature and reflect that nature, but do not do so necessarily. Another early text proves that Leibniz has endorsed the Platonist conception of God promulgated by his teachers. In 1668, he presents for the very first time some of the details of the general relation between God and creatures. He proclaims his account to be similar to "Plato in the Timaeus about the world soul" and to "Aristotle in the Metaphysics and Physics about the agent Intellect." Like these other philosophers, he maintains that God is "diffused through everything" (Academy, VI i 510). Leibniz makes a related point some years later in the *Discourse on Metaphysics* (section 14) of 1686: "it is evident that created substances depend upon God, who preserves them and who even produces them continually by a kind of emanation."

It follows from the Theory of Emanative Causation that the attributes of God constitute the metaphysical elements out of which individuals are made. According to Leibniz in 1676, when these attributes are combined or related to one another, modifications of them arise. Leibniz writes: "from the conjunction of simple possible forms there result modifications, that is, ideas, as properties result from essence" (Academy, VI iii 521). The point is that, when simple forms or attributes of God are combined, modifications of the essence of God result "just as properties result from essence." In another essay of April 1676, Leibniz elaborates. Concerning the creator, he makes it clear that "the essence of God consists in the fact that he is the subject of all compatible attributes." Concerning the products of God, Leibniz claims that "any property or affection of God involves his whole essence." For Leibniz, when God produces something, regardless of how small, it "involves" the divine nature (Academy, VI iii 514). Creatures are modifications of God and result from the combination of divine attributes. Each modification is a product of the whole essence of God and therefore of all the divine attributes; it is in this sense that each modification of God will contain the whole divine essence. In section 28 of the *Discourse on Metaphysics*, he writes:

> Now, in rigorous metaphysical truth, there is no external cause acting on us except God alone, and he alone communicates himself to us immediately in virtue of our continual dependence... Thus we have ideas in our soul of everything only by virtue of God's continual action on us, that is to say, because every effect expresses its cause, and thus the essence of our soul is a certain expression, imitation or image of the divine essence, thought, and will, and of all the ideas comprised in it.

An obvious question arises at this point. The Creaturely Inferiority assumption insists that each creature contains the divine attributes but in a manner inferior to their divine source. What exactly does Leibniz have to say about this topic? In 1676, he is clear about the fact that it is appropriate "to ascribe" the divine features to the things of the world. For example, he claims that a creature has the immeasurability of God if it can be said to be somewhere; it has the omniscience of God if it can be said to perceive. But he also insists that, strictly speaking, the absolute affirmative attributes of God are not *in* the world. For example, he writes in April that God

"contains the absolute affirmative form that is ascribed in a limited way to other things." According to Leibniz, it is appropriate to ascribe the attributes of God to creatures, but it remains true that "God is not part of our mind" nor is the supreme being *in* any of the creatures which participate in the divine attributes (Academy, VI iii 520). In another essay of April, he writes: "all things are in a way contained in all things. But they are contained in a quite different way in God from that in which they are contained in things" (Academy, VI iii 523). In the *Monadology* of 1714, he explains in section 42: "creatures derive their perfections from God's influence, but they derive their imperfections from their own nature, which is incapable of being without limits. For it is in this that they are distinguished from God."

That Leibniz also endorsed the Epistemological Assumption is clear. For him, the main problem confronting his contemporaries is that it has become so difficult for the mind to become clear "to itself." In order to discover the Ideas which are the true objects of knowledge, we need to turn our intellect away from the world of sense and investigate "the principles of the sciences that possess eternal truth." These principles are like "what Plato called an Idea" (Academy, VI i 459–60; Leibniz 1969, 132–3). As he writes in section 83 of the *Monadology*, "[human] minds are images of the divinity itself, or of the author of nature, capable of knowing the system of the universe, . . . each mind being like a little divinity in its own realm."

Although there is abundant evidence of Leibniz's Platonist doctrines scattered throughout the mature writings, he is rarely as explicit as he is in *On the True Mystical Theology*. In this text, written in German (probably) in the final years of the seventeenth century, Leibniz places his Platonist cards on the table. Concerning emanative causation, he asserts: "Every perfection flows immediately from God, as essence, power, existence, spirit, knowledge, will . . . The divine perfections are concealed in all things, though very few know how to discover them there . . . In each and every being there is everything – but with a certain degree of clearness" (Leibniz 1969, p. 367). Concerning his epistemology, Leibniz is particularly straightforward. He announces: "Within our self-state [*Selbststand*] there lies an infinity, a footprint or reflection of the omniscience and omnipresence of God" who "belongs to me more intimately than does my body." Concerning the journey of the soul to knowledge, Leibniz continues by explaining that the mind must turn away from "the shadows" and seek the truth with God's help. He writes:

> Only the inner light that God himself kindles in us has the power to give us the right knowledge of God . . . Hence there are many who are learned without being illumined . . . This light does not come from without, although external teaching can, and sometimes must, give us an opportunity to get a glimpse of it. Among the external teachers there are two which best awaken the inner light: the Holy Scriptures and the experience of nature. But neither of these helps us if the inner light does not work with them. (The knowledge of God is the beginning of wisdom, and the divine attributes are the primary truths for the right order of knowledge.) The essential light is the eternal Word of God, in which is all wisdom, all light, indeed the origin of all beings and the origin of all truth. (Leibniz 1969, p. 368)

Leibniz stands in a long line of Christian philosophers who conceive the relation between God and creatures in Platonist terms.

Conclusion

The early modern era is one of intellectual fecundity and confusion. Not only did the period inherit the whole range of ancient philosophies that were rediscovered and recombined in the Renaissance, it added to these ideas many of its own invention. Whether it was the radical theology of Luther (1483–1546) or the mysticism of Agrippa of Nettesheim (1486–1535) and Jakob Böhme (1577–1624), whether the medical hypotheses of Paracelsus (1493–1541) or the mechanical physics of Galileo (1564–1642) and Gassendi (1592–1655), whether the theological proposals of Calvin (1509–64) or the panophism of Jean Bodin (1530–96), Johann Heinrich Alsted (1588–1638), and Athanasius Kircher (1602–80), whether the syncretism of Agostino Steuco (1497/8–1548) or the mystical cosmology of Kepler (1571–1630), the period was full of elaborate new theories and provocative ideas. Platonism was surely one of the main intellectual currents of the period. Although a good deal more work needs to be done to excavate the Platonist foundations of major parts of early modern thought, it is safe to conclude with some general remarks.

The thought of Plotinus, Augustine, Ficino, Pico della Mirandola, and of course Plato himself was widely known and highly regarded throughout the early modern period. Because the tradition of conciliatory eclecticism encouraged thinkers to combine ideas from different philosophical schools, it is not surprising that early modern philosophers borrowed freely from Platonism, often without explicit acknowledgment of their source. Despite the genuine limitation of the examples offered here, and despite the restriction of our discussion to early modern metaphysics and epistemology (and the exclusion, for example, of ethics and political philosophy), it is clear that Platonism was used throughout the early modern period in diverse and significant ways. As it turns out, even canonical figures like Descartes and Leibniz employed Platonist materials in their philosophical constructions. That such innovative thinkers combined these ancient assumptions with their mechanical physics and with other newly invented theories shows the propensity in the period to blend together ideas from diverse sources. That our early modern heroes and countless other lesser figures used Platonist assumptions without fanfare and explanation bears witness to the vitality of Platonism during the period and its continued importance as a source of ideas. Nor does this propensity to recombine ancient ideas with new ones diminish the originality of the final philosophical product. As Leibniz wrote about his philosophy toward the end of his life: "I have tried to uncover and unite the truth buried and scattered under the opinions of all the different Philosophical Sects, and I believe that I have added something of my own which takes a few steps forward" (Leibniz 1969, pp. 654–5). Once we place early modern continental philosophy against the background of Platonism and philosophical humanism, it is easy to discern both its genuine innovations and its ancient roots.

References

Augustine, Saint, 1992, *Confessions*, ed. and tr. Henry Chadwick. New York: Oxford University Press.

Bodin, Jean, 1975, *Colloquium of the Seven about the Secrets of the Sublime*, ed. and tr. M. L. D. Kuntz. Princeton: Princeton University Press.

Dante Alighieri, 1982, *The Divine Comedy of Dante Alighieri: Inferno, A Verse Translation*, tr. Allen Mandelbaum. New York: Bantam Books.

Descartes, René, 1988, *The Philosophical Writings of Descartes*, 2 vols., tr. J. Cottingham, R. Stoothoff, D. Murdoch. Cambridge: Cambridge University Press.

Ficino, Marsilio, 1975, *The Letters of Marsilio Ficino*, vol. 1, Preface by P. O. Kristeller. London: Shepeard-Walwyn.

Kristeller, Paul O., 1964, *Eight Philosophers of the Italian Renaissance*. Stanford: Stanford University Press.

Leibniz, Gottfried Wilhelm, 1923–, *Sämtliche Schriften und Briefe*, ed. Deutsche Akademie der Wissenschaften. Berlin: Akademie Verlag. References are abbreviated as follows: capital roman numerals = series number; lower case roman numerals = volume number; arabic numerals = page number.

——1969, *Philosophical Papers and Letters*, 2nd ed., ed. and tr. Leroy E. Loemker. Boston: Reidel.

Mercer, Christia, 2001, *Leibniz's Metaphysics: Its Origins and Development*. New York: Cambridge University Press.

Pico della Mirandola, Giovanni, 1965, *On the Dignity of Man, On Being and One, Heptaplus*, trs. Charles G. Wallis, Paul J. W. Miller and Douglas Carmichael. Indianapolis: Bobbs-Merrill.

Plotinus, *Enneads*, 1990, tr. A. H. Armstrong. Cambridge, MA: Harvard University Press.

Further Reading

Åkerman, S., 1991, *Queen Christina of Sweden and her Circle: The Transformation of a Seventeenth-Century Philosophical Libertine*. Leiden: E. J. Brill.

Ariew, Roger and Gabbey, Alan, 1998, "The Scholastic Background," in Garber and Ayers, eds., *The Cambridge History of Seventeenth-Century Philosophy*. Cambridge: Cambridge University Press, 425–53.

Beck, Lewis White, 1996, *Early German Philosophy: Kant and His Predecessors*. Bristol Thoemmes Press.

Brockliss, L. W. B., 1981, "Aristotle, Descartes, and the New Science: Natural Philosophy at the University of Paris, 1600–1740," *Annals of Science* 38: 33–69.

Burke, Peter, 1990, "The Spread of Italian Humanism," Goodman and Mackay, (eds.), *The Impact of Humanism on Western Europe*. London: Longman, 1–22.

Copenhaver, Brian P. and Schmitt, Charles B., 1992, *Renaissance Philosophy*. Oxford: Oxford University Press.

Des Chene, Dennis, 1996, *Physiologia: Natural Philosophy in Late Aristotelian and Cartesian Thought*. Ithaca and London: Cornell University Press.

Freedman, Joseph S., 1988, *European Academic Philosophy in the Late Sixteenth and Early Seventeenth Centuries: The Life, Significance, and Philosophy of Clemens Timpler (1563/64–1624)*, 2 vols. New York: Georg Olms.

Garber, Daniel, 1992, *Descartes' Metaphysical Physics*. Chicago: University of Chicago Press.

—— and Ayers, Michael, eds., 1998, *The Cambridge History of Seventeenth-Century Philosophy*. Cambridge: Cambridge University Press.

Goodman, Anthony and Mackay, Angus, eds., 1990, *The Impact of Humanism on Western Europe*. London: Longman.

Grafton, Anthony, 1991, *Defenders of the Text: The Tradition of Scholarship in an Age of Science, 1450–1800*. Cambridge, MA: Harvard University Press.

Jardine, Lisa, 1983, "Lorenzo Valla: Academic Skepticism and the New Humanist Dialectic," in M. Burnyeat, ed., *The Skeptical Tradition*. Berkeley: University of California Press, 253–86.

—— 1988, "Humanist Logic," in Schmitt and Skinner, eds., *The Cambridge History of Renaissance Philosophy*. Cambridge: Cambridge University Press, 173–98.

Kraye, Jill, ed., 1996, *Cambridge Companion to Humanism*. Cambridge: Cambridge University Press.

Kristeller, Paul O., 1944–5, "Humanism and Scholasticism in the Italian Renaissance," *Byzantion* 17: 346–74.

Loemker, Leroy E., 1961, "Leibniz and the Herborn Encyclopedists," *Journal of the History of Ideas* 22: 323–38.

McConica, James, 1979, "Humanism and Aristotle in Tudor Oxford," *The English Historical Review* 94: 291–317.

Menn, Stephen, 1998, *Descartes and Augustine*. New York: Cambridge University Press.

Mercer, Christia, 1993, "The Vitality and Importance of Early Modern Aristotelianism," in Sorell, ed., *The Rise of Modern Philosophy*, 33–67.

—— 1999, "Humanist Platonism in Seventeenth-Century Germany," in Jill Kraye and Martin Stone, eds., *London Studies in the History of Philosophy*, vol. 1. London: Routledge.

Osler, Margaret, 1993, "Ancients, Moderns, and the History of Philosophy: Gassendi's Epicurean Project," in Sorell, ed., *The Rise of Modern Philosophy*. Oxford: Clarendon Press, 129–43.

—— 1994, *Divine Will and the Mechanical Philosophy: Gassendi and Descartes on Contingency and Necessity in the Created World*. Cambridge: Cambridge University Press.

Schmitt, Charles B., 1973, "Towards a Reassessment of Renaissance Aristotelianism," *History of Science* 11: 153–94.

—— 1984, *The Aristotelian Tradition and Renaissance Universities*. London: Variorum Reprints.

——, Quentin Skinner, and Eckhard Kessler, eds., 1988, *The Cambridge History of Renaissance Philosophy*. Cambridge: Cambridge University Press.

Sorell, Tom, ed., 1993, *The Rise of Modern Philosophy*. Oxford: Clarendon Press.

Walker, D. P., 1972, *The Ancient Theology: Studies in Christian Platonism from the Fifteenth to the Eighteenth Century*. New York: Cornell University Press.

Wallis, R. T., 1972, *Neoplatonism*. London: Gerald Duckworth and Co.

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The New Science: Kepler, Galileo, Mersenne

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Kepler's New Astronomy

Johannes Kepler (1571–1630) spent most of his life in Southern Germany, where he was born, and in nearby Austria. While training for the Lutheran ministry, he learned about the Copernican system from his mathematics professor at the University of Tubingen and became an enthusiastic convert. He never completed his religious training and spent his life as a teacher and mathematical consultant to governments.

Kepler's earliest theory, conceived when he was twenty-five years old, related the orbits of the planets to the five regular solids of classical geometry. The *Mysterium cosmographicum* (*The Cosmographical Mystery*, 1596), the treatise that advances this vision of nature as fundamentally mathematical, was the first avowedly Copernican work since the publication of *De revolutionibus Orbium Coelestium* (*On the Revolutions of the Heavenly Spheres*) in 1543. This book brought Kepler to the attention of Tycho Brahe (1546–1601), who in 1599 became mathematician for the emperor in Prague. When Brahe died in 1601, Kepler succeeded him, in the process inheriting Brahe's authoritative collection of astronomical observations, gathered over a twenty-five year period.

Not content with a geometrical description of the cosmos, Kepler was the first scientist to construct a physical theory to fit the new cosmos described by Copernicus. The guiding methodological principle of Kepler's new astronomy, advanced in his most important work, the *Astronomia nova* (*New Astronomy* 1609), is that astronomical problems are best resolved in terms of a mathematical analysis of their underlying physical causes. Kepler's brilliance is reflected in the way that he was able to extract a geometrically precise statement of the motions of the planets from the fairly crude conceptual resources at his disposal (bits and pieces of Aristotelian physics, Copernicus' astronomical theory, and Gilbert's study of the magnet, etc.) that were not tailored for the purposes of physical astronomy.

The central idea of Kepler's planetary theory is that the sun rotates on its own axis, carrying an image (*species immateriata*) of its body through the entire extent of the universe. This image was held by Kepler to have the power to overcome the resistance of the planet to motion (its inertia) and carry it in its grasp. As

justification for this solar force, Kepler drew on Gilbert's *De Magnete* (*On the Magnet*, 1600). Just as the earth has the capacity to direct a magnetic needle north and south, Kepler held that the sun (which is a spherical body as well) directs the motion of the planet. For Kepler, the solar virtue is not a magnetic force as such. There is no true coition or coming together of the sun and the planet in the manner specified by Gilbert for two magnetic bodies and the sun is held, rather, to move the planet by the motion of its filaments. Kepler therefore conceived the solar virtue as a quasi-magnetic action that causes the planet to orbit the sun.

This suggestion implies that the planets have the same period of revolution, conforming to the sun's rotation on its axis. In order to reconcile the different periods of the planets with his magnetic theory, Kepler submitted that the planets are "inclined, because of matter, to remain in their place" (1969: 201). The introduction of the concept of inertia proved to be a remarkable event in the history of science, but Kepler supposed that the corporeality or inertia of matter occasions a resistance to motion on the part of the planets. A planet's velocity, rather, is determined by the strength of the solar force acting on the planet, relative to this resistance. More massive planets, Kepler contended, move more slowly on account of their greater inertia. In Book II of *De magnete*, Gilbert carefully distinguished the attraction due to the amber effect from the attraction caused by the lodestone. He discerned, for instance, that while all bodies may be made electrical, ferruginous substances alone can be made magnetical. For this reason, he proposed that separate disciplines be established to examine each kind of phenomenon. Moreover, in Book II, Chapter IV of his famous work, Gilbert recognized the effect of dull red heat on the magnetic virtue, namely, a magnet loses its power if it is placed in a hot fire until it becomes red-hot. Much later, in response to the suggestion of the Astronomer Royal, John Flamsteed (1646–1719), that the sun's magnetic power turns comets in a curved path, NEWTON (chapter 26) would object that the sun is "a vehemently hot body & magnetick bodies when made red hot lose their vertue" (Newton 1959–77, 2: 342). Newton was just reminding Flamsteed of a fact which seems to have been widely recognized. Setting aside the issue as to whether the force that drives the planets is central or rotational, Newton's point is that simple experiment reveals the error in classifying magnetic forces as gravitational ones. Gilbert had been careful to distinguish electric and magnetic forces, and it seemed clear to Newton that gravity constituted a third kind of attractive force. It is perhaps for this reason that Newton attributed vortical explanations of planetary motion to Kepler, and not the dynamical approach that he ascribed to Giovanni Borelli (1608–79), Robert Hooke (1635–1702), and himself (Newton 1934: 550).

The explanation for Kepler's conflation of magnetic attraction with gravitational attraction is complex but at least two points are pertinent. The first is the enchantment with circularity, which was his birthright as a Renaissance astronomer. The second is his goal of providing a physical basis for the Copernican theory. It appeared as though Gilbert's magnetic theory could be made to serve both ends, and Kepler clearly was less than rigorous in assessing its suitability for his new astronomy. The consequence of Kepler's enthusiasm for Gilbert's work is that the perfectly simple planetary path projected by the Copernican system emerges, in his

planetary theory, as an idealized model of planetary motion under the sole influence of the circumsolar force.

Of course, the planet does not describe perfectly circular orbits, but its libratory approach to and from the sun proved to be a thorny problem. As an explanation, Kepler extended his magnetic hypothesis to the planet itself: "because there are present twofold threads...", by "the mingling of the planet's body and the sun's power" (1618–21: Kepler 1969, Book V, 209), the planet is compelled to describe an orbit oblique to the ecliptic. Furthermore, because the threads of latitude remain approximately parallel during the planet's revolution, it is gradually deflected after a number of revolutions. The plane contained by the orbit is only "approximately perfect" (i.e., circular) and so the center of the planetary globe does not return exactly to its starting point. The threads of libration compel the planet to draw away from the sun and return again, so that it describes an eccentric orbit, "not a perfect circle but one slightly narrower and more pressed in on the sides, like the figure of an ellipse" (Kepler 1969, p. 210).

There was still the critical problem of reconciling Kepler's geometrical hypotheses with the magnetic theory. During the course of his work, it became apparent that the planetary orbits were not circles, and that no number of epicycles could account for the irregularities of their paths. Although at first unable to characterize these paths accurately, Kepler recognized that the planets accelerate as they approach the sun, and slow down as they move away from it. In order to calculate the position of a planet at any time, he formulated two different laws. The first states that the velocity of a planet varies with its distance from the sun in such a way that a line joining the planet with the sun sweeps out equal areas in equal times; and the second says that the velocity of a planet varies inversely to the distance from the sun. The first is the form commonly known as Kepler's second law of planetary motion, while the second is known as the inverse-distance law. Although Kepler initially regarded these laws as equivalent, by the end of the *Astronomia nova* he had corrected the distance law and recognized its incompatibility with the area law. The implication of the area law was that the sun controls the motion of the planet.

The idea persists that Kepler's astronomical discoveries cleared away the cumbersome geometrical device of epicycles that had been the cornerstone of planetary astronomy since antiquity. There is no basis for this generalization. Kepler initially introduced the area law in the *Astronomia nova* as a convenient mathematical approximation to the inverse relation of distance and speed, but he came to see that the two rules are not equivalent. The area does not measure exactly the sum of the distances from the sun. The velocity of a planet is inversely proportional to its distance from the sun to a tangent line drawn through the planet, and not to its distance from the sun, as Kepler initially supposed (see Newton 1934: 63). The speed law can be employed in the regions of the apsides because the direct distance from the sun to a planet approximates the perpendicular distance from the sun to a line drawn through the planet's position, tangent to its orbit. While Kepler corrected his faulty distance law, and came to recognize the exactness of the area law, there is no evidence that he came to regard the area rule as more than a computational device.

It is when we turn to the matter of applying the ellipse cum area rule to practical astronomical problems that we confront the ramifications of Kepler's failure to relate the area rule to his physical theory. It is easy to forget that the ellipse hypothesis by itself has no observational consequences. One would suppose that in order to express the position of any planet as a function of time, all that is required is any two orbital positions separated by a given time. One could then compute the area swept out during this period and find another area swept out in the same time. But the motion of a planet on an ellipse is not uniform; even now, there is no closed mathematical expression for elliptical motion. The machinery of elliptic integrals overcomes this difficulty, but it was not a live option for the would-be Keplerian.

Kepler used the area law in his *Rudolphine Tables* (1627) to express orbital positions along an ellipse, but the calculations were fraught with difficulty. The ellipse hypothesis was rendered ineffectual as an astronomical tool unless it was combined with a technique for approximating orbital velocities. Even though he made no use of this principle, Kepler recognized that the empty focus of the ellipse provided a center of uniform rotation. This solution gained a fair amount of currency in the seventeenth century, but it had no basis in physical theory. Moreover, these techniques signified a return to the deeply embedded ideal of uniform rotation, and certainly not the brave new astronomy proclaimed by Kepler's *Astronomia nova*. Even if one embraced Kepler's ellipse hypothesis as a likely candidate for the orbital shape, in the absence of the theoretical and mathematical tools that would put the area rule on the scientific map, the end result would be an astronomy that departed only negligibly from the astronomy of Ptolemy and Copernicus.

These considerations help to explain why the area rule is absent in the scientific literature prior to Newton. Furthermore, since the area rule and the ellipse are tied together in Kepler's physical theory, there was no pressing reason for the astronomical community to treat Kepler's ellipse as more than a mere computational device. As competent an astronomer as Giovanni Cassini (1625–1712), the director of the renowned Paris Observatory, found that he could dispense with Kepler's ellipse hypothesis, and he actively sought alternatives for the modifications Kepler attempted to impose upon the Copernican system; for example, the ovals of Cassini. Cassini's proposal was in step with numerous astronomical treatises, which attempted to reduce the ellipse to epicyclic astronomy by constructing it as a curve traced out by an epicycle with a period of rotation equal to the period of revolution of its center along the deferent. Recognizing this fact allows us to explain why Kepler's impact on physical theory prior to 1687 was quite a bit less than one would expect.

The underlying problem stems from the fact that Kepler's celestial physics was conceived with a "perfect" geometrical figure in mind – a circle – that would result in the planet describing a Copernican orbit. Although in retrospect Kepler is heralded for his discovery of the elliptical orbit, the orbital shape is the result of the mitigating influence of the planetary body on the sun's solar image. The elliptical shape of the orbit emerges as a compromise between Kepler's Copernican solar theory and Tycho Brahe's data, and not as the consequence of a physical theory.

More than a decade later, in his *Harmonices mundi* (*Harmonics of the World*, 1619) Kepler formulated the third and most influential of his planetary laws, that the

orbital periods of the planets have a definite relationship to their distance from the sun, expressed by the formula $P^2 = a^3$, where P is the planet's orbital period in years, and a is its distance from the sun in Astronomical Units (i.e., the distance from earth to the sun). With this third or harmonic law, the distance of any body in motion about the sun could be calculated by observing its orbital period.

Kepler's New Science of Vision

Though he is now celebrated for the laws of motion that have been immortalized in Isaac Newton's argument for universal gravitation, Kepler's laws of planetary motion were ignored by scientists for decades after his death. Even Galileo, did not appreciate the significance of Kepler's astronomical discoveries. In his lifetime, he was known for his optics, a field that he was introduced to during his tenure as assistant to Tycho Brahe. The great observational astronomer found in 1600 that the lunar diameter as formed by the rays in a camera obscura appeared smaller during a solar eclipse than at other times. Brahe's observation generated a curious intellectual puzzle that seemed to admit only two solutions: either the moon itself changed sizes or moved further away from the earth during the solar eclipse; or Brahe was somehow being deceived by the camera obscura.

This puzzle drew the attention of Kepler. The first solution presumed that the puzzle was astronomical in nature. Kepler rejected it out of hand. The puzzle, Kepler submitted in his *Ad Vitellionem paralipomena* (*Additions to Witelo*, 1604) involved the optics of the visual images (which he called *pictures*) formed behind the small apertures in the pinhole camera. The changing diameter of the moon was caused by the intersection of the optical mechanism with the rays of light. The deception detected by Brahe, Kepler reasoned, is built into the pinhole camera.

An unpalatable consequence of Kepler's hypothesis for received theories of knowledge was that naked-eye observation is somehow better off than instrument-mediated observation. This consequence was congenial to the Scholastic natural philosophy that dominated intellectual life in and around the universities. A central doctrine of Scholastic accounts of knowledge was that there is nothing in the mind that is not first in the senses. Equivocating the scientific with the sensible, these same scholars would soon oppose Galileo's startling telescopic observations with the common sense refrain that such things as Jupiter's moons and the craters of the moon are not available in ordinary sensation and so must be artifacts of Galileo's instrument.

Anticipating this objection, Kepler fatally undermined the Scholastic account of knowledge and the authority traditionally conferred on ordinary vision by pointing out that deception is also built into the human eye, which, he demonstrated to great effect, is an optical mechanism furnished with a lens that has focusing properties. Since the eye possesses an aperture, Kepler reasoned, it is liable to the same errors that attend the observation of eclipses with a camera obscura. Where Renaissance thinkers like della Porta were indifferent to the real or illusory status of what the camera obscura makes visible, Kepler was quite clear that the image is not seen in any literal sense but interpreted by the visual system.

According to Kepler's theory, the act of seeing involves the painting of an inverted picture on the retina, comparable to the picture that appears on the back of the camera obscura. It was Kepler who first drew a connection between seeing and picturing, and with it drew a line between picture and object (between nature and its representation) that was interlaced in Renaissance literature.

A startling consequence of Kepler's claim that our optical mechanism mediates the world is that the world must be seen differently through the eyes of other animals. Thanks to the Copernican system, natural philosophers were already furnished with a philosophical objection to the anthropocentrism of the received geocentric cosmology. With Kepler's pioneering work in vision science, the anti-anthropocentrism implicit in Copernicus' treatment of the earth as just another celestial body was now bolstered by science. As Kepler's views gathered momentum during the course of the seventeenth century, it is easy to see why natural philosophers (for example, Robert Hooke and his celebrated illustration of the eye of a grey drone fly) became consumed with studying the eyes of other animals and in reconstructing the world as pictured by their optical mechanisms.

Kepler himself was reluctant to speculate on what happens next after a picture is painted on the retina. Although he sketched a theory that owed a great deal to Medieval and Renaissance scholars, his considered judgment seems to have been that the associated psychological and epistemological problems start where the science of optics ends. Nevertheless, Kepler's work with the camera obscura stimulated the direction of philosophy in two ways: (a) the connection that he drew between seeing and picturing coalesced into a metaphor that described the relation of a perceiver and the position of a knowing subject to an external world; and (b) the analogy that he drew between the camera obscura and the human eye proved to be instrumental to the creation of the mechanical philosophy.

The Camera Obscura as metaphor

Renaissance scholars, such as Giovanni Battista della Porta (1538–1615), did not draw a distinction between the external world and its projection. By the mid seventeenth century, philosophers outside the mainstream scholastic tradition drew a firm distinction between image and object. (Scholars have identified many intellectual conduits whereby the guiding principles of scholastic philosophy continued to shape philosophical activity during the course of the seventeenth century. Here is one place where the current of medieval thought ran dry. Since this place is to be found in the scientific contributions of Kepler, it has largely been invisible to historians of philosophy who tend to steer clear of the history of the discrete mathematical sciences.) Kepler's claim that vision is a kind of picture-making raised a new set of epistemological and psychological problems, concerning the relationship between observer and external world, that resulted in the creation of a philosophical metaphor that profoundly influenced the direction of content of philosophical theory during the seventeenth century and beyond.

DESCARTES' (chapter 5) *La dioptrique* (1637) confirmed and added precision to Kepler's substantive optical claims, in particular, restating the analogy between the eye and the camera obscura. Descartes then turned to the associated epistemological

issues raised by Kepler's metaphor, taking the view that picturing does not work by denotation, and so the pictures painted on the retina do not require the existence of external objects that resemble these pictures. These issues in the theory of representation have been revisited by contemporary philosophers and are well documented, but few scholars are aware that these issues exploded on the philosophical landscape as a consequence of Kepler's work with the camera obscura.

An interesting feature of metaphor, noted by Nelson Goodman (1976), is that as a metaphor takes root in an intellectual community, it comes to be seen as a literal truth. During the seventeenth century, attention shifted from attempts to account for picturing as such to assorted metaphysical worries about the status of claims about the external world given the fact that we do not have direct access to objects in perception.

At the same time, the camera obscura moved to the forefront as an epistemic model for representing the position of a knowing subject with respect to an external world. The famous passage from John Locke's *Essay Concerning Human Understanding* (2, 11, 17) asserts that "external and internal sensations are the windows by which light is let into this *dark room*; would the pictures coming into such a dark room but stay there and lie so orderly as to be found upon occasion it would very much resemble the understanding of man." The camera obscura, in this passage, is used to restructure the process of observation: the operation of the mind is completely separate from the apparatus that allows the formation of "pictures" or "resemblances." Locke professes that the manner by which impressions made on the retina by rays of light produce ideas in our minds is "incomprehensible," but this model was conducive to a juridical role to the observer within the camera obscura that allows the subject to guarantee and police the correspondence between exterior world and interior representation and to set aside anything disorderly. The camera obscura, then, as a model of perception was used by Locke to provide an answer to the problem raised by Kepler's claim that a picture is painted on the retina in vision – namely, skepticism with regard to the senses. This model was accepted by LEIBNIZ (chapter 18), but only with the caveat that the camera obscura is not a passive device but is endowed with an inherent capacity for structuring the ideas it receives.

Kepler and the Mechanical Philosophy

Kepler employed the camera obscura (a mechanical device) as a model for the human eye. His demonstration was the first concrete scientific realization of an analogy between things that exist in a pure state of nature and mechanical contrivances fashioned by hammer and tongs. Mechanical analogy, and the mechanical models that are generated by a process of analogous reasoning, is one of a handful of tools in the scientist's toolkit. The mechanization of the human eye proved to be the first in a long series of mechanical analogies that fill the pages of the sciences of the early modern period.

Kepler applied his mechanistic hypothesis to one particular organ (the eye), leaving its functioning in relation to the entire system of the body untouched. Descartes took the additional step, in a number of scientific treatises, of treating the entire

living animal body as an inanimate machine. By focusing exclusively on the one question that had guided Kepler in his optical researches – what physical motions follow from each preceding motion – Descartes, HOBBES (chapter 22), and other natural philosophers created a methodological template for the mechanistic style of explanation that is so characteristic of modern science. Buoyed by Kepler's success, the principles that govern the movement of machines were extended by scientists to other organic and inorganic systems, and confidence in the veracity of explanations of phenomena in terms of the so-called mechanical properties of bodies took hold in the wider intellectual community. Mechanism, taken by philosophers as a guiding methodological assumption, came to be seen by rationalist and empiricist alike as a way of policing unruly and disorderly sensations.

Galileo and the Telescope

Born in Pisa, Italy in 1564, for the first twenty years of his adult life Galileo held chairs of mathematics at the University of Pisa and then at Padua. His research centered on mechanics and on an attempt to devise a mathematical language of bodies in motion, but the trajectory of his career changed quite suddenly with the invention of the telescope.

Although much ink has been spilled on this subject, nobody knows who first invented the telescope. An instrument that made distant objects appear both larger and nearer created a stir in the Netherlands in 1608. News of this amazing instrument reached Galileo in 1609. After confirming the existence of such an instrument, along with basic information on its construction, Galileo built his first refracting telescope in July of the same year. By the end of the year, he had succeeded in executing an instrument that represented objects 1,000 times larger and 30 times nearer than they appeared to the naked eye. The arrangement of lenses that Galileo employed consisted of an objective that is a converging, positive lens with a diverging, or negative, eye lens – an arrangement that is now restricted to opera and field glasses because the magnification is not great. The magnification that Galileo achieved with his instrument was the best that could be expected from such an arrangement of lenses.

Galileo turned this comparatively simple instrument to the skies in January of 1610. Astronomy was something of a departure for Galileo. He had little interest in this subject prior to 1604, when he had become interested in two astronomical questions: (a) if the Earth moved in space, as Copernicus contended, why was only one hemisphere of the sky visible? Moving away from the celestial sphere must bring one closer to one side, and so render more than half the sphere visible. Galileo was certain that this argument was groundless but he possessed no physical proof for the Copernican conjecture of a moving Earth. He wrote to Kepler to tell him that he believed in the soundness of the Copernican hypothesis, but Kepler was already one of the converted. And (b) if the heavens are immutable, as Aristotle had argued, why did a new star appear in 1604? Aristotelians demurred that the phenomenon was a meteorological one, occurring in the region below the surface of the moon, but Galileo and others were beginning to suspect that this and an

earlier nova of 1572 lay beyond the sphere of the Moon, as Brahe had claimed many years earlier.

The telescope changed everything. Although the moon is unique among heavenly bodies in possessing features that are discernible to the naked eye, Galileo noticed small bright and dark spots changing in size as he watched that heretofore had been invisible. He concluded that the surface of the moon is endowed with what he thought were seas and "everywhere full of vast protuberances, deep chasms, and sinuosities," like the surface of the Earth. Noting that the summits of the highest elevations were illuminated at a considerable distance from the edge of the lunar crescent, with simple geometrical reasoning he concluded that the lunar mountains were at least four times higher than the mountains of the Earth.

Galileo then turned the telescope to the stars. Although the stars appeared brighter, they were not enlarged but looked even smaller through the telescope, unlike the planets, which gave the appearance of small disks. The only explanation was that the stars were situated at immense distances from the earth – farther than the planets. When he then trained the telescope on the constellation Orion, he discovered and recorded many stars, never before seen with the naked eye, in the belt and in the sword of the hunter. He then swung the telescope through The Milky Way, revealing that what was universally believed to be a luminous cloud in the sky was in fact a collection of individual stars.

His final set of observations proved to be the most dramatic. He observed tiny stars near Jupiter. On successive nights, he noticed that these four little stars stayed with Jupiter as it wandered through the fixed stars. He concluded that these must be moons circling Jupiter, and named them the Medicean stars, in honor of the Medici family that ruled Tuscany. Here was a Copernican system in miniature, which discredited the Aristotelian contention that there could only be one center of motion in the universe, the earth.

Galileo wasted little time and reported his observations in his *Sidereus nuncius* (*The Starry Messenger*), a small, heavily illustrated treatise that was published later that same year. This little book was a best-seller. When the initial run of 550 copies was sold out, a reissue appeared in Frankfurt within months. From his prison in the Castel dell' Ovo in Naples, Thomas Campanella wrote: "After your Message, O Galileo, all knowledge must be changed." Galileo became a celebrity overnight. It exercised such a withering influence upon the received cosmology of Aristotle and Ptolemy, with its geocentric planetary arrangement and sharp division of the cosmos into a perfect celestial realm and a corruptible terrestrial realm, that it deserves to be listed as one of the greatest books in the history of science.

In Prague, the Tuscan ambassador, Giulano di Medici, gave Kepler a copy with a request from Galileo for comments. Kepler's patron, the Emperor Rudoph II, soon made a similar request and Kepler quickly produced in the space of a few months a pamphlet called *A Discussion with the Starry Messenger*. This pamphlet extols Galileo's work, even though at the time Kepler had no telescope and had not even looked through one. Soon after, however, Kepler was afforded the opportunity to observe through one of Galileo's telescopes and thereupon published a second pamphlet. Kepler became so intrigued with the instrument that he temporarily broke off his own research to publish a book in 1611 on lenses and even to design

an alternative telescopic arrangement featuring a biconvex lens combination that had many advantages over the Galilean arrangement.

For the first time, there was physical evidence that something was amiss in the Aristotelian universe. If Galileo's observations were sound, then quite evidently the many followers of Aristotle, who dominated intellectual life in and around the universities, would have to revise not just Aristotelian astronomy, but Aristotelian physics and with it, the entire edifice of Aristotelian philosophy.

The tragedy that descended on Galileo has been described in many places. Briefly, he was warned in 1616 by the Inquisition to cease teaching the Copernican theory, for it was now held "contrary to Holy Scripture." Copernicus' book itself was placed on the Index of Prohibited Books, and was suspended "until corrected." Galileo could not suppress what he believed to be the truth. Whereas Copernicus had invoked Aristotelian doctrine to make his theory plausible, Galileo urged acceptance of the heliocentric system on its own merits, apart from any such questions as those of faith and salvation. Although Galileo's battle with the church was officially waged over the Copernican system, the real issue, which was clear to Galileo from the beginning and to the theologians who were soon to stack the deck against him, was the right of the scientist to teach and defend his scientific beliefs.

In 1632, Galileo published the work *Dialogo Di Galileo Galilei* (*Dialogue Concerning the Two Chief World Systems*), advancing the case for Copernicus in a thinly disguised discussion of the relative strengths of the Ptolemaic and Copernican systems. Sale of the book was soon suspended. Galileo was ordered by the Pope to travel to Rome where he was confined for a few months, threatened with torture, and forced to make an elaborate formal renunciation of the Copernican theory. He was sentenced to perpetual confinement and forbidden to publish anything on Copernicanism. The trial reverberated through intellectual circles. Europe's most celebrated scientist had been forced to kneel in an act of public abjuration before the authority of the church.

Galileo's books continued to be printed and translated outside of Italy and exerted a lasting influence on scientific practice. He spent the next five years working on his new physics and composing his greatest book, the *Discorsi E Dimonstrazioni Matematiche, intorno a due nuoue scienze* (*Discourses on Two New Sciences*), which was published in 1638 in Leyden, out of the reach of censors and inquisitors. Fundamentally a work in dynamics, it presents his theory of projectiles, the resistance of solid bodies to concussion and fracture, the forces of cohesion in a body, the acceleration of motion, and the proof of the parabolic trajectory of ballistic missiles. Galileo died in 1642.

Galileo and the Creation of Mathematical Physics

Given the persuasive evidence that Galileo had marshaled for the Copernican theory, the question of the correct physics of a moving earth moved to center stage, not only for Galileo but also for those scientists who converted to the new astronomy after 1630 in ever increasing numbers. Galileo never worked out a satisfactory answer to this question. However, he carefully dismantled a number of standard

objections to a moving earth, some of which were grounded in common sense and others of which were informed by the central tenets of Aristotelian science.

In a series of studies that covered the six-year period 1602–08, he found that, under ideal conditions, all bodies fall at the same rate, irrespective of differences of weight. This discovery delivered a decisive blow to Aristotelian physics, which held that the rate of fall is a function of weight (heavier bodies fall faster than light ones), and, by implication, that the earth must fall to the center of the planetary system. Equally important, he discovered that all falling bodies obey a mathematical law of uniform acceleration: the distances traversed in intervals of time by a body falling from rest with a uniformly accelerated motion are to each other as the squares of the time intervals. This discovery marked the introduction of time as an essential component of motion, without which its mathematical analysis could not proceed. Galileo then confirmed his mathematical analysis of the acceleration of falling objects with a series of experiments with an inclined plane that allowed him to measure the rate of acceleration of objects. Conducted under actual conditions, these celebrated experiments served to verify his mathematically derived results.

Galileo also showed that a projectile follows the path of a parabola and that its path is produced by the combination of two independent motions – a uniformly accelerated motion downward and a motion in a horizontal direction. The uniform horizontal motion is sometimes portrayed as an anticipation of the concept of inertia that was fully developed by Descartes and Isaac Newton, but the only perpetual motion that Galileo would allow was the circular motion of the planets around the sun. In his own way, Galileo was just as enamored with the circle as Kepler, and so perpetual motion in a circle was the only kind of inertia he could conceive. Kepler's elliptical orbits did not square with his conception of the cosmic order and they were rejected out of hand. Galileo's telescopic discoveries may have signaled his rejection of the Aristotelian distinction between celestial and terrestrial physics, but in physics he held fast to the distinction between motions that are natural (i.e., uniform and circular) and motions that are unnatural or violent (i.e., accelerated and rectilinear).

One of the key developments that is frequently identified with Galileo, but which in fact is repeated many times during the course of the seventeenth century, is the influence of what is often called a Platonic conception of nature. In his *Astronomia nova*, Kepler employed a tedious and ultimately fruitless method that involved plotting positions and drawing a line through them. He solved the problem of the planetary orbits, however, through the unexpected and sudden realization that the ellipse – a regular and familiar curve – satisfied all his needs. Although he had examined only a small portion of Mars' orbit, he immediately came to the conclusion that the orbit of Mars was an ellipse; indeed, that the planetary orbits were elliptical. This pattern is echoed in Galileo's discovery that the trajectory of a projectile was another familiar conic section, a parabola. As the seventeenth century unfolded, other relationships between physical quantities having simple mathematical forms were discovered in rapid succession – to name but a few, Snel's law, Boyle's law, Hooke's law, and Newton's law of universal gravitation. Boyle's law was deduced from empirical results. Others were not. All were buoyed by a

confidence in the simplicity of nature which is reflected just as vividly in Galileo's willingness to believe that trajectories must be parabolical because nature works in geometrical ways as it is in his assigning physical properties, such as isochronism, to circular motion that he could not rigorously prove.

Another development that is properly identified with Galileo was his refinement of a method of problem solving that was inspired by his admiration of Archimedes. This method involved (a) the extraction of mathematically definite concepts from the variety of physical experience; and then (b) the experimental verification of general conclusions that are drawn from these concepts through a process of mathematical deduction. The principle on which Galileo's method was based was the conviction that once a determinate cause is established in physical theory, it is a fairly straightforward matter to tease out its physical consequences. The key involved defining these concepts with mathematical precision, and then following the chain of reasoning in a rigorous way. So long as there were no gaps or defects in the chain of mathematical reasoning, Galileo held that it was reasonable to regard the experimental verification as a proof of the determination of the cause. In what is perhaps the most celebrated passage in the annals of science, he wrote that

> Philosophy is written in this grand book the universe, which stands continually open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and read the letter in which it is composed. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these one wanders about in a dark labyrinth. (Drake 1957: 237)

Galileo extended this method to the science of motion, thereby establishing the universal validity of such a science. Just as Galileo never mentioned the name of Archimedes without praise, later physicists (for example Isaac Newton) would come to see their own work as Galilean in conception. This method has now been extended over the whole of the physical sciences and has made inroads in to the life sciences as well.

Mersenne and the New Science

It seems reasonable to hold that early scientific societies arose as a natural response to the spontaneous desire among scientists for discussion and collaboration. It is true that this desire was a factor in the foundation of scientific societies but it was not the only (and perhaps not the most important) factor. By the 1630s, the medieval centralization of learning in Paris, Oxford, and Bologna had been weakened considerably. Scientists continued to flock to these centers, attracted not so much by the universities as by the quality of life of these centers and the chance of attracting a wealthy patron. Scientists needed money and encouragement. Believing that they could no longer look to the university and the church, they looked instead to a wealthy patron. In the spirit of an age when the support of a patron was vital to the flourishing of a program of research, Galileo purposely abandoned his university

post at the University of Padua and took up a position as Philosopher and Mathematician at the ducal court of Tuscany (Florence). This theme of a scientist in search of a patron is repeated again and again during the first half of the seventeenth century, finally fading with the founding of the great national academies in London, Paris, Berlin, and St. Petersburg, with their royal patronage during the latter part of the century.

Another factor in the emergence of early scientific associations was the emergence of the Copernican doctrine as a lightning rod for scientists with often very different interests. It is true that Galileo was celebrated throughout Europe for his telescopic discoveries, but prior to 1630 his opinion carried little weight outside of a very small circle of pupils and friends who were already converts. If anything, Galileo's telescopic discoveries provoked a series of powerful counter-attacks against the new astronomy. Opponents of the new astronomy reasonably insisted that, while these new discoveries may have leveled the Ptolemaic system, they did not prove the truth of the Copernican system. This was the position taken by Tycho Brahe, who rejected both traditional and Copernican astronomy, and advanced a compromise of his own that was observationally equivalent to the Copernican system without the dubious physical hypothesis of a moving earth. This compromise was attractive to many astronomers, especially orthodox Catholic astronomers, such as Giambaptista Ricciolo (1598–1671), and the Jesuit Christopher Scheiner (1575–1650).

With the dismantling of the medieval centralization of learning, and the trial of Galileo in Italy, scientists began to rally around the Copernican hypothesis. There are no surviving records of early gatherings in Paris, chiefly because some of the more eminent scientists were rarely seen in the capital in the 1630s and 1640s. Descartes lived in Holland, Fermat in Toulouse, and PIERRE GASSENDI (chapter 6) was often at Aix-en-Provence. Although Paris was not the physical center of French science, it did serve as the intellectual center of scientific life thanks to the efforts of Marin Mersenne (1588–1648), a member of the Catholic order of monks known as the Minims.

In almost every respect, Mersenne moved with the intellectual currents of his time. He published an anti-Copernican treatise in 1623 and did not change his mind until 1630. Shortly thereafter, he accepted Galileo's ideas and the mechanical philosophy of Descartes. With Descartes, he believed that these phenomena were to be explained in purely mechanical terms as the effects of the motions of particles of matter. Concerning sound, he showed that the pitch of a note is proportional to the frequency of the sound wave that produces it. Musical intervals, such as octaves, are always fixed ratios of the frequency of sound waves.

Mersenne was not a gifted scientist. His interests were concentrated in the fields of music, acoustics and optics, fields with a mathematical flavor. Mersenne proposed in 1644 his Mersenne numbers, which are numbers generated from the formula $2^p - 1$, in which p is a prime number. Mersenne's formula did not represent all primes, but it contributed to developments in number theory. His emphasis was a reflection of his conviction, borrowed from St. Augustine, that God had created an orderly world based on mathematical ratios and proportions. Although direct knowledge of this world was limited to God, Mersenne held that the human mind can

utilize mathematics – God's own language – to increase knowledge of the appearance of things. From the repeated and careful observations and measurement of natural phenomena, the scientist can extract patterns and regularities that will furnish the probable causes of those appearances.

Mersenne was a vigorous opponent of the radical skepticism that flourished in early seventeenth-century France. However, unlike Descartes who insisted on the possibility of morally certain knowledge, Mersenne found in a moderate form of skepticism a solution to the intellectual crisis that held literate and scientific culture in its grip. Aristotelians had always said that the knowledge furnished by the senses is trustworthy if the sense organs are not diseased and are functioning properly. If something looks red, it is safe to say that it is red, as a matter of fact. Paracelsians and Rosicrucians claimed that truth can be revealed to some individuals by divine inspiration, and Hermetists held that the revealed knowledge passed from Hermes Trismegistus represents privileged wisdom and is especially to be trusted. Mersenne agreed with the skeptics that we can never know the real truth of things, whether by way of the senses or through divine or Hermetic channels.

Mersenne's moderate skepticism was congenial to the view that the best that science can achieve is knowledge of appearances, and not of the essences of things. The causes of natural phenomena cannot be revealed by the study of their effects but, with careful observation and precise experimentation, nature can be understood well enough to guide human conduct: "it is enough, in order to have certain knowledge of something, to know its effects, its operations, and its use; we do not want to attribute to ourselves a greater science than that" (quoted in Dear 1988: 40). This view was most congenial to Mersenne's theism: science gives us a glimpse of how nature operates but does not explain why it works in the way that it does. This knowledge of the true nature of things was reserved for God alone.

Although his scientific legacy was meager, Mersenne was nevertheless a significant figure during the 1630s and 1640s. At a time when science was homeless, and the founding of the great national scientific societies still in the future, he orchestrated a vast network that linked some thirty or forty scientists and philosophers. His monastic cell at Place Royale served as a regular meeting place for what were in effect conferences of leading scientists and philosophers. His immense correspondence included virtually every French person who was active in the sciences, Galileo and others in Italy, and Hevelius at Dantzig, Thomas Hobbes and Theodore Haak in England, and many more. He enabled scholars who were often situated at enormous distances from one another to communicate more freely with one another and with the accumulated achievements of the past (through the young art of printing). He had an endless capacity for appreciating and reporting the work of others pretty accurately, and each correspondent benefited from Mersenne's shrewd insight into what was going forward in European science. He became involved in the publication of fundamental works, arranging for the publication of Thomas Hobbes' *De Cive*, gathering the objections to Descartes' *Meditations*, and translating Galileo's *Two Chief World Systems*.

References

Drake, Stillman, trans. and ed., 1957, *Discoveries and Opinions of Galileo*. Garden City: Doubleday.

Dear, Peter, 1988, *Mersenne and the Teaching of the Schools*. Ithaca: Cornell University Press.

Gilbert, William, 1958, *On the Magnet*. New York: Dover. Originally published in 1600 as *De magnete*. London: Excudebat Petrus Short.

Goodman, Nelson, 1976, *Languages of art: An Approach to a Theory of Symbols*. Indianapolis: Hackett.

Kepler, Johannes, 1969, *Epitome of Copernican Astronomy*. Books IV and V trans. by the St. John's Program. Kraus Reprint Co. Originally published in 1618 as *Epitome astronomiae copernicanae*. Lentijs.

——1992, *New Astronomy*. Trans. William H. Donahue. Cambridge: Cambridge University Press. Originally published in Prague in 1609 as *Astronomia nova*.

——1997, *The Harmony of the World*. Trans. E. J. Aiton, A. M. Duncan, J. V. Field. Philadelphia, Pa: American Philosophical Society. Originally published in 1619 as *Harmonices mundi*.

——2001, *Optics*. Trans. Willian H. Donahue. Santa Fe: Green Lion Press. Originally published in Frankfurt in 1604 as *Ad Vitellionem paralipomena, quibus astronomiae pars optica traditur*.

Newton, Isaac, 1934, *Sir Isaac Newton's Mathematical Principles of Natural Philosophy and his System of the World*. Trans. A. Motte, revised by F. Cajori. Berkeley: University of California Press.

——1959–77, *The Correspondence of Isaac Newton*. Eds. H. W. Turnbull, J. F. Scott, A. Rupert Hall. 7 volumes. Cambridge: Cambridge University Press.

Further Reading

Bagioli, Mario, 1993, *Galileo, Courtier*. Chicago: The University of Chicago Press.

Brown, Harcourt, 1934, *Scientific Organizations in Seventeenth-Century France (1620–80)*. Baltimore: Williams & Wilkins.

Cohen, Bernard, 1975, "Kepler's Century, Prelude to Newton's." *Vistas in Astronomy* 18: 3–36.

Crombie, Alistair C., 1967, "The Mechanistic Hypothesis and the Scientific Study of Vision." In *Historical Aspects of Microscopy*, ed. S. Bradbury and G. L. E. Turner. Cambridge: Cambridge University Press: 3–112.

Lenoble, R., 1942, *Mersenne et la naissance du mechanisme*. Paris: Vrin.

Stephenson, Bruce, 1994, *Kepler's Physical Astronomy*. Princeton: Princeton University Press.

Straker, Steven M., 1970, *Kepler's Optics: A Study of the Development of Seventeenth-Century Natural Philosophy*. Ph.D. dissertation, Indiana University.

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5

René Descartes

MICHAEL DELLA ROCCA

Descartes made significant advances in mathematics and the physical sciences, but, for him, these advances were not separable from what we would call more purely philosophical investigations into metaphysics, epistemology and philosophy of mind, and into the very notion of the proper method of philosophical and scientific investigations. His subtle blending of scientific with metaphysical and more broadly philosophical concerns is, to a great extent, responsible for Descartes' status as the pivotal figure in the seventeenth century's remarkable transition from medieval and scholastic philosophy to distinctively early modern philosophy.

Descartes was born in the small town of La Haye, south of Tours. His mother died when Descartes was just over a year old, and he was raised by his maternal grandmother before being sent to the newly-founded Jesuit school of La Flèche in 1606 where he remained until 1614. There he received a very broad education including a good grounding in the scholastic philosophy which was then still dominant.

After leaving La Flèche, Descartes studied law at the University of Poitiers, and took his degree in 1616. Over the next several years, he traveled throughout Europe, at times as a volunteer in one of two different armies. In 1618, Descartes met the physician, Isaac Beeckman, who rekindled his interest in mathematics and science.

While traveling from the coronation of King Ferdinand of Bavaria in 1619, Descartes stayed for a time in a "stove-heated room." After spending a day engaged in solitary contemplation of the right method of making scientific progress, during the night of November 10 Descartes famously had three vivid dreams the result of which was to convince him of the interconnectedness of all knowledge and to set Descartes off on his career in the pursuit of such knowledge.

An especially important period for Descartes was his time in Paris in 1625–8. There he developed his connection with, among others, MARIN MERSENNE (chapter 4), a Franciscan priest who, over the years, engaged in a large and important correspondence with Descartes on various philosophical matters and who facilitated Descartes' communication with other scholars and, later, the publication of some of his works.

Intermittently throughout the 1620s, Descartes worked on the *Rules for the Direction of the Mind*, an important but unfinished work in which he lays out what he sees as the proper method of scientific and philosophical inquiry. In 1628 Descartes moved to Holland where he was to spend most of the next twenty years. In 1633

he was about to publish *The World*, his first sustained attempt to develop his mechanistic physics. However, he withheld publication upon learning of GALILEO's (chapter 4) condemnation by the Inquisition for his espousal of a heliocentric conception of the universe, a view that was also explicit in *The World*.

In 1637, Descartes published *The Discourse on Method* together with three essays (on Optics, Meteorology, and Geometry) in which he presented some of the scientific results he reached with the help of this method. 1641 saw the publication of Descartes' most famous work, the *Meditations* in which he engages in a series of doubts about the world and about his ability to reason. Descartes emerges from these doubts by the end, but with the foundations of his conception of the world fundamentally altered and with, as he confided to Mersenne, the foundations of his physics subtly laid down. A striking feature of the *Meditations* is its publication together with six (and later seven) sets of objections from philosophers and theologians, including HOBBES (chapter 22), ARNAULD (chapter 8) and GASSENDI (chapter 6), together with Descartes' replies.

Descartes' most comprehensive intertwining of scientific and philosophical investigations is the long *Principles of Philosophy* (1644) which he intended to be used as a textbook for teaching students metaphysics and physics. The important work, *Comments on a Certain Broadsheet*, was published in 1647. There Descartes takes issue with what he felt were the distortions of his views by a former disciple, Regius.

A very valuable work – though one not actually written by Descartes – is the *Conversation with Burman*. On April 16, 1648, a Dutch student, Frans Burman, met with Descartes and raised penetrating and detailed objections about specific passages in Descartes' corpus. Descartes responded, often at length, and Burman's notes of that conversation are an important record of Descartes' views on, *inter alia*, the nature of knowledge and certainty, and the status of Descartes' famous claim "I think therefore I am."

Descartes' last work, *The Passions of the Soul*, appeared in 1649. This was, in part, a physiological treatise that explores the corporeal basis of such mental states as fear, love, hope, etc., and contains many important claims regarding mind–body interaction and strategies for mastering the passions.

As was common at the time, Descartes carried on a broad correspondence. This covers the range of Descartes' interests and many views receive their most extended discussion only in the letters. A particularly important series of letters was exchanged between Descartes and Princess Elizabeth of Bohemia who was an acute philosophical interlocutor. Beginning in 1643, their correspondence covered a variety of topics, including the nature of human freedom, mind–body interaction and the passions.

After much prompting and with great reluctance, Descartes was persuaded to accept the offer of Queen Christina of Sweden to teach her philosophy. Suffering from the cold climate, Descartes caught pneumonia at Stockholm and died in 1650.

Although the method for carrying out philosophical and scientific inquiries is important to Descartes, his conception of that method is actually hard to pin down and obviously underwent significant shifts during his career. Nonetheless, it is possible to isolate two overarching characteristics of Descartes' conception of the right way to pursue philosophical and scientific matters.

The first such characteristic is Descartes' commitment to the interconnectedness of various realms of knowledge. The early statements of the view mainly concern the sciences in particular, but the later works explicitly include more purely philosophical or metaphysical knowledge in this interconnected system (see, especially, Adam and Tannery, 1964–76, hereafter AT IXB 14; Cottingham *et al*, 1984–5 hereafter CSM I 186).

As important as the often surprising respects in which Descartes sees branches of knowledge as interconnected are the respects in which he sees the connections break down. In addition to the unified account of the behavior of objects in the material world, Descartes offers an account of non-physical, mental objects or minds. While general metaphysical views underlie Descartes' claims about the behavior of minds as they underlie his claims about bodies, Descartes also recognizes that minds, to a great extent, operate according to separate principles and that one should not attempt to understand mind in terms of body and vice versa.

An equally important discontinuity in the system of knowledge concerns Descartes' views on God. As we will see, for Descartes it is crucial that the general metaphysical views that help us to understand minds and bodies cannot be straightforwardly applied to God. For Descartes, we cannot comprehend God in the same way that we comprehend minds and bodies, and indeed in a real sense for Descartes we cannot comprehend God at all. This fact about God may seem to render problematic Descartes' view that our knowledge of minds and bodies is somehow grounded in our knowledge of God. If we cannot comprehend God, how can we expect our so-called knowledge of God to offer any grounding for our knowledge of finite objects? This is a difficulty to which we shall return.

The second overarching characteristic of Descartes' conception of inquiry is his commitment to the pursuit of *certainty*. For the Descartes of the *Rules*, certainty is the goal of scientific inquiry. Such a goal, of course, was not wholly original, but what was more distinctive was Descartes' conviction that this certainty is to be achieved by reducing obscure propositions to simpler ones in which we have an intuition of certain simple natures, such as causation, thought, extension. Once armed with such intuitions, we can grasp with certainty more complex propositions stating how these simple natures may be combined.

Later in his career, Descartes continued to hold that certainty was the goal of his inquiry, but this goal changed in several respects, two of the most important of which are the following: First, although the method of the *Rules* was, by and large, content to regard certainty as residing in the intuition of simple natures, Descartes came, especially in the *Meditations* and later works, to see a need for the *validation* of such intuitions, a need to justify those intuitions in the face of radical doubt.

Second, and relatedly, Descartes came to emphasize more and more the need to grapple with certain radical doubts in order to promote "detachment from sense." For Descartes, the obscurity of sensory perception had led us to fail to appreciate the true nature of matter and, indeed, of mind and of God. By entering into doubt about the senses, Descartes sought to promote a more intellectually pure conception of the nature of things.

It is important to recognize, however, that the doubts were important not only for their ability to clear the mind of sense-based confusion. In addition, the doubt

was more intrinsically important as a way of expressing God's incomprehensible power over everything, including our minds. At the end of this article, I will pursue this theme and some of the problems connected with it. But first we need to lay out, on its own terms, the metaphysics that Descartes' doubt was, to a large extent, designed to serve. Thus I will now turn to, in order, the metaphysics of matter, of mind, and of God.

The Metaphysics of Matter

To understand Descartes' account of matter, it is necessary to discuss some of his general views on ontology that he applies to both bodies and minds. For Descartes, individual bodies and minds are *substances*. Descartes defines substance as "a thing which exists in such a way as to depend on no other thing for its existence" (*Principles* I 51). Since, of course, for Descartes all finite things depend on God for their existence and for their continuance in existence (indeed God continuously recreates them), the above definition, if applied strictly, would entail that God is the only substance since only God is a being whose existence is dependent on no other. Descartes avoids this result by relaxing the requirement for being a substance. Finite things count as substances as long as they depend on no other thing for their existence *except God*. As a result, Descartes says:

> The term "substance" does not apply *univocally*, as they say in the Schools, to God and to other things; that is, there is no distinctly intelligible meaning of the term which is common to God and his creatures. (*Principles* I 51)

This lack of univocity of certain predications that apply to God and his creatures is crucial at various points in the understanding of Descartes.

Substances, of course, have properties or, to use Descartes' most general term, attributes. Among the attributes of a substance, one – the principal attribute – constitutes its nature or essence. For Descartes, this means that the principal attribute is that in terms of which the other attributes are understood, or that to which all other attributes are referred or that attribute which is presupposed by the other attributes. (Descartes uses all these locutions.) Thus, since, as we shall see, extension is the essence or principal attribute of each body, all of a body's other properties or attributes are simply *ways* of being extended. They are thus, literally, *modes* of extension. Being five feet long is a mode of this table in the sense one cannot understand a thing as being five feet long without thereby, implicitly at least, understanding it as extended. Similarly, for Descartes, thought is the principal attribute of minds and thus all the particular properties of the mind are simply modes of thought. For example, desiring to eat ice cream, believing that New York is north of Brazil, etc. are properties that presuppose that the subject of those properties is thinking, and they are thus modes of thought.

Let's look more closely at Descartes' view that the essence of bodies consists in extension. For Descartes, modes of extension include not just properties having to do with the spatial dimensions of an object, but also the properties of moving and being at rest. For Descartes, all variety in the corporeal world can be understood

and explained in terms of size, shape, and motion. (See especially *Principles* II 23, 64.) This is the heart of Descartes' mechanistic conception of the corporeal world: all change in that world is to be explained in terms only of matter in motion, and matter is to be understood simply in terms of extension.

We can better understand the import of Descartes' extraordinary conception of the corporeal world by looking briefly at some of the theses Descartes seeks to use it to oppose.

In part as a result of his account of matter, Descartes is able to deprive qualities other than extension and motion of any genuine status in the corporeal world. The downgraded qualities include color, taste, heat, cold, smell, and sound. Sometimes Descartes seems to say that these qualities are not in bodies at all (AT XI 33/CSM I 90–1, AT VII 83/CSM II 57–8). Sometimes Descartes says that we can attribute color, sound, and taste to an object, but only by seeing these qualities as mere dispositions in the body to produce in us various kinds of sensory ideas. And, in keeping with his conception of matter, Descartes points out that these dispositions depend on size, shape and motion, and so once again everything is reducible to extended matter in motion (*Principles* IV 198–9). Descartes' differential treatment of size, shape, and motion, on the one hand, and color, taste, and sound, on the other, is similar in broad outline to the treatment of the distinction between so-called primary and secondary qualities to be found in many scientifically-minded philosophers of this period, including MALEBRANCHE (chapter 11) and LOCKE (chapter 24). On this point, all these thinkers were placing themselves in opposition to the commonsense view, generally endorsed in the Aristotelian-scholastic tradition, that these two classes of qualities were more or less on an equal footing.

Perhaps the most important implication of Descartes' conception of body is his rejection of the Aristotelian substantial forms and the associated style of the explanation of natural changes. Briefly, and extremely crudely, the Aristotelian-Scholastic account of corporeal substance is this: a material substance consists of a substantial form added to prime matter which is an uncharacterized substratum of properties. The substantial form of a substance is that in the substance that accounts for the kinds of actions it could perform and the kinds of changes it could undergo. On this view, the substantial form of a substance is regarded as constituting its essence and thus, since different corporeal substances have different substantial forms, they have different essences as well. These differing essences or explanatory principles were seen as basic in the sense that they were not reducible to a single overarching principle governing the behavior of all bodies.

Descartes' conception of material substance is fundamentally opposed to this one. For Descartes, all corporeal substances have the same essence – extension – and changes in corporeal substance can be explained simply in terms of extension (and motion). Descartes sees no need to invoke substantial forms which, for him, introduce a gratuitous multiplicity of explanatory principles.

What were Descartes' reasons for taking his revolutionary stand on the conception of matter? One of Descartes' primary reasons is that he believed, while the ideas of extension and motion are, as he puts it, clear and distinct, the ideas of the other purported features of bodies, in particular of the sensible qualities such as cold, heat, taste, etc., and of the substantial forms are obscure and confused. For Des-

cartes, this obscurity shows that bodies do not have these features or, at least, that we do not have any reason to attribute them to bodies. (See AT VII 43–4/CSM II 30, AT XI 33/CSM I 90–1; *Principles* I 69.) Here one can see the importance of Descartes' skeptical arguments concerning the senses, one goal of which is to promote detachment from the senses and thus from the confused and obscure conception of matter which the senses may lead us to have.

Descartes' reasons for seeing the ideas of mechanistic qualities as obscure and confused are likely connected with his other main reason for rejecting these qualities, viz. that the substantial forms and sensible qualities are explanatorily irrelevant. As we saw, Descartes believes that he can account for all bodily phenomena simply in terms of extension and motion. And, therefore, these other features are, again, to be eliminated or, at least, not posited.

Even if the negative aspect of Descartes' argument is successful – i.e. even if we grant that substantial forms and sensible qualities are not to be accepted – the positive account according to which all corporeal phenomena can be explained in terms of extension and motion is deeply problematic. We cannot, of course, conduct a thorough investigation here, but it will be particularly illuminating to raise a problem for Descartes' account that suggests that the resources he employs – extension and motion – are simply too austere.

To see this problem, we need to look more closely at Descartes' notion of motion. Since one region of space, i.e. one region of extension, is intrinsically just like any other, Descartes realizes that appealing to extension alone does not enable us to carve the extended world up into individual bodies in any non-arbitrary way. Thus, for Descartes, any individuation of bodies presupposes motion, and so we must be able to understand the notion of motion prior to understanding the notion of individual bodies. However, Descartes defines motion as the transference of one body from the vicinity of other bodies that are in contact with it to the vicinity of other bodies (*Principles* II 25). Thus Descartes defines motion, in part, in terms of individual bodies. This is quite reasonable in itself, perhaps, but when conjoined with his view that individuation of bodies is to be understood in terms of motion, Descartes seems to become involved in a circle pretty quickly. This leads one to suspect that the notion of motion is too dependent on the notion of individuation of bodies for it to be able to provide any illuminating account of individuation. Criticisms of Descartes in this vein were pressed by a number of Descartes' successors (including, most prominently, LEIBNIZ, chapter 18) who were led to the view that, contra Descartes, there must be more to a body than simply extension and motion.

One further issue concerning motion in Descartes needs to be addressed because it will be important later in understanding the metaphysics both of mind and of God. Bracketing the problem just raised, we may ask: how does motion get introduced into matter or extension? For Descartes, the notion of matter as such (as opposed to the notion of individuated matter) does not presuppose the notion of motion. So where does the motion come from? Descartes turns to God here. For Descartes, God creates the extended world with a certain quantity of motion. This introduction of motion by God provides the basis for Descartes' account of the laws of nature. For Descartes, God's activity is immutable and thus, Descartes goes on to say,

> God imparted various motions to the parts of matter when he first created them, and he now preserves all this matter in the same way, and by the same process by which he originally created it; and it follows from what we have said that this fact alone makes it most reasonable to think that God likewise always preserves the same quantity of motion in matter. (*Principles* II 36)

The general point that God's activity of introducing motion into the world is immutable leads to several laws of nature. Precisely because God always acts in the same way with regard to motion, Descartes concludes that motion, by its very nature, persists, and that in order for the motion of a body to come to an end, the body must be "slowed down by bodies that are in the way" (*Principles* II 38). The view that motion does not come to an end on its own is, of course, fundamentally opposed to earlier, Aristotelian accounts of motion and was an integral part of the innovation in physics that not only Descartes, but also Galileo and NEWTON (chapter 26) and others made.

From God's immutability with regard to the production of motion, Descartes also infers his second law of nature which states that motion tends to be rectilinear and his third law which states that in a collision the same quantity of motion is preserved in the colliding bodies, though the distribution of that quantity among the colliding bodies may change.

The arguments for these laws are far from unproblematic, as Leibniz always took particular pleasure in pointing out. However, the general strategy of appealing to God's activity to underwrite certain claims about the material world leads to some of the most important philosophical issues that arise from Descartes' work, as we will see.

The Metaphysics of Mind

Besides bodies, minds or souls constitute the only other kind of finite substance. As we have seen, the principal attribute of minds is thought. Modes of thought or particular thoughts that may characterize minds fall under two general headings: "perception, or the operation of the intellect, and volition, or the operation of the will" (*Principles* I 32, see also *Passions* I 17). Descartes sometimes characterizes the perceptions of the intellect as passive states of the mind and volitions as actions.

For Descartes, many modes of thought have representational content, they are *about* some actual or possible object or state of affairs. But there are some modes of thought which clearly fall under the category of perceptions, but with regard to which Descartes is not as clear whether or not they have representational content – these are modes of thought such as pain and pleasure, hope, fear, and love, and sensations such as of heat, cold, red, blue, etc. Descartes does famously assert in the Third Meditation that ideas are as if images of things and this may seem to accord representational content to sensations which, for Descartes, count as ideas. But the "as if" in this definition may seem to leave room for some ideas which are not representational, and Descartes does say of sensations in particular that they "do not represent anything located outside our thought" (*Principles* I 71). These

conflicting passages can perhaps be reconciled by seeing Descartes as holding that sensations and other passive mental states do represent things but do not always do so accurately or unconfusedly.

Volitions or willings are the actions of the mind, and, a particularly important activity of the mind, for Descartes, is the production of belief or assent. For Descartes, the mere occurrence in the mind of an idea does not entail that one assents to that idea. Thus I may entertain the idea that Brazil is north of New York without actually believing that idea. Here Descartes' position is quite plausible. He takes a more controversial stand when he goes on to say that the extra element required for a belief is an act of will or volition. The mind contemplates an idea and then freely decides whether or not to assent to it. This feature of his account of belief is crucial to Descartes' theodicy. God is not to be blamed for our falling into false beliefs because we freely got ourselves into these beliefs and so have only ourselves and not God to blame. (For this account of belief, see the Fourth Meditation and *Principles* I 32–8. SPINOZA, chapter 16, notably subjects this view to sharp attack.)

For Descartes, the mind and the body are two different, non-identical substances. This is the heart of Cartesian dualism, and Descartes often expresses this claim by saying that the mind and body are really distinct. The term "really" (*realiter*) points to the fact that the items in question here are *res* or things. Sometimes, following a traditional scholastic use, Descartes takes the term "*res*" not as a catch-all term, but rather as denoting full-blooded individuals, as it were, or substances.

Establishing this real distinction is one of Descartes' major philosophical aims, and this is so in part because he saw the argument for the distinction as one way to establish the immortality of the soul or at least the possibility of such immortality. The real distinction opens up this possibility since it involves the idea that the "decay of the body does not imply the destruction of the mind" (AT VII 14/CSM II 10).

To see how Descartes argues for the real distinction, consider what a real distinction or non-identity of substances consists in, for Descartes. Since to be a substance is, by definition, to be a thing that is independent of all other things (with the exception of God), a distinction between substance A and substance B in particular would seem to amount to the fact that A is independent of B, i.e. that A can exist without B and B without A. So, to argue for a real distinction between substance A and substance B, it is sufficient to show that A and B are separable or each capable of existing without the other. This is indeed how Descartes argues (see especially AT VII 78/CSM II 54). Contemporary dualists of various stripes often use this style of argument, and in doing so are indebted to Descartes.

How, though, does Descartes prove the crucial claim that mind and body are capable of existing apart from one another? Here Descartes invokes what he calls his clear and distinct conception of the mind as a thing that is complete without and that does not require any extended qualities in order to exist, and he invokes the corresponding clear and distinct conception of the body as not requiring any mental properties in order to exist. Thus Descartes' real distinction argument turns on the reliability of so-called clear and distinct perception, and we will return to the issue of whether he is entitled to rely on clear and distinct perception in this way. But here I want to explore how Descartes claims to arrive at the kind of rational insight into the natures of mind and of body that these clear and distinct perceptions

involve. In arriving at the clear and distinct idea of the mind as something that can exist without bodily attributes, the radically skeptical hypotheses that Descartes entertains early in the *Meditations* (and elsewhere) are crucial. In the First Meditation, Descartes considers the possibility that he is deceived about the existence of any kind of corporeal world, and he later claims that the existence of his own mind cannot be called into doubt in the way that the existence of anything and everything bodily can be. Descartes goes on to try to resolve these doubts about bodies, but the important point here is that these doubts reveal to Descartes that it is clearly and distinctly conceivable that he might exist without anything bodily existing.

A related argument for the claim that the mind is something over and above the body comes more directly from Descartes' mechanistic conception of the corporeal world. As we saw, it is essential to Descartes' mechanism that bodily phenomena in general can be accounted for simply by the motion of the extended parts of individual bodies. Descartes believes that most human behavior and *all* animal behavior can be accounted for in such mechanistic, non-mentalistic terms, and so he denies, famously, that animals have souls. But Descartes believes that there is a certain kind of specifically human behavior that *cannot* be accounted for mechanistically. For Descartes, human linguistic behavior is a manifestation of a non-mechanistic principle. While we can, he claims, conceive of a mere machine or animal (which, for Descartes, *is* a mere machine) "so constructed that it utters words, and even utters words which correspond to bodily actions causing a change in its organs . . . it is not conceivable that such a machine should produce different arrangements of words so as to give an appropriately meaningful answer to whatever is said in its presence, as the dullest of men can do." Relatedly, Descartes says that, although a machine or beast may do some things better than humans do, the ability of humans to act appropriately "in all kinds of situations" shows that something non-mechanistic is at work in us (AT VI 156–7/CSM I 140).

Despite the real distinction between mind and body, these substances nevertheless causally interact: the mind causes certain changes in the body (for example in cases of intentional action) and the body in the mind (for example in cases of sensory perception). On the purely physical side, the causal chain in all such cases is mechanistic: it is the motion of particles of matter that in one way or another accounts for the corporeal changes at each stage. No appeal is made, in the account of perception, to *forms* or intellectual species traveling somehow from the object to the human body, as was done in the scholastic account of perception.

The nature of such mental–physical interaction has seemed deeply problematic to many. One problem that Leibniz in particular focuses on is that the mind's apparent ability to cause changes in the motion of parts of the body seems to violate certain laws of the conservation of motion that Descartes himself accepts.

Another problem with Cartesian interaction that has swayed many is the heterogeneity problem. For Descartes, as we have seen, mind and body are substances of radically different kinds. Given such heterogeneity, it may seem that there is no possibility of causal interaction between mind and body. (Princess Elizabeth expresses such worries, which were vigorously pursued by such later philosophers as Foucher and Spinoza.)

But Descartes simply rejected this worry out of hand, as he said in response to Gassendi who had raised such an objection:

> the whole problem contained in such questions arises simply from a supposition that is false and cannot in any way be proved, namely that, if the soul and body are two substances whose nature is different, this prevents them from being able to act on each other. (AT IXA 213/CSM II 275)

Further, there is no solid evidence of any view of Descartes' that would implicitly commit him to the rejection of causation between things of different kinds.

However, even if interaction between heterogeneous things is not illegitimate, one still wants to know why, on the Cartesian system, just these mental causes have just these bodily effects and vice versa? To answer this question, Descartes cannot, of course, appeal only to laws of motion or laws of corporeal nature which, as we have seen, are grounded ultimately in God's immutability. Rather, Descartes appeals to God in a different way: For Descartes, God sets up or institutes those particular causal relations between mind and body that are, in general, the most conducive to the well-being of the composite of mind and body (see especially AT VII 88/CSM II 60–1).

It is interesting to note that, while in his physics Descartes consciously shies away from discussions of God's purposes (*Principles* I 28, AT VII 55/CSM II 39), when it comes to the relation between mind and body, Descartes does allow divine purposes to intrude into his account. We will see later an equally important appearance of divine purposiveness in Descartes' epistemology.

One of the most puzzling aspects of Descartes' account of the relation between mind and body is his claim that these substances, though really distinct, are in some sense united. For Descartes, this union is what makes possible interaction between mind and body. A further, important role for the mind–body union is to account for the specific character of sensory, appetitive, and other states produced in the mind by the body. Descartes remarks upon the fact that certain changes give rise to experiences of pain or hunger and not simply to an intellectual awareness of damage to the body or of a need for food. He notes that this fact about our mental states is also due to the union of mind and body, and he famously expresses this point in the Sixth Meditation:

> Nature . . . teaches me, by these sensations of pain, hunger, thirst, and so on, that I am not merely present in my body as a sailor is present in a ship, but that I am very closely joined and, as it were, intermingled with it, so that I and the body compose one thing. (AT VII 81/CSM II 56)

Although Descartes does say what the mind–body union is supposed to explain, he never clearly says *how* it does this, or in what this union consists. And, indeed, it may be a part of Descartes' position that it is illegitimate to look for such an explanation. In correspondence with Elizabeth, Descartes claims that there are three primitive, irreducible notions we have: those of soul, of body, and of the union of soul and body. We should not make the mistake, Descartes says, of trying to understand one of these

notions in terms of the others. Descartes goes on to say that we cannot have a satisfying intellectual account of the mind–body union, but that we should be satisfied with the evidence our senses provide us for believing that there is such a union.

The Metaphysics of God

In addition to bodies and finite minds, the only other substance in Descartes' ontology is, of course, God. One of the stated goals of the *Meditations* is to prove that God exists. Descartes offers proofs of the existence of God in the Third and Fifth Meditations, and he repeats versions of these in the *Principles*. One argument is a version of the traditional ontological argument, and it starts by claiming that necessary existence is included in the very concept of God due to the fact that existence is a perfection and God is, by definition, a supremely perfect being. From the fact that existence is contained within the concept of God, it follows that God exists, just as from the fact that four is twice two is contained within the concept of four, it follows that it is true that four is twice two. More or less standard criticisms of the ontological argument are made in the First and Fifth sets of objections to the *Meditations* (AT VII 97–100, 322–6/CSM II 70–3, 224–7).

Descartes' other main proof of the existence of God starts not from the mere concept of God, but from the fact that *I have* the concept of God. Descartes says that this idea of God could be in my mind only if it were caused by God. Here Descartes relies on a very strong and, many have claimed, dubious principle about the causation of ideas with a given representational content: the idea of a thing with a certain degree of metaphysical perfection could be caused only by a being with at least that degree of perfection.

Descartes' God has various attributes that were traditionally accorded to God, such as omniscience, omnipotence, benevolence, etc. But it is crucial to note that Descartes claims that our knowledge of God – at least our philosophical knowledge of God – is, in several important respects, limited. Descartes is usually unwilling to take a stand on theological matters that he can avoid taking a stand on. To some extent, this reluctance is the only prudent course of action given the theological strife of the time, but I think it is *also* a manifestation of a principled conviction that God, in an important way, is strictly incomprehensible to us. For Descartes, although we clearly and distinctly perceive that God exists and what some of his abilities are, we cannot fully understand him or his abilities. Descartes offers the following metaphor to illuminate this point:

> it is possible to know that God is infinite and all powerful although our soul, being finite, cannot grasp or conceive him. In the same way we can touch a mountain with our hands but we cannot put our arms around it as we could put them around a tree or something else not too large for them. To grasp something is to embrace it in one's thought; to know something, it is sufficient to touch it with one's thought. (AT I 152/CSMK 25)

Because of this incomprehensibility, Descartes insists that while we may speak of God as having certain features in common with finite objects, we cannot generally

attribute these features to God and his creatures in the same sense, i.e. in a univocal sense. We have already seen how Descartes invokes such lack of univocity when it comes to the notion of substance, but he also relies on – explicitly and implicitly – similar claims in various contexts in which God's power is at issue. We will look briefly at three important contexts of this kind.

The first such context concerns Descartes' account of human freedom. Descartes is quite emphatic that the will is free by its very nature. Very often he regards this freedom as involving the power to do or not to do a given act (see, for example, *Principles* I 39). This view seems to come into conflict with another of Descartes' central views, viz. that God determines all of our actions including even, as Descartes emphasizes, our free actions (see, for example AT IV 313–14/CSMK 272, AT IV 332/CSMK 277, *Principles* I 40). But Descartes cautions us not to worry about this apparent conflict:

> We shall get out of these difficulties if we remember that our mind is finite, while the power of God is infinite – the power by which he not only knew from all eternity whatever is or can be, but also willed it and preordained it. We may attain sufficient knowledge of this power to perceive clearly and distinctly that God possesses it; but we cannot get a sufficient grasp of it to see how it leads the free actions of men undetermined. (*Principles* I 41)

The appeal to God's incomprehensibility as a way out of the difficulty may seem like a cop-out, but it is really, I believe, an expression of a subtle view about the kinds of things we can say about God and the kinds of threat these things pose to the ordinary claims we wish to make about finite creatures. Thus Descartes says to Elizabeth:

> The independence which we experience and feel in ourselves, and which suffices to make our actions praiseworthy or blameworthy, is not incompatible with a dependence of quite another kind, whereby all things are subject to God. (AT IV 333/CSMK 277)

Here we find Descartes appealing, in effect, to a lack of univocity of the term "dependence." The sense in which finite things or their properties may depend on one another is quite different from the sense in which finite things do depend on God. For Descartes, if our actions were to depend on other finite creatures, our freedom would, perhaps, be threatened, but the kind of dependence that our actions have on God does not undermine our freedom. Precisely because God is incomprehensible and because we cannot expect the things true of finite creatures to be true of God in the same way, Descartes can afford to accord maximal power to God without thereby threatening what Descartes regards as intuitively obvious claims about the ability of certain finite things to be free.

This concept of God as all-powerful but non-threatening may also be at work in Descartes' account of the causal power of finite objects. Initially, it might seem as if God's activity undermines the causal power of bodies. Recall that Descartes strips bodies of Aristotelian substantial forms which had been regarded as the principle of change in the corporeal world. As we saw, Descartes holds that *motion* is, instead, the principle of change. Further, for Descartes, God introduces motion into the

world and, by virtue of his immutability, directly causes all the changes in motion that occur when one body strikes another. But if God directly causes changes in motion, then it might seem that Descartes is committed to the view that *bodies* are not causes of change in motion and that, therefore, bodies are not causes of corporeal change. Similar considerations might lead one to think that Descartes is committed to the view that bodies are not causes of any changes in minds. On this reading of Descartes, he would be at least committed to a view close to occasionalism, according to which God is the only causal power.

There has been much debate over whether Descartes actually does embrace these views that deprive at least some finite objects of causal powers. Some Cartesian philosophers, such as Malebranche and LA FORGE (Chapter 10), did think that Descartes adopted something like occasionalism when it comes to apparent bodily interaction, and some recent commentators have also read Descartes this way. However, it is striking that Descartes never comes right out and says that bodies lack causal powers and, indeed, he sometimes speaks of bodies as causes even when giving us his official account of God's role in the causation of motion (see *Principles* II 36ff). We could simply see Descartes as failing to draw the obvious inference to the impotence of bodies, an inference to which he seems to be committed. But that would be too hasty. Just as God's causation of our actions does not threaten our freedom, so too, perhaps, God's causation of motion does not threaten bodily power to cause motion. Here again, perhaps, God's activity does not have the threatening implications we would expect.

Perhaps the most important manifestation of Descartes' view that God's enormous power is not threatening concerns God's power over the eternal truths, such as, "it is impossible for the same thing to be and not to be at the same time; what is done cannot be undone; he who thinks cannot but exist while he thinks" (*Principles* I 49). Descartes also includes mathematical claims such as "2 + 2 = 4" in this category. Descartes notoriously holds that somehow God could have made eternal truths false, that, for example, "God was free to make it not true that all the radii of a circle are equal – just as free as he was not to create the world" (AT I 152/CSMK 25). Descartes freely admits that we cannot comprehend *how* God has such power, but it is clear to Descartes *that* God has this power. Indeed, Descartes' distinction – mentioned earlier – between touching God and embracing God was made precisely in this context.

There are a number of difficulties concerning the interpretation of this doctrine that we cannot take up here, but there is one point on which Descartes' doctrine is frequently misunderstood about which it is important to be clear. One might think that if "2 + 2 = 4" and the eternal truths generally are under the control of God's free will, then these truths are not, despite appearances, genuinely necessary. But Descartes quite clearly asserts that God's power over the eternal truths does not entail that they are not necessary. In fact, for Descartes, "2 + 2 = 4" is necessary *because* God freely willed it to be necessary. Thus Descartes says: "it is because [God] willed that the three angles of a triangle should necessarily equal two right angles that this is true and cannot be otherwise; and so on in other cases" (AT VII 432/CSMK 291, see also AT IV 118/CSMK 235). Here, as in the cases of freedom and causality, Descartes accords God maximal power but in a way that does not under-

mine ordinary claims about the features of created things, in this case the necessity of the created eternal truths.

Descartes' general strategy here is ingenious: in positing this all-powerful but non-threatening God, i.e. in insulating claims about God's power from what might be thought to be their standard implications concerning the features of created beings, Descartes is paving the way for philosophical inquiry into worldly matters (such as freedom, causation, necessity) to proceed unfettered by worries about placing illegitimate limitations on God's power. Although God obviously plays a central role in Descartes' philosophy, we can see that, with this strategy, Descartes takes a big step toward the view – which was to be so influential later – that the nature and qualities of God have no straightforward bearing on the kinds of philosophical claims we can legitimately reach concerning finite objects.

God, Doubt, and Certainty

At various points in this article, we have touched on how Descartes' initial skeptical doubts about the senses are, to some extent, in the service of his metaphysics. With the main lines of Descartes' metaphysics before us, it is time to look more closely at the doubt, at Descartes' means of extricating himself from it, and at the various strategic roles the doubt plays in his system.

I will quickly describe the stages of Descartes' skeptical doubts and the resolution of these doubts as all this transpires in the *Meditations*. He opens the *Meditations* by announcing that he wants to establish firm and permanent results in the sciences and that to reach this goal he must withhold assent from any "opinions which are not completely certain and indubitable." Here at the outset, Descartes makes clear that his doubt has as a goal the setting up of a scientific system. Thus Descartes begins to consider wide classes of his beliefs and to see whether these beliefs can be called into doubt. His first major step in this process is his famous dream argument in which he claims that he cannot rule out the possibility that his current experience is a dream instead of a waking, veridical apprehension of the world.

Descartes' doubt takes on even broader dimensions when, at the end of the First Meditation, he famously considers the possibility of an omnipotent deceiving God who leads Descartes to believe that there is an extended world when in fact there is not, and who leads Descartes to make mistakes even in simple mathematical and other beliefs. Thus Descartes believes that, at this stage, he cannot rule out the possibility that there is such a deceiving God, and so he somberly concludes that he is "finally compelled to admit that there is not one of my former beliefs about which a doubt may not properly be raised" (AT VII 21/CSM 14–15).

It is important to note that throughout the doubt, Descartes seems to adopt the principle that any belief of his such as that there is a table here, or that the extended world exists or that $2 + 2 = 4$ needs to be subjected to an independent check before he can claim to be certain of it. That is, Descartes needs to verify that the belief in question was not produced in an inherently unreliable way – say, by a dream or by a deceiving God – before he can be certain of it.

In the Second Meditation, Descartes begins to emerge from his doubt with the famous "I think therefore I am." He reflects on his earlier doubt and realizes that the scenario he has envisaged in which *he* is being deceived by an all-powerful God presupposes that Descartes himself exists as a thinking thing. Indeed, try as he might, he cannot doubt his own existence, for there is no conceivable scenario in which he believes falsely that he exists.

Descartes goes on to claim (though he never makes clear precisely on what basis) that he can be certain of all the contents of his mind. Although at this stage he cannot be certain that he genuinely sees a rose, he can be certain at least that he seems to see a rose, etc. From this point on, Descartes faces his famous egocentric predicament: how to work out from certainty of his own existence and of the contents of his mind to certainty of the existence of a world beyond his mind.

A major step in this direction is Descartes' enunciation of the principle that all clear and distinct ideas are true. Descartes reflects on his achievements in the Second Meditation, and asks what it is in virtue of which he attained the certainty that he exists as a thinking thing. Descartes answers, "In this first item of knowledge there is simply a clear and distinct perception of what I am asserting" (AT VII 35/CSM II 24). The notion of a clear and distinct idea is, unfortunately, one of Descartes' least clear and distinct notions. However, for the purposes of this summary, it is sufficient to note that, for Descartes, a clear and distinct idea is the kind of idea that has the best epistemic credentials: if any idea is to be certainly true, clear and distinct ideas are. If they "were false they could not be corrected by any clearer judgments or by means of any other natural faculty" (AT VII 143–4/CSM II 102–3).

Descartes then sets off in search of further clear and distinct ideas, but immediately pulls himself up short again since he realizes that the truth rule he has just articulated is itself subject to doubt. He realizes that "it would be easy for him [i.e. for an omnipotent God], if he so desired, to bring it about that I go wrong even in those matters which I think I see utterly clearly with my mind's eye" (AT VII 36/CSM II 25).

Descartes then concludes:

> In order to remove even this reason for doubt... I must examine whether there is a God, and, if there is, whether he can be a deceiver. (ibid)

For this reason, he then launches into his proof of God's existence from the fact that Descartes has the idea of God. He goes on to argue that this God cannot be a deceiver because deception is an imperfection, and God is supremely perfect. Since allowing my ideas which have the best epistemic credentials to be false would be a particularly deceptive way for God to behave, Descartes concludes, in the Fourth Meditation, that all clear and distinct ideas are indeed true. In a moment, I will examine a major challenge to Descartes' strategy here.

But first I want to complete this survey of Descartes' removal of the doubt. His establishment of the truth of clear and distinct ideas enables him to claim certainty of mathematical propositions since, for Descartes, such propositions can be clearly and distinctly perceived. He also now has certainty of the *natures* of things, including

certainty of the nature of bodies as extended, something he claims, as we have seen, to perceive clearly and distinctly. But Descartes as yet lacks certainty of the *existence* of the extended world since he is not, at least in the *Meditations*, prepared to claim directly that he has a clear and distinct idea of the existence of bodies. Still, Descartes is able to use God's veracity in a somewhat less direct way to reach the desired conclusion. Descartes argues that, given our strong propensity to believe that bodies – and not incorporeal beings – cause our sensory ideas of bodies and given the fact that were we to be mistaken in this belief we would have no means of correcting our error, it follows that God would be a deceiver if this belief were, in fact, false. In short, God's veracity precludes him from giving us strong propensity to make a mistake which we cannot correct. In a similar way, Descartes attempts to neutralize the doubt raised by the dream argument.

Let's turn to the difficulty in Descartes' argument for the claim that clear and distinct ideas are true. After the initial doubt in the Third Meditation about this claim, Descartes sets off to prove that clear and distinct ideas are true by deploying a complicated argument for the existence and veracity of God. This argument, of course, relies on premisses and inferential steps, but, one might ask, what entitles Descartes to be certain of these things? The best credentials such premisses and inferences can have is, as we have seen, clear and distinct perception. But if clear and distinct perception is, at this stage, called into doubt, then any premisses he can invoke are also called into doubt and so Descartes is not entitled to rely on them. So it is hard to see how Descartes' argument for the claim that clear and distinct ideas are true is one that he is entitled to accept. In this light, one can well understand how Arnauld and others charged that Descartes is illegitimately arguing in a circle. This is the traditional problem of the Cartesian Circle, and the problem is not really one specific to Descartes, for any view that seeks to combat the skeptic faces the same kind of question about the epistemic justification of the claims one intends to marshal against the skeptic.

Descartes seems to have been relatively unperturbed by the accusation of circularity, and this has helped spark many different interpretations of Descartes that seek to explain how he can avoid the circle or make it less threatening. Obviously, we cannot do justice to these here, but I would like to mention one interpretative strategy that ties in with some of the points made earlier in the article.

There is evidence that, for Descartes, clear and distinct ideas – at least at the moment one grasps them and perceives them clearly and distinctly – are certain and *not* in need of any independent check on their veracity. That is, by having a clear and distinct idea, say, that $2 + 2 = 4$, one just *sees* that $2 + 2 = 4$ and is indeed certain that $2 + 2 = 4$. By contrast, by having a non-clear and distinct idea that, say, New York is north of Brazil, one is not thereby certain and one needs to carry out an independent check of that idea. The superior epistemic credentials of clear and distinct ideas consist, in part, in the fact that, according to Descartes, they stand in no need of such vetting. (See AT V 148/CSMK 334, AT V 178/CSMK 354, AT VII 460/CSM II 309, AT VII 546/CSM II 373.)

On this intepretation, when Descartes calls clear and distinct ideas into doubt, he is not calling into doubt a currently clearly and distinctly perceived idea, but retrospectively calling into doubt an idea that he at most remembers clearly and

distinctly perceiving. The doubt here is *not* about the reliability of his memory of having clearly and distinctly perceived the idea, but rather is a doubt about the truth of the idea itself that arises when one is no longer, as it were, in the grip of that clear and distinct idea. And, for Descartes, once one is in the grip one is thereby certain of the truth of the idea.

I want to close by raising a worry about the interpretation just sketched, a worry that will lead to what is, I believe, an important insight about the epistemic role Descartes accords to God. One might find troubling the idea that, for Descartes, there can be a kind of perception or idea that is such that we can be certain of it simply by having it and which does not require an independent check. After all, as we saw in the discussion of the First Meditation, Descartes imposes the requirement that, in order to attain certainty, there must be an independent check on our perceptions in general. How then can clear and distinct perception be exempt in this regard?

The key point to recognize here is that this certainty is imposed by God. Precisely because God could have made clear and distinct ideas false, but did not do so, any certainty we have by having clear and distinct ideas is due directly to God. Once we see this, we can recognize that the worry just raised is really the worry that God's activity of imposing certainty may seem incoherent, just as God's free activity of willing the necessity of the eternal truths and God's determination of our free actions may seem incoherent, and just as God's direct causation of motion in bodies may seem incompatible with bodies' being causes. But Descartes clearly holds these latter positions, and this fact helps us to see that he may hold a similar position in the epistemic case. Here again Descartes' God can be seen to be extremely powerful – in that he has the power to make clear and distinct ideas false – but also non-threatening – in that this power does not undermine the certainty of clear and distinct ideas.

Throughout this essay, I have emphasized the strategic nature of Descartes' doubt in paving the way for his mechanism and for the real distinction argument. But given Descartes' pervasive concern with God's incomprehensible power and its implications, I think we can see that doubt as also intrinsically important for Descartes. Consider the mathematical doubt. This doubt is not so much designed to promote detachment from sense – the doubt about the existence of the extended world is more suited for that purpose. Rather the mathematical doubt must be seen as a direct expression of Descartes' view that God is supremely powerful – powerful enough to make us wrong about "$2 + 2 = 4$" and, perhaps, to have even made it false that $2 + 2 = 4$. The fact that in the face of this divine power, we can nonetheless attain certainty is itself a manifestation of the incomprehensible nature of God.

Descartes' Reception

During his lifetime and for some period after his death, numerous religious authorities were concerned by and often hostile to various aspects of Descartes' philosophical system. Perhaps the most notable religious antagonist during Descartes' life was

Gisbert Voetius, the Rector of the University of Utrecht who eventually succeeded in getting the University to condemn Descartes' philosophy. He objected to Descartes' use of skepticism and charged that Descartes' method leads ultimately to atheism. A major reason given for the condemnation was that Descartes' philosophy seeks to undermine the traditional, accepted philosophy. And, of course, that was precisely what Descartes was trying to do.

Descartes' mechanism in general was an object of many criticisms from religious figures not only because it sought to overturn the traditional philosophy, but also because of Descartes' conception of animals as mere machines without souls. This view was seen as in conflict with scripture and as leading to a mechanistic, soul-less conception of human beings (a conclusion which, of course, Descartes himself did not draw). But theologians were, perhaps, most troubled by the apparent incompatibility of Cartesian metaphysics with the doctrine of the Eucharist. Given that Descartes holds that the modes of a substance presuppose and cannot exist without that substance, it may seem as if transubstantiation as traditionally understood – which involves the removal of the substance of the bread but the continued existence of its accidents or modes – is precluded. Ultimately, this apparent conflict between Descartes' philosophy and Catholic dogma was instrumental in the placing of Descartes' works on the *Index Librorum Prohibitorum* in 1663.

Descartes' physics had many defenders, including La Forge and Malebranche. But even these defenders sought to take Descartes in a direction that he was not clearly prepared to go: viz. occasionalism. Although, as was mentioned, there is some dispute as to whether Descartes himself saw purely mechanistic bodies as lacking causal power, these and other followers of Descartes did adopt such a view. Often they did so in part because of what they saw as the implications of Descartes' views concerning God's continuous recreation of finite substances.

Other philosophers, though, were less sympathetic to Cartesian physics. CORDEMOY (chapter 10) rejected Descartes' conception of bodies as simply extended and instead developed an atomistic alternative. Leibniz agreed with Descartes that for matter to exist it must be infinitely divisible. But, unlike Descartes, Leibniz found the notion of infinitely divisible matter incoherent and was led to a version of idealism that saw all finite substances as, at bottom, mind-like entities. Leibniz also found the Cartesian notion of body as simply extended as failing to do justice to the inherent activity of finite substances, something that Leibniz believed could be achieved only by appealing to the activity of mind-like entities.

On other major points as well, Leibniz took issue with Descartes. He vigorously challenged Descartes' account of mind–body interaction as unintelligible and, as we have seen, as violating laws of nature. Nonetheless, Leibniz was in broad sympathy with Descartes' immaterialist account of the mind and with Descartes' acceptance of innate ideas.

Spinoza had a complicated and somewhat ambiguous relation with Descartes' philosophy. Spinoza was deeply influenced by Cartesian physics – and in fact his first published work was a presentation of a large part of Descartes' *Principles* in geometrical form. But Spinoza, like Leibniz, came to see that the notion of extension was too austere to provide a proper account of the corporeal world and of the inherent activity of finite things.

In other respects, Spinoza sees Descartes as starting from important insights but failing to drive them to what Spinoza saw as their logical conclusions. Thus, Spinoza agrees with Descartes that a substance is independent of all other things, but he rejects the Cartesian escape clause that allows for finite things to count as substances. Recall that Descartes says that a substance must be independent of all other things *except God*; by removing the exception – in part because Spinoza rejects the kind of lack of univocity Descartes is appealing to here – Spinoza arrives at the radical view that God is the only substance and that finite objects, including human beings are mere modes of God.

Similarly, although Spinoza agrees with Descartes that thought and extension are conceptually independent, he claims that Descartes fails to see that this conceptual independence entails a causal independence of thinking things and extended things. In this way, Spinoza attempts to undermine Cartesian psychophysical causal interaction. Finally, Spinoza claims that although Descartes was on the right track in eliminating any appeal to divine purposes in physics, Descartes should have foresworn appeal to divine purposes anywhere – even with regard to human beings.

Locke, though in many ways critical of Cartesian epistemology and metaphysics, did find Descartes' general distinction between, as Locke would put it, primary and secondary qualities congenial. And Locke did, as we noted, endorse some of the Cartesian reasons for this distinction. Also, although Locke believed that a Cartesian-style dualism of mind and body might be correct, he also felt that human reason was incapable of penetrating the nature of mental and physical substances and so the possibility of materialism, of the view that thinking is somehow a feature of matter, could not be rejected. Such a possibility was, of course, strongly denied by Descartes.

Despite these differences from Locke, we see in him the continuation of an important aspect of Descartes' approach. As we saw, Descartes sought to be able to pursue certain aspects of metaphysical and scientific inquiry unfettered by what might seem to be related claims about God. In a similar way, Locke and later Hume and Kant also, and perhaps in a more thoroughgoing way than Descartes, saw the metaphysical account of the world of finite objects as proceeding in relative independence from claims about the activities of God. In this respect, Descartes had more in common with Locke and certain later philosophers than he did with occasionalist successors who saw God's activity as central to their account of finite objects.

References

Adam, C. & Tannery, P. (Eds.)., 1964–76, *Oeuvres de Descartes* (12 vols.). Paris: J. Vrin. Abbreviated AT.

Cottingham, J., Stoothoff, R., & Murdoch, D. (Trans.), 1984–5, *The Philosophical Writings of Descartes* (2 vols.). Cambridge: Cambridge University Press. Abbreviated CSM.

Cottingham, J., Stoothoff, R., Murdoch, D., & Kenny, A. (Trans.), 1991, *The Philosophical Writings of Descartes* (vol. 3.). Cambridge: Cambridge University Press. Abbreviated CSMK.

Further Reading

Beyssade, J.-M., 1979, *La philosophie première de Descartes*. Paris: Flammarion.

Cottingham, J. (Ed.), 1992, *The Cambridge Companion to Descartes*. Cambridge: Cambridge University Press.

Della Rocca, M., 1999, "'If a Body Meet a Body': Descartes on Body-Body Causation." In R. Gennaro & C. Huenemann (Eds.). *New Essays on the Rationalists* (pp. 48–81). New York: Oxford University Press.

Garber, D., 1992, *Descartes' Metaphysical Physics*. Chicago: University of Chicago Press.

Gaukroger, S., 1995, *Descartes: An Intellectual Biography*. Oxford: Clarendon Press.

Gewirth, A., 1941, "The Cartesian Circle." *Philosophical Review*, 50, 368–95.

Gilson, E., 1930, *Etudes sur le rôle de la pensée médiévale dans la formation du système Cartésien*. Paris: J. Vrin.

Hatfield, G., 1985, "First Philosophy and Natural Philosophy in Descartes." In A. J. Holland (Ed.). *Philosophy, its History and Historiography* (pp. 149–64). Dordrecht: Reidel.

—— 1992, "Reason, Nature, and God in Descartes." In S. Voss (Ed.). *Essays on the Philosophy and Science of René Descartes* (pp. 259–87). Oxford: Oxford University Press.

Marion, J.-L., 1981, *Sur la théologie blanche de Descartes*. Paris: Presses Universitaires de France.

Nadler, S., 1994, "Descartes and Occasional Causation." *British Journal for the History of Philosophy*, 2, 35–54.

Rozemond, M., 1998, *Descartes's Dualism*. Cambridge, Mass.: Harvard University Press.

Simmons, A., 1999, "Are Cartesian Sensations Representational?" *Nous*, 33, 347–69.

Van Cleve, J., 1979, "Foundationalism, Epistemic Principles, and the Cartesian Circle." *Philosophical Review*, 88, 55–91.

Watson, R. A., 1987, *The Breakdown of Cartesian Metaphysics*. Indianapolis: Hackett.

Wilson, M., 1977, *Descartes*. London: Routledge.

—— 1991, "Descartes on the Origin of Sensation." *Philosophical Topics*, 19, 293–323.

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6

Pierre Gassendi

MARGARET J. OSLER

Life and Works

Pierre Gassendi (1592–1655), a philosopher best known for his Christianized exposition of Epicureanism, was born on January 22, 1592 in Champtercier, a village near Digne in Provence, and received his early education in Digne and Riez. The Catholic Church supervised the remainder of his formal education, as he was preparing to become a priest. From 1604 through 1611, he pursued his studies at the college of Aix-en-Provence, concentrating on Aristotelian philosophy and Catholic theology. He received his doctorate in theology at Avignon in 1614 and was then appointed official teacher of theology and superintendent of theological education in the diocese. In 1616 he assumed the chair of philosophy at Aix-en-Provence, where he taught Aristotelian philosophy for the next six years. His dissatisfaction with Aristotelianism dominated his first published work, *Exercitationes Paradoxicae Adversus Aristoteleos* [*Paradoxical Exercises Against the Aristotelians*] (1624) (Gassendi, 1658, vol. 3 and 1959), in which he undercut Aristotelianism with skeptical arguments. In this early work as well as in correspondence from the second half of the 1620s, he expressed a growing interest in Epicureanism as a substitute for Aristotelianism. In 1622, when the college at Aix was taken over by the Jesuits, Gassendi and the rest of the faculty were forced to leave their positions. While still a student, he had been a member Canon of the Cathedral of Digne. In 1634 he was appointed provost of the Cathedral and continued to hold that position for the rest of his life.

In addition to his ecclesiastical position, Gassendi needed patronage to support his scholarly work. His first patron was the polymath and humanist Nicolas-Claude Fabri de Peiresc (1580–1637), councillor of the Parlement of Aix and patron of arts and letters. Gassendi and Peiresc conducted experiments on vision and corresponded about astronomy and philosophy. During the years until Peiresc's death in 1637, Gassendi spent time in Aix, Digne, and Paris as he pursued his scholarly interests. A trip to Holland in the winter of 1628 with his friend the *libertin érudit* François Lullier (*c.* 1600–51) brought him into contact with the atomist Isaac Beeckman (1588–1637), reinforcing his resolve to restore the philosophy of Epicurus. This project became his life's work (Osler, 1994, chap. 2).

Three early works reflected his broad interests in natural philosophy, optics, and astronomy. In the *Epistolica exercitatio, in qua principia philosophiae Roberti Fluddi, medici, reteguntur* [*An Epistolary Exercise, in which The Principles of Dr. Robert Fludd's Philosophy are Laid Bare*] (1630) (Gassendi, 1658, vol. 3) he responded to MARIN MERSENNE's (chapter 4) request for an evaluation of the ideas of the Paracelsian Robert Fludd (1574–1637). In the *De Parhelijs seu solibus IV. spurijs circa verum visis anno M.DC.XXIX* [On the *Parhelia or, the four spurious Suns seen at Rome in the year 1629*] (1630) (Gassendi, 1658, vol. 3), he described a strange appearance of parhelia (or the appearance of multiple suns and patches of shimmering light around the sun). In *Mercurius in sole visus et Venus invisa Parisiis anno 1631* [*Mercury Seen in the Sun, and Venus Unseen at Paris in the Year 1631*] (1632) (Gassendi, 1658, vol. 3), he confirmed KEPLER's (chapter 4) prediction of Mercury's transit of the sun.

When Peiresc died in 1637, Gassendi lost not only his patron but also a close and valued friend. He wrote little for the next four years, finally publishing a memorial to his friend, *Viri illustris Nicolai Fabricii de Peiresc Senatoris Aquisextiensis vita* [*The Life of the Most Illustrious of Men, Nicolas Fabri de Peiresc, Senator from Aix*] (1641) (Gassendi, 1658, vol. 5). Having returned to Provence to perform his clerical duties, Gassendi was invited by Louis-Emmanuel de Valois, count of Alais, a man closely connected to the royal family, "to wait upon" him, i.e., to enter a client–patron relationship that continued until Valois's death in 1653.

Deeply interested in current developments in physics and astronomy, Gassendi published an exposition of GALILEO's (chapter 4) new science of motion, *De motu impresso a motore translato* [*On Impressed Motion Transferred from the Mover*] (1642) (Gassendi, 1658, vol. 3), containing the first published full statement of the principle of inertia. He also published an account of the new astronomy in *Institutio astronomica juxta hypotheseis tam veteram quam Copernici et Tychonis Brahei* [*Astronomical Method according to the Ancient Hypotheses as well as those of Copernicus and Tycho Brahe*] (1647) (Gassendi, 1658, vol. 4). Mersenne invited Gassendi, among other philosophers and theologians, to comment on the manuscript of DESCARTES' (chapter 5) *Meditations* prior to its publication in 1641. Gassendi's comments, first published as the fifth set of "Objections", were enlarged in the *Disquisitio metaphysica, seu dubitationes et instantiae adversus Renati Cartesii metaphysicam et responsa* (1644) (Gassendi, 1658, vol. 3 and 1962), which contains Gassendi's objections to the *Meditations*, Descartes' replies, and Gassendi's rejoinders. In 1645, Gassendi was appointed professor of mathematics at the Collège Royal. After Valois' death in 1653, Gassendi came under the protection of Henri-Louis Habert, lord of Montmor, a patron of natural philosophy, in whose household he lived until his death in 1655.

Towards the end of his life, Gassendi published the products of his Epicurean project. The three major Epicurean works include *De vita et moribus Epicuri libri octo* [*On the Life and Morals of Epicurus in Eight Books*] (1647) (Gassendi, 1658, vol. 5), *Animadversiones in decimum librum Diogenis Laertii, qui est de vita, moribus, placitisque Epicuri* [*Observations on the Tenth Book of Diogenes Laertius, Which is about the Life, Morals, and Teachings of Epicurus*] (1649), and the *Syntagma Philosophicum* [*Philosophical Treatise*], which was first published posthumously in 1658 in his *Opera Omnia* [*Collected Works*] (Gassendi, 1658, vols. 1 and 2).

Gassendi's Epicurean Project

In his works on Epicurus, the Greek atomist and hedonist, Gassendi sought to make the ancient philosophy acceptable to orthodox Christians. This task was challenging, as Epicurus was a materialist who believed that the human soul is composed of corporeal atoms and denied the existence of design and divine intervention in the world. Gassendi envisaged this Christianized Epicureanism as a complete philosophy that would replace Aristotelianism, which had dominated the university curriculum since the thirteenth century (Brundell, 1987).

In his first published work, *Exercitationes Paradoxicae Adversus Aristoteleos*, which appeared in 1624, Gassendi drew on the Pyrrhonian skepticism of Sextus Empiricus to undermine the epistemological and metaphysical foundations of Aristotelianism (Gassendi, 1658, vol. 3 and 1959). Gassendi rejected Aristotle's metaphysics of matter and form. He also denied the possibility of attaining the Aristotelian ideal of demonstrative certain knowledge of the real essences of things as the epistemological goal of natural philosophy. Rather than becoming a total skeptic, however, Gassendi adopted what Popkin (1979) has called "mitigated skepticism," advocating a science of appearances that can attain at best probable knowledge of things based on their appearances. Gassendi denied the possibility of knowing essences and explicitly allied himself with the nominalists. An empiricist epistemology and a nominalist metaphysics were central themes in his philosophical writings.

Gassendi was attracted to the philosophy of Epicurus from as early as the mid-1620s, but he did not defend it in print until the 1640s. During the intervening years, his Epicurean project metamorphosed from the straightforward humanist undertaking of translating Book X of Diogenes Laertius' *Lives of Eminent Philosophers*, one of the major classical sources for knowledge of Epicurus' writings to a full-fledged rehabilitation of Epicureanism in light of Christian theology and contemporary natural philosophy. During the early 1630s, Gassendi wrote a draft of his Epicurean commentary and circulated it to Peiresc and some other friends. By 1634, he completed a version of what would later be published as *De vita et moribus Epicuri* (1647). During 1641 and 1642, he wrote a series of letters containing a sketch of his Epicurean project to his patron, the new governor of Provence, Louis-Emmanuel de Valois (Gassendi, 1658, vol. 6, pp. 338–91). In *De vita et moribus Epicuri* [*The life and morals of Epicurus*], Gassendi defended Epicurus against the allegations of decadence and immorality that had dogged his reputation since antiquity. In 1649, he published *Animadversiones in decimum librum Diogenis Laertii* [*Observations on the Tenth Book of Diogenes Laertius, Which is about the Life, Morals, and Teachings of Epicurus*], a book still conceived in the humanist format as a commentary on an ancient text. The posthumous *Syntagma Philosophicum* [*Philosophical Treatise*] (1658) was the culmination of Gassendi's Epicurean project, incorporating material from contemporary natural philosophy into an exposition of Epicureanism (Rochot, 1944).

At every stage of this project, Gassendi modified certain aspects of Epicurus' doctrines in order to reconcile his philosophy with Christian orthodoxy. He rejected the theologically objectionable components of Epicureanism: polytheism, a corporeal

conception of the divine nature, the negation of all providence, the denial of creation *ex nihilo*, the infinitude and eternity of atoms and the universe, the plurality of worlds, the attribution of the cause of the world to chance, a materialistic cosmogony, the denial of all finality in biology, and the corporeality and mortality of the human soul. Gassendi replaced these doctrines with a Christianized atomism which asserted the creation of the world and its constituent atoms by a wise and all-powerful God who designed the world and rules it providentially, the existence of a large but finite number of atoms in a single world, a role for final causes in natural philosophy, and the immortality and immateriality of the human soul.

Gassendi was a theological voluntarist who emphasized the contingency of the world on God's will. According to his view of God's relationship to the created world, divine omnipotence is in no way constrained by the creation, which contains no necessary relations that might limit God's power or will. Nothing exists independently of him, and nothing that he creates can bind or impede him. "There is nothing in the universe that God cannot destroy, nothing that he cannot produce, nothing that he cannot change, even into its opposite qualities" (Gassendi, 1658, vol. 1, p. 308). Consequently there are no universal or eternal essences of created things. Even the laws of nature lack necessity. "He is free from the laws of nature, which he constituted by his own free will" (Gassendi, 1658, vol. 1, p. 381). The laws of nature have no existence apart from describing the regularities we observe in the operations of nature. In contrast to Descartes, Gassendi never identified any particular propositions as laws. Like everything else God created, he can negate them. He could have created an entirely different natural order if it had pleased him to do so. Similar to other voluntarists, for example Ockham, Gassendi believed that God's will is constrained only by the law of non-contradiction and that nothing God creates can prevent him from acting immediately on the creation. God does not directly produce all the motions of bodies, nor does he simply create bodies in the beginning, leaving them to act in accordance with their individual natures as bodies. He makes use of second causes – i.e. natural causes that he has created. But he can always intervene and act directly if he wants. Nothing he creates constrains him in any way. "God... is the most free; and he is not bound, as he can do whatever... he wishes" (Gassendi, 1658, vol. 1, p. 309). Nominalism – the view that universal categories have no independent existence outside of our minds but are merely names that we apply to groups of similar things – was one important implication of Gassendi's voluntarism. The existence of universals, even universals created by God, would limit God's freedom of action. Gassendi's voluntarism and anti-essentialism played a central role in his debate with Descartes over the *Meditations*. These assumptions infused every part of Gassendi's philosophy.

Gassendi approached philosophy in the manner of a Renaissance humanist. That is, he sought an ancient model in dialogue with which he worked out his philosophical views. His style is marked by frequent allusions to and quotations from classical authors. Each section of his massive *Syntagma Philosophicum* begins with an historical summary of all existing views on the subject. His own account serves to conclude the discussion of a given subject (Joy, 1987). The ancient atomist and hedonist Epicurus served as his ancient model. Gassendi claimed that he chose Epicurus as his model – despite the ancient philosopher's reputation for atheism and materialism – because

his atomistic physics and hedonistic ethics could be more readily reconciled with "the Sacred Faith" than any of the other ancient schools of philosophy. Presented as a complete philosophy to replace Aristotelianism, the *Syntagma Philosophicum* is divided into the three sections, entitled "Logic," "Physics," and "Ethics."

Logic

Part I of the *Syntagma Philosophicum* is entitled "Logic." Gassendi considered logic to be the art of thinking well. He developed logic as a theory of knowledge and a primitive psychology to explain how ideas get into the mind rather than simply a study of the forms of syllogism and the relationships among propositions, although he discussed these topics as well. He adopted an empirical approach to knowledge of the world, one modelled on the Epicurean canonic (Michael, 1992).

In the *Exercitationes Paradoxicae Adversus Aristoteleos* (1624), Gassendi attacked Aristotelian dialectic as overly complex and abstruse and as useless as a method for making new discoveries. He used the classical skeptical arguments to question the reliability and validity of sensory experience. The skeptical arguments drawn from the recently recovered *Outlines of Pyrrhonism* by Sextus Empiricus led him to question the value of sensory experience as a source of knowledge about the world. Because Aristotelian demonstration required premisses based on experience, Gassendi argued that the syllogisms favored by Aristotelians could not produce certainty about the world. Moreover, because the conclusion of a syllogism contains no information not already present in the premisses, he argued that syllogistic demonstration alone cannot produce new knowledge. Thus, he concluded, the entire method of Aristotelian demonstration is without foundation or utility.

Not satisfied with the suspension of judgment advocated by the ancient skeptics, Gassendi opted for a middle way, which Popkin (1979, chap. 7) called "mitigated skepticism". Mitigated skepticism uses the skeptical arguments to rule out the possibility of certain knowledge, while settling for probability as a sufficient goal for knowledge of the world. Gassendi based this approach on a series of rules or canons, which he borrowed from Epicurus. These canons defined sensations, ideas, propositions, and syllogisms, upon which Gassendi elaborated a criterion of truth, based on empiricist assumptions (Jones, 1981).

Like other empiricists, Gassendi founded his theory of knowledge on the claim that all ideas contained in the mind originate in the senses. He distinguished between two kinds of truth, which he called "truth of existence" and "truth of judgment." Truths of existence refer to the content of sensation itself. That it is what it is must be true. The senses are infallible insofar as we consider sensations simply to be what they are without further reference. The taste of honey is the taste of honey, whether or not the substance sensed is really honey or even exists. Truths of judgment, in contrast to truths of existence, are the judgments we make about sensations. They are fallible, since they make assertions about the world that might not be true. An example of such a judgment would be the proposition that honey is sweet. The skeptical arguments, according to Gassendi, apply to truths of judgment, not to truths of existence.

On the basis of this distinction between truths of existence and truths of judgment, Gassendi argued that sensations, which he called "appearances," provide the basis for our knowledge of the world. This knowledge cannot penetrate to the inner natures of things precisely because it is knowledge of how they appear to us. On the basis of the appearances, however, it is possible to seek causal explanations, with the understanding that such reasoning is always conjectural and subject to revision in the face of further knowledge. This science of appearances can never achieve certainty, only probability, but such probability is adequate for our needs in this world (Gassendi, 1959). In settling for probability rather than certainty as the epistemic goal of natural philosophy, Gassendi thereby rejected the traditional Aristotelian and Scholastic conception of *scientia* or demonstrative knowledge. His redefinition of the epistemic goal of natural philosophy influenced the conceptions of later natural philosophers such as ROBERT BOYLE (chapter 23), JOHN LOCKE (chapter 24), and ISAAC NEWTON (chapter 26).

Physics

"The Physics" is the longest part of the *Syntagma Philosophicum*. Here Gassendi laid down the basic principles of his natural philosophy. He divided "The Physics" into three large sections, "On the Nature of Things in General," "On Celestial Things," and "On Earthly Things." In the first section Gassendi spelled out the basic principles of his natural philosophy, describing the constituents out of which the world is composed. He claimed that the fundamental components of the physical world are atoms and the void.

Gassendi began his account of the nature of things in general with a discussion of the ultimate constituents of the world. He stated that the entire universe is contained in empty space. Following traditional accounts, he classified the void into three categories: the separate, extra-cosmic void; the interparticulate, interstitial, or disseminated void; and the *coacervatum*, produced by collecting a number of interstitial voids, usually by means of some kind of mechanical device. The question of the existence of the void – highly controversial at the time – led him into a discussion of space and time more generally. Using the ideas of the Renaissance Platonist Francesco Patrizi (1529–97), Gassendi argued that space is neither substance nor accident, but rather a kind of incorporeal extension. He thus avoided what he regarded as Aristotle's error of confounding dimensionality and corporeality. Space, according to Gassendi, exists whether or not it is filled with matter.

The extracosmic void is the space in which God created the universe. It is boundless, incorporeal extension. In defending the existence of interstitial void, Gassendi argued that its existence is a necessary condition for motion; for without empty spaces, there would be no place into which particles of matter could move. Other classical arguments included the capacity of water to become saturated with salt, the dispersion of dyes through water, and the penetration of air by light, heat, and cold, all of which he assumed to be corpuscular. Empty spaces between the particles composing material bodies seemed necessary to explain these phenomena. Gassendi also used several arguments formulated by Hero of Alexandria (*fl.* 62 AD). For

example, Hero had argued that just as individual grains of sand are separated from each other by air or water, so the material particles composing bodies are separated by small void spaces. Hero had demonstrated the compressibility of air by means of several inventions, including the pneumatic cannon and the aeolipile (a prototype of the steam engine), that seemed to call for the existence of interstitial void between the material particles composing air.

In addition to using traditional arguments, Gassendi drew on contemporary natural philosophy – especially the barometric experiments of Torricelli and Pascal – to defend the existence of the *coacervatum* void. Gassendi explained the suspension of mercury in the barometer, as the result of atmospheric pressure, thereby rejecting the Aristotelian explanation which appealed to the paradigmatic occult quality, nature's abhorrence of the vacuum. He also argued that the space in the tube above the mercury is void.

Matter in the form of atoms is the material principle in Gassendi's world. All atoms are made from the same kind of matter, the primary qualities of which are fullness, solidity, and hardness. The atoms are indivisible and fall below the threshold of sense. Following Lucretius, the Roman expositor of Epicureanism, Gassendi noted several common phenomena that lend support to the existence of such atoms. Wind is evidence that invisible matter can produce visible, physical effects. So is the fact that paving stones and ploughshares wear away as the result of constant rubbing, even though individual acts of rubbing produce no discernible changes. The fact that odors pass through the air can be explained in terms of tiny particles travelling from the source of the odor to the nose. Their small size seemed to be confirmed by means of observations using the recently invented microscope, as well as traditional observation such as the dispersion of pigment in water and the large quantity of smoke emitted by a smouldering log. Gassendi appealed to Zeno's paradoxes in order to establish the absurdity of the idea of the infinite divisibility of matter.

Having dealt with the material principle, Gassendi turned to the efficient principle that explains how the world works. The first cause is God, who created the world, including the atoms and the laws that govern their motions. Second causes, the natural causes operating in the physical world, are the collisions among atoms moving in void space. In contrast to Epicurus who had claimed that an endless series of worlds is constantly being produced by an eternal series of chance collisions among an infinite number of uncreated atoms, Gassendi argued that the world and its constituent atoms – a large, but finite number of them – had been created by God, who continues to rule the world providentially, with special providence for humankind. Rejecting the random swerve of atoms or *clinamen* that Epicurus had introduced to account for the collision of atoms that would otherwise fall only downward in parallel paths, Gassendi maintained that in the beginning God created the motions of atoms. He appealed to an extended argument from design to demonstrate God's providential relationship to the creation. One aspect of his argument from design was his insistence that there is a role for final causes in natural philosophy (Osler, 2000). After establishing the material and efficient principles of things, Gassendi proceeded to argue that all of the qualities of bodies can be explained in terms of the motions and configurations of their constituent atoms. He showed how all the qualities – including rarity and density, transparency and

opacity, size and shape, smoothness and roughness, heaviness and lightness, fluidity and firmness, moistness and dryness, softness and hardness, flexibility and ductility, flavor and odor, sound, light, and color – could be explained in terms of the configurations, motions, and collusions of atoms. He concluded his account of qualities with a chapter on the so-called occult qualities, in which he argued that there is no action at a distance and that even apparently occult qualities such as magnetism, the sympathies and antipathies favored by the Renaissance naturalists, and the Paracelsian weapon salve can be explained in mechanical terms.

In this first section of "The Physics," Gassendi created the blueprint for his version of a mechanical philosophy of nature in which all phenomena in the physical world were to be explained in terms of matter and motion alone. His mechanical philosophy consisted of a Christianized version of Epicurean atomism, designed to replace Aristotle's *Physics*. In the remaining sections of "The Physics," Gassendi tried to explain all the phenomena of the world in terms of his mechanical philosophy. His work paralleled Aristotle's treatises on natural philosophy: *De caelo, Meteorologica, De partibus animalium*, and *De anima*. But he also took account of recent developments in natural philosophy. His intentions to mechanize notwithstanding, he wrote eclectically, often appealing to concepts and terms drawn from traditions such as Aristotelianism, Renaissance naturalism, and alchemy. His actual explanations of particular phenomena frequently violated his own mechanical principles, as he freely drew on the writings of other natural philosophers and other non-mechanical traditions of natural philosophy (Osler, forthcoming). In the second section of "The Physics," dealing with celestial things, Gassendi considered the following questions: the substance of the sky and stars; the variety, position, and magnitude of the stars; the motions of the stars; the light of the stars; comets and new stars; and the effects of the stars. In his youth, Gassendi had endorsed the new Copernican astronomy enthusiastically. The condemnation of Galileo in 1633 dampened his enthusiasm, at least in print, where he expressed skeptical doubts about being able to prove any of the three main world systems – Ptolemaic, Copernican, and Tychonic – conclusively. In the *Syntagma Philosophicum*, he proposed the system of Tycho Brahe as a compromise approved by the Church, but not before having stated that the Copernican theory was "more probable and evident" (Gassendi, 1658, vol. 1, p. 617). Such probabilism characterized his approach to all natural philosophy and did not represent a retreat in the face of ecclesiastical oppression (Brundell, 1987, chap. 2).

Gassendi rejected astrology as "inane and futile." He denied the possibility that the stars cause terrestrial and human events. Sidereal and planetary configurations may be signs of some events on earth, such as the seasons or the weather, but they do not cause terrestrial events. The ability to prognosticate the future is the prerogative of God alone. Gassendi found horoscopes based on the moment of nativity ridiculous. Why, he asked, should the heavenly bodies have more influence at the moment of birth than at any other moment in a person's life? He thought that the principles of astrology were based on insufficient evidence and that astrologers often resorted to deception.

Having discussed the heavens, Gassendi turned his attention to terrestrial phenomena, starting with inanimate things. He described the properties of Earth, the distribution of water and land, the tides, subterranean heat, and the saltiness of the

sea. He then turned to "meteorological" phenomena, which included winds, rain, snow, ice, lightning and thunder, rainbows and parhelia, and the Aurora Borealis. Shifting his attention to smaller things, he wrote about stones and metals, particularly noting recent observations of the magnet, and to the transmutation of metals, for which he gave an atomistic explanation. Finally, he included plants among inanimate things, because Epicurus had believed them to lack souls. Gassendi discussed the varieties of plants and their parts, considering their various physiological processes, including grafting, nutrition, germination, growth, and death.

The final section of "The Physics" was devoted to terrestrial living things, or animals. Here Gassendi discussed the varieties of animals, the parts of animals – which he described in explicitly finalistic terms – and various physiological topics including generation, nutrition, respiration, motion, and the uses of the parts of animals. His teleological approach, which relied heavily on Aristotle and Galen, is an important part of his emphasis on divine providence and the argument from design. Gassendi devoted about half of this lengthy section on animals to the topics of sensation, perception, and the immortality of the human soul, topics of particular philosophical interest, not only because they are related to fundamental issues in epistemology and metaphysics, but also because they stipulate the limits of mechanization in Gassendi's philosophy of nature.

Gassendi's argument for the immortality of the soul was central to his Christianization of Epicureanism, for Epicurus had denied the existence of an immaterial and immortal soul. Adopting the distinction between *anima* and *animus* directly from Lucretius, Gassendi argued that the *anima* or sentient soul is material and present throughout the body but that the *animus* or rational soul is incorporeal. Humans resemble animals in possessing an *anima*, but the possession of an *animus* distinguishes them from animals.

He considered the *anima* to be composed of very subtle and extremely active atoms, "like the flower of matter." It is the principle of organization and activity for the organism and the source of the animal's vital heat. It is also responsible for perception: it is the physical organ, the imagination or "phantasy," which forms images derived from perception. The *anima* is transmitted from generation to generation at the moment of conception.

The *animus* or rational soul is an incorporeal substance, created by God, infused in the body, and functioning like an informing form. Gassendi argued that its immortality follows from its incorporeality. He used several arguments to prove the incorporeality of the rational soul. It is distinct from the corporeal imagination or phantasy because we can understand some things of which we cannot form images, for example, that the sun is 160 times larger than the earth. Unlike corporeal things, the rational soul is capable of reflecting on itself. It is also able to reflect on the nature of universality in contrast to animals, which possess only the corporeal *anima* and are limited to forming universal concepts without having the ability to reflect on them abstractly. Gassendi's claim that the rational soul, in contrast with the animal soul, is incorporeal established one of the boundaries of his mechanization of the world.

Gassendi proceeded to argue for its immortality on the basis of its immateriality. He considered this topic to be the "crown of the treatise" and the "last touch of

universal physics" (Gassendi, 1658, vol. 2, p. 620). Although "the Sacred Faith" assured him of the soul's immortality, he supported this article of faith using philosophical and physical arguments, thereby responding to the Fifth Lateran Council's call on philosophers in 1513 "to use all their powers, including natural reason, to defend the immortality of the soul" (Osler, 1994, p. 62). Epistemologically similar to all reasoning in natural philosophy, the conclusions drawn from physics and philosophy could at best be highly probable. Nevertheless Gassendi was certain of the soul's immortality because it was ultimately grounded in faith.

Gassendi argued on the basis of physics that the soul is immortal because it is immaterial. Lacking matter, an immaterial thing "also lacks mass and parts into which it can be divided and analyzed" (Gassendi, 1658, vol. 2, p. 628). This argument was similar to arguments used by Kenelm Digby (1603–65) and Henry More (1614–87) in their discussions of the immortality of the soul. Another approach, which he called "moral," argued for immortality on the grounds that the afterlife is necessary in order to compensate for various injustices in this life. Gassendi went on to argue against many detractors of the soul's immortality, especially Epicurus, against whose arguments he devoted an entire chapter of the *Syntagma Philosophicum*. Epicurus had asserted that the soul is material and mortal in order to eliminate fear of the gods and fear of punishment in life after death, the main sources of mental distress that he thought prevented people from attaining tranquillity. Proving the immortality of the soul was essential to his project of rehabilitating Epicureanism in a Christian context.

Gassendi's argument that the rational soul is immaterial and immortal provides evidence that he was not a materialist, despite arguments to the contrary by some scholars, notably O. R. Bloch (1971). Bloch bases his claim that Gassendi defended the immateriality of the rational soul only in deference to the Church on two claims: that Gassendi ascribed many aspects of cognition to the material *anima*; and that he did not fully articulate his arguments for an immaterial *animus* until 1642. Bloch's interpretation of Gassendi as a clandestine materialist belies the fact that Gassendi's assertion of the existence of God, angels, demons, and an immaterial immortal soul is to be found throughout his Epicurean writings. These topics appear as early as a manuscript outline of his Epicurean project which he sent to Peiresc in 1631 at the inception of his project, in his letters to Valois in the 1640s, and in the posthumous *Syntagma Philosophicum*.

Ethics

"The Ethics" is the third and final part of the *Syntagma Philosophicum* in which Gassendi completed his project to Christianize all parts of Epicureanism. Epicurean ethics was founded on the principle that pleasure is the end of life. Pleasure, according to Epicurus, consists of freedom from bodily pain and freedom from mental turmoil. The greatest pleasure, tranquillity of the soul, results from the absence of both anxiety and physical pain. The achievement of tranquillity endows individuals with self-sufficiency. Epicurus recognized that not all pleasures are of equal value: reason has the role of calculating pleasure and pain. Thus, he could

claim that long-term pleasure was of greater value than short-term pleasure that might lead to long-term pain. Human freedom, necessary for the implementation of the calculus of pleasure and pain, is insured by the random swerve of atoms, the *clinamen*, which added a dimension of indeterminism to the human. Epicurean hedonism, i.e. an ethics based on the pleasure principle, did not receive a good press, either in antiquity or in the Christian Middle Ages, because of Epicurus' reputation for atheism and moral decadence. Gassendi undertook the task of restoring and Christianizing Epicurean ethics.

Gassendi gave a specifically Christian interpretation of the Epicurean principle that equated pleasure with the good by reinterpreting the concepts of pleasure and human action in Christian terms. He thereby created a Christian hedonism that found a natural place in his providential worldview. Gassendi distinguished among four approaches to pleasure: the instinctive desire for pleasure that even irrational creatures possess; the calculated strategy of maximizing physical pleasure; the prudence of the wise who understand that true pleasure consists of tranquillity and the absence of pain; and finally the recognition that the most sublime pleasure is to be found in the beatific vision of God. The prudence of the wise is based on understanding that most human desires are vain. The wise person will employ the calculus of pleasure and pain to achieve the state of tranquillity. Gassendi united this hedonistic ethics with his providential worldview by claiming that God has instilled in humans a natural desire for pleasure and a natural aversion to pain. In this way, God guides human choices, without negating free will. The prudent pursuit of pleasure will ultimately lead to the greatest pleasure of all, presence with God in heaven (Sarasohn, 1996, chap. 3).

Consistent with his voluntarist theology, Gassendi's "Ethics" presumed both divine and human freedom. Human freedom is a necessary concomitant of voluntarism, for if human actions were completely determined, that determinism would limit God's freedom to intervene in their lives. Gassendi considered true freedom, *libertas*, to be the freedom of indifference, the ability of the mind to make judgments and take action without being determined in one direction or another. This kind of freedom gives reason a central role in moral deliberation. Gassendi contrasted *libertas* with *libentia* – spontaneity or willingness – that is characteristic of boys, brutes, and stones, creatures that are impelled to move in certain ways, but not on the basis of judgments deriving from the freedom of indifference (Sarasohn, 1996).

Gassendi's emphasis on freedom, both human and divine, led him to consider the question of predestination, which was the main context for discussions of freedom and determinism in the post-Reformation setting. How can human action be free if God has foreknowledge of who will be saved and who will be damned? Influenced by the Jesuit Luis de Molina's (1535–1600) moderate stance on the question of predestination, Gassendi argued that God created people free to choose, even though He knows from his eternal viewpoint how they will choose. Gassendi, following Molina, claimed that such divine foreknowledge does not interfere with human freedom. In a further defense of human freedom, Gassendi rejected both Stoic fatalism and astrology (Osler, 1994, chap. 3).

Gassendi developed a political philosophy based on the idea of *pactum* or contract. It was a natural consequence of his hedonistic ethics. Starting from the idea of a

hypothetical state of nature in which there was no secure ownership of property, a state which would inevitably degenerate into turmoil and conflict, Gassendi argued that individuals could secure greater happiness for themselves only by forming societies. These societies are based on pacts or contracts in which both individual rights and property rights are defined and in which the weaker are protected from the stronger. The contracts establish rights, which Gassendi considered natural in the sense that they follow from the calculus of pleasure and pain. Civil society is thus a natural outcome of human nature. A system of justice comes into being to restore rights that have been violated and to prevent further violations. Among the traditional forms of government, Gassendi favored monarchy as simpler and more efficient than the other traditional forms of government. However, he argued that the power of the monarch remains answerable to the consent of the governed who first established the contract. He was therefore opposed to absolutism on the grounds that an absolute monarch would have severed his relationship with the governed and was consequently answerable to no one (Sarasohn, 1996, chap. 7).

Gassendi developed his political philosophy in close contact with THOMAS HOBBES (chapter 22), and his ideas had a profound influence on John Locke who is usually named as the founder of the liberal tradition in political philosophy.

Gassendi's Influence

Succeeding generations of philosophers found Gassendi's philosophy useful in each of the three major areas that he addressed. Many thinkers took up his philosophy as a viable alternative to Descartes' rationalism (Lennon, 1993). His work was disseminated not only by circulation of his own writings, but also by translations and paraphrases that were published in the second half of the seventeenth century. In the English-speaking world, Gassendi's works were popularized by the publication of works by the royalist physician Walter Charleton (1620–1707). In several works, Charleton "Englished" Gassendi's writings. Charleton gave an account of the natural world in *Physiologia Epicuro-Gassendo-Charltoniana: or A Fabrick of Science Natural, Upon the Hypothesis of Atoms, Founded by Epicurus, Repaired by Petrus Gassendus, Augmented by Walter Charleton* (1654). The *Physiologia* is Charleton's translation and paraphrase of Gassendi's *Syntagma Philosophiae Epicuri* [*Treatise on the Philosophy of Epicurus*] which is the account of the physical world in his *Animadversiones in Decimum Librum Diogenis Laertii* [*Observations on the Tenth Book of Diogenes Laertius, Which is about the Life, Morals, and Teachings of Epicurus*] (1649). It was the first presentation of Gassendi's Epicurean project in English and one of the important sources of atomism in England. Charleton published a dialogue entitled *The Immortality of the Human Soul, Demonstrated by the Light of Nature* (1657). The three interlocutors debate the Epicurean theory of the soul as represented by Lucretius, who is a stand-in for the notorious materialist Hobbes. In this work, Charleton rehearsed Gassendi's arguments for the immateriality and immortality of the soul. In other works, Charleton argued for a voluntarist and providential theology, very similar to Gassendi's.

Another book, first published at mid-century – Thomas Stanley's immensely popular *History of Philosophy* (1687) – was also responsible for the dissemination of

Gassendi's ideas in the English-speaking world. Stanley devoted twice as many pages to Epicureanism than to any other ancient school. His lengthy account of the philosophy of Epicurus is virtually a translation of Gassendi's *Philosophiae Epicuri syntagma*. In Stanley's *History*, Epicureanism acquired canonical status, and – if page counting is a meaningful measure – it had supplanted the traditionally authoritative schools of Plato and Aristotle.

In France, Gassendi's work was popularized by François Bernier's multi-volume *Abrégé de la philosophie de Gassendi*, first published in 1674 and reissued in several enlarged editions. Bernier's *Abrégé* is a presentation of Gassendi's *Syntagma Philosophicum* in the vernacular, stripped of the classical quotations that marked Gassendi's humanist style of writing. Bernier's text is not always faithful to Gassendi's, and Bernier's ideas change from edition to edition. Nevertheless the *Abrégé* is a key document in the promulgation of Gassendi's ideas (Murr, 1992).

Gassendi's "Logic" influenced developments on both sides of the English Channel. In France, the Jansenists ANTOINE ARNAULD (1611–94, chapter 8) and Pierre Nicole (1625–95) collaborated on the influential book, *La logique, ou l'art de penser*, commonly known as the *Port-Royal Logic* (1662). They followed Gassendi in dividing logic into four parts, in founding their logic on his theory of ideas, and in the structure of the work (Michael, 1992, p. 33).

The epistemology implicit in Gassendi's theory of ideas profoundly influenced the development of British empiricism. John Locke (1632–1704), whose *Essay Concerning Human Understanding* (1690a), played a central role in the development of this tradition, became acquainted with Gassendi's philosophy through contact with Bernier and other Gassendists during his European travels in the 1670s. In the earliest drafts of the *Essay*, written in 1671, Locke began from a basically Gassendist position, which he modified during the many reworkings of his position over the ensuing twenty years (Ayers, 1994, pp. 54–6).

Natural philosophers in the second half of the seventeenth century saw Gassendi's modified Epicureanism as one of several possible versions of a mechanical philosophy of nature. His works were widely read. Both Robert Boyle (1627–90) and Isaac Newton (1642–1727) perceived Gassendi's and Descartes' philosophies as alternative versions of the new philosophy. Boyle often cited Gassendi, usually in the context of his attempt to Christianize Epicureanism. A number of Boyle's claims about the theological and epistemological ramifications of his corpuscularian philosophy are remarkably similar to Gassendi's views on these questions. Boyle shared Gassendi's voluntarist theology, his empiricist and probabilist theory of knowledge, and his nominalism. Boyle was deeply concerned with proving God's providential relationship to nature, and deployed an argument from design to support his belief that the world is a product of divine design and not of Epicurean chance. That Boyle was never completely comfortable with Gassendi's baptism of Epicurus is evident in the fact that he never publicly embraced atomism, even though he unequivocally did so in his unpublished manuscripts. He feared that Epicurean atheism would taint atomism, despite Gassendi's valiant efforts to prove otherwise (MacIntosh, 1991). Like Boyle, Newton was thoroughly acquainted with Gassendi's philosophy of nature, most likely through a reading of Charleton's *Physiologia*. In his student notebook, Newton designed thought experiments to select between

Cartesian and Gassendist explanations of particular phenomena. (Westfall, 1980, pp. 89–97).

Gassendi's "Ethics" and political philosophy also left their mark on subsequent thinkers. Because Epicureanism was popular in seventeenth-century England, Gassendi's influence cannot always be precisely identified, but Locke is known to have had contact with Bernier and other Gassendists during his prolonged European sojourns. Locke's ethics, as enunciated in the *Essay* (1690a), is based on the calculus of pleasure and pain and in many ways resembles Gassendi's. Likewise, his political philosophy as enunciated in the *Second Treatise on Government* (1690b), which emphasized the idea of social contract and the consent of the governed, relied on concepts and arguments that he probably borrowed from Gassendi (Sarasohn, 1996, chap. 8).

Gassendi's philosophy was known and admired for many generations after his death. In the early years of the American Republic, Thomas Jefferson told John Quincy Adams that "the Epicurean philosophy came nearest to the truth . . . I mentioned Lucretius. He said that was only a part – only the natural philosophy. But the moral philosophy was only to be found in Gassendi." (Quoted in Sarasohn, 1996, p. 207).

Gassendi's reputation has not mirrored his influence, and he does not occupy a prominent place among the canonical figures of early modern philosophy comparable to BACON (chapter 20), Descartes, SPINOZA (chapter 16), Locke, and LEIBNIZ (chapter 18). One salient reason for his relative neglect is his literary style, a late example of the Renaissance humanism soon to be replaced by Cartesian clarity and "the plain historical style" advocated by Locke (1690a). The construction of modern philosophy resulted in obliterating the memory of one of its most important creators.

References

Ayers, M. R., 1994, "The foundations of knowledge and the logic of substance: the structure of Locke's general philosophy." In G. A. J. Rogers (Ed.). *Locke's philosophy: content and context* (49–73). Oxford: Clarendon.

Bernier, F., 1678, *Abrégé de la philosophie de M. Gassendi*, 8 vols. Lyon.

Bloch, O. R., 1971, *La philosophie de Gassendi: Nominalisme, matérialisme, et métaphysique*. The Hague: Martinus Nijhoff.

Brundell, B., 1987, *Pierre Gassendi: from Aristotelianism to a new natural philosophy*. Dordrecht: Reidel.

Charleton, W., 1654, *Physiologia Epicuro-Gassendo-Charltoniana: or A Fabrick of Science Natural, Upon the Hypothesis of Atoms, Founded by Epicurus, Repaired by Petrus Gassendus, Augmented by Walter Charleton*. London.

—— 1657, *The immortality of the human soul, demonstrated by the light of nature.*

Diogenes Laertius, 1980, *Lives of eminent philosophers*. 2 vols. (Trans.) R. D. Hicks. Cambridge, Mass.: Harvard University Press.

Gassendi, P., 1649, *Animadversiones in decimum librum Diogenis Laertii, qui est de vita, moribus placitisque Epicuri*. [*Observations on the Tenth Book of Diogenes Laertius, Which is about the Life, Morals, and Teachings of Epicurus*]. 3 vols. in 2. Lyon.

Gassendi, 1658, *Opera omnia*. [*Collected Works*]. Lyon. Reprinted Stuttgart-Bad Canstatt: Friedrich Frommann Verlag, 1964.

—— 1659, *The vanity of judiciary astrology. Or divination by the stars. Lately written in Latin by that great schollar and mathematician, the illustrious PETRUS GASSENDUS: mathematical professor to the King of FRANCE*, translated into English by a Person of Quality. London: Humphrey Moseley.

—— 1944, *Lettres familières à François Lullier pendant l'hiver 1632–1633*. [*Familiar letters to François Bernier during the winter of 1632–1633*] (Ed.) Bernard Rochot. Paris: Vrin.

—— 1959, *Dissertations en forme de paradoxes contre les Aristotéliciens* (*Exercitationes paradoxicae adversus Aristoteleos*). [*Paradoxical Exercises Against the Aristotelians*]. (Books I and II). (Ed. and Trans.) Bernard Rochot. Paris: Vrin.

—— 1962, *Disquisitio Metaphysica seu dubitationes et instantiae adversus Renati Cartesii Metaphysicam et responsa*. [*Metaphysical disquisition, or, doubts and objections and replies against the metaphysics of Descartes*]. (Ed. and Trans.) Bernard Rochot. Paris: Vrin.

Jones, H., 1981, *Pierre Gassendi's* Institutio logica, *1658*. Assen: Van Gorcum.

Joy, L. S., 1987, *Gassendi the atomist: advocate of history in an age of science*. Cambridge: Cambridge University Press.

Lennon, T. M., 1993, *The battle of the gods and giants: the legacies of Descartes and Gassendi, 1655–1715*. Princeton, NJ: Princeton University Press.

Locke, J., 1690a, *An essay concerning human understanding*. London: Awnsham and John Churchil.

—— 1690b, *Two treatises on government*. London: Awnsham and John Churchil.

MacIntosh, J. J., 1991, "Robert Boyle on Epicurean atheism and atomism." In M. J. Osler (Ed.). *Atoms, pneuma, and tranquillity: Epicurean and Stoic themes in European thought* (197–220). Cambridge: Cambridge University Press.

Michael, Fred, 1992, "La place de Gassendi dans l'histoire de la logique." *Corpus* (Corpus des oeuvres de philosophie en langue française) 20/21: 9–36.

Murr, S., 1992, "Bernier et le gassendisme." [Bernier and gassendism]. *Corpus* (Corpus des oeuvres de philosophie en langue française) 20/21: 115–36.

Osler, M. J., 2001, "How mechanical was the mechanical philosophy? Non-Epicurean themes in Gassendi's atomism." In John Murdoch, William R. Newman, and Christoph Lüthy (Eds.) *Late Medieval and Early Modern Corpuscular Matter Theory*. Leiden: Brill.

—— 2000, "Renaissance humanism, lingering Aristotelianism and the new natural philosophy: Gassendi on final causes." In Jill Kraye and M. W. F. Stone (Eds.) *Humanism and Early Modern Philosophy*. London: Routledge.

—— 1994, *Divine will and the mechanical philosophy: Gassendi and Descartes on contingency and necessity in the created world*. Cambridge: Cambridge University Press.

Peiresc, N. C. F. de, 1888–98, *Lettres de Peiresc*. [*Peiresc's Letters*]. (Ed.) Philippe Tamizey de Larroque. In *Documents inédits sur l'histoire de France* [*Unedited documents on the history of France*], 7 vols. Paris: Imprimerie Nationale.

Popkin, R. H., 1979, *The history of scepticism from Erasmus to Spinoza*. Berkeley: University of California Press.

Rochot, B., 1944, *Les travaux de Gassendi sur Épicure et sur l'atomisme, 1619–1658*. Paris: Vrin.

Sarasohn, L. T., 1996, *Gassendi's ethics: freedom in a mechanistic universe*. Ithaca, NY: Cornell University Press.

Stanley, T., 1687, *A History of philosophy* (3 vols.). 2nd Edition. London: 1687.

Westfall, R. S., 1980, *Never at rest: A biography of Isaac Newton*. Cambridge: Cambridge University Press.

Further Reading

Gassendi, P., 1972, *The selected works of Pierre Gassendi*. (Trans.) Craig Brush. New York: Johnson Reprint.

Jones, H., 1981, *Pierre Gassendi 1592–1655, An intellectual biography*. Nieuwkoop: B. de Graaf.

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7

Blaise Pascal

GRAEME HUNTER

If Blaise Pascal were applying for work at a modern university, his published writings would make him extremely interesting to the departments of physics, mathematics or theology, but probably not to philosophy. Why, then, does he merit a chapter in a guide to modern philosophy? There are two good reasons.

The first is that philosophy, for good or for ill, is professionalized today in ways that past times would have regarded as narrow. Little more than a century ago philosophy was believed to include the whole range of what can be known without divine revelation. What we today call the natural sciences, for example, were then known as "natural philosophy," so that Pascal's scientific and mathematical work would have made him a philosopher to his own contemporaries and to many generations thereafter. The same could be said for much of his theological writing.

The second good reason for including Pascal among the philosophers is that he fits very well into the broad, popular understanding of philosophy that still reigns outside university. The popular attitude toward philosophers, it is true, has always been ambivalent. On the one hand they are figures of fun, often pictured as naïve and impractical, like Thales who fell into a ditch while watching the stars. But it is equally true that ordinary people profess sincere admiration of the ones they call "true philosophers," meaning those who, like Socrates of old, communicate a special insight into how we ought to live. Pascal, as I shall show, is a true philosopher in that sense.

Pascal is like Socrates in another important respect. To understand his philosophy it is necessary to study his life and even what we might call his "afterlife," that is, what history has said about him. The life and the afterlife then are the main subjects in what follows.

Pascal: The Life

Precocious childhood

Blaise Pascal was born on June 19, 1623 at Clermont (now Clermont-Ferrand) in the French province of Auvergne. His father was Etienne Pascal, a civil servant who

worked in the always unpopular area of taxation but who also possessed a first-rate mind. Blaise's mother died when he was three, the only other members of his immediate family being two sisters, one older and one younger. Both played important roles in his life.

Gilberte, three years his senior, married and lived a life quite independent of Blaise. But she continued to follow his career and wrote a biographical sketch of him that has placed all his subsequent biographers in its debt. One recent writer traces to it "the canonical conception" of Pascal's life, according to which his youth was marked by precocity and genius, his mid-life by conversion and his maturity by saintly austerity (Cole 1995, p. 2).

His other sister, Jacqueline, was two years younger, but her influence over her brother outweighed all others. An intense and very talented woman, she took religious orders and entered the convent of Port-Royal, near Paris, early in 1652. The story of her relationship with her brother is told with imaginative insight by the novelist François Mauriac (1931).

Pascal never attended any school or university. Today we would say he was homeschooled. Indeed his father, Etienne, was so concerned about the education of his children that he took the highly unusual step of retiring from the civil service to become their full-time tutor (his wife, Antoinette, having died in 1626, shortly after giving birth to Jacqueline). The later accomplishments of the Pascal children, especially Blaise, give eloquent testimony to Etienne Pascal's teaching skills.

The senior Pascal possessed eminent qualifications as an educator. He moved easily among leading scientists and was himself a member of what was then the most distinguished body of scientists in France, Marin Mersenne's academy. The senior Pascal's literary acquaintanceship was also extensive, including such giants as the poet Pierre Corneille. Thus the Pascal home was a place in which the brilliant mind of young Blaise could be well nourished.

Pascal senior had definite views on education, including the idea that the subject-matter must be geared to the maturity level of the student. He tried to make experiments in natural science pleasant and amusing for his children when they were young, reserving harder, sedentary tasks like the learning of classical languages and mathematics until later years.

His son Blaise, however, took a precocious interest in mathematics, beginning to study it by himself at the age of 12. When, in 1640, while just sixteen, he published a ground-breaking essay on conic sections, he was congratulated by the leading mathematicians of the day. There was one discordant voice amid the praise, however, and a significant one. It came from the most famous mathematician and philosopher of the age, RENÉ DESCARTES (chapter 5), a man often called "the father of modern philosophy." Descartes no doubt suspected Pascal of having been helped by his father, or of plagiarism.

So began the cool hostility that was to be the hallmark of relations between Pascal and the greatest philosopher of his day, leading some to see the two figures as the antipodes of the French psyche. Descartes was reason's foremost exponent; Pascal became its cogent critic. Descartes was famous for proving the existence of God; Pascal became equally famous for denying that in such matters indubitable knowledge could be obtained. Where Descartes' piety grew cold and formal as he

aged, Pascal's became urgent and heartfelt. There is even a sharp counterpart to Descartes' dismissive judgment of Pascal's youthful success in mathematics. Pascal's mature evaluation of Descartes' philosophy is expressed in two words: "useless, uncertain" (Pascal 1966, henceforward *Pensées*, #887).

It was precisely in pursuit of what was useful and certain that Pascal conceived the very un-Cartesian idea of a reckoning machine. His father was now living in Normandy and once more employed in the civil service. His occupation required him to compute the tax rates for a good part of the region. In that capacity Etienne Pascal spent long and dreary hours performing and checking elementary calculations. Many mathematicians before Pascal must have regretted the waste of good minds on such trivial tasks. But the younger Pascal was the first to see how the plodding reliability of mechanical processes could be harnessed to save people both from the drudgery of calculation and from the danger of making inadvertent errors. Between 1642 and 1644, Pascal was able to conceive, build and produce for sale, a calculating machine capable of the four basic arithmetical operations. Some specimens survive today.

The idea of incarnating thought in a machine in this way was a flagrant challenge to Descartes' injunction to treat mind and body as radically distinct (see Cole 1995, p. 44). But Pascal's success in mingling them has caused him to be recognized as one of the fathers of cybernetics and computer science.

The influence of Port-Royal

Meanwhile in Normandy dramatic developments of a quite different character were about to alter radically the life of the brilliant mathematician and scientist. A religious revival was sweeping the region of Rouen where the Pascals were now dwelling. Its source was the monastery of Port-Royal, near Paris, where Pascal's sister Jacqueline would ultimately become a leading figure. To understand Pascal, it is important to know a little about Port-Royal, for in the years after 1646 he and his sisters would be drawn inexorably into its affairs.

The religious background: Jansenism and Port-Royal

Port-Royal was a Cistercian monastery which had become the leading center for what was called "Jansenism." This *movement*, for that is the most it can be called, acquired its name from the bishop of Ypres, Cornelius Jansen, author of a controversial book on the teachings of St. Augustine. Few religious phenomena have benefited from more intense scholarly study than has Jansenism, with the predictable effect that less and less is known with certainty about it. Jansenism's most devoted protagonist, ANTOINE ARNAULD (chapter 8), probably set the clouds of scholarly doubt in motion by writing *The Phantom of Jansenism* in 1686, in which he denied that the so-called "movement" even existed. And doubt about its status persists. Ronald Knox (1950) characterizes Jansenism as no more than a "drama" surrounded by a "haze of unreality." So I shall attempt to confine my remarks to realities as uncontroversial as the subject permits.

Jansen's book, simply called *Augustinus*, appeared in 1640. It called for a return to Augustine and in particular for a heightened emphasis on the role of divine grace in salvation, an emphasis which caused Jansen's followers to be called "catholic Calvinists." But although Jansen's doctrines seemed extreme to many Roman Catholic writers, the great importance he attached to religious thought was not untypical of the age, nor was the shift of his philosophical allegiance away from scholastic philosophy, with its Aristotelian foundation, toward Augustine, who was rooted in the Platonic tradition.

The monastery of Port-Royal was at the confluence of these two streams of religious and philosophical influence. Since 1609 it had been led to new heights of piety by the "puritanical" zeal of its Mother Superior, Angélique Arnauld. Then in 1633, with the arrival there of Jansen's friend and disciple, the Abbé de Saint-Cyran, it acquired a philosophy to match its religious ardor. Port-Royal soon became no less renowned for its lofty thinking than for the strictness of its life. Members of the highest social and cultural circles fell under its influence and sent their children to its schools, whose alumni include the immortal poet, Jean Racine.

Jansenists and Jesuits

Probably the wordly success of Port-Royal was as much to blame as its controversial theology for attracting the unfavorable attention of the Roman Catholic establishment, then dominated by the Society of Jesus (or "Jesuits"). Because Jansenists were outspoken about the incompatibility of their doctrine with that of the Jesuits, a political clash became inevitable. Insurgent Jansenist reformers could not abide the condescension of Jesuits, who took themselves to be the natural arbiters of theological truth.

The most important point of disagreement between Jansenists and Jesuits concerned the doctrine of grace. On this topic Jansenists followed Augustine who in turn looked to Saint Paul. Paul asserts that those who are chosen for salvation (and, implicitly, those for damnation) were predestined to be such by God before the creation of the world (Ephesians 1. 4f). Putting this idea into the religious jargon of their day, Jansenists said that the act by which God restores his human creatures to fellowship with himself, commonly called "grace," is always "efficacious." We are therefore saved (or damned), they said, not according to our merits, but according to the grace received by us or denied to us. The Jansenists also said that grace could be efficacious without compromising human freedom, but this point is far from obvious.

The Jesuit position on the matter is no easier to characterize with certainty. But they appeared to hold the more attractive, though arguably less biblical, doctrine of "sufficient grace." According to their way of thinking, God gives to all people just enough grace to be able to come to know him, to love him and to lead the kind of life he requires. But that gift of grace, though received by all, does not overwhelm anyone's freedom. We can refuse it as easily as we can accept it. In the next life, therefore, we will be judged according to our response to the grace received. In other words, our ultimate salvation or damnation is due not only to grace, but also to our own free actions and what they deserve.

The Society of Jesus was a far-flung, powerful and therefore worldly order, accustomed to dealing with humanity in all its strangeness and potential perversity. The wide scope they accorded to human freedom made it more difficult for them to tell the faithful exactly what acts of penance were necessary for salvation. They needed to have some method of fitting the often obdurately square pegs of human action into the round holes of Catholic doctrine. The scholastic practice of judging merit and demerit on a case-by-case basis, called "casuistry," seemed to be just what was required.

Though concessions to human individuality must inevitably be made by all who, like the Jesuits, are involved in the thick of human experience, it is risky to formulate them in any official policy, as casuists attempted to do. Among religious believers there will always be the articulate few who place principle above accommodation, and who are vociferously aware of the thin line separating compromise from laxity. Thus, as late as the mid-1960s a hapless Episcopalian, Joseph Fletcher, was covered in theological odium very similar to that hurled against the Jesuits. Fletcher advocated casuistry under the new name of "Situation Ethics" and the conservative critics of his day tore it to shreds. To its critics casuistry under any name seems to open a large field for arbitrariness at best, corruption at worst.

The "First Conversion" and the "Five Propositions"

Pascal and his family were converted in the Jansenist revival of 1646. Scholars refer to this as Pascal's "first conversion." It is agreed that he experienced a second, more intense conversion eight years later, and some have even argued that there was a third.

The family's new loyalties plunged them not merely into religion, but into a cause, for they joined a movement which the Jesuits were already determined to crush. Just three years later a Jesuit professor at the Sorbonne produced a list of "Five Propositions" which he said were both taught by Jansen and worthy of condemnation. Four years after that, in 1653, all five were condemned at Rome by Pope Innocent X. The five propositions concerned such alleged assertions of Jansen as that grace is all-effective, but not extended to all people, and that merit does not affect our hope of salvation. In short the Jansenists were accused of holding the very opposite of Jesuit teachings.

The chief architect of Port-Royal's defense against the Jesuit attack was the brilliant philosopher and theologian, Antoine Arnauld, the younger brother of Angélique, Mother Superior of the convent of Port-Royal. Arnauld's legalistic mind developed a strategy that reflected both his strengths and his weaknesses. His plan was to deny in the first instance that the five offending doctrines could actually be found in Jansen and then to add, with subtlety worthy of a lawyer, that if they were found there they were not to be taken in the sense intended by the Papal condemnation. This strategy bought time for Port-Royal, but it was too clever to be widely understood and, by irritating his adversaries, it served only to increase their determination. More effectual means of combatting the Jesuits were needed, but the white knight, Pascal, had as yet not appeared on their horizon.

In the early 1650s, when this conflict was in full career, Pascal still had little first-hand contact with Port-Royal and less concern for it. Without renouncing his initial conversion to a Jansenist form of piety, he had resumed his former "worldly" concerns, with science once again the focus of his interests. He continued to follow the controversy raised by his treatise on the vacuum, published in 1647, in which he had contested the scholastic principle that nature abhors a vacuum. Simultaneously he was at work on a physical treatise on the equilibrium of fluids and a mathematical one on the device now known as "Pascal's triangle," both of which were of sufficient merit that they were still regarded as significant though their publication was delayed until after their author's death.

Paradoxically, Pascal's main contact with Port-Royal during the early 1650s was an adversarial one. He attempted, largely for selfish reasons, to prevent his sister Jacqueline from giving away her inheritance as a "dowry," with which to enter upon her religious life. Yet it seemed that whenever Pascal indulged what he thought of as his "worldly" side, he was conscious of the hound of heaven stalking him all the more relentlessly.

Pascal's "Second Conversion"

In the autumn of 1654 Pascal complained to his younger sister of his lack of relish for life. He said he felt a certain disgust with his own existence, coupled with a strange inability to take the religious steps that he knew might cure it. This unstable condition could not last long and the storm broke dramatically within a few weeks of his having made this confession to Jacqueline. When the crisis came, Pascal documented it in breathless, telegraphic words.

"Fire!" For approximately two hours, beginning at 10:30 p.m. on November 23, 1654, Pascal experienced a kind of religious ecstasy in which the dominant image was *fire*. The authenticity of his experience was guaranteed, for Pascal, by its combination of emotional depth and biblical character: Feverish sequences of exclamations – "Certainty, certainty, feeling, joy, peace!" – alternate with sober biblical warrants, the brief text ending with words of abandonment to God: "Sweet and total renunciation. Total submission to Jesus Christ and to my spiritual director."

Though Pascal's transcript of the event amounts to less than 200 words, it gestures at a religious reality that words can never wholly describe. Pascal's is among the most significant records we possess of the mysterious phenomenon of sudden religious conversion. He never intended it to be available as it is today, however (*Pensées*, #913). For reasons at which one can only guess, he kept his only copy of it sewn into the lining of his coat, where it was fortunately discovered after his death.

Some biographers say that Pascal at this point gave up his "worldly," or scientific, interests, in order to consecrate his life to God. But that is an exaggeration. What is true is that religious matters began to occupy a more and more central place in his thinking until, in the last two years of his life, they displaced all others. His new seriousness about Christianity did have two immediate effects of great importance, however. It prepared him to commit himself to combat the unravelling

fortunes of Port-Royal, and that in turn led him into the *Thoughts* (*Pensées*) on which his philosophical reputation depends.

The Provincial Letters

As mentioned above, the chief protagonist of Port-Royal before the arrival of Pascal was Antoine Arnauld, a man whose perseverance in controversy and whose acumen in logical debate have rarely been surpassed. His ability to write winsome (or even widely accessible) prose was limited, however. As an admirer of Descartes, Arnauld was fully conscious of the advantage that could be obtained by appealing over the heads of church and university to the court of public opinion. But for that to succeed what was needed was *style*. Thus when Arnauld met Pascal, who had come on a retreat to Port-Royal in early 1656, Arnauld persuaded him to lend his mighty pen to the cause. The result was the first in a series of short satires that were soon grouped together and published under the title "Les lettres provinciales" ("The Provincial Letters").

Though the character of these writings changes toward the end of the collection, each of the first few satires pretends to be a letter written by one country gentleman to another in an attempt to explain to his correspondent the strange behavior of the theologians of the city. The author is able to appear to be the voice of bemused common sense as he tries to understand the Jesuit attack on Port-Royal. To compare the mad antics of academics to the sound, if plodding, judgments of ordinary people is almost a failsafe recipe for entertaining writing. But in the hands of Pascal the task was so well accomplished that the resulting indictment of the Jesuits has won a place among the great satires of world literature.

In the opening letter, for instance, the writer sets the issue clearly before his imaginary correspondent: One set of doctors, we learn, agrees with Arnauld that if Jansen is to be condemned for the five propositions, the court should at least ascertain that he really advanced them. The opposing (Jesuit) doctors, however, argue that such questions of fact are secondary to the main one, which is whether or not opinions of this kind are *audacious*. The anonymous letter-writer pretends to be puzzled about the Jesuit attitude and his attempt to gain further clarity from one of their theologians is a masterpiece of comic writing:

> In order to know the truth of the matter, I saw M. N., a doctor of the Collège de Navarre, who lives near me, and is, as you know, one of the most zealous opponents of the Jansenists. As my curiosity made me almost as eager as he, I asked him if they would not formally decide that "grace is given to all men" so that there should be no more doubts expressed on that score. But he rebuffed me rudely, saying that that was not the point; that there were some of his party who held that grace is not given to all; that the examiners themselves had said before the whole Sorbonne that this opinion was *problematic*, which view he shared himself; and he confirmed it for me from a passage of St. Augustine which he described as famous: "We know that grace is not given to all men."
>
> I apologized for misunderstanding his views and asked him to tell me if they would not then condemn the Jansenists' other opinion, which has caused so much fuss; "that grace is efficacious and determines our will to do good." But I fared no better in my second question.

> "You do not understand anything about it," he said: "that is no heresy, but an orthodox opinion. All the Thomists hold it, and I maintained it myself in my doctoral thesis."
>
> I did not dare put any more of my doubts to him; and indeed I no longer knew what the difficulty was when, for my own enlightenment, I begged him to tell me what made M. Arnauld's proposition heretical.
>
> "The fact," he said, "that he does not recognize that the righteous have the power to fulfil God's commandments in the way that we understand it."

"I left him," says the country gentleman, "after this instructive talk and very proud to know the nub of the matter" (Pascal 1967 p. 33f).

Though it was incidental to Pascal's religious and political purposes, his *Provincial Letters* became a celebrated work of literature. Even a hostile critic like VOLTAIRE (chapter 39) accords it the greatest importance, for he says it marks the beginning of modern French literature. Since the theological question of sufficient and efficacious grace is no longer in the limelight, it is not surprising that the *Provincial Letters* are read today mainly for their literary and historical importance. But those who open the book for such purposes receive more than they expect, for though its theological shell has grown old, the philosophical problem at the core of the dispute is forever new. There exist today and have always existed people who think that good deeds and right intentions give us enough morality to see us through this world and the next (if there is another). Those who hold this view attribute a self-sufficiency to ordinary people not unlike the Jesuit idea of "sufficient grace."

On the other hand, there have always been others who think that we are the creatures of our environment, our hormones, our genes, or some other determining factor. Our moral and religious decisions may have the *appearance* of freedom, they say, to those content to look only at the surface of things. But underneath is a mechanism that controls and explains all we do. The determinism they advocate is a secular counterpart of the Jansenist doctrine that grace is either effectively given or withheld. As T. S. Eliot once put it, "the hazard of being born [the right kind of] person . . . is as uncertain as the gift of grace" (Introduction to Pascal 1931, p. xvii).

The Provincial Letters were effective in inhibiting the Jesuit practice of casuistry and in damaging the Society's hope of utterly dominating the religious world, but they did little to enhance the prospects of the Jansenists themselves. Throughout the year 1656, when most of the *Provinciales* were written, Jesuit opposition to Port–Royal ground on. Both overtly in the press and through subterraneous channels of political influence the Jesuit counter-offensive built up strength. By the time Pascal was writing the last of the *Provincial Letters*, their tone had changed substantially. The bantering was gone. The letters were no longer addressed to the imaginary bumpkin, but to a far from imaginary Jesuit opponent, and Pascal resembled a beleaguered, flat-footed fighter, still punching hard, but to less effect.

We know that he saw this conflict in the most aggravated, apocalyptic terms, for he said as much in 1656 to Charlotte de Roannez, a young noblewoman considering joining the company of Port-Royal. He told her flatly that they were living in the end times. Later in the same year he was reluctant even to name the controversy in which he was involved, writing: "The matter of . . . is going badly. Those in

whom God is really moving tremble when they see the persecution that is being prepared not just for persons (a trivial matter) but against the truth."

Thus the persecution of Port-Royal acted on Pascal like a goad, prodding him to look more deeply at the religious roots of human conflict. But to do so effectively he needed a different medium from that afforded by satirical letters, one that would permit him to brood philosophically upon the human condition.

A dramatic and happy event of the same year (1656) also helped draw him forward to a new kind of literary enterprise. Pascal's niece, Marguerite Périer, a pupil of the Port-Royal schools, was instantly cured of a serious and long-standing eye ailment by the touch of a holy relic, and the whole Port-Royal community took it as a sign of God's favor. The event became a *cause célèbre* in France and was so remarkably well attested that even Port-Royal's enemies grudgingly called it a miracle. Pascal's sister tells us that it moved her brother to begin what would be his most significant foray into philosophy, a work that began as a defense of miracles and ultimately became the *Pensées* (*Thoughts*). His experience defending Port-Royal had disclosed to him the darkness of the human heart. Now Pascal dedicated what remained of his days to a study of the source of that darkness and its cure.

Though the *Pensées* is everywhere acknowledged as a religious masterpiece, it is a difficult book to approach for the first time. Hardly had Pascal begun in earnest to compose it, when he was struck with a mysterious illness which crippled him more and more and finally killed him in 1662, at the age of thirty-nine. After 1659 periods of intense work became almost impossible, so that his greatest book was left at his death in the form of a bewildering collection of notes, differing in length, in polish and, occasionally, even in message. The editors into whose care Pascal's papers came after his death had to decide whether or not they constituted a complete work and, if so, in what order they ought to be presented.

Decisions made by the first editors have, alas, only added to the confusion faced by their successors, so that the editorial difficulties presented by the *Pensées* today rival those of almost any text of ancient philosophy. They are of such complexity, in fact, that it is highly unlikely there will ever be any wholly satisfactory resolution of them. For the most part, however, these difficulties concern questions of inclusion, exclusion, and order. They fortunately do not affect the genius of the individual thoughts and fragments, which can be studied and enjoyed in the flawed, but serviceable, form in which we now possess them.

For those who read French, the most easily available version of the *Pensées* is still that which is part of the one-volume edition of Pascal's works edited by Louis Lafuma (Pascal, 1963). Since that is also the edition on which the most elegant English translation (Pascal, 1966) is based, it is the one I have followed here.

Because of the fragmentary character of Pascal's *Thoughts*, and the uncertainty about the order in which he wished to present them, even scholars who have spent many years studying the *Pensées* feel strangely awkward when asked to outline that work's main philosophical claims. To attempt to state them is to enter into the debate about which "thoughts" belong to the work, and in what order they should be read.

Pascal's philosophy

Like all Jansenists, Pascal gladly acknowledges his debt to that fifth-century giant of Christian philosophy, St. Augustine. Indeed one scholar characterizes Pascal's philosophy as little more than the attempt to restate Augustine with geometrical precision (Mesnard 1967, 178). And so it is not surprising that at the center of Pascal's thought is the Augustinian idea that we are a paradox to ourselves because our nature is corrupted from what it was.

On the one hand we know in our hearts that we are intrinsically valuable. When we are victims of tragic events, or forced to live sordid lives, an invincible conviction arises in us that life is unjust, that we were intended for something better. Hamlet expresses this innate sense of self-worth when he refers to man as "the paragon of animals," godlike in form, noble in reason, infinite in faculty. The strong conviction that we are worthy to be loved, which, in some of our moods at least, we all share, is classified by Pascal among the ineradicable "reasons of the heart" (*Pensées*, #298).

Yet our external circumstances seldom adequately reflect the dignity to which we believe we are called. And in the same speech mentioned above, Hamlet rejects his own (to all outward appearances fortunate) life with the question: "But what to me is this quintessence of dust?" However favored our condition may be, we are all subject to the contingencies of life – to disease, to madness, to the malice of others, and finally to death. And almost invariably death comes before we feel we have properly exploited our gifts or unravelled the mystery of existence.

> "What sort of freak, then, is man!" [Pascal asks (*Pensées*, #31)], "How novel, how monstrous, how chaotic, how paradoxical, how prodigious! Judge of all things, feeble earthworm, repository of truth, sink of doubt and error, glory and refuse of the universe."

This duality is no accident according to Pascal. It is the bedrock of our human condition. Moreover unaided human reason is powerless to explain it. On the contrary, our divided nature has been a perpetual stumbling-block to philosophy.

On the one hand philosophical dogmatism has correctly upheld man's god-like ethical calling and exhorted him to rise to the noble conduct of which he is capable. This philosophy finds it inexplicable that we always fall short of our ethical best, since our lapses bring about the loss of the very happiness we seek.

To understand this puzzling propensity for failure we must turn away from the dogmatists to skeptical philosophers. They trace it to our inability to obtain certain knowledge of the world, of ourselves, or of what we ought to do. They thus imply that the high-minded exhortations of dogmatic philosophers are merely the moonshine of dreamers, easily dispelled by the reason's sober light.

Dogmatism cannot meet the skeptic's criticism any more than skepticism can abolish the unquenchable human longings for justice and love to which dogmatism responds. Each kind of philosophy derives from one aspect of the human soul. Like enemies yoked together, the dogmatic and skeptical tendencies of our mind can neither make common cause nor escape one another. They constitute, in fact, our predicament. Pascal calls it our *wretchedness*.

Philosophy has no true remedy for this wretchedness, but it frequently puts forward a false one. Philosophical freethinkers recommend *diversion.* "Being unable to cure death, wretchedness and ignorance, men have decided, in order to be happy, not to think about such things" (*Pensées*, #133). When worldly philosophers examine our condition, diversion is the only remedy they can imagine:

> The only good thing for men is to be diverted from thinking of what they are, either by some occupation which takes their mind off it, or by some novel and agreeable passion which keeps them busy, like gambling, hunting, some absorbing show, in short by what is called diversion. (*Pensées*, #136)

Strange that we should take diversion so seriously! Who would consult a doctor who used hilarious jokes to distract his patients from their illness, if some other doctor could effect a cure? Yet many accept *diversion* as therapy for the disorder of their lives. The reason for the difference, according to Pascal, is that no human being, and hence no philosopher, has the real cure for human wretchedness. Finding no doctor for the sickness of our soul, we turn with eager credulity to quacks.

Pascal believes that a cure exists, but only God has it. They alone will find it, therefore, who find God. But there is another complication: God conceals himself from those who do not know how to look.

The place to begin to look, according to Pascal, is the Bible, for it is the word of God. One object of the *Pensées* is to show why the Bible is worthy of our trust.

According to Pascal the Christian Bible authenticates itself by coming to the same conclusion about the duality of the human condition as philosophy discovers. But the Bible goes further: it explains not only the history of our predicament but also how to get out of it. The Bible tells us that we are *fallen* from the original state of full communion with God for which we were created. It is our ancestral memory of this original nature that is the heartfelt basis of dogmatic philosophy.

The natural orientation of the first man, Adam, was to love God, for that was and remains the real purpose of human life and the source of human virtue and happiness. Then came Adam's fall, figuratively told in the Genesis story. In that event the natural love of God was displaced by another love and a new, corrupted nature came to be ours. In the fall, mankind acquired a selfish nature that loves nothing but itself.

Very little observation of life is required in order to be convinced of how subtly self-love can infiltrate even what appear to be the purest forms of altruism or devotion. Yet it is possible even so to underestimate the degree to which self-love has become our second nature. Pascal pushes the reader to ponder it deeply, proposing a threefold typology.

The most common variety Pascal calls the *libido sentiendi*, literally a love of feeling, whose usual form of expression is, in today's language, *materialism.* If our energies are spent largely in the acquisition of material luxuries, this is because of a disorder within us, ultimately due to self-love. Pascal is hardly the first to point out that though the accumulation of possessions is a human passion, it does not normally yield the happiness for which it is pursued.

Intellectuals (like Pascal himself) often scoff at materialism and occasionally rise above it. But their lives may be no less actuated by self-love. In their case it may take the form of *curiosity*, which Pascal calls *libido sciendi*. Most people nowadays consider curiosity to be a virtue, but in traditional Catholic thought it refers to our propensity to waste our minds on unworthy matters. The search for self-fulfilment can lead us away from the capital questions – religious and moral – with which we ought to be concerned, into more tractable, but ultimately less significant, inquiries.

Of course if academics are challenged about our interests, we can all defend them. Yet when the novelist David Lodge entitled one of his academic satires *Small World*, everyone felt the intended barb. The scholar who sees nothing beyond his narrow specialty is a comic figure, precisely because he has crammed his large mind into a small container, driven to do so by the form of self-love called *curiosity*.

There is a third type of mind that looks down equally on the materialistic and the curious. That is the one motivated by the love of power, which Pascal calls *libido dominandi*. Men with the minds of tyrants are typically a terror to those they rule, but they are not frequently happy. No less than the subjects they despise, they elevate self-love above the love of God, and it makes them wretched.

Any careful observer of the human condition can perhaps get this far. But the Bible, Pascal says, goes further still. It not only describes but also accounts for the duality of the human condition, and that persuades Pascal of its truth. Christianity alone, he says, explains both the source of our high sense of self-worth and of the wretched condition in which we invariably find ourselves. Christianity is also unique in prescribing the right remedy for our wretchedness, which is to renounce self-love in favor of the love of God (*Pensées*, #208, #214).

Obviously, to depart from self-love is easier said than done. God is infinite and perfectly good; we are finite and incapable of good action unless assisted by grace. Thus we are in need of a mediator between ourselves and God. And since none of us can be like God, a mediator could only arise if God freely chose to become like us. Hence the logic of our human condition calls out for just such a figure as Jesus Christ, who claimed to be none other than the incarnation of God the Father, sent as a mediator to mankind.

> In him and through him, therefore, we know God. Apart from that, without Scripture, without original sin, without the necessary mediator, who was promised and came, it is impossible to prove absolutely that God exists, or to teach sound doctrine and sound morality. (*Pensées*, #189)

Because of its fragmentary and disjointed character the *Pensées* cannot be said to "argue" for the truth of orthodox Christian teachings, though if Pascal had lived to complete it, such an argument would probably have been made. We can see however that long sequences of these sketchy fragments were intended to steer the reader toward the main tenets of orthodox Christianity (for example *Pensées*, ## 203–382).

On the other hand the very incompleteness of the *Pensées* is part of its charm. In requiring the reader to leap from one suggestive fragment to another, it gives us the

feeling of having come by our own efforts to a powerful new understanding of life – surely one of philosophy's greatest satisfactions.

Pascal's picture of our fallen nature expressing itself in self-love is not only indebted to the Christian religious tradition. It also borrows from Plato's comparison of human beings to prisoners in a cave, condemned to know nothing but the sequence of shadows flickering across its wall. For Plato, as for Pascal, only those of us who are touched by a teacher can be led upward out of the cave to see real life in the light of day.

The teacher who showed Plato the way was of course Socrates. But in Plato's *Apology* Socrates says that he owes his own beginning on the path toward enlightenment to the intervention of a god. Pascal believes that no one can escape from the cave of self-love and diversion, except when the teacher who delivers him is Jesus Christ.

Plato mocks the dwellers in the cave whose ability to predict the sequence of shadows gives them a reputation as scientists. How much better off are those who escape the cave and see the true objects which cause that insignificant shadow-play. Outside the cave, in daylight, we are able to see not merely motion, but the *reasons* which call it into being. Therefore to the degree that reason surpasses brute fact, the deeper science lies outside the cave.

Pascal is also conscious of the need to rise above the worldly preoccupation with human science, to identify oneself with the reasons of God, however dimly these may be reflected in our hearts. For Pascal, however, there is a supplementary difficulty in the human condition arising from the partial hiddenness of God.

Pascal recognizes that although there is enough evidence for the Christian picture of life to make belief in it reasonable, there will never be sufficient evidence to force it upon non-believers. Therefore to believe or not to believe must always come down to a choice, based on our own calculation of what is more *probable*. One of the most justly famous of the *Pensées* (#418) compares the decision whether or not to be a religious believer to a gambler's deliberation about how to bet. It is therefore called "the wager." In it Pascal argues, in what has been called the first modern treatise on decision theory (cf. Hacking 1975, pp. 63ff.), that even in the absence of rationally compelling evidence for belief, one ought to bet with the believers.

Why would that be? Pascal's view of the human condition is as important for understanding his argument as are the principles of decision theory. In contrast to most of his philosophical contemporaries Pascal denies that we can have indubitable knowledge concerning God. We cannot even know for certain that he exists. Believers and atheists therefore have equal rational justification for their positions.

However, belief in God is not like other beliefs, where one can believe, disbelieve, or suspend judgment. God calls not for mere belief in that weak sense, but for a stronger kind that entails *commitment*. In commitment there is no third option between accepting and refusing. One is either committed to God or one is not. Whether we suspend all commitment or commit ourselves to something else is irrelevant to God. Thus the strangeness of our situation respecting God is that we are forced to bet on his existence, even though we have no rational certainty about it.

If we agree with Pascal that our condition is as he describes it, then his ingenious suggestions about how to bet take on great importance. Suppose God exists. Then, if

we bet that way, we gain "an infinity of infinitely happy life." But if we bet against his existence, we lose that infinitely great good. Suppose, on the other hand, that God does not exist. If we bet correctly, we gain nothing. Neither do we lose anything, however, by betting the wrong way. Therefore the most reasonable thing to do is to bet that God exists, even though this requires believing in the strong sense of committing our whole lives to that position.

Pascal considers two possible reservations that one might have concerning this surprising argument. One is a gambler's objection, the other a philosophical critique.

A gambler would reply: To win this bet, I have to bet my life. But that is to risk everything, and everything is too much? Pascal responds by reminding the questioner of the strangeness of his position. He must bet; his only choice is between the option that offers huge winnings and that which offers none. The reasonable thing is therefore to choose the option that may pay.

One might raise a more philosophical question, however, concerning the strong kind of religious belief the argument demands. Can it be chosen as easily as a gambler can lay a bet? That is what Pascal seems to suppose. But what if commitment is not chosen at all? What if it is like falling in love, something which just happens to us without our seeking it?

Pascal is aware that commitment often cannot be summoned at will. And he continues *Pensée* #418 with a suggestion for producing religious belief when it is wanted: "Learn from those who were once bound like you and who now wager all they have . . . follow the way by which they began. They behaved just as if they did believe, taking holy water, having masses said, and so on. That will make you believe quite naturally, . . ." Interestingly, this "solution" to the problem of belief has generated almost as much discussion as the Wager argument it was meant to support.

Like much of Pascal's philosophy, the Wager argument essentially involves acknowledging the hiddenness of God. Precisely there, however, lies an important and to my mind unresolved tension within the *Pensées*. When Pascal considers God's ability to bridge the infinite gap separating us from him, he expounds his orthodox and encouraging theology of Jesus Christ, the mediator. But when he approaches the question from the other side, considering our human inability to reach out to an infinite Being, he speaks more bleakly of the "hiddenness of God."

That bleaker side of Pascal is in some respects more philosophical, however. When the mood is on him he tells us that a truly religious life must be a perpetual *search* for God. Even Jesus, he reminds us, found no rest in his earthly life (*Pensées*, #560). For the present, the closest we can come to resting in God is to be actively searching for him (*Pensées*, #781).

This less consoling theological strain in Pascal's thought is what brings him so close to Socrates. Socrates turned away from overblown claims of knowledge or "science," embracing the relentless search for knowledge, which is the examined life.

So did Pascal. Many of the important early modern philosophers, following Descartes, were attempting to reverse what Socrates had done. They hoped to turn Socrates upside-down, to subordinate ethics and even metaphysics once again to

physics. And to see where they succeeded is one key to understanding the great shift in philosophical attitudes that took place between the seventeenth and nineteenth centuries.

But Pascal was not among those who followed Descartes. Though he was himself a leading exponent of the new physics, he drew a different moral from its success. Almost alone among the moderns he saw it not as closing the gaps in our knowledge, but as summoning us back to the Socratic life of restless inquiry (cf. *Pensées*, #199).

If Pascal sees further than Socrates – and only religious commentators would argue that he does – it is not because he came closer than his ancient predecessor to the end of his search, but because he has a clearer idea of what it would be like to arrive there. For Pascal we are searching not for an elusive concept like the Good, but for a person, also elusive, who in some fashion is the Good, because he is the Way, the Truth and the Life. Pascal's own search was interrupted by death on August 19, 1662. But he died with the words of a seeker on his lips: "May God never abandon me!"

Pascal died young, but ripeness, they say, is all. He crammed an amazing amount of thought and experience into his short life: social and intellectual brilliance; practical and theoretical accomplishments of the highest order; conversion, followed by a piety that, for a time at least, kept sickness at bay. Perhaps this is how to understand Jean Racine's remark that Pascal "died of old age at 39."

Afterlife of Pascal: His Influence

The most influential writings of Pascal have been of course the *Provincial Letters* and the posthumously published *Pensées*. It is hardly surprising that in the seventeenth century the *Provincial Letters* was the more influential work, because it was published first and was at the center of a great controversy. It was translated into English the same year it appeared in France (1657) and was well received especially by Anglicans. They appreciated it not only as a critique of what they thought of as Roman Catholic duplicity but also as a manifesto of a possible Gallican Church, among whom they hoped to find allies.

By the early eighteenth century, however, the *Pensées* was beginning to be better appreciated, at least outside of France, its famous "wager" argument capturing the imagination of many readers. The quality of the argument itself was praised early in the century by G. W. LEIBNIZ (chapter 18) in Germany, and by 1736 the probabilistic reasoning Pascal had pioneered had grown so influential that Bishop Butler made it the centerpiece of his famous refutation of deism, the *Analogy of Religion*. In the preface to that work Butler calls probability "the guide of life".

In the later eighteenth century Pascal's anti-humanism, i.e., his dim view of human claims to self-sufficiency, excites the admiration of religious leaders like Charles Wesley and George Whitefield, and the contempt of anti-religious critics like Voltaire. The poet Alexander Pope attempts to marry Pascal's anti-humanism to his own optimism in the poetically successful, but philosophically flawed, "Essay on Man."

The nineteenth century rediscovered Pascal's claim that "the heart has its reasons that reason knows not of." French romantics like Victor Cousin and the Viscount Chateaubriand created a romantic image of Pascal as a rationalist plunged by doubt into melancholy, yet at the same time drawn upward toward belief by the ineffable reasons of the heart. Pascal was also one of the formative influences on the German romantic philosopher Friedrich Jacobi, who in turn awakened the interest of the English romantics, particularly Coleridge.

In the mid-twentieth century a whole generation of existentialist philosophers took up Pascal's idea of *ennui* (boredom) and followed him in bringing against those who attempt to evade it through "diversion" the accusation of living in "bad faith." However, when they discovered that there are no secular remedies for the human condition, few existentialists followed Pascal. They concluded instead that life was simply "absurd."

How will Pascal be received in this new century? We are still struggling to understand our "postmodern" human condition, with its widespread distrust of the big picture of the modern age, including the ideas of progress, human rights, and a liberal political utopia. Will Pascal continue to have anything to say to our disenchanted generation, once we have said goodbye to all that?

He just may. Pascal resembles us postmoderns more than he did his own contemporaries. He never joined the parade to utopia led by Descartes, but rather anticipated the despair and anomie that would follow its abandonment. It is not Pascal's intention to compel us rationally to accept any of the "big pictures" we reject, even that of Christianity. For his own part, he believes that Christianity best accounts for the human condition, but not without recognizing how easy it is to remain unconvinced.

Pascal appeals to us today most directly through his timeless analysis of love – self-directed love which always goes astray, and redirected love that is a search for God. Reasons of the heart still acquaint even us postmoderns with Love as a standard transcending ourselves, against which to measure the disappointments of the modern age. And if we can get that far, then Pascal may be our teacher. "The great Pascal is the brother of all who are pressed to the limit by love, yet who trust in love alone" (Mauriac, 1931).

References

Cole, John R., 1995, *Pascal: the Man and his two Loves*. New York: NYU Press.

Hacking, Ian, 1975, *The Emergence of Probability*. Cambridge: Cambridge University Press.

Knox, Ronald, 1950, *Enthusiasm*. Oxford: Oxford University Press.

Mauriac, François, 1931, *Blaise Pascal et sa soeur Jacqueline* [Blaise Pascal and his Sister Jacqueline]. Paris: Hachette.

Mesnard, Jean, 1967, *Pascal*. Paris: Hatier.

—— 1976, *Les pensées de Pascal* [The Thoughts of Pascal]. Paris: Société d'Edition d'Enseignement Supérieur.

Pascal, Blaise, 1931, *Pascal's Pensées*. Trans W. F. Trotter. London: Dent.

—— 1963, *Oeuvres complètes* (Complete Works). Ed. Louis Lafuma. Paris: Editions du Seuil.

Pascal, Blaise, 1966, *Pensées*. Trans. A. J. Krailsheimer. London: Penguin. This edition is, in my judgment the best available in English. The individual "pensées" (or "thoughts") are numbered as in Pascal (1963) and they are cited here according to that system of numbering.

—— 1967, *The Provincial Letters*. Trans. A. J. Krailsheimer. London: Penguin.

Further Reading

Krailsheimer, A. J., 1980, *Pascal*. Oxford: Oxford University Press.

Soltau, R. H., 1927, *Pascal: The Man and his Message*. London: Blackie & Son.

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8

Antoine Arnauld

ELMAR J. KREMER

Antoine Arnauld considered his most important intellectual work to be that of a theologian, but he also played an important role in seventeenth-century philosophy. He stands out among the Cartesian thinkers of that time for his attempt to enlist Descartes' philosophy into the defense of traditional Catholic thought. Although there is an impressive consistency in Arnauld's philosophical writings, he did not produce any extended, systematic account of his philosophy. For Arnauld, the natural way to carry out intellectual work was by engaging in critical discussion with his contemporaries, rather than by producing systematic treatises. During his long career, he had significant dealings, in writing, with very many of the leading theologians and philosophers of seventeenth-century Europe. In philosophy, his most important exchanges were with DESCARTES (chapter 5), MALEBRANCHE (chapter 11), and LEIBNIZ (chapter 18).

The Life of Arnauld

Arnauld was born in Paris on February 8, 1612, the last child of a large and important French family, and is often referred to in the French literature as "Le Grand Arnauld." The second most important member of the family was his sister, Mère Angélique Arnauld. Installed by her wealthy and powerful father as abbess of the convent of Port-Royal in 1602 at the age of thirteen, she later became a fierce reformer and turned the convent into a center of intense religious life. As a young man, Arnauld decided to follow in his father's steps as a lawyer, but soon changed his mind and began studies in theology in 1633. About 1640, he joined a small group of "*solitaires*" who lived in the countryside near Port-Royal and were associated with the convent. The group included BLAISE PACAL (chapter 7), Pierre Nicole, and Isaac LeMaître DeSacy. Arnauld cooperated with DeSacy in the first important translation of the Bible into French.

The year 1641 was an eventful one for Arnauld. He was ordained a priest on September 21. During the year, he wrote the *Fourth Objections* to Descartes' *Meditations*, and *De la fréquente communion* (published in 1643). The first work established his reputation as a philosopher. The second went through many editions and had a

very great effect on Catholic sacramental practice right up to the end of the nineteenth century. Jansen's *Augustinus* was also published in Paris in 1641, having been published posthumously in the Netherlands a year earlier. It was attacked by the official theologian of Paris, Isaac Habert, who preached a series of sermons against Jansen in the cathedral of Paris during Lent, 1643. Arnauld, who had arrived at an interpretation of Augustine similar to, though not identical with, that of Jansen, was asked by Jean Duvergier, the Abbé de St.-Cyran, to defend Jansen against the accusation of heresy. Beginning in 1653, the famous five propositions attributed to Jansen were declared heretical by Pope Innocent X and his successor, Alexander VII. Arnauld and most of the Port-Royal group claimed that the five propositions, although heretical on their most likely interpretation, were not in fact in Jansen's work.

This dispute led to Arnauld's expulsion from the Sorbonne after a celebrated trial, which lasted from December 1, 1655 to January 30, 1656. Pascal came to Arnauld's defense with the *Provincial Letters*, published in installments from January 23, 1656 to May, 1657. The dispute lasted until 1669, when the French bishops who supported Arnauld worked out a compromise with Pope Clement IX, and Arnauld enjoyed almost a decade in the good graces of both the court and the Pope. During this time, Arnauld wrote voluminously on the Eucharist, but he also found time to co-author *General and Rational Grammar*, with Claude Lancelot, and *Logic or the Art of Thinking* (hereafter, *Logic*), with Pierre Nicole, and to write his *Nouveaux éléments de géométrie*. However, in the late 1670s, the attacks on Port-Royal by civil and religious authorities resumed, and in 1679 Arnauld fled to the Netherlands, where he remained until his death, in Liège, on August 8, 1694. The last fifteen years of Arnauld's life, spent in self-imposed exile, were among his most fruitful in philosophy. During this period, he reexamined his position on the nature of ideas and the nature of human freedom, and he carried on philosophical debates with Malebranche and Leibniz.

Four Basic Philosophical Themes

Arnauld's work in philosophy was always in the service of theology. This explains his lifelong preoccupation with four philosophical themes, which appear in his exchanges with Descartes, Malebranche, and Leibniz, as well as in the *Logic*. I shall begin by explaining these themes in general terms, and then turn to Arnauld's major philosophical exchanges, which were the lifeblood of his philosophical work.

The boundary between philosophy and theology

Arnauld considered it important to be clear about the difference between philosophy and theology:

> Be very careful about the nature of the question being disputed, whether it is philosophical or theological. For if it is theological, it must be decided principally by authority, whereas if it is philosophical, it must be decided principally by reason.

> I say, *principally*, because nothing prevents one from using authorities in philosophical questions as well, if they are used for illustration rather than to decide the questions. (*Règles du bons sens, OA* 40: 153)

In Arnauld's view, the authorities by which theological questions are to be decided include the Bible and the Tradition of teaching in the Church. These are sometimes included under the one word, "Tradition," as in a statement of Malebranche that Arnauld quotes with approval: "Novelty in theology is a sign of error, and one ought to discount opinions for the sole reason that they are new and without foundation in Tradition" (*Réflexions philosophiques et théologiques sur le nouveau système de la nature et de la grace*, hereafter *Réflexions, OA* 39: 414). In contrast, he held that in general philosophy developed and became more perfect with the passage of time, and that "modern philosophers" had made great advances over "antiquity" (*Examen du Traité de l'essence du corps . . .*, hereafter *Examen, OA* 38: 97).

At the same time, Arnauld was aware of the fact that the tradition of the Church was not frozen and unchanging, and so his position allows for development of religious doctrine, though he thought that such developments were infrequent and usually in response to false teachings that needed to be refuted. A prime example was the elaboration of the doctrine of original sin and grace by Augustine in reaction to the Pelagian heresy, according to which human beings, even after sin enters the world through Adam and Eve, are capable of leading morally good lives without the aid of supernatural grace. Similarly, he was prepared to cite both Augustine and Aquinas as authorities in philosophy as well as in theology, and tried to show that his own philosophy was in continuity with the Christian past.

Philosophical knowledge of the existence and omnipotence of God

Arnauld agreed with Descartes that the existence of God is one of those truths that ought to be established in philosophy, and he says that Descartes' ontological proof is "the most beautiful" proof of God's existence (*Défense de M. Arnauld contre la Réponse au Livre des vraies & des fausses idées, OA* 38: 590–1, hereafter *Défense*). Indeed, in a text written in 1641 he says, "For one who attends carefully and is free of prejudiced opinion, it is no less *self-evident* (*per se notum*) that God exists than that two is an even number" (*OA* 38: 6). But he was rather eclectic about this matter, and also accepted Aquinas's proof of God as a first, unmoved mover. He quotes with approval Descartes' statement in Part I, #22 of the *Principles of Philosophy* that the ontological proof not only tells us that God exists, but also that He has the attributes we find by "reflecting on the idea that we naturally have of Him," namely, "that He is eternal, all-knowing, omnipotent, the source of all truth and beauty, creator of all things," and that He possesses "unlimited perfection" (*Défense, OA* 38: 543–4).

The attribute of omnipotence plays an important role in Arnauld's philosophy. He frequently appeals to the claim, also found in Descartes, that given God's omnipotence, it is not surprising that some of the truths revealed by God are beyond our comprehension. (See, for example, *Examen, OA* 38: 90.) God's omnipotence, for

Arnauld, includes His undetermined freedom in creation. Echoing Malebranche's phrase, "freedom of indifference," Arnauld says,

> It is not the wisdom of God that determines His will, by proposing to Him what is the most suitable object of His will, but rather it is the divine will that determines itself, freely and indifferently, toward all the things to which it does not have a necessary relation, that is, toward everything that is not God. (*Défense, OA* 39: 599)

It is not clear, however, whether Arnauld accepted Descartes' famous claim that there are no limits, not even logical limits, to God's power, and that God freely created the eternal truths, including the principle of non-contradiction. These positions were rather widely discussed in the late seventeenth century. However, Arnauld never said explicitly whether he accepted them. Arnauld says that God is omnipotent because He can do whatever He wills, but that there are things God cannot do, because He cannot will them, for example, "to raise someone from the dead in answer to the prayer of an imposter who wanted in this way to gain authority for his impostures" (*Réflexions, OA* 39: 208). If God cannot do such things because doing them would be logically inconsistent with God's nature, then this text implies that God cannot bring about something that is logically impossible. And this implies, in turn, that God did not freely bring it about that the principle of non-contradiction is true. On the other hand, Arnauld's approach to the divine attributes is greatly influenced by Descartes, and some texts suggest that Arnauld leaned toward the Cartesian position. Thus one of the these written by Arnauld for defense by a student at an oral examination in 1647 reads, "Divine omnipotence does not presuppose the possibility of things, but rather constitutes it. Hence it ought not be said that God is omnipotent because He is capable of everything possible, but because He is capable of everything absolutely" (*OA* 10: 33–4). But the bare statement of the thesis, without further elaboration, does not settle the question, and it remains an open question in the interpretation of Arnauld.

An important example of Arnauld's reference to divine omnipotence in the defense of revealed religious mysteries is his defense of the doctrine of transubstantiation, defined in 1551 by the Council of Trent: "that marvelous and unique change of the whole substance of the bread into the body [of Christ], and of the whole substance of the wine into the blood, while only the appearance of bread and wine remain" (Session 13, Canons on the most holy sacrament of the eucharist, #2). Trent also taught that the body and blood of Christ present in the Eucharist are the body and blood of the risen, living Christ, and hence are not separate from his human soul or his divinity. Arnauld spent a great deal of time defending this doctrine against Protestants, especially against Calvinists. But the consistency of the doctrine with human reason, and in particular with the Cartesian account of the nature of matter, was also much debated among philosophers, and Arnauld played an important part in the debate.

One of the ways in which the doctrine seemed to conflict with human reason is that it implies that one and the same body can be present whole and entire in many different places at the same time. Trent also declared that the body of Christ is present whole and entire under every part of the appearance of the bread, when it

is separated, and similarly his blood under every part of the appearance of wine. In the seventeenth-century discussion, this was taken to mean that different parts of the body of Christ could be present in the same place. But it seems evident to human reason that one body cannot be whole and entire in two places at once, and that two bodies cannot be present in the same place at the same time. Arnauld tried to resolve this apparent conflict by distinguishing between the properties of bodies "in their natural condition" and the properties "to which they can be elevated by the omnipotence of God" (*Examen, OA* 38: 112; cf. Arnauld and Nicole, 1996, henceforth *Logic*, p. 262). Further difficulties, which I take up below, had to do with the relation of the doctrine of transubstantiation to the Cartesian denial of any real distinction between a body and its sensible appearances and the Cartesian identification of the essence of matter with local extension.

The distinction between mind and body

Arnauld was an enthusiastic defender of Descartes' arguments for the real distinction between mind and body. (See, for example, *Examen, OA* 38: 137–8.) Arnauld was also concerned to explain the union of mind and body in a human being. He says that the correspondence between what occurs in the mind and what occurs in the body presupposes that mind and body are "united together in a greater and more intimate union, by virtue of which they constitute only one whole" (*Examen, OA* 38: 141). He holds that the mind can act upon and cause changes in the body to which it is united. But he says that the body cannot act "as a physical cause" upon the mind to which it is united, though it can be said to act upon the mind as "a moral cause," since what happens in the body is "a certain and infallible occasion" of what happens in the mind to which it is united (*Examen, OA* 38: 150).

The nature of human free will

At the heart of Arnauld's (and of Jansen's) interpretation of Augustine's late writings against Pelagianism is the doctrine that the salvation of human beings depends on their acting in a praiseworthy and meritorious way out of the love of God above all other things, and that, ever since the fall of Adam, human beings can act in that way only if their action is the result of "grace that is efficacious through itself." This means that the meritorious action in question is brought about by a special assistance from God, which assistance by itself produces the action in question. In Jansen, the grace is conceived as an experience of the love of God, a delight (*delectatio*) in God, so strong that it produces the consent of the person who experiences it and hence produces action for the love of God above all things. The main difficulty faced by such a theory is to make out that the consent of the will and the action it produces are *free*. Jansen himself agreed that the action must be free, or otherwise it was not meritorious. His solution was a version of what has come to be called "compatibilism." Jansen said that all acts of will, including the act of consent in question, are free because they are *spontaneous*.

In his writings in defense of Jansen, it sometimes appears that Arnauld accepted Jansen's compatibilism. However, Arnauld made it clear in the last decade of his life

that he disagreed with important parts of Jansen's position. In particular, he explicitly rejected Jansen's position that the grace which is efficacious through itself is a psychological state of delight preceding a praiseworthy act of consent. Instead, Arnauld distinguished between uncreated efficacious grace, which is nothing other than God's will, and created efficacious grace, which is God's assistance as received in the human being. Arnauld identified created efficacious grace with the praiseworthy act of will itself. In addition, he says that an act of will is free only if the person, while eliciting the act, retains the "power (*potestas*)" to refrain from it. There are, he says, two cases in which the will is not free, because it loves an object by "natural necessity": First, whenever one wills anything, one wills "the good in general" with natural necessity. Second, those who enter heaven and see God face to face love God with the same sort of necessity. In these cases, Arnauld says, the act of loving is not free, because the person does not retain the power to refrain from the act. (See especially *OA* 10: 614–24.)

In his late writings, Arnauld also takes the position that human volition is not free if it is the necessary outcome of laws of nature. Thus he says that if a series of events depends on the free volitions of human beings, "to say that it *was a necessary consequence of laws of nature*" is to "strip human beings of their freedom" (*Réflexions*, *OA* 39: 316; cf. 301). Arnauld's late position resembles that of the sixteenth-century Spanish Dominican Domingo Bañez, who held that a volition cannot be free if it is determined by temporally prior conditions, but can be free if it is determined by God, whose action is not in time.

Arnauld and Descartes

Arnauld had a high opinion of Descartes as a philosopher, and was deeply influenced by him, though direct communication between the two was limited to the *Fourth Objections* (1641) and a brief correspondence, two letters on each side, in 1648. But Arnauld did not have a high regard for Descartes as a theologian. Thus, Arnauld says that Descartes' letters are "full of Pelagianism," and adds, "Outside of the points of which he was convinced by his philosophy – like the existence of God and the immortality of the soul – all that can be said of him to his greatest advantage is that he always seemed to submit to the Church" (Letter of uncertain date, *OA* 1: 671).

Furthermore, Arnauld had misgivings about some parts of Descartes' philosophy, arising from its relation to religion and theology. Such misgivings are found in the *Fourth Objections*, which begin with "philosophical objections" to various parts of the *Meditations* and then take up "the problems which a theologian might come up against in the work as a whole" (*The Philosophical Writings of Descartes*, hereafter CSM, 2: 138). Arnauld's philosophical objections are well known. Especially noteworthy are his probing of Descartes' argument for the position that the mind can be completely and adequately understood apart from the body, and his objections to Descartes' positions that some ideas are "materially false" and that "God in a sense stands in the same relation to Himself as an efficient cause does to its effect." Arnauld also provides one of the most frequently quoted and studied objections to Descartes:

> I have one further worry, namely how the author avoids reasoning in a circle when he says that we are sure that what we clearly and distinctly perceive is true only because God exists.
>
> But we can be sure that God exists only because we clearly and distinctly perceive this. Hence, before we can be sure that God exists, we ought to be able to be sure that whatever we perceive clearly and evidently is true. (CSM 2: 150)

In his first letter to Descartes in 1648, Arnauld says that he writes "as one who agrees with almost everything you have taught in first philosophy" (*New Objections*, Kremer, p. 185). In his later writings, Arnauld was an enthusiastic proponent of Descartes' arguments for the distinction between mind and body, so he must have accepted Descartes' replies to his objections on that score. Whether he accepted Descartes' replies to his objections concerning God and the "Cartesian circle" is less clear. He endorsed Descartes' arguments for the existence of God, but these arguments do not imply that God is in any sense the cause of Himself. Nor do they presuppose that we can be sure that what we clearly and distinctly perceive is true only if we first know that God exists. In the *Logic*, Arnauld and Nicole say that the principle "*Everything contained in the clear and distinct idea of a thing can be truthfully affirmed of that thing*... cannot be contested without destroying everything evident in human knowledge and establishing a ridiculous Pyrrhonism" (*Logic*, p. 247, quoted by Arnauld in *Défense*, *OA* 38: 563).

The first of the "problems which a theologian might come up against" is that Descartes' method of doubt seems to extend to matters of religious faith as well as to matters of philosophy. Arnauld suggests that the problem would be solved if Descartes were to make clear that his method involves "no serious doubt," and that instead of saying that one reason for doubt was that "I did not know the author of my being," Descartes would say, "I was pretending that I did not know..." Descartes adopted the second recommendation, but not the first. As a theologian, Arnauld thought it was a mistake to suggest that anyone should cease believing that God exists, or any other proposition important to religious faith, even temporarily. He never withdrew his objection to the practice of serious methodic doubt, and never himself employed methodic doubt. Furthermore, in the *Logic*, Arnauld and Nicole say that although people can *say* they doubt whether there is an earth, a sun, or a moon, they cannot doubt these things "in their minds" (*Logic*, p. 7).

Arnauld's second theological objection has to do with Descartes' statement in the Fourth Meditation that the source of "my error and sin" is that I extend the assent of my will to matters I do not understand, so that my will "easily turns aside from what is true and good" (CSM 2: 40–1), and Descartes' claim that the proper remedy for this situation is to make use of my free will to restrict my assent to what I clearly and distinctly know. Arnauld says that he is "extremely anxious, for reasons which would take too long to list," that Descartes should make clear that his position on the source of error has to do with "the errors we commit in distinguishing between the true and the false, and not those that occur in our pursuit of good and evil," and that Descartes' remedy has to do "solely with matters concerned with the sciences and intellectual contemplation, and not with matters belonging to faith and the conduct of life," and hence does not apply "to the prudent beliefs of

the faithful" (CSM 2: 151–2). Arnauld's worry was that Descartes' position, without the proposed clarifications, would seem to imply that the descendants of Adam can lead morally good lives without the aid of supernatural grace and also that nothing should be accepted on faith. In his Replies, Descartes says that "the entire context of my book" makes it clear that he agrees with Arnauld's clarification, and that he had made his agreement clear in his Replies to the Second Objections and his Synopsis of the Meditations. However, Descartes did not remove or alter the offending text in the Fourth Meditation, and, given Arnauld's misgivings about Descartes' Pelagianism, he may well have doubted whether Descartes fully understood the objection.

Arnauld's third theological objection is that Descartes' reduction of sensible qualities to shape, extension, and mobility, and his denial of any but a formal distinction between these three and the substance of a material thing, seem to be inconsistent with the doctrine that in the Eucharist "the substance of the bread is taken away from the bread and only the accidents remain" (CSM 2: 152–3). Descartes' answer is that, given his account of the nature of matter, the sensible qualities of the bread (and wine), which remain after transubstantiation, are nothing other than surfaces of material things.

In the first of his two letters to Descartes in 1648, Arnauld accepts this answer but raises a second difficulty:

> You assert that a quantitative being is not distinct in any way from its local extension. Therefore, I would like to know whether you have thought of some way to reconcile that doctrine with the catholic faith, which requires us to believe that the body of Christ is present on the altar without local extension, just as you succeeded in showing how the absence of a distinction between accident and substance could agree with the same mystery. (*New Objections*, Kremer, p. 187–8)

If something has local extension, or extension in place, this implies that the thing is contained in a given place, and has a determinate size and shape. The Catholic doctrine that Christ is not present under the forms of bread and wine "as in a place" implies that Christ, as really present on the altar, does not have the dimensions of the bread and wine. Descartes did not attempt to provide the further explanation Arnauld requested. Instead he fell back on the statement of the Council of Trent that "we can scarcely express in words" the way in which the body of Christ is present in the Eucharist.

In 1680, Arnauld dealt with the objection that the Cartesian position that extension is the essence of body is inconsistent with the Church's teaching that the body of Christ, as present in the Eucharist, "does not occupy any space" and exists "in an indivisible point, without being large or small, with regard to place" (*Examen*, *OA* 38: 105). Arnauld denied that this is the Church's teaching, and adds a distinction between extension, which he held to be the essence of matter, and the other properties of matter. He seems to say that extension, being the essence of matter, cannot be separated from matter, even "by the power of God" (*Examen*, *OA* 38: 105). But the other properties of matter, including impenetrability and the property of having "a closed surface", are separable (*Examen*, *OA* 38: 111). No such distinc-

tion between extension and the other natural properties of matter is drawn by Descartes. It is also noteworthy that in *Examen*, Arnauld formulates the Cartesian theory of the essence of matter by quoting Malebranche's *Search after Truth*, and not Descartes.

Arnauld parted company with Descartes in a more serious way with regard to the nature of human freedom. In his late writings on this subject, Arnauld says that his position is taken from Thomas Aquinas, and he adopts a Thomistic formula that has no clear equivalent in Descartes: The will is free when it is "a power or faculty for opposites (*potestas* ou *facultas ad opposita*)" (*OA* 3: 662). In sum, Arnauld accepted much of Descartes' philosophy and considered it a useful tool in the defense of the Catholic faith. But he was far from a slavish follower of Descartes, and his enthusiasm for Cartesian philosophy was tempered by the realization that some elements of that philosophy could be developed in ways strongly opposed to Christian revelation.

Arnauld and Malebranche

Nicolas Malebranche was born in 1638, when Arnauld was twenty-six years old. In 1660, Malebranche joined the Oratory, a center for priests in Paris which had many connections with Port-Royal. Malebranche and Arnauld were on friendly terms in the early 1670s, but late in the decade they had a falling out over Malebranche's position on theodicy. In 1680, Malebranche published his position, against Arnauld's advice, in the *Treatise of Nature and Grace* (hereafter *TNG*). The ensuing public controversy between the two was widely followed in Europe and was a central event in the intellectual life of the late seventeenth century.

TNG provides a general account of God's reasons for creating a world with the evils that the world in fact contains. But Malebranche's main interest is in explaining how a particular evil, the fact that many people are not saved, is consistent with God's omnipotence together with a particular aspect of God's benevolence, namely, God's "sincere will" that everyone be saved. (See *Oeuvres Complètes de Malebranche*, hereafter *OC*, 5: xliv). Malebranche took it as a given of Christian revelation that many human beings are not saved. He held that this state of affairs is consistent with God's sincere will to save all men and God's omnipotence, because God has a reason, indeed a determining reason, for choosing to create a world in which not everyone is saved. Furthermore, he tries to specify what that reason is, and how it leads God to save certain human beings rather than others.

Arnauld complained repeatedly that Malebranche's position is obscure and full of ambiguities. As a result, Arnauld found it necessary to reconstruct Malebranche's view before attacking it. Arnauld points out that, according to Malebranche, there are defects in the world God created, and God could have created a better world. So it is clear that God's reason for creating this world is not simply its goodness. Part of God's reason must be found in God Himself. As Malebranche says, "It is necessary to recognize *in God Himself* a cause that prevents Him from carrying out His volitions [for the conversion and sanctification of all human beings]" (*TNG*, *OC* 5: 184,

my italics). Malebranche's solution is that God's wisdom directs Him not only to create a world that is good, but also to create a world "in a way worthy of Him, through simple, general, constant, and uniform means (*voyes*)" (*TNG*, Riley, p. 128). More precisely, God's wisdom directs Him to an act of creating that best combines goodness or perfection of the world created with simplicity of ways of creating. According to Malebranche, a simpler way of creating is a more perfect way, or a way that better reflects God's perfection, than a more complex way. He also held that the more perfect the world, the more complex the way in which it is created.

An analogy may help explain Malebranche's position. Suppose that someone sets out to buy a car and wants to do the best possible job of car-buying. Suppose further that the second-best car is available at a much better price than the best car. In this case, doing the best job of car-buying might require buying less than the best car. In a somewhat similar way, Malebranche holds that the best job of creating, the one most worthy of God, involves creating less than the best of all possible worlds.

Arnauld points out that Malebranche's notion of the simplicity of God's ways of creating depends on his occasionalism. According to this theory of efficient causality, God is the only true efficient cause. When creatures appear to be efficient causes, they are really only occasional causes. That is, the events in which the apparent created causes take part are followed by other events in accordance with laws of nature, which are God's general volitions. But the created "causes" do not really cause the events that follow. These events, like every created reality, are really caused by God. For Malebranche, the simplicity of God's ways depends on there being a small number of laws of nature, and on there being few exceptions to the laws.

Malebranche concludes that in order to do the job of creating that best combines goodness of the world created with simplicity of ways of creating, God had to make a world with precisely the natural evils (misshapen animals, animal and human suffering, ugly landscapes, etc.) that are present in the world as it is. The anomalies in the order of grace are explained in a similar way. Malebranche argues that God's wisdom dictates that He act according to the general volition that grace be given to human beings if and only if Jesus Christ, in his human nature, asks that it be given. Jesus's requests for grace are made in view of the needs of the Church. But Jesus, in his human nature, does not actually think of all the future volitions of any given human being for whom he requests grace. The result is that, often enough, human beings receive grace that does not lead to their salvation, or fail to receive grace that would have saved them (*TNG*, OC 5: 83).

In 1683, Arnauld began his public criticism of Malebranche with *On True and False Ideas* (hereafter, *TFI*), in which he attacked the Oratorian's position on the nature of ideas. This work engendered a preliminary debate that lasted two years. Arnauld's main work directly attacking Malebranche's theodicy, *Réflexions philosophiques et théologiques sur le Nouveau Systeme de la Nature et de la Grace*, appeared in 1685 and 1686. This provoked further exchanges between the two in 1687, with a last gasp on Arnauld's part in 1694, the year of his death, and on Malebranche's part ten years later, in 1704.

In *TFI* Arnauld attacks Malebranche's thesis that "we see all things in God," which he had expounded in his most famous work, *The Search after Truth*, first published in 1674–5. By this striking slogan, Malebranche means that we see in God all those things of which we have clear and distinct cognition. The slogan summarizes three points: (1) We do not have clear and distinct cognition of our own mind or of any other created mind, but we do have clear and distinct cognition of God and of bodies. (2) That which represents bodies to us, in other words, that which makes bodies known to us, is the divine idea of bodies. (Similarly, Malebranche held that numbers and the moral qualities of human actions are represented to us by divine ideas.) (3) That which represents God to us is God Himself.

Arnauld devotes much of his attention to Malebranche's account of how bodies are made known to us. He argues that Malebranche's position is based on nothing more than confused "prejudices of childhood," including the belief that something can be perceived only if it is locally present to the mind, and the belief that an object can be represented to the mind only by something that really resembles the object. Furthermore, he contends, Malebranche's position leads to extreme skepticism and has the absurd and impious (indeed, Spinozistic) implication that God is really extended. Arnauld also attacks Malebranche's position on our knowledge of God and the soul, arguing that we have clear and distinct ideas of both.

Arnauld also sets forth his own position on how bodies are present to our mind, and claims that his position has the support of Descartes, Thomas Aquinas, and Augustine. According to Arnauld, bodies are made present to the human mind by the mind's acts of perceiving, which can make their objects present because they contain the objects "intelligibly" or "objectively." Arnauld says that he uses the term "idea" to refer to acts of mind, considered as representing their objects to the mind, and he claims that Descartes also uses the term in that way. Arnauld is at pains to explain two Cartesian *dicta* that might seem to favor a view like Malebranche's: that "we do not see things immediately; their ideas are the immediate object of our thought" and that "it is in the idea of each thing that we see its properties" (*TFI*, Kremer, p. 25). He distinguishes between two senses of "immediate object." In one sense, an object is immediate if it is present to the mind without the mediation of any act of mind distinct from the object itself. Only the mind's own acts are immediate objects of cognition in this first sense, and since every act of mind involves self-consciousness, whatever else a idea represents to the mind, it always represents itself. In a second sense, an object is immediate if it is perceived without any "intermediary between our perceptions and the object." "In this sense," says Arnauld, "we can know material things, as well as God and our soul, not only *mediately*, but also *immediately*, i.e., . . . we can know them without there being any intermediary between our perceptions and the object" (*TFI*, Kremer, p. 31). Regarding the second principle, Arnauld argues that, properly interpreted, it means that we discover the properties of objects by reflecting on our clear and distinct thoughts of them.

Some of Arnauld's contemporaries, including his own friends, were puzzled that Arnauld chose to begin his attack on Malebranche's theodicy in this way. But Malebranche himself, at the beginning of *TNG* and elsewhere, says that his position in *The Search* is important background for his theodicy (*TNG*, *OC* 5: 11).

Furthermore, Malebranche, referring to his position that we see all things in God, says, "If I were not persuaded that all men are reasonable only because they are enlightened by eternal wisdom, I would be, no doubt, quite presumptious to speak of the plans of God, and to want to reveal some of his ways in the production of his work" (*TNG*, Riley, p. 114). Finally, Arnauld is at pains to show that his position on ideas, and not Malebranche's, is the same as Descartes', and is continuous with the positions of Thomas Aquinas and Augustine. Once again, Arnauld is attempting to show that Descartes' philosophy is in continuity with the Christian past, and can be used to defend orthodox positions in theology.

Arnauld's *Réflexions* opens with a subtle and powerful attack on Malebranche's notion that God must act by simple and hence general ways. Arnauld begins by distinguishing between *acting by general volitions* and *acting according to general laws*. Arnauld grants that God acts according to general laws which God "prescribes for Himself for conducting the world." But he denies that God acts by general volitions, for "whatever [God] does, He does in particular, and not in general. But *to will and to do*, in God are the same thing" (*Réflexions, OA* 39: 175). Arnauld's point has to do with what Malebranche calls God's *practical* will, the volition whereby God causes things other than himself to exist. What Arnauld denies is that God creates things by a volition that is general.

In some passages, Malebranche's language suggests that God's wisdom dictates that He engage in the act of creating that best combines the goodness of the world created with the simplicity of the laws *according to which* the world is created, and not with simplicity of the volition whereby God creates (*TNG*, Riley, p. 195). But Arnauld did not think that this was Malebranche's view. For suppose that God creates the world according to a simple set of laws. Let these laws, as regards bodies, be the laws of motion. A world created according to such laws might be more perfect than a world not created according to general laws, or created according to a more complex set of laws. But that would be of no help to Malebranche. He maintains that God chooses a particular act of creating, *not because it is an act of producing a more perfect world*, but rather *because it is a simpler, and hence more perfect, act of volition in God Himself*. And it is not at all clear how simplicity of laws according to which the world is created would make God's act of creating, considered as something in God, simpler. Malebranche's real position, according to Arnauld, emerges in those passages in which he identifies the "ways" in which the world is created with a feature of God's action, and hence of God's volition. For example, Malebranche says, "An excellent workman should proportion his action to his work; he does not accomplish by quite complex means (*voyes*) that which he can execute by simpler ones" (*TNG*, Riley, p. 116).

Arnauld next points out that Malebranche does not say, without qualification, that God creates by a general volition. Rather, Malebranche says that God's creative will is "the cause of a particular effect; but he calls it general, because he holds that God has this will only when he is determined to have it by an occasional cause, which must be a creature" (*Réflexions, OA* 39: 176). In other words, God causes particular effects in creation, but the contribution of God's volition, as opposed to the contribution of created occasional causes, is general. Later on, Arnauld says that, on Malebranche's view, it is really only the free volitions of creatures that can

be said to determine God, in view of His general volitions, to produce a particular effect (*Réflexions, OA* 39: 248). For, according to Malebranche, God is the cause of every bodily event, including those which, together with the general laws, are supposed to determine any given consequent event (*Réflexions, OA* 39: 230).

Arnauld argues that Malebranche's position on God's creative will is, in fact, self-contradictory. For Malebranche "was not of the opinion of those philosophers who believe that God originally created all things, gave them the qualities necessary for their conservation and the powers they needed in order to act, and then let them act without involving Himself any further." On the contrary, Malebranche insists that "God is the sole cause of everything in the world, up to the smallest movement of the smallest atom." But he also holds that God "acts in the world only as a universal cause, whose general volitions are determined by the . . . changes . . . in creatures, as by so many occasional causes." And these two principles are contradictories (*Réflexions, OA* 39: 231).

Arnauld also argues that Malebranche's "nouveau system" is a radical departure from the Christian tradition: It is inconsistent with standard Christian views regarding miracles and providence, and implies that neither human beings nor God, in His act of creating, are free (*Réflexions, OA* 39: 303, 600). It also involves formal heresy regarding the Incarnation. *Réflexions* concludes with the plea that Malebranche reflect on the fact that his "novel philosophy," according to which "the universal cause cannot act by particular volitions, either in the order of nature or of grace" has led him into "novel principles" and, indeed, heresy, in theology. Thus the entire controversy between Arnauld and Malebranche exemplifies Arnauld's conviction that philosophical questions have an important bearing on theology, and are the proper concern of theologians.

Arnauld and Leibniz

On February 11, 1686, while the controversy between Arnauld and Malebranche was at a peak of intensity, Leibniz wrote to Landgrave Ernst von Hessen-Rheinfels, asking that the Landgrave send Arnauld a summary of "a short discourse" on "questions of grace, the concourse of God and creatures, the nature of miracles, the cause of sin and the origin of evil, the immortality of the soul, ideas, etc." (*The Leibniz–Arnauld Correspondence*, hereafter *LA*, p. 3). The ensuing correspondence occurred at a crucial point in the development of Leibniz's philosophy. The *Discourse on Metaphysics*, the final version of the short discourse, marks the beginning of Leibniz's mature metaphysics, and it shows the influence of the correspondence with Arnauld. The "summary" sent to Arnauld was no more than a list of the propositions that appear as the titles of the thirty-seven sections of the *Discourse*; the entire correspondence was carried out through the intermediary of Hessen-Rheinfels; and the copies of letters received by the two major correspondents were sometimes defective. These facts, together with the extreme subtlety of the philosophical contents of the letters, have made interpretation of the correspondence very difficult. Our understanding of it has been greatly advanced by the publication of Robert C. Sleigh, Jr., *Leibniz and Arnauld: A Commentary on their Correspondence*, in 1990.

Proposition 8 in Leibniz's "summary" is: "In order to distinguish the actions of God from those of creatures, it is explained wherein consists the notion of an individual substance." The notion of a substance is, for Leibniz, the notion of a thing that acts. To explain the notion of a created individual substance, therefore, he has to explain the notion of a created agent, which requires that he distinguish correctly between the actions of creatures and the actions of God. Part of Leibniz's account of the notion of an individual substance is given in proposition thirteen: "The individual notion of each person includes once and for all everything that will ever happen to him," so that "one sees in [that notion] *a priori* proofs of the truth of each event, that is, why one [event] has occurred rather than another." The debate between Arnauld and Leibniz begins here. Proposition 13, Arnauld said in his first letter to Leibniz, implies that "once God decided to create Adam, everything that has happened since and will ever happen to the human race was and is obliged to happen with a more than fatal necessity" (*LA*, p. 13). For example, given proposition 13, if Adam exists, then necessarily Adam is father of Cain and Abel as sons, grandfather of their children, great-grandfather of their children, etc.

After a complicated three-way exchange of letters, Arnauld withdrew his complaint in a letter dated September 28, 1686. At the outset, Arnauld assumed that according to Leibniz whatever is contained in the individual notion of a person is contained there as a necessary property of the person. But in response to Arnauld, Leibniz says that he does not "ask for more of a connexion here" than that which obtains between an individual substance and its "external denominations" (*LA*, p. 63). Given this understanding of the way that the individual notion of a person contains everything that will ever happen to him, Arnauld was prepared to concede that Leibniz's position did not involve fatalism (*LA*, p. 77).

Arnauld adds that he continues to have difficulty with Leibniz's account of "the possibility of things" and his conception of God as choosing the actual world out of an infinity of possible worlds, a point on which Leibniz agreed with Malebranche. But Arnauld says he does not want to go into that difficulty. Instead, he asks Leibniz to clarify his "hypothesis of concomitance or agreement between substances," and his statement that if a material thing is not merely an appearance, like a rainbow, or an accidental aggregation of parts, like a pile of stones, it must have a "substantial form." Leibniz had mentioned both of these points in his immediately preceding letter (*LA*, p. 78–9, 64–6). According to the hypothesis of concomitance no created substance ever acts upon any other created substance. But every later state of any given created substance is caused by an earlier state of the same substance, and the histories of the individuals are coordinated by God so that they fit together into the history of the actual world. Leibniz also says that one substance, x, may "express" another substance, y, more distinctly than y expresses x, and in that case, one may say that x causes changes to occur in y. He uses this position to explain the relation of mind and body. Arnauld asked him to explain his view further by applying it to the example of a man who feels pain when his arm is wounded, and the example of a man who wants to take off his hat and raises his arm. Arnauld also raises seven objections to Leibniz's claims about substantial forms (*LA*, p. 79–81) and defends the Cartesian view that extension is the real

nature of matter, which he takes to imply that bodies have only varying degrees of "improper unity" (*LA*, p. 110).

Leibniz provided the further clarification Arnauld requested in several long letters, which drew two replies from Arnauld. Arnauld continued to find Leibniz's position unclear. "I have no clear notion," says Arnauld, "of what you mean by the word 'expression', when you say 'that our soul expresses more distinctly (all other things being equal) what pertains to its body, since it is an expression even of the whole universe in a certain sense'" (*LA*, p. 132). He takes Leibniz's views about substantial forms to be a strange and unsuccessful attempt "to ascribe true unity to bodies [in particular the bodies of animals] which would not otherwise have it" (*LA*, p. 134).

Arnauld's last to Leibniz is dated August 28, 1687. Leibniz tried to get Arnauld to continue the discussion, but Arnauld was fully occupied with other projects. On August 31, 1687, Arnauld wrote to Hessen-Rheinfels, saying, "It would be preferable if [Leibniz] gave up, at least for a time, this sort of speculation, and applied himself to the greatest business he can have, the choice of the true religion... a decision that is of such importance for his salvation" (*LA*, p. 138).

Arnauld's Philosophical Legacy

Certain parts of Arnauld's philosophy continued to be influential for a long time after his death. In particular, the *Logic* remained an important text in the field until well into the nineteenth century. The *Fourth Objections* to Descartes have had a continuous influence on the interpretation and evaluation of Descartes. And Arnauld's own theory of ideas has been much studied by philosophers in the English-speaking world. (See, for example, Yolton and Nadler.)

By attempting to connect Descartes to the Christian past and to make Cartesianism into an instrument for the defense of the Catholic faith, Arnauld was, of course, going against the trend of his times. As it turned out, Descartes spawned the Enlightenment, a development that Arnauld to some extent foresaw and feared. But Arnauld did not mind fighting against the crowd, and liked to point to the Gospel warning about the broad and easy path, taken by many. His work remains a rich source of incisive arguments on important questions in philosophical theology.

Reference

Oeuvres de Messire Antoine Arnauld, 42 volumes, published at Paris and Lausanne between 1775 and 1781 by Sigismond d'Arnay et Cie, reproduced at Brussels by Éditions Culture et Civilisation in 1964–7. Cited as *OA*.

Oeuvres Complètes de Malebranche, 21 volumes. Paris: Librairie J. Vrin, 1962–7. Cited as *OC*.

The Philosophical Works of Descartes, volumes I and II, translated by John Cottingham, Robert Stoothoff, and Dugald Murdoch. Cambridge: Cambridge University Press, 1984–5. Cited as CSM.

Arnauld, Antoine, 1990, *On True and False Ideas, New Objections to Descartes'* Meditations *and Descartes' Replies*, translated, with an introduction, by Elmar J. Kremer. Lewiston, New York: The Edwin Mellen Press. Cited as *TFI* or as *New Objections*.

—— and Claude Lancelot, 1975, *General and Rational Grammar*, edited and translated with an introduction by Jacques Rieux and Bernard E. Rollin; with a preface by Arthur C. Danto and Norman Kretzmann. The Hague: Mouton.

—— and Nicole, Pierre, 1996, *Logic or the Art of Thinking*, translated and edited by Jill Vance Buroker. Cambridge: Cambridge University Press. Cited as *Logic*.

The Leibniz–Arnauld Correspondence, 1967, edited and translated by H. T. Mason. Manchester: Manchester University Press. Cited as *LA*.

Malebranche, Nicolas, 1992, *Treatise on Nature and Grace*, translated with an introduction and notes by Patrick Riley. Oxford: The Clarendon Press. Cited as *TNG*. Riley translates the third edition, which was published in 1683, but leaves out the second and third "*Eclaircissements*" that Malebranche appended to the work. I quote material from the third *Eclaircissement* and material contained in the fourth (1684) and later editions, giving the volume and page numbers from *OC*.

Nadler, Steven M., 1989, *Arnauld and the Cartesian Philosophy of Ideas*. Princeton: Princeton University Press.

Sleigh, R. C., Jr., 1990, *Leibniz & Arnauld, A Commentary on their Correspondence*. New Haven: Yale University Press.

Yolton, John W., 1984, *Perceptual Acquaintance from Descartes to Reid*. Minneapolis: University of Minnesota Press.

Further Reading

Arnauld, Antoine, 1990, *On True and False Ideas*, translated by Stephen Gaukroger. Manchester: Manchester University Press.

Antoine Arnauld, Textes philosophiques, 2000, edited and translated from the Latin by Denis Moreau. Paris: Presses Universitaires de France.

Antoine Arnauld (1612–1694), Philosophe, Écrivain, Théologien, Chroniques de Port-Royal, No. 44. Paris: Bibliothèque Mazarine, 1995.

Kilcullen, John, 1988, *Sincerity and Truth: Essays on Arnauld, Bayle and Toleration*. Oxford: Oxford University Press.

Kremer, Elmar J. (Ed.), 1994, *The Great Arnauld and Some of His Philosophical Correspondents*. Toronto: University of Toronto Press.

—— (Ed.), 1996, *Interpreting Arnauld*. Toronto: University of Toronto Press.

Moreau, Denis, 1999, *Deux Cartésiens, La Polémique entre Antoine Arnauld et Nicolas Malebranche*. Paris: Librairie Philosophique J. Vrin.

Ndiaye, A. R., 1991, *La Philosophie d'Antoine Arnauld*. Paris: Librairie Philosophique J. Vrin.

Pariente, Jean-Claude, 1985, *L'Analyse du langage à Port-Royal*. Paris: Les Éditions de Minuit.

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9

Johannes Clauberg

JEAN-CHRISTOPHE BARDOUT

Johannes Clauberg well deserves the attention of historians of philosophy. Born in 1622 in Soingen, Westphalia, he studied first at Cologne, and then at Groningen, in the Netherlands, where he published his first writings. After some time in France and a brief sojourn in Erborn, he was named professor of theology and philosophy at the University of Duisburg in 1651. He taught there until his death in 1665.

Because of his philosophical upbringing and the major theses of his metaphysics, Clauberg belongs to the scholastic tradition, best represented in the early modern period by the Jesuits Suarez and Fonseca and, in Protestant Germany, Timpler and Goclenius. But Clauberg was also attracted to the Cartesian philosophy which, in the 1650s, enjoyed a rapidly growing influence in the Netherlands. He was, in fact, initiated into Cartesianism by one of his teachers, the philosopher Tobias Andreae, who was himself one of DESCARTES' (chapter 5) correspondents. We will look at the intersection of these influences at the heart of this thought, and especially his metaphysics, and at the ways in which he tried to effect a reconciliation between them.

Clauberg's philosophy is worth studying for a number of good reasons. First, while he did not himself invent the term "ontology," he nonetheless contributed decisively to metaphysics' orientation towards this area, and even published the first true treatise on ontology.

Second, in his pursuit of the study of being as substance, he kept the Cartesian distinction between extended substance and thinking substance, but nonetheless rejected (in opposition to Descartes) the idea that these two substances, constitutive of a human being, could really causally act on one another. This makes him one of the first to formulate a central thesis of the theory that we now call "occasionalism." The principal expression of this aspect of his thought is found in his work *Corporis et animae in homine conjunctio* (*The Union of Body and Mind in Man*, 1664).

Third, Clauberg, strongly influenced by Cartesian philosophy, was one of the first to compose detailed commentaries on Descartes' major works. He wrote a *Paraphrasis in Renati Descartes meditationes de prima philosophia* in 1658. He also defended Descartes against his numerous and active Dutch adversaries (especially Revius and Lentulus), and wrote, in this regard, his *Defensio cartesiana* in 1652. The work presents itself as a commentary on Descartes' *Discourse on Method*. Before ARNAULD

(chapter 8) and Nicole composed their *Logic, or The Art of Thinking* in 1662, and Poisson published his 1670 *Commentary or Remarks on the Method of René Descartes*, Clauberg was, in this text, already engaged in a significant attempt to interpret the rules of Cartesian method as the precepts of a new logic. The traditional way of teaching philosophy in the colleges was to divide it up into four disciplines: logic, physics, metaphysics, and ethics. The proponents of bringing Cartesianism into the schools were led by this to see, in the rules of Cartesian method, a privileged place for the elaboration or at least adaptation of logic. We should remember, too, that Descartes' *Rules for the Direction of the Mind* were not published until 1701, and that thus the *Discourse on Method* was, in Clauberg's era, the primary text for that method.

Clauberg takes up this project, in part, when in 1654 he writes his *Logica vetus et nova quadripartita*, in which he tries to unite Aristotelian logic with the precepts of Cartesian method. Clauberg wants to show that Descartes' philosophy is not systematically inconsistent with previous philosophies, but in fact represents a renovation and indeed perfecting of them. Such a project is best captured by a term coined in the period, *novantique* ("new and old"), a synthesis of the "new philosophy" and earlier thought. Such a project brings to mind LEIBNIZ (chapter 18) and his desire to reconcile the ancients and the moderns. According to Clauberg, logic must begin with a recognition of the imperfection of the human mind, which he, following Descartes, sees as corrupted with childhood prejudices (*Logica*, Prolegomena, §20). His "Logic" is divided into into generative logic, which studies the way in which thoughts are formed, and analytic logic, which examines thoughts from an external standpoint. Generative logic thus includes a method for guiding the mind in its steps. Poisson will later confirm the Cartesian roots of this type of logic when he writes in his commentary on the *Discourse* that "Clauberg and the authors of the *Art of Thinking* have provided a complete logic, one which can be called a supplement to that of Descartes." Like all Cartesians, Clauberg moves beyond the traditional conception of logic and includes within its domain a theory of the mind and of the way in which it should "conduct itself."

He thus would have been the first to get a hold of, and perhaps re-copy, the manuscript of the famous dialogue that Descartes held on April 16, 1648, with Franciscus Burman, a young theologian at Leiden. Many commentators have shown that Clauberg's works contain direct citations of that dialogue, the text of which transcribes Descartes' responses to some questions from Burman on his principal works. The dialogue could plausibly have served Clauberg as the starting point for his initiation into Cartesianism.

Finally, while Clauberg wrote in Latin, in some of his works he is concerned to translate his principal concepts into German. He turns frequently to the analysis of German words or phrases in order to justify a philosophical view or position. This shows that Clauberg saw the analysis of language and of its structures to be rich with information for philosophy, and especially for the elucidation of metaphysical concepts and definitions. Thus, Clauberg published in 1663 an *Ars etymologica teutonum e philosophiae fontibus derivata* (*The Art of German Etymology Derived From French Sources*). With this work, he is one of the creators of the philosophical lexicon of the German language.

Metaphysics as Ontology

When Clauberg began his career, he had at hand a definition of metaphysics that was, for the most part, inherited from the *Disputationes metaphysicae* that Suarez published in 1597. Metaphysics is, first of all, the science of being *qua* being. It thus studies being taken in its fullest sense and with respect to its principal properties, called "transcendentals". But even for Suarez and his immediate successors, being is available for metaphysical investigation only through an "objective concept [*conceptus objectivus entis*]," and thus in the first place only in so far as it is known and grasped through a concept. Clauberg places himself right into this tradition and participates in this same metaphysical project when he publishes in 1647 the first version of his metaphysics under the title *Elementa philosophiae sive ontosophia, scientia prima, de iis quae Deo creaturisque suo modo communiter attribuntur* (*The Elements of Philosophy, or Ontosophia, First Science, concerning those things that can be attributed both to God and Creatures*). This work, a written version of his thesis, would appear in profoundly different editions, mainly because of Clauberg's discovery and use of Cartesianism. The third edition appeared in Amsterdam in 1664, under a new title: *Metaphysica de ente, quae rectius ontosophia* (*The Metaphysics of Being, more properly called Ontosophia*).

Clauberg retains the classical definition of metaphysics, even citing word for word the beginning of Book Gamma of Aristotle's *Metaphysics*: "There is a certain science that investigates being *qua* being, that is, being understood as having a common nature or a degree of nature which is, in its own way, in both corporeal and incorporeal things, God and creatures, and including all particulars. This science is generally called metaphysics, but more properly ontology or catholic science, and universal philosophy" (*Ontosophia*, §1 and 2). Metaphysics is a "universal science" because of the universality of its object: being, in so far as it pertains indifferently and univocally to everything, to God and creatures. Clauberg then goes on to clarify what being is by indicating three principal meanings of the term, the inquiry into which will constitute the program of metaphysics:

> First of all, one must distinguish three senses of "being." It can denote everything that can be conceived, for which reason some call it "intelligible [being]" . . . or it can designate what is truly something, even if no one thinks it, and the opposite of which is nothing. Or it can signify a thing that exists by itself, such as substance, the opposite of which is ordinarily taken to be accidents. (§4)

In its first sense, being includes everything in its concept, including nothing (*nihil*), which, while non-existent, is nonetheless thinkable: "Being is everything which, in whatever manner it may be, can be thought and spoken of. Thus, I say 'nothing', and when I speak of it I thus think it, and when I think it it is thus in my understanding" (§6). To be is, first of all, to be thought or apprehended in and by a simple discursive act. Being is thus equivalent to the intelligible as such, or to whatever can be thought, including a chimera or nothing (§9 and 12). In this sense, being is characterized as the possible, pure and simple – what is not self-

contradictory. Before it ever comes to signify a positive essence or an actual existent, being is reducible to the pure object, the necessary correlate of every thought. "This being which is attributed to it, in so far as it is the object of the understanding and is known in itself, is called the objective being or the being-known of the being. Everything else – that is, whatever can be thought and spoken of – is easily included within this alone, to the extent that being, being thought and being spoken of... do not differ much at all" (§16). Being requires, at one and the same time, both the concept which makes it an object and the activity of the mind that thinks it. Although he does not retain the traditional terminology, Clauberg is nonetheless devoted to the old distinction between the "formal concept" (the mental activity involved in the production of the concept) and "objective concept" (the product of this activity).

In order to understand Clauberg's project, it is useful to recall the origin of the word "ontology." The term first appeared in Greek (*ontologikê*), as an adjective and as a noun, in Goclenius' *Lexicon philosophicum* of 1613, in the article on "abstraction." Mathematical abstraction is called "ontological" because it allows for access to being and to the transcendentals. It is thus definitive of the kind of abstraction constitutive of metaphysics. For the object of ontology is being in so far as it is abstract, that is, indifferent to all further determinations.

Before ever descending to the existence of things, being is therefore defined by the fact that the mind can apprehend it as thinkable object (*cogitabile*). Metaphysics, thus, not only is a science of being, but inclines towards a knowledge of being considered as object of the understanding. It is precisely in this regard that metaphysics becomes ontology.

The concept of being, understood to include all that is thinkable, constitutes then the starting point for metaphysics (§10 and 11). Here is where Clauberg meets up with Descartes, especially the Second Meditation, in which Descartes shows that everything that *is* appears in so far as it is thought by the mind. The third edition of the *Ontosophia* provides us with a sharper picture of this. For it is enriched by notes that attempt to demonstrate the agreement between Clauberg's thought and Cartesianism. In the present case, Clauberg shows that if the concept of being is the first and most universal, it follows that philosophy can begin with the thinking mind itself. "Let us give priority to some aspects of being in its first and second senses and begin universal philosophy with thinkable being, just as first philosophy, as it begins with the particular, looks first at the thinking mind" (§5). In a note to this text, Clauberg adds: "First philosophy is so called not because of the universality of the object it treats, but because of the fact that someone who wants to philosophize seriously must begin with... knowledge of the self and of God. This first philosophy is contained in Descartes six meditations." Such an indubitably Cartesian starting point allows Clauberg to bring the two strands together by showing both that the first being is mind (first philosophy) *and* that being is in the first place what is thinkable by the mind (universal philosophy). The first being, mind (*mens*), is that which makes possible the ontological interpretation of being as what is thinkable or intelligible, since the mind does not approach being except through its own thoughts. It is through the thinking mind (*mens cogitans*) that being becomes an object, as it is rendered a *cogitatum*. Even if this rapprochement of Cartesianism and

the tradition of ontology is not perfectly consistent with Descartes' own intentions, it nonetheless reveals how Clauberg tries to synthesize the two philosophies, which are so often presented as antagonistic rivals. Nevertheless, even while he tries to concede to Descartes an important role in the proper understanding of the mind, it is not clear that Clauberg takes mind (*mens*) in its true Cartesian sense, as the first being and as the *ego*. It is significant that he speaks, in effect, of "thinking mind [*mens cogitans*]," without tracing the thinking activity of the mind back to the "I think [*ego cogito*]."

According to the second sense of the term, "being" means "something [*aliquid*]," and, thus, is opposed to nothing (*nihil*). Being thus possesses a determinate content accessible to thought. Objective being is also real being. It is, meanwhile, remarkable how reality is determined by the conditions for thought: what is real is what can be positively thought, what is the content of a concept.

> If what we think about does not involve any impossibility in our thought, such that we might judge it to be in the nature of things or at least that it can be, we thus not only attribute to it objective being but also real being, and we call it not only "intelligible," but also a real thing, *aliquid*, and properly something. (§18)

The real is thus defined as that which is not nothing, by the fact that it has a content for thought.

> To posit a reality, it is enough if something can be, even if this thing does not really exist; it is enough if it does not involve a contradiction. Thus, we affirm that a rose and snow are always something, as long as we attend to the nature, properties and operations of each thing, even if we say that the former does not exist in winter and the latter does not exist in summer. (§12)

Notice that this definition of reality as a specific aspect of being in its second sense is a continuation of the theses presented above: here, again, the "something [*aliquid*]" is what is thinkable. Clauberg elsewhere remarks that the etymology of the words "reality [*realitas*]" and "thing [*res*]" both refer back to the Latin verb "to think [*reor*]" (§7). Clauberg's ontology thus completely dissociates what is "real" from what exists.

In its third sense, being is equivalent to thing (*res*) or substance and its properties (accidents), that is, to everything that exists in the created world and God.

> The third meaning of being is also, in the most proper sense, thing or . . . real being (*ens reale*). We have this meaning in mind when we distinguish thing from mode of a thing . . . a thing, such as the human mind, from its attributes, such as the faculty of understanding. (§42)

Metaphysics is thus concerned with elucidating substance and its modes, or what could be called the being of created things.

> Substance, or that which exists in such a way that it does not need a subject in which to exist, is usually opposed to accident, which is that which exists in something else as in a subject or whose being is to "be in." (§44)

The rest of Clauberg's *Ontosophia* proceeds in a more traditional fashion, as a manual devoted to presenting the definitions of the principal concepts of metaphysics and to describing the principal properties of beings. It approaches, in succession, the essence of the being, its existence, duration, unity and multiplicity, the true and the false, the good and the bad, relations, principle, cause and action, the anterior and the posterior, the same and the different, the whole and the part, etc.

Two remarks should be added to this brief summary. First, Clauberg thus adopts the classic (and the Cartesian) definition of substance as a thing that needs nothing other than itself in order to exist. Second, at the same time, it is clear from this list of subjects treated that he wants to maintain the division of being into the categories used by Aristotle in his *Metaphysics*. Through its variety of topics, Clauberg's *Ontosophia* presents itself, under the guise of a general metaphysics or universal science that studies and describes the most general aspects of being, as a prolegomenon to all the sciences that subsequently treat of particular kinds of being. It thus presumes for its subject a primacy with respect to physics, medicine, or ethics.

The Nature of the Human Being and the Origins of Occasionalism

Loyal to his Cartesian roots, Clauberg is not content with simple metaphysics. Trying to deepen the study of finite beings, he examines the status of material being within the domain of physics. This project is undertaken in two works, the *Disputationes physicae* of 1665, and the *Physica contracta*, a treatise not published until 1689, by one of his students. The two texts are substantially faithful to the physics found in the second part of Descartes' *Principles of Philosophy*.

The universe created by God is composed of two radically heterogenous substances, thinking beings – that is, minds – and extended beings, or bodies. Material nature is reducible to extension, the essence of bodies generally, and two modes: figure and motion, whose laws are provided by physics. Clauberg also envisions the relationship between God and the created world from a Cartesian standpoint: the divine activity does not end with the initial moment of creation, but rather the same activity continues through each subsequent instant, since the world cannot conserve itself and thus requires the divine activity to keep it in being (*Disputatione physicae* [DP], XVIII, §14). Finite beings can neither conserve themselves nor act, that is, be true or efficient causes. Causal relations in nature seem to be reduced to correlations between events, without any real causal connection. Such are the theses that have led to Clauberg being seen as an occasionalist. Let us examine this claim. Two cases will be considered here: first, the problem of causal relations in the material universe; second, the question of the relations between substances of different natures, and especially the union of mind and body in a human being.

Motion and its cause

Just like Descartes, Clauberg, in his physics, poses the question of the origin of motion in the world. Following Descartes's *Principles of Philosophy* (II.36), he affirms that God alone is the "universal cause" of motions – because they are created at the

same time as matter – and that God always conserves the same quantity of motion in created matter (DP XVIII, §10 and 15). Still, this does not resolve the problem of whether secondary causes – that is, created bodies – are themselves capable of producing motion in, and transferring it to, other bodies, or if God alone and through himself immediately causes all natural motions. Strict occasionalist philosophers, such as MALEBRANCHE (chapter 11) and CORDEMOY (chapter 10), show that when bodies are observed carefully, the senses do not really apprehend any transference of motion but only establish correlations between two phenomena: when one body strikes another, the latter begins to move. But there is nothing in experience that allows one to affirm that the first body is the efficient cause of the motion of the second. The senses show only that motion is changed on the occasion of the impact, and that the second body moves. It is in order to stick closely to the observed facts that one should thus affirm only that the first body is the occasion of the motion in the second body, or that the impact is the "occasional cause" of the motion and God is the only "efficient cause."

Still, it is not clear that Clauberg should be counted among the occasionalists. He never says that God alone is the efficient cause of all the particular motions in the universe, but only that he is their "universal cause" and that he conserves always the same quantity of motion. In his *Disputationes physicae*, he thus writes that "with respect to motion, we will consider first of all its universal and first cause, which produces all the motions that are found in the totality of corporeal nature; then we will consider its particular and second cause, from which derives the various motions in each part of the universe" (DP XVIII, §5). In this text, bodies seem to maintain their status as secondary efficient causes, in so far as they distribute the motion that God conserves in an equal quantity in the universe. This reading is confirmed by the definition that Clauberg provides for "particular cause" in the next paragraph: "By 'particular cause' should be understood a certain thing that causes [*efficie*] motion, or the rule or law and reason according to which motion occurs."

Two things are noteworthy here. First, the "particular cause" is and remains efficacious. Second, it can be understood as the manner in which motion characteristically operates, its rule or law, but not as its occasion, that is, as the event that serves only to initiate divine causality. Universal cause and particular cause seem to differ only in their domain and extension, and by the fact that particular causes are subordinated ontologically to the universal cause. In terms of their nature (as causes), the two remain identical: "The universal cause and the particular cause are distinguished in that the effect of the first is the totality of motion in the universe, while the effect of the second is a determinate motion in such and such a part of the universe" (DP XVIII, §7).

In brief, Clauberg seems not to dissociate an occasional cause from a real cause. But before we draw any final conclusions on this matter, let us look more closely at the more complex causal relations between two heterogenous substances, such as the soul and body.

The union of soul and body

As noted above, Clauberg is committed to the real distinction posited by Descartes between the soul, or spiritual substance, and the body, extended substance. We

must, he insists in the *Ontosophia*, learn to think of the body and the mind according to what they are in themselves (§48, 52–3; see also *Corporis et animae in homine conjunctio* [henceforth, C], §13). But this raises the question of the union of soul and body, which, while distinct, nonetheless compose a single being. On this point, Clauberg, like all post-Cartesian philosophers, breaks with his mentor's doctrine. Contrary to what Descartes affirms in his letters to Elizabeth of May 21 and June 28 of 1643, or at the beginning of the *Passions of the Soul*, Clauberg insists that the real distinction and substantial heterogeneity of mind and body implies the impossibility of their interaction. Clauberg clarifies his doctrine of the union of soul and body in the *Corporis et animae in homine conjunctio*, published in 1664, one of a number of works that together offer a global review of Cartesian metaphysics and physics.

From chapter four on, Clauberg poses the problem in the following terms: "There cannot be found in all the universe two things more dissimilar and more generically different joined together than soul and body." The body, like the mind, can be and act without any other substance, since one is not the cause of the other (C IV, §2). The real distinction implies an absence of any causal connection. The mind cannot cause anything in the body, and, reciprocally, the body cannot cause anything in the mind. "We deny that a necessary and actual connection belongs to the nature of the mind, which consists in thought and will" (C IV, §6). Meanwhile, the body and the mind are united. What is needed, then, is a conception of "union" – although Clauberg prefers to speak of "conjunction" – that will preserve the independence of the two substances while explaining the nature of the connection between the volition to walk, for example, and the motion of the feet. How can the numerical unity and individuality of the human being be explained when he is composed of two incommensurable substances? At the end of chapter four, he insists on the mysterious character of this conjunction when he indicates that his explanation requires the intervention of divine wisdom and omnipotence.

After establishing what the psycho-physical union *cannot* be – by showing that the two heterogenous substances cannot be united as if they were homogenous – Clauberg turns toward his own positive thesis and claims that the mind and the body are not united by a direct substantial connection but rather by a relationship of concomitance and correspondence between the states of the one and the states of the other. Chapter nine thus bears the title "This conjunction is grounded not in the absolute substance of the mind and the body, but in the relative passions and actions of the one and other." The union is based not in the substances themselves, or even in some fusion or mixture of the two, but in their relative modalities. The human composite resides in a relation that is external to either substance. And it is precisely the being of this relation that generates the problem: the reciprocal passions and the actions of the body and the soul constitute the reality of the union. "To ground the relation between these things, it is not at all necessary that the one be the cause or the effect of the other. It is enough if the one produces a change, or changes something in the other, such that the two substances refer mutually to each other in their actions and passions" (C IX, §10). Clauberg here thus denies any direct causality of the body upon the mind and vice versa. Or at least that is how his negation of any relation of cause to effect in this domain can be inter-

preted. Real efficacy is not necessary in order to make sense of the mutual referencing between the two substances. It is sufficient that the soul be assigned as the cause, or simply as the reason for an event that is produced in the body consequent to a new determination of the soul. "The conjunction of body and mind is not grounded in the similitude and agreement of their actions and passions, but in their mutual relations, in their exchange and reciprocality" (C IX, §11). The reality of the human being as a composite being resides, above all, in the actualization of this correlation between an event in his body and a determination in his soul. The connection between the volition to walk and the consequent movement of the feet does not rest on the efficient causality of the will, but on the institution of a determinate and constant correspondence between the two events. Ultimately, the union demands both a denial of every naturally intelligible connection between corporeal events and spiritual events *and* the localization of the reality of the union in the instauration of an arbitrary but constant relationship between these two series of facts. In chapter fourteen, Clauberg thus asserts that there is no naturally intelligible connection between a corporeal event and a spiritual modification. The latter can never be deduced from the former, nor can it ever be explained from it by some direct causality. Between the two series of modes there is no connection that expresses a natural necessity; there is only a purely extrinsic co-incidence. "This is why it is not appropriate to ask why such and such thoughts of the soul follow such and such motions in the body, or to seek how the motions of the animal spirits depend on the will. No natural necessity or affinity will be found inherent in these acts" (C XIV, §8). The reason for this correspondence needs to be sought outside of the natures of the substances that compose a human being. God alone can ultimately guarantee the connection between the actions and passions of the body and those of the mind. "Through his wisdom and his freedom, God has willed that these acts of such different kinds be united in a human being, such that the one refers to the other, without there being any similitude between them. Meanwhile, the author of nature has made it so that the human condition depends, in diverse ways, on this connection [*nexus*]" (C XIV, §9).

It is precisely this thesis that has led certain historians of philosophy to see Clauberg as one of the first occasionalists. But this view needs to be nuanced somewhat.

Clauberg does, in effect, deepen the inquiry into the human composite by posing the problem of the causal origin of the actions and passions of the soul and the body. He shows, in chapter thirteen of the *Conjunctio*, that a corporeal object cannot be the efficient cause of its own perception in the soul. However, his explication of perception prevents us from seeing his account as an authentic occasionalism: "What is inferior cannot act on what is superior to it by really producing in the latter something more noble than what belongs to itself. It can, however, give to it a certain and determinate occasion and thus constitute a very powerful incitation" (C XIII, §7). The body thus provides for the soul the occasion to produce its own modality, for example, a perception. The soul therefore remains the efficient cause of the effect. In this way, the soul seems to be the sole efficient cause of both the form and the content of the perception. To put it in Cartesian terms, the soul is the cause of the formal reality of the perception as well as of its objective reality, since the body (ontologically inferior to the soul) cannot act on the soul or produce

anything in it. Rigorous occasionalists, however, deny precisely the claim that the soul (being finite) can be the cause of the reality of its own modalities.

Two other texts confirm this suspicion regarding Clauberg's occasionalism. First of all, with respect to the causal status of the soul in regard to the body, he writes: "The human mind is not the physical cause, but only the moral cause of the corporeal motions in the human being, because the mind rules over and governs some of those movements and brings it about that such and such part of the body is agitated by the motions that are already in the body" (C XVI, §5). Far from God being immediately required in order to assure causally the corporeal motions on the occasion of a determination of the mind, the text clearly states that the mind orients and determines motions already present in the body. Clauberg thus appears to be closer to Descartes than to what will be Malebranche's position. Analyzing the role the body plays in the mind's perceptions, the same chapter confirms that the body is only a "procatarctic cause," never an occasional cause of perception; and, above all, in perceptual activity, the mind remains the principal cause. "This is why the motions of our body are only procatarctic causes that give occasion to the mind, the principal cause, to produce [*eliciendi*] on its own such and such an idea, at this particular moment, and to actualize its power of thinking" (§10). It seems that the procatarctic has a status more like a condition *sine qua non* rather than an occasional cause in the strict sense. One should not allow the appearance of the phrase "give occasion [*occasionem dare*]" to mislead one into concluding that Clauberg is an occasionalist. In effect, the expression is already a Cartesian one and is perfectly reconciliable with maintaining the efficacy of secondary causes.

We can conclude from this evidence that Clauberg, incontestably, denies the causal interaction of mind and body. But two theses that are constitutive of occasionalism in its strict sense are absent from his thought. First, Clauberg does not explicitly affirm the exclusive causal efficacy of God in the production of modalities in spiritual and corporeal creatures. Second, his account lacks the element of a lawlike and determinate relation between a cause that can be only an occasion (the event in the body or the soul) and its effectuation by divine efficacy.

In sum, one finds in Clauberg's philosophy the negative thesis of occasionalism: with regard to the question of psycho-physical union, he definitely abandons real interaction. But what is absent here is occasionalism's positive thesis, that is, the explicit formulation of a connection between divine creation or production of a motion and its determining but inefficacious cause in nature. Moreover, neither Clauberg's physics, with its commitment to the concept of particular causes that are efficacious, nor his theory of perception, in which the soul remains the principal cause of its own modalities, seem to permit an interpretation that resembles the constitutive theses of later occasionalisms.

Translated by Steven Nadler

References

Clauberg, Johannes, *Opera Omnia philosophica*. Amsterdam: Blaeu, 1691; reprinted, Hildesheim: Olms Verlag, 1968.

Further Reading

Balz, Albert, 1951, "Clauberg and the Development of Occasionalism", in *Cartesian Studies*. New York: Columbia University Press.

Verbeek, Theo, ed., 1999, *Clauberg and Cartesian Philosophy in the Seventeenth Century*. Dordrecht: Kluwer.

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Occasionalism: La Forge, Cordemoy, Geulincx

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Historians of modern philosophy generally use the term "occasionalism" to refer to a number of doctrines of certain thinkers who share at least one common feature: all of them, to some degree or another, are Cartesians.

If occasionalism is usually associated with the name and thought of NICOLAS MALEBRANCHE (1638–1715, chapter 11), he is nevertheless neither the inventor nor even the original inspiration of the doctrine. His role consists, rather, in bringing to a close the history of occasionalism in its strict sense, mainly by pushing it to its highest degree of accomplishment and systematicity.

Historically, the occasionalist philosophy appears among French and Dutch Cartesians in the 1660s. Three figures in particular are especially important: the physician from Saumur, Louis de la Forge (1632–66), the Parisian lawyer Géraud de Cordemoy (1614–84), and, in Holland, Arnold Geulincx (1624–69).

The word "occasionalism," never actually used by these authors, denotes a general thesis about the physical and metaphysical nature of causality. It is concerned with explaining, from the perspective of the Cartesian philosophy, and particularly through the rehabilitation of the doctrine called "continuous creation," how a finite substance can act on another finite substance, whether they be of the same or a different nature.

Occasionalism asserts that every finite being is causally impotent, and affirms in consequence that only the infinite substance, God, exercises true causal efficacy in nature. Finite beings are not true causes, but rather only *occasions* or *occasional causes* that determine or govern the exercise of divine omnipotence and thus its efficient causality. The laws of nature instituted by God are for the purpose of governing the relations between the efficient cause and the occasional causes that determine its activity.

The occasionalist philosophy is usually thought of as a response to difficulties that its proponents see facing Cartesianism, in particular, the so-called "mind-body problem": How can the real and absolute distinction between two such heterogenous substances as mind and body be reconciled with the thesis of their substantial union in a human being? And how can the doctrine of continuous creation of substances by God be consistent with the recognition of any causal efficacy in natural, secondary causes?

Now despite the received opinion, both among scholars and in general histories of philosophy, occasionalism is not, as we shall see, grounded exclusively in a concern over the Cartesian explication of mind–body union. In effect, the foundation of occasionalism lies more generally in a large-scale explanation of causal relations in created nature. If the thought of occasionalist philosophers often, as a matter of fact, takes as its point of departure the Cartesian problem of the human being and the causal relations between the two substances that constitute him, this anthropological question is not necessarily its starting point. Other major Cartesian theses play a role in the elaboration of occasionalism: the affirmation of the doctrine of continuous creation and the question of knowing whether divine conservation extends also to the modes or properties of substances, the physical distinction between motion and motive force, the critique of the scholastic conception of substantial form, as well as the affirmation of the real distinction of mind and body. Two roads, in fact, lead to occasionalism:

1. The road of physics, particularly reflection on the nature and causality of motion. From this perspective, the problem of the union of mind and body is interpreted as only a particular case of a more extensive question: can it be said truly that two finite substances, whatever their respective natures, "really" act upon each other?
2. The metaphysical road, beginning with an elucidation of the causal impotence of the ego or self with respect to its own ideas, which constitutes the distinctive mark of the occasionalism of Geulincx.

The Cartesian Origins of the Question

Some commentators have asked whether DESCARTES (chapter 5) himself is the father of occasionalism. By affirming, at one and the same time, that God is the total cause of all motions in nature and that he conserves in it a relative causal autonomy, Descartes opened up a question that he would leave to his successors to resolve, above all in so far as they saw a problem in reconciling these apparently conflicting affirmations.

It was, without question, the publication by Claude Clerselier in 1664 of Descartes' *Treatise on Man*, with notes by Louis de la Forge, which first moved the direction of thinking towards occasionalism. Committed to the principle of a radical distinction between the two substances, mind and body, this treatise begins by describing the body and its mechanisms separately. Then it proposes to describe the mind on its own. Only then will it finally turn to the union of mind and body. The work, however, is interrupted at the end of the first part, leaving it to Descartes' successors to finish the project.

In order to capture the relationship between mind and body, Descartes in this text (as in others) employs an ambiguous formula: "causes that give occasion." Thus, for example, bodily motions give occasion to the soul to generate sensations corresponding to the state of the body (*Oeuvres de Descartes*, 11: 143–4, 164, 176). Can we, from his use of this expression – that the motion of the body is the

"occasion" for sensations in the soul – conclude that Descartes is himself, already, an occasionalist?

Many Cartesian texts suggest that the answer to this must be "no." Descartes' use of the term "occasion" does not allow us to view it as a substitute for efficient causation. To be sure, for Descartes "occasion" does designate what will be one of the constituents of occasionalism, in so far as it expresses the idea of a determinate correlation between two events which, in themselves, are only arbitrarily connected, i.e., bodily motion and its effect in the soul. But the Cartesian texts do not, however, affirm that the effect (say, a sensation) is not "really caused" by the body. Speaking of the pineal gland, Descartes writes that "there are two principal causes, not counting the power of the soul, that can make it move." The word "occasion" refers mainly to the dissimilarity of the two series of modes that are corporeal movements and spiritual effects. Occasionalism will try to draw out the consequences of this and show that the dissimilarity implies the denial of real efficacy. Moreover, a certain number of Descartes texts affirm unquestionably the real and reciprocal efficacy of the two substances. We have a "primitive notion," he says, of the union of mind and body which allows us to conceive it as clearly as we can conceive either pure thought or extension. And this notion includes within itself the idea of a real causality: "As regards the soul and the body together, we have only the notion of their union, on which depends our notion of the soul's power to move the body, and the body's power to act on the soul and cause its sensations and passions" (*Oeuvres de Descartes*, 3: 665).

Broaching the question of the cause of our ideas in his *Comments on a Certain Broadsheet*, Descartes shows that the motions of external bodies that affect our own body and are communicated to the brain "give occasion" to the soul to really produce its own ideas. The spiritual substance thus remains the efficient cause of its own modalities. The word "occasion" does not replace "cause" but rather signifies that the corporeal event explains and conditions the production of the spiritual effect.

Nonetheless, Descartes makes possible, by his thesis of the complete heterogeneity of the two substances that make up a person, the mindset of the occasionalists who seek to make certain choices and systematize certain theses, even to the detriment of other, equally Cartesian affirmations.

Towards the Origins of Occasionalism: Louis de la Forge

In 1664, Louis de la Forge was asked by Clerserlier, the editor of the *Treatise on Man*, to add some commentary to illustrate and explicate the work's Cartesian physiology. Because Descartes' text was incomplete, it also needed a supplement, giving La Forge the occasion to publish in 1666 his *Treatise on the Human Mind*.

Although La Forge is the first to use the expression "occasional cause," an examination of the chapters that he devotes in his treatise to psycho-physical union nonetheless cannot be seen as propounding an unqualified occasionalism. Limited by his fealty to Descartes, La Forge occupies a rather unstable position in the history of the movement (if it can be called that). Without being a complete occasionalist,

he nonetheless does furnish the arguments that will allow other, less faithful Cartesians to elaborate the system of occasionalism.

After dealing with the nature of the human mind in general, its immateriality, the permanence of thought in the mind and its immortality, La Forge turns to the properties that are inseparable from the mind, dealing first with understanding and then with the will. He then goes on to address directly the question of the union of mind and body, its modalities, and finally the question of the nature of the reciprocal causal action of the two substances.

La Forge begins by showing that psycho-physical union consists in a reciprocal causality between the two substances composing a human being. Only action and passion, in so far as they are relative and "respective" attributes, actualize the union. "We should say that the body and the mind are united when the motions of the first depend upon the thoughts of the second, and, reciprocally, some thoughts of the second depend on the motions of the first, whether the cause of this dependency comes from the will of the mind that is in the union or from another will that is superior to it" (*Traité*, 196–7).

Two theses here constitute a step towards occasionalism:

First, the union of the body and the mind implies a regular and automatic correlation between events that are intrinsically heterogenous, which suggests that there are laws in place that govern this correspondence between the two series.

Second, in order for this reciprocity of psychic and corporeal modalities to persist, the union requires the efficacy of a will that provides its ontological stability. This text from La Forge does not, however, allow us to understand the union as a system of occasional causes.

Note that the divine will, the will that in the passage is referred to as "superior" to the human mind, does not immediately produce the modifications that affect the two substances that form a union. Rather, it simply sustains the correlation that unites them. This makes it possible to preserve the claim of a real efficacious causality between the two substances: "... the union of the mind and the body is broken only when the agent that has united them, that is, who has made the movements of the one dependent upon the thoughts of the other, changes its will, or when the body is no longer capable of producing the motions to which the thoughts of the mind are attached" (*Traité*, 198). Notice that the body is still the causal origin of the modifications of the mind. "We say that, generally speaking, the union of mind and body consists in a mutual and reciprocal dependence between the thoughts of the one and the motions of the other, and in the mutual commerce of their actions."

The essence of the psycho-physical union is grounded in the immutability of the divine will that maintains the correlation between the two kinds of modalities (*Traité*, 200–1). In order to explain the production of some effect – for example, the production of a perception in the mind by some cause "that does not resemble it" – La Forge does not think it necessary to retreat to the concept of an occasional cause (as other authors do), but invokes the distinction between univocal and equivocal causes. Equivocity, that is the dissimiliarity between cause and effect, suffices to explain the reciprocal and mutual action of body and mind. "It is clear that the mind can act on the body not in its capacity as a univocal cause, which would

involve it causing thoughts therein, and that the body does not similarly act on the mind by communicating to it some motions... Rather, it must be as an equivocal cause that the mind, by thought, causes the body to move; and that the body, in moving, gives occasion to the mind to produce some thought" (*Traité*, 203–4).

The equivocity of cause and effect deepens the Cartesian thesis of the substantial distinction between mind and body and establishes the idea of a correlation between the two terms of the relation without explicitly affirming the causal impotency of the beings engaged in that relation. The notion of equivocal cause leaves the exact nature of the causality that effects the union indeterminate. One should not conclude too hastily "that the body is not the cause of the thoughts that arise in the mind on its occasion, nor that the mind is not the cause of the motions that appear in the body following its thoughts, simply because these are only equivocal causes; for God is no less the creator of all things, and workers the authors of their works, although all of these things are only equivocal causes of their effects" (*Traité*, 204).

If we cannot affirm that La Forge is explicitly an occasionalist in his theory of the union of mind and body, still, some of his formulations allow us to focus on what a Cartesian anthropology would be.

In chapter fifteen, La Forge tries to elucidate the causes of the union of mind and body. Expounding on the dissimilarity of the two series of modalities, as well as on the notion of the "causal impotence" of bodies, La Forge writes: "The general cause of this union cannot be anything other than the divine will. For while we agree that the human body is not intrinsically resistant to this union, nevertheless we can find nothing in it that can be the efficient cause of the union that it has with the soul... God is thus the total and proximate cause of the union of thoughts that are found in all human beings with the motions [in the body]" (*Traité*, 229–31). Note that God is here said to be the "total cause of the union", but not yet explicitly the "cause of the modifications of the substances themselves," and especially those of the mind, as he is for Cordemoy and Malebranche.

Because chapter sixteen broaches the question of the reciprocal action of substances, we need to distinguish physics from the anthropological question of the relations between mind and body in a human being.

The Origin of Physical Motion

Relying on a critique of the testimony of the senses, La Forge notes that sensation does not reveal the force that moves bodies. The senses tell us only that events are correlated – for example, the collision of one body with another and the production of a new motion in the struck body – without discovering any transmission of motion from one body to the other (*Traité*, 246). With this critique in hand, La Forge can begin a train of argumentation that will be employed, as well, by all the occasionalist philosophers.

It is important to distinguish motion, as a mode of a body, from the force that produces motion. If motion is a mode of body in the same way as figure, then motion cannot be transferred to another body. At the moment of impact, then, one body cannot move another; the struck body must therefore be (really) moved by a

cause other than the striking body. The force that produces the motion is external to the moved body; and no body can move either itself or another body. La Forge affirms that "we must distinguish between motion and its determination, and between the cause of motion and the cause that determines it, because the one is often different from the other, as are motion and moving force. For motion considered in the moved body is nothing other than a body's transit from the vicinity of those bodies that immediately touch it... into the vicinity of some others. In this way, motion is nothing other than a mode, which is not distinct from the body to which it belongs, and which can no more pass from one subject to another than the other modes can" (*Traité*, 250). This distinction between motion and moving force implies that this force is incorporeal. Consequently, matter does not have in itself and through itself the force to move any of its parts. "Thus, if the force that moves is distinct from the thing that is moved, and if nothing can be moved except body, it clearly follows that no body can have the force to move itself... If a body cannot move itself, then it is evident, to my mind, that it also cannot move another, and thus it must be the case that every body that is moving is pushed by something entirely distinct from itself, something which cannot itself be a body" (*Traité*, 251). Moving force is thus identified with a continuous and successive creation of moving bodies by God in all the places through which they must pass to move from one place to another. The impotence of bodies with respect to motion implies that God creates and conserves not only the being of corporeal substance but also all of their modalities, including their motion (*Traité*, 255–6).

In physics, La Forge thus propounds a particularly occasionalistic thesis: God alone really acts in nature; finite corporeal substances are not efficient causes of the modifications that make them determinate. He also adopts a second characteristically occasionalist thesis when he affirms that an immutable law governs the relationship between the efficacious cause and those events, like contact, that are understood to be the occasions of its operation. "And even though God is the universal cause of all the motions that occur in the world, nonetheless I still regard bodies and minds as particular causes of these same motions... because they determine and oblige the first cause to apply its force and its motive virtue to bodies on which it would not have otherwise exercised that force, according to the manner in which it has resolved to govern bodies and minds" (*Traité*, 258–9).

The notion of "particular cause" therefore involves a certain ambiguity. It is difficult to tell whether a particular cause is supposed to be a simple occasion or, by redoubling and complementing the activity of the first cause, preserves the dignity proper to a secondary cause.

Minds and Bodies

On the question of psycho-physical union, La Forge adopts a less easily defined position. Certain texts of his undeniably possess an occasionalist flavor, especially when he compares psycho-physical union with the transmission of corporeal motion: "It is no more difficult to understand how a mind can act on a body and move it than it is to understand how a body can push another" (*Traité*, 259). It

seems, then, that the will is no more the efficient cause of corporeal motion than a body is. And when he conceives of the causality of the body on the mind, La Forge seems to be under the influence of his occasionalist physics.

Other texts, however, require a more cautious approach, and seem to conserve for the mind a real causal autonomy. When he explains how, on the occasion of a bodily motion, the mind conceives an idea, La Forge maintains that there is true efficacy in the soul. Taking his cue from Descartes' response to Regius, he shows that the body is certainly the "occasional cause" of the production of the idea, but also asserts that the mind is the idea's "principal and efficient cause" (*Traité*, 133–4).

A conclusive text from chapter sixteen simultaneously demonstrates the fragility and the fecundity of La Forge's position. After having affirmed the epistemic identity of the mind–body relation and the body–body relation (and thus appearing to come close to occasionalism), La Forge nonetheless concludes that "one must not say that it is God that does everything, and that the body and the mind do not truly act on each other. For if the body did not have such and such a motion, then the mind would never have had such and such a thought" (*Traité*, 264). He is here trying, and not without some trouble, to reconcile the thesis that "God does everything" with the acceptance of a "true" causality in nature. Does the word "true" here bring us back simply to the constancy of a correlation, without efficacy; or does it leave room for a real mundane efficacy?

Whatever may be the answer to this question, these ambiguities, along with his use of an incompletely fixed vocabulary, do not allow us to regard La Forge as a strict occasionalist. By wanting to reconcile the affirmation of divine omnipotence with a "true" activity in nature, he leads us close to a difficulty that, however, he himself seems unable to resolve. Nonetheless, these formulations and a number of his arguments lay the groundwork for the next step in the ultimate realization of an occasionalist system.

Cordemoy and the Cause of Motion

Perhaps it was in order to address these difficulties that Cordemoy published, in 1666, his *Six Discourses on the Union and the Distinction Between the Mind and the Body*. Unlike La Forge, who sought to complete the Cartesian project, Cordemoy intended to produce an original body of work. It is on the occasion of his thinking about the cause of physical motion that he formulated the characteristic theses of his occasionalism.

After offering a number of corrections to Cartesian physics in his first three discourses, Cordemoy, in the fourth discourse, approaches the question of the efficient cause of motion. He begins by showing that motion is not intrinsic to matter and that, thus, matter cannot move itself. Two preliminary theses are required for this demonstration.

First, everything that can be removed from the essence of a thing without altering its nature and its definition does not belong to the thing "of itself" (*Discourses*, 135).

Second, as a particular application of this principle, it follows that motion does not belong to the essence of body, since one can think of a body without motion.

Since it is extrinsic to corporeal nature, motion can only come from an incorporeal thing. Cartesian principles dictate that every being that is not a body is necessarily a mind. Therefore, motion comes from a mind.

Now that he has established the spiritual cause of motion, Cordemoy asserts that an action can be continued only by "the agent that began it." "It can be only the same mind that began to move bodies that continues to move them."

With this proof of the necessarily spiritual character of the first mover, we have at hand only the preparatory but necessary assumptions for occasionalism. This last conclusion about the spiritual nature of the agent of motion serves as Cordemoy's point of departure for formulating his occasionalist theses. His argument, taking up where La Forge left off, constitutes the classic and definitive form of the demonstration of an occasionalist physics. The demonstration takes place in five stages.

1. Cordemoy uses, like La Forge but in a more clear and rigorous way, a critique of the testimony of the senses. One must limit oneself to what they present and not make conjectures beyond what one sees. The senses tell us that there is a correlation between impact and motion, but certainly not that there is a transference of motion from one body to another. Nor do they tell us anything about the reality of the moving force. In short, we go beyond the senses when we illegitimately transform the simple experience of a correlation to affirm a relationship of efficient causality. Prefiguring certain theses to be found later in Hume, Cordemoy invites us "to carefully distinguish between what is, in effect, known from what is conjectured" (*Discourses*, 137).

2. After eliminating the sensory illusion of a transference of motion, he shows that the cause of motion is, in fact, the aforementioned spiritual mover by reducing the natural cause of motion to being simply an occasion: "[The] encounter [of two bodies] is thus an occasion for the mind, which moved the first, to move the second" (*Discourses*, 139).

3. Now that the spiritual nature of the cause of all motions has been established, it remains to be seen what the nature of this mind is. Cordemoy refutes the idea that this cause is the human mind, that a finite soul has the power to move bodies (*Discourses*, 139–42). On the basis of this critique, Cordemoy can go on to establish psycho-physical occasionalism. The sensory evidence of mind–body union must be discounted; the relevant sensations are ambiguous, since they make us believe, at one and the same time, both that we can move our body when we want to and, through the experience of the effort required, that our will is, in fact, too weak to do so. Cordemoy generalizes from the classic examples of those cases in which we are unable to move our bodies at will to make his point. Thus, of these two contradictory "truths," only the second can be retained. Our will is as completely impotent to move a body as a body is to move another body. The experience of paralysis (temporary or permanent), or even death, shows sufficiently well that we cannot do anything with our body, although the correlation of our wills with certain bodily movements can be easily explained without recourse to the erroneous assumption

of a real causality of the will. We need only accept the hypothesis that will best explain this conjunction of phenomena.

Cordemoy thus arrives, finally, at the formulation of his major ontological thesis: no finite being, whatever its nature, has any causal power. The question of psychophysical union is only a particular instantiation of this general thesis.

4. What remains is only to establish that the author of all motions is a mind that transcends the totality of nature. God will lay sole claim to the title of efficient cause in the light of the final thesis: only that being that exists through itself and thus that contains in its nature nothing that comes from outside it can cause something else. Whatever is caused cannot itself be a cause. Cordemoy thus concludes: "our inherent weakness teaches us that it is not our mind that causes motion. What, then, is left? Another Mind, to which nothing is lacking, causes motion, and does so through its will" (*Discourses*, 143). Cordemoy refutes, as well, the hypothesis that some angelic mind is what moves bodies.

5. To bring his system all together, Cordemoy needs one final thesis: the first mover, both the creator and the conserver of all motions, instituted the laws according to which its power is determined. The occasional cause functions as the condition for the intelligibility and the rationality of the exercise of the infinite and invisible power. Speaking of motion, Cordemoy writes, "We have seen that only the power [of this infinite mind] is capable of [causing motion], and we must admire it above all for the fact that, having established laws concerning bodies, following which it moves them in various ways, according to the diversity of their impacts, it has also set up laws governing our minds and bodies, laws which it never violates" (*Discourses*, 144).

One question, however, remains unanswered: How does the mind stand with respect to causing its own ideas? Cordemoy remains rather silent on this topic, most likely because he does not possess an epistemology and, ultimately, a psychology that are compatible with the principles of his occasionalism. Be that as it may, he is committed to the causal impotence of all creatures, including the human soul.

In contrast with the French occasionalists, it is the Dutch Geulincx who, in thinking about the causal incapacity of the soul, seeks to ground occasionalism in the radical impotence of the *ego*, which he reduces to being simply a spectator of the world, in which it cannot in any way act.

Geulincx, Occasionalism and Self-Consciousness

Geulincx's *oeuvre* remained, for the most part, unedited during his life. He himself published only the first part of his *Ethica*, in 1665, leaving it to his students to produce a posthumous edition of his writings.

The *Metaphysica vera*, the fundamental text of his occasionalism, was composed between 1667 and 1669, but did not appear until 1691. Without question, Geulincx was the creator of a highly original occasionalism, which he deduced from an analysis of self-consciousness called alternately an "autologie" (in the *Metaphysica vera*) and "self-inspection" (in the *Ethica*).

According to Geulincx, two principles, both of them primary and irreducible, constitute the point of departure for metaphysics:

1. Methodical doubt, in its most simple form, leads immediately to the formulation of the *cogito*: from the fact that I doubt, it immediately follows that I think and that I exist as thought.
2. I do not think only of myself, but of an infinitude of objects, existing and nonexisting. As soon as I think, I discover such a multiplicity to be the necessary correlate of every act of thought. "I am conscious, in effect, of seeing, and this is not a simple thing but rather as diverse as possible in the modalities of my thought" (*Metaphysica vera*, II.147).

But I who think this infinite multiplicity am myself, nonetheless, a simple thing. "I think, and the modalities of my thought are as various as possible, but that which thinks in me, in all of these ways, is one, always self-identical and simple" (148). This substantial unity of the "I think," taken together with this multiplicity of things thought, makes this multiplicity itself problematic. My thought, grounded in and by a simple and indivisible thing, cannot explain the multitude of objects that it thinks. Thus, we must look outside my thought itself for the cause and the reason for the multiplicity of thoughts. Using a kind of transposition of the inquiry that led Descartes in the Third Meditation to seek the formal cause of the objective reality of his ideas, Geulincx shows that if I find in myself thoughts of which I am not the cause, then their cause must lie outside of me. There are in me thoughts that do not depend on me but which are "derived from elsewhere." My mind, thus, cannot be the efficient cause and sufficient reason for its own thoughts.

There is, therefore, outside of me some "knowing and willing" being who causes these thoughts in me. In order to show that this being, this efficient cause of my thoughts, knows and wills, Geulincx introduces the fundamental axiom of his occasionalism: one does not do that which one knows not how to do. This principle implies an understanding of efficacy that is more technological than strictly dynamic. The exercise of causality implies an understanding of what is being done. Geulincx thus radicalizes the model of agency to show that only an infinite intelligence can bring about any effect.

The application of this axiom to the problem leads to the conclusion that this being distinct from me is a mind, since bodies do not act, in so far as they are devoid of any knowledge whatsoever (150). Moreover, since I am a simple being who is ignorant of how my thoughts arise in me, I cannot produce this multitude of thoughts and cannot be their efficient cause. Geulincx goes further and considers the specificity of sensations in order to show that this thinking and willing being, before long revealed to be God, produces these sensations only on the occasion of the presence of a body. Given the fact that that body is itself incapable of producing thoughts in the mind, it can be only the occasion, and not the real cause of those thoughts. "Bodies act on me not as causes, but only as instruments . . . A body can be said to be mine only because it is the occasion for God to produce thoughts in me" (*Metaphysica vera*, 154). Thus, Geulincx's occasionalism begins not with considerations about the heterogeneity of substances, but rather uniquely on the

discovery of the impotence of the "I" to produce or even simply account for the infinite multiplicity of its thoughts.

By virtue of the same axiom – something cannot be the cause of that which it does not know how to bring about – the will cannot be regarded as the efficient cause of the actions of the body. When metaphysics moves from a science of the self to a science of the world, that is, a theory of body in general, the same principles are at work. A body cannot move itself or move another body, because it is not a knowing being and efficient causality necessarily implies knowledge of what is being caused. God is and remains the only mover and conserver of everything.

French occasionalism, then, begins with the nature of extended substance and the question of physical motion, while the Dutch variety inverts the procedure and begins with an investigation of the powers of the thinking substance.

We can thus distinguish between two tendencies in the development of occasionalism, each of which can be traced back to Cartesian theses.

1. First of all, there is a physicalistic occasionalism that takes as its point of departure the question of motion in material nature. This occasionalism deals with the question of the human being by importing to the problem of mind–body union, and not without some risk, a solution that is identical to that which allows it to handle the transmission of motion among bodies. Such an occasionalism feeds off of the difficulties of the Cartesian doctrine of continuous creation.
2. Inversely, Geulincx begins with the *cogito*, "I think," and an investigation of the thinking substance and the relation between thought and its objects. It then extends the principle of occasionalism to the totality of created beings.

Occasionalism, if only by the diversity of its points of departure and its arguments, does not constitute a sufficiently unified doctrine. Each author puts his own peculiar stamp on it. Nevertheless, it seems possible to clarify several theses that, together, permit us to see occasionalism as a philosophy.

1. Occasionalism affirms two complementary theses: the concentration of all efficacy in God as the sole "true cause," and the consequent denial of efficient causes in nature.
2. In this way, occasionalism radicalizes the doctrine of continuous creation. God conserves not only the being of substances, but also, and by the same efficacy, the modalities that determine them. God is the author of bodies as well as their motions, thinking substances as well as their thoughts (a claim that will not be without its difficulties for Malebranche).
3. Occasionalism, in its arguments, relies on a critique of the senses. The senses tend to lead us to believe in the existence of real causal relations between created beings. Occasionalism substitutes for this belief a demonstration of the fact that sensation really reveals only simple occasional correlations.
4. On the foundation of certain Cartesian theses, especially the denial of the resemblance allegedly required between cause and effect, occasionalism offers a critique of the exemplary nature of causation: an effect can be what it is without

necessarily resembling its cause. The link between cause and effect is thus arbitrary, resulting from a divine institution.

5. The occasion, or "occasional cause," is thought of as a sufficient reason and thus as the intelligible norm for divine efficacy. The regularity of the conjunction between occasion and efficient cause constitutes a permanent law of nature and grounds a science of nature.

6. Occasionalism presupposes a mechanistic interpretation of nature, as it explains all changes through local motion alone.

In the end, though, it is Malebranche who deserves credit for generalizing occasionalism to encompass the entire created universe and for making it into a philosophically complete system. In effect, his predecessors, with the exception of Geulincx, ignored the question of the mind and its ideas. Malebranche extends the principles of occasionalism even into this domain when he affirms that our mind is not the cause of its own ideas and that it can see those ideas only in God. From the weakest of bodies to the guardian angel of nations, from matter to grace, one and the same principle – and thus one and the same system of relations – will govern the relationship between God and the world.

Translated by Steven Nadler

References

Cordemoy, Géraud de, 1968, *Six discourses sur le discernement de l'âme et du corps*. Paris: Presses Universitaires de France.

Descartes, René, 1964–1976, *Oeuvres de Descartes*, edited by Charles Adam and Paul Tannery, 12 vols. Paris: J. Vrin.

Geulincx, Arnold, 1891–93, *Metaphysica vera*, 2 vols. The Hague: Martinus Nijhoff.

La Forge, Louis de, 1984, *Traité de l'esprit de l'homme*. Hildesheim/New York: G. Olms Verlag.

Further Reading

Balz, A. G., 1987, "Géraud de Cordemoy", in A. G. Balz, *Cartesian Studies*. New York: Garland.

De Lattre, Alain, 1970, *L'occasionalisme d'Arnold Geulincx*. Paris: Minuit.

Nadler, Steven, 1993, "The Occasionalism of Louis de la Forge", in *Causation in Early Modern Philosophy*. University Park, PA: Penn State Press.

—— 1998, "Louis de la Forge and the development of Occasionalism: Continous creation and the activity of the soul," *Journal of the History of Philosophy* 36: 215–31.

—— 1999, "Knowledge, volitional agency and causation in Malebranche and Geulincx", *British Journal of the History of Philosophy* 7: 263–74.

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11

Nicolas Malebranche

TAD M. SCHMALTZ

Life and Works

Nicolas Malebranche was a French Catholic priest who was hailed by his contemporary PIERRE BAYLE (chapter 17) as "the premier philosopher of our age." Over the course of his philosophical career he published major works on metaphysics, theology, and ethics, as well as studies of optics, the laws of motion and the nature of color. He is known principally for offering a highly original synthesis of the views of his intellectual heroes, St. Augustine and RENE DESCARTES (chapter 5).

Malebranche was born in Paris on August 6, 1638, one month prior to Louis XIV, and died in the City of Lights on October 13, 1715, six weeks after the Sun King. Malebranche's father, Nicolas, was a secretary to Louis XIII, and his mother, Catherine de Lauzon, was the sister of a Viceroy of Canada. Malebranche was afflicted from birth with a severe malformation of the spine, and due to this condition as well as his frail lungs he needed to be tutored at home until the age of sixteen. Subsequently he became a student at the Collège de la Marche, and after graduating went to study theology at the Sorbonne. His education left him with a distaste for a traditional scholasticism tied to the works of Aristotle, and in 1660 he decided to leave the universities and to enter the Oratory, a religious congregation founded in 1611 by the Christocentric Augustinian theologian Pierre Bérulle (1575–1629). There Malebranche studied ecclesiastical history, linguistics, and the Bible, but was judged by his teachers to be merely "mediocre." He was ordained a priest on September 14, 1664.

That same year Malebranche happened in a Paris bookstall upon a posthumous edition of Descartes' *L'homme*, which contains a mechanistic account of the physiology of the human body. Malebranche's early biographer, Father Yves André, reported that he was so "ecstatic" on reading this account that he experienced "such violent palpitations of the heart that he was obliged to leave his book at frequent intervals, and to interrupt his reading of it in order to breathe more easily" (André 1970, 11–12). While André does not indicate why Malebranche was so moved, one can speculate that he had discovered in this text a way to investigate the natural world without relying on a stagnant Aristotelian orthodoxy. In any case, after his encounter with *L'homme* Malebranche devoted himself to a decade-

long study of the Cartesian method and its results in mathematics and natural philosophy.

The fruit of this study is a two-volume work bearing the title, *De la recherche de la vérité. Où l'on traitte de la nature de l'esprit de l'homme, et de l'usage qu'il en doit faire pour eviter l'erreur dans les sciences* (1674–5). It is primarily this text which is the basis for Malebranche's reputation in the modern period. As its full title indicates, the *Recherche* focuses on the principal sources or human error and on the method for avoiding those errors and for finding the truth. The first five books are devoted to the errors deriving from the senses, imagination, pure understanding, inclinations and passions, respectively, and a sixth book is devoted to the Cartesian method of avoiding error in the sciences through attention to clear and distinct ideas. The centerpiece of the third book, on pure understanding, is a defense of the claim that the ideas we perceive exist in God. Tucked away in the final book, on method, is a critique of "the most dangerous error of the ancients," namely, the Aristotelian position that there are secondary causes in nature distinct from God.

The first volume of the *Recherche*, containing the first three books, drew an immediate response in 1675 from the abbé Simon Foucher (1644–96), an "academic skeptic" who attacked the assumption that ideas in us can represent objects distinct from us (see Foucher 1969). The Cartesian Benedictine ROBERT DESGABETS (1610–78, chapter 14) replied to Foucher by insisting that the Cartesian rule that clear and distinct ideas are true presupposes that our thoughts correspond to real external objects. In brief prefaces added to the second volume of the *Recherche*, Malebranche chastised both thinkers for failing to read the work they were discussing, noting in particular that he had explicitly argued in the *Recherche* that the ideas we perceive exist in God rather than in us.

In 1677, Malebranche published the *Conversations chrétiennes*, the first of several dialogues that he wrote over the course of his career. This text is a defense of the Christian religion that emphasizes the Augustinian theme of our dependence on God for knowledge and happiness. Around the time he published this work, Malebranche solicited written responses to the *Recherche* modeled on the sets of objections published with Descartes' *Meditations*. No doubt put off by Malebranche's harsh treatment of Foucher and Desgabets, however, his critics offered instead only informal objections channeled through mutual friends. In 1678, Malebranche appended to the *Recherche* a set of sixteen "Eclaircissements," or clarifications, that respond to these objections. Among the more important objections addressed are those that concern Malebranche's claim that we have a freedom to "consent" to certain motives for action ("Eclaircissement I"), his view that reason provides no conclusive demonstration of the existence of the material world ("Eclaircissement VI"), his doctrine of the vision of ideas in God ("Eclaircissement X"), his assertion that we know our own soul through a confused consciousness rather than through a clear idea of its nature ("Eclaircissement XI"), and his occasionalist conclusion that God is the only true cause ("Eclaircissement XV"). In the 1678 edition there is a final Eclaircissement that defends the importance "not only for knowledge of nature but also for knowledge of religion and morals" of the view, only hinted at in the *Recherche*, that God acts for the most part through "general volitions" (*volontez*

générales) and acts though "particular volitions" (*volontez particulières*) only in the exceptional case of miracles.

Prompted by a request from the theologian Michel Le Vassor (1646–1718) for a clarification of this last point, Malebranche wrote a treatise on grace that later provided the basis for Le Vassor's lectures at a Paris seminary. The Jansenist theologian ANTOINE ARNAULD (chapter 8) was disturbed by the lectures and demanded that Malebranche disown the views contained therein. Invoking the Augustinian dictum that faith depends on authority and not on reason, Arnauld objected in particular to what he saw as Malebranche's denial of the assertion in the Scriptures and the tradition of God's attention to particular details in matters of grace. Instead of disowning his views, Malebranche decided to work up a fuller account of divine activity, and despite Arnauld's protests he published the *Traité de la nature et de la grâce* in 1680. Arnauld responded to this publication by engaging in open combat, and the ensuing battle became one of the major intellectual events of the day. Arnauld's opening salvo was the 1683 *Des vraies et des fausses idées*, which attacks not *Nature et grâce* but rather the *Recherche* (see Arnauld 1990). The strategy here was to undermine Malebranche's influence in theological matters by revealing the inadequacy of his philosophical views. In particular, Arnauld attacked Malebranche's assumption that ideas are "representative beings" distinct from our perceptions, offering instead the position, which he plausibly ascribed to Descartes, that ideas are simply a feature of the perceptual modifications of our soul. This argument reflects a sympathy for Descartes's views that dates back to Arnauld's set of comments on the *Meditations*. In Arnauld and Malebranche we have two fundamentally different ways of combining the views of Descartes and Augustine.

The same year that Arnauld presented his initial critique, Malebranche published the *Méditations chretiennes et métaphysiques*, where "the Word" (i.e., the Second Person of the Trinity) offers a summary of his system that highlights the central role that God plays in both metaphysics and morality. The following year, Malebranche published the *Traité de morale*, in which he argued that moral virtue requires a love of the "immutable order" that God reveals to those who seek to know it.

In 1684, Malebranche also responded to Arnauld's *Idées*, and after a further exchange on the topic of the nature of ideas the debate turned to the religious issues of divine providence, grace and miracles. The battle became increasingly bitter, and as a result of a campaign on the part of Arnauld and his supporters, Malebranche's *Nature et grâce* was put on the Catholic *Index librorum prohibitorum* in 1690 (the *Recherche* was added in 1709). The Malebranche–Arnauld polemic continued even after Arnauld's death in 1694, with the posthumous publication of two letters from Arnauld in 1699 and of Malebranche's response to those letters in 1704.

In 1685, Malebranche went to Normandy to gain new converts from Calvinism in the wake of the Revocation of the Edict of Nantes. After his return, he published the 1688 *Entretiens sur la métaphysique et la religion*, a concise summary of his main metaphysical doctrines of the vision in God and occasionalism that also addresses the problem of evil. In 1696, he appended to this text the *Entretiens sur la mort*, which he composed after a life-threatening illness.

In 1692, Malebranche published a short study, the *Lois de la communication des mouvements*, in which he endorsed Descartes' law of the conservation of the

quantity of motion but offered rules governing collision that, unlike Descartes' own rules, involve no appeal to a force in bodies to remain at rest. In correspondence with Malebranche, Leibniz emphasized difficulties with Descartes' conservation law, and that correspondence led Malebranche to insert into a 1700 edition of the *Lois* the admission that this law is false.

In 1693, Malebranche responded to the criticisms of the *Recherche* in the 1690 *Systême de philosophie* of the Cartesian PIERRE-SYLVAIN REGIS (chapter 13). Régis had defended an account of ideas similar to the one that Arnauld had defended against Malebranche in the previous decade, and Arnauld used the Régis–Malebranche exchange as an occasion to return to the issue of ideas during the last year of his life. A further issue between Régis and Malebranche concerned the proper account of the differences between the perceived sizes of the moon on the meridian and the horizon, and on this issue a group of malebranchist mathematicians and natural philosophers in the Paris Académie des sciences came to Malebranche's aid. Malebranche himself was appointed (with Régis) as a member of this organization when it was reorganized in 1699. He presented an inaugural lecture to the Académie that defends against Descartes an account of color in terms of the frequency of vibrations of light. In later published versions of the lecture, Malebranche revised his discussion to take into account the theory of the nature of color in the work of the great English natural philosopher, ISAAC NEWTON (chapter 26).

In 1699, Malebranche also published *De l'amour de Dieu* with *Trois lettres à Lamy*, in which he rejected the claim of the Benedictine François Lamy (1636–1711), that the *Traité de morale* supports the quietist position that moral action derives from a disinterested "pure love of God." This rejection of Lamy's quietism provided the basis for Malebranche's reconciliation with the famous French cleric, Jacques-Bénigne Bossuet (1627–1704). Bossuet had earlier enlisted the aid of François de Fénelon (1651–1715) in writing against Malebranche's occasionalism and his appeals to "general volitions," but later became a bitter enemy of Fénelon's defense of quietism.

With the support of the apostolic vicar in China, Malebranche published in 1708 an *Entretien d'un philosophe chrétien et d'un philosophe chinois, sur l'existence et la nature de Dieu*. A sixth and last edition of the *Recherche* appeared in 1712, and in 1715 Malebranche published his final work, *Réflexions sur la prémotion physique*, in which he responded to the claim of the abbé Laurent-François Boursier (1679–1749) that occasionalism leads naturally to the Thomistic position that God determines our action by means of a "physical premotion." In his response, Malebranche defended the claim, present in the initial edition of the *Recherche*, that our free action involves a "consent" that God does not determine.

Malebranche (1958–84), which includes 20 volumes, is the standard critical edition of Malebranche's writings. The increasing popularity of Malebranche in the English language literature is indicated by the presence of recent English translations of his writings; see Malebranche (1980a), Malebranche (1980b), Malebranche (1993), Malebranche (1997a), and Malebranche (1997b). Easton, Lennon and Sebba (1992) is a comprehensive bibliography of work on Malebranche in various languages. This work supersedes the bibliography in volume 20 of Malebranche (1958–84), which supersedes in turn Sebba (1959).

Vision in God and Ideas

One of the most controversial claims in the *Recherche* is that "we see all things in God," the so-called doctrine of the "vision in God." This doctrine provided the basis for the charge of Malebranche's critics that he fell into religious "mysticism" and "enthusiasm." However, even a cursory consideration of his work reveals that the vision in God and the account of ideas associated with it have a significant philosophical component.

The *Recherche* qualifies this doctrine in a significant way when it asserts that "we see in God only the things of which we have ideas," and in particular only bodies and their properties. Thus the claim is that we see all things (that is, bodies) in (that is, through ideas in) God. Malebranche's initial argument for this doctrine occurs in a section of his text that is devoted to "the nature of ideas." This section begins by defining an idea as "the immediate object or what is closest to the mind when it perceive some thing." Malebranche claimed that this idea must be distinct from the bodies it represents since there can be ideas of bodies that do not exist, as in the case of the idea of a golden mountain. Moreover, he held that since ideas are "joined" to our mind in perception, and since our minds cannot be related in this way to something that is not spiritual, the ideas that serve as the immediate objects of our perceptions must themselves be spiritual.

Arnauld objected that this initial account already presupposes that ideas are some sort of *tertium quid* distinct from our mind, and thus neglects the possibility that ideas are identical to our own perceptions. He further developed this purportedly neglected alternative by drawing on the claim in Descartes that while an external object such as the sun cannot exist in our mind "formally," as it exists in the heavens, it can exist there "objectively," in the perception of the sun. Arnauld allowed that the perception as a mode of mind is conceptually distinct from the perception as representative of external objects, but he nonetheless insisted that there is no real distinction between the two.

Malebranche countered that Descartes in fact allowed for the possibility that the objective reality of our perceptions is distinct from the perceptions themselves. Given Arnauld's considerable intellectual power and intimate knowledge of Descartes, however, there was little chance that Malebranche could surpass him in Descartes exegesis. Furthermore, Arnauld's identification of ideas with perceptions does have an intuitive appeal, especially when compared to Malebranche's more exotic doctrine of the vision in God. However, there is some reason to question the charge that the discussion in the *Recherche* simply begs the question against those who accept this sort of identification. After all, this text does critically examine four different alternatives to the view that ideas are objects that exist outside our own mind. The first three options hold that ideas of bodies are produced in the mind by scholastic bodily species, an innate power of mind, or successively by God, while the fourth identifies ideas with features of our own mind. In later editions of the *Recherche* Malebranche identified this fourth option with Arnauld's position, and from the first edition he had argued against it by emphasizing that the ideas we perceive have an infinite complexity that our perceptions cannot comprehend. The upshot is that

ideas of bodies can be contained only in the infinite mind of God. Malebranche further emphasized the Augustinian point that these ideas are to be identified with eternal archetypes in God that serve as the models for His creation of the material world.

Although this argument for the doctrine of the vision in God does not beg the question in the manner that Arnauld indicated, it still is odd insofar as the proposed set of alternatives to this doctrine combines three theses concerning the origin of ideas with a Cartesian thesis concerning their nature. While Malebranche never explicitly conceded that the argument is odd in this way, he nonetheless attempted in later writings to construct different arguments for the vision in God that focus more on the nature of the ideas we perceive. Thus, in the 1678 "Eclaircissement X" he emphasized an argument that draws explicitly on the Augustinian position that our knowledge of eternal truths derives from a kind of divine "illumination." In Malebranche, the argument is that since the ideas we perceive are themselves necessary and immutable essences, they can exist only in an "immutable and necessary Reason." The insistence here is that the essences we perceive have a necessary reality grounded in something distinct from our own mind. Malebranche charged that Arnauld's alternative suggestion that these essences exist only objectively in our soul introduces a radical subjectivism that renders impossible any sort of objective a priori knowledge of the material world.

In "Eclaircissement X," Malebranche noted that there is in fact a single "ideal or intelligible infinite extension" in God that provides the foundation for our knowledge of body. Arnauld objected that this claim involves a retraction of the view in the *Recherche* that we perceive bodies by means of distinct ideas in God. In response, Malebranche insisted that his position all along was that God represents particular bodies by means of His own simple "absolute being." Arnauld also insinuated that Malebranche's view that God contains extension is connected to the heretical view in the work of the Dutch thinker BENEDICT SPINOZA (chapter 16) that God is extended substance. The charge of Spinozism reappears in Malebranche's 1713–14 correspondence with one of his former students, J. J. Dortous de Mairan (1678–1771), who later was a Secretary of the Paris Académie des Sciences. As in the case of Arnauld, so in this correspondence Malebranche vigorously denied this charge. In both cases, he responded by emphasizing that the infinite and indivisible ideal extension that exists in God differs from the finite and divisible extension in the material world.

Even if this response is successful, there remains the question of how precisely God's intelligible extension is related to our own perceptions of the material world. The vision in God is introduced in a book of the *Recherche* devoted to pure intellect, but relatively little is said there about the nature of our intellectual conceptions of body. A further problem concerns the connection between God's ideas and our sensory experience. Malebranche did note in the *Recherche* that these ideas are found "in conjunction with" sensations, yet he said little there about the nature of the conjunction. He went a bit farther in "Eclaircissement X" when he claimed that we render intelligible extension "sensible" by "attaching" various sensible qualities to it. However, the language here is rather metaphorical. It was only after the introduction of his theory of the "efficacious idea" that Malebranche was able to unpack the metaphor.

As first noted in Robinet (1965), the term "efficacious idea" (*idée efficace*) became entrenched in Malebranche's system around 1695, after his encounter with his Cartesian critic Régis. In his *Systême de philosophie*, Régis had challenged the claim in the preface to the *Recherche* that our mind is united to God in a manner that "raises the mind above all things" and is the source of "its life, its light, and its entire felicity" (Malebranche 1958–84, 1: 9). While he granted the commonplace that God must create and conserve our soul, Régis denied that we are enlightened by means of a union with ideas of bodies in God. Rather, he insisted that God conserves in us ideas that derive directly from the bodies they represent. In the 1693 *Réponse à Régis*, Malebranche emphasized his Augustinian position that we can be instructed as to the nature of bodies only through a union with God. However, he put a new spin on this position when he noted that the union with God involves an "affecting" or "touching" of our mind by God's idea of extension.

Already in the 1688 *Entretiens sur la métaphysique* Malebranche had suggested that the union with God is to be explicated in terms of a causal relation between God's ideas and our mind. After 1695, he developed this account by introducing the notion of "pure" or non-sensory intellectual perceptions that are produced by God's efficacious idea of extension. Yet he also stressed in this later period that such an idea is the causal source of our sensations. One motivation for this extension of the doctrine of efficacious ideas to sensations is provided by Malebranche's repeated admission that our sensations can play at least an instrumental role in leading us to knowledge of the nature of bodies. Given his Augustinian principle that God alone can instruct us, it was natural for him to hold that his idea of extension is the causal source even of our sensations. The claim that we see ideas in God is thus transformed into the claim that our soul has intellectual and sensory perceptions that yield an understanding of the truth concerning bodies in virtue of their causal relation to God's idea of extension. Drawing on Robinet's results, one scholar has concluded that while Malebranche started with the vision *in* God, he ended with a vision *by* God (Alquié 1974, 209).

Cartesian Matter and the Soul

Malebranche told Arnauld that it was Augustine's authority "which has given me the desire to put forth *the new philosophy of ideas*" (Malebranche 1958–84, 6: 80). By contrast, he emphasized in the preface of the *Recherche* that Augustine had failed to see that sensible qualities "are not clearly contained in the idea we have of matter," adding that "the difference between mind and body has been known with sufficient clarity for only a few years" (Malebranche 1958–84, 1: 20). The allusion here is to Descartes's recent discovery of an idea of matter that reveals that its nature consists in extension alone. This idea dictates that sensible qualities that are not reducible to modes of extension, such as colors, tastes and odors, cannot exist external to mind. But since these qualities exist in the mind, and in particular in the mind's perception of the qualities, the mind itself must be distinguished from body. In this way the Cartesian idea of matter reveals "the difference between mind and body."

In the initial books of the *Recherche*, Malebranche proposed that the erroneous belief in the Aristotelians as well as in Augustine that sensible qualities exist in bodies has its source in a misuse of "natural judgments" that help in the conservation of the body. Here he was following Descartes' account in "Meditation VI" of the "teachings of nature," and in particular the claim there that the purpose of sensations is not to teach us about the nature of bodies but simply to inform us of what is beneficial or harmful to the human composite. Just as Descartes had urged that error concerning beliefs about the nature of body can be avoided by attending to the clear and distinct perceptions of the intellect, moreover, so Malebranche counseled that we avoid error by attending to what a clear idea of matter reveals to us about the nature of body. As we have seen, Malebranche had Augustinian reasons for saying that the idea that so instructs us exists in God. By his own admission, however, the conclusion that the idea that instructs us is an idea of *extension* derives from the recent discoveries of Descartes.

Malebranche emphasized that the idea of extension must be distinguished from our confused sensations. One point he wanted to make is the Augustinian one that the ideas exist in God while the sensations are only modifications of our mind. However, his emphasis on the fact that this idea is "pure" or non-sensory indicates that our experience of the material world has an intellectual component. We have seen that his late doctrine of the efficacious idea involved the position that we have pure intellectual perceptions produced by God's intellectual idea of extension. Moreover, his mature position that this idea is the cause of our sensations allows for the claim that our most basic sensory contact with the material world has an intellectual component.

It is undeniable that Malebranche's doctrine of the vision in God has a non-Cartesian basis. Indeed, in "Eclaircissement X" he defended the Augustinian implication of this doctrine that eternal truths are grounded in necessary features of God's essence against the claim in Descartes that these truths derive from God's free will. However, Cartesian considerations are relevant not only with respect to the view that the idea of extension reveals the nature of the material world, but also with respect to two significant qualifications of the vision in God. The first qualification is that God's idea of extension can reveal only the nature of bodies and not their existence. This qualification is not explicit in the initial edition of the *Recherche*, which says only that the existence of properties of bodies external to us is "very difficult to prove" (Malebranche 1958–84, 1: 122). Foucher had objected that Malebranche has no good reason to affirm the external existence of these properties. In "Eclaircissement VI," Malebranche urged that the idea of extension does reveal the possible existence of the material world, and that Descartes has shown that we have a probable argument for its actual existence deriving from our natural propensity to believe that there are bodies. However, he conceded in this text – without crediting Foucher – that neither he nor Descartes can provide an argument from reason that demonstrates "with evidence" or "with geometric rigor" that this belief is true. His conclusion is that such an argument must appeal to faith in the veracity of the report in the Scriptures that God has created the heavens and the earth.

According to the second qualification to the vision in God – which is explicit in the original edition of the *Recherche* – we perceive the nature of our soul not

through a clear idea in God, but only through a confused "consciousness or inner sensation" (*conscience ou sentiment intérieur*). Malebranche accepted the Cartesian commonplace that consciousness reveals immediately the existence of the soul. He allowed that we know the nature of our soul to consist in thought, moreover, and he embraced a Cartesian dualism of soul and body. Yet he insisted that we know that the soul is distinct from the body not by means of any direct insight into the nature of thought, but rather by seeing that thought is not contained in the idea of matter. More generally, Malebranche claimed that our lack of access to a clear idea of the soul is evident from the fact that we do not have knowledge of thought that matches our knowledge of the mathematical features of bodies. This last point turns on its head Descartes' own conclusion in "Meditation II" that the nature of the human mind is "better known" than the nature of body; for Malebranche, it is the nature of body that is better known than the nature of mind.

In "Eclaircissement XI," Malebranche attempted to counter "the authority of Descartes" by arguing that the Cartesians themselves must admit that they have only a confused awareness of the nature of the sensory modifications of the soul. He noted that while the intellectual idea allows the various modes of extension to be related in a precise manner, there is no clear scale on which we can order our sensations of different shades of the same color, not to mention our sensations of sensible qualities of different kinds. Malebranche took the confusion in the sensations to reveal a confusion in our perception of the nature of the soul. He added that Cartesians can discern that sensible qualities are modifications of an immaterial soul only by seeing that they are "not clearly contained in the idea we have of matter."

Occasionalism and Theodicy

Malebranche is known for his occasionalism, that is, his doctrine that God is the only causal agent, and that creatures merely provide the "occasion" for divine action. On the old textbook account, he offered occasionalism as an *ad hoc* solution to the purported problem in Descartes of how substances as distinct in nature as mind and body are can causally interact. According to this account, Malebranche was driven by this problem to propose that it is God who brings it about that our sensations and volitions are correlated with motions in our body.

In the *Recherche*, however, Malebranche introduced the doctrine of occasionalism as part of a comprehensive alternative to a view of nature in the Aristotelian scholastics that appeals to the causal contributions of various forms and qualities. His argument is that such a view involves an idolatrous attribution to creatures of powers that belong to God alone. This line of argument is reminiscent of an earlier argument for occasionalism in the Islamic theologian Algazali (1058–1111), who objected to what he saw as the impious challenges to divine omnipotence in the work of "the philosophers," that is, the Islamic followers of Aristotle. However, Malebranche's occasionalism is tied to his distinctively Cartesian animus against an Aristotelian tendency to attribute to bodies more than is contained in the clear idea of extension. For Malebranche, more than for Descartes, this idea reveals that bodies

are composed of inert bits of matter in motion. Malebranche claimed that divine action is required to explain why material parts communicate motion in the manner that they do. In his view, therefore, occasionalism provides the metaphysical grounding for a suitably revised version of Descartes' physics of matter in motion.

There were followers of Descartes such as LOUIS DE LA FORGE (chapter 10) and Claude Clerselier (the co-editors of the edition of *L'homme* that so moved Malebranche) who stressed that God must be the cause of the communication of motion in bodily collisions given the passivity of Cartesian matter. Yet both La Forge and Clerselier wanted to preserve some room for the action of mind on body, and thus did not fully anticipate the strong occasionalist claim in Malebranche that only God can cause changes in the material world. This claim is anticipated in the work of the Cartesian GERAUD DE CORDEMOY (chapter 10), though even Cordemoy did not emphasize the point in Malebranche that God must produce those alterations in our mind that follow on our own volitional acts.

In both the *Recherche* and "Eclaircissement XV," Malebranche provided an argument for the strong conclusion that God alone can cause changes in bodily and mental states that relies on the assumption that "a true cause . . . is one such that the mind perceives a necessary connection [*liaison nécessaire*] between it and its effects" (Malebranche 1958–84, 2: 316). He claimed that there is such a connection neither among bodily states, nor between bodily and mental states, nor among mental states. In all of these cases, one can deny the connections without contradiction. There can be a necessary causal connection in only one case, namely, the connection between the volitions of an omnipotent agent and its upshots. Thus, only such an agent, namely, God, can be a true cause.

In the 1688 *Entretiens sur la métaphysique*, he offered a different argument based on Descartes' suggestion in "Meditation III" that God conserves the world by continuously creating it. The argument begins with the claim that God must create bodies in some particular place and in determinate relations of distance to other bodies. If God conserves a body by creating it in the same place from moment to moment, that body remains at rest, and if he conserves it by creating it in different places from moment to moment, it is in motion. We cannot even create motion in our own bodies. Rather, it is God who must produce it on the occasion of volitional states. Moreover, it is not motions in our brain that cause our sensory states, but God who produces them on the occasion of the presence of such motions. Finally, I have indicated the view in the *Entretiens* that God produces our intellectual states through the union of our mind with His "intelligible extension." While the argument from the necessity of the causal connection yields the result that only an omnipotent being can be a cause, the argument here is that only that being which creates/conserves the world can cause various bodily and mental states. However, both arguments converge on the conclusion, which Malebranche claimed to find in Augustine, that all creatures depend entirely on God.

There is an obvious relation here to the implication of the Augustinian doctrine of the vision in God that we depend on God for our knowledge; indeed, we have seen that occasionalism and the vision in God converge in Malebranche's late doctrine of the efficacious idea. Yet there is a further dimension of Malebranche's

occasionalism that is broached by his view that God is directly responsible for the fact that bodies follow (updated) Cartesian laws of motion. In "Eclaircissement XV," he urged that God acts "almost always" by means of a "general and efficacious will" that reflects simple laws of nature. There is an allowance here for God's production of miracles by "particular volitions" that are not law-like, though also an emphasis on the fact that there are relatively few such volitions. The *Entretiens* indicates that God's activity in nature follows for the most part not only laws that regulate the communication of motions and the union of our intellect with God, but also those that govern the soul–body union, that is, the union of the sensations and volitions of our soul with particular motions in our body.

In *Nature et grâce*, Malebranche highlighted the generality of divine action in order to defend a solution to the problem of natural evil that forms a significant part of his theodicy. He admitted there that God could have acted by particular volitions to prevent, for instance, malformed offspring (a fitting example given his own malformed spine), and thus could have produced a more perfect world than He actually did create. However, he emphasized that he could have done so only by departing from simple laws of motion, thereby sacrificing the simplicity and uniformity of action that is a supreme mark of His wisdom. God produces the natural evils that follow from simple laws not because He wills not those particular effects, but because He wills a world that best reflects His wisdom by possessing the most effects governed by the fewest laws.

In his *Réflexions* on Malebranche's *Nature et grâce*, Arnauld objected to what he took to be the suggestion in his target text that God has concern only for general features of the world and does not will the details of His effects. For Arnauld, divine providence requires that God intend all of the particularities of the world He creates. There is some controversy over whether Arnauld's critique is based on a proper interpretation of Malebranche. Certain commentators follow Arnauld in thinking that Malebranche's claim in *Nature et grâce* that God acts by relatively few general volitions involves a rejection of the position that He has volitions for each particular effect. Others have insisted that this claim says only that God has volitions in accord with general laws, and that the doctrine of God's continual creation in the *Entretiens* in fact requires distinct volitions for distinct effects. The texts themselves do not seem to settle the issue decisively, since they clearly indicate neither that continual creation derives from few general volitions, nor that the claim that God wills through few volitions indicates merely that He wills in accord with a small number of laws. However, I would simply note the possible significance of the fact that the position that God wills particular effects through a single general volition mirrors the implication of Malebranche's efficacious idea theory that various sensations and pure perceptions derive from a single intelligible extension in God.

What concerned Arnauld was not so much Malebranche's view of the role of the general will in nature, however, but more his claim that such a will is operative in the realm of grace. More specifically, Arnauld took exception to Malebranche's claim in *Nature et grâce* that the distribution of grace derives from a general volition that reflects universal laws, rather than from particular volitions to save certain individuals. For Arnauld, such a claim compromises what he took to be the strong Augustinian doctrine of predestination and the efficacy of divine grace. There is in

fact a clear contrast here given Malebranche's emphasis on the fact that just as God's adherence to the general will in nature allows for rain to fall on fallow land, so his adherence to this will in supernatural matters allows for grace to fall on unprepared souls. He allowed that God in fact does not distribute grace equally, and that certain individuals receive more than others. Yet he explained the inequality by appealing to general laws that tie the distribution of certain kinds of grace to the non-general desires in the human soul of Jesus Christ. The reason that Malebranche made Christ's desires primary here is indicated by his view that the Incarnation is required for creation. Without the incarnated Christ, the world could not fully reflect God's glory, and thus could not be a world that God's wisdom would lead Him to create. This Christocentrism reflects the influence of Bérulle and the Oratory on Malebranche's thought.

For Malebranche, the realm of grace goes beyond the realm of nature in involving not only the particular desires of Christ, but also human decisions to accept or reject grace. His insistence that such a decision is free in the strong sense of being undetermined by anything external to the agent is central to his solution to the problem of moral evil, that is, the compatibility of sin with God's goodness. His solution is that God is not responsible for sinful action since such action derives not from Him but from sinful agents. Arnauld objected that this solution is "more pelagian than anything in Pelagius," and that one must side with Augustine, who declared Pelagianism a heresy. Malebranche responded that he did not follow Pelagius in denying the importance of grace, and that Augustine himself had emphasized our freedom in action.

Even so, there is some question whether Malebranche can attribute any genuine freedom to us given his occasionalist claim that God is the only real cause. In the *Recherche*, Malebranche had attempted to address this question by explaining a sense in which the will can be said to be active. He began by comparing the faculty of the will to the faculty that matter has of receiving motion. Inclinations are conceived as a kind of "mental motion" that is always directed toward "the good in general," since we always are inclined toward happiness. Whereas material motion is determined entirely by God, however, the will is free in the sense that it has the power to "turn" its inclinations toward certain objects that are pleasing rather than to others. The suggestion is that the view that the will has this power is not inconsistent with occasionalism since God creates all that is real in volition, namely, the counterpart of the "quantity of motion" in inclinations.

One difficulty for this account of free will is that Malebranche had indicated in the *Recherche* that our inclinations are initially directed to pleasing objects by nature, that is to say, by God. There would seem to be no room for any sort of "turning" by the will on our part. This problem may explain why Malebranche later emphasized in "Eclaircissement I" that our freedom consists in "consenting" to the inclination for a particular good. Since this consent is a mere "repose," an inactivity that preserves a particular inclination, there is no conflict with the claim that God is the cause of everything that is "real and positive" in our action. However, Malebranche also indicated that freedom involves not only the power to consent, but also the power to "suspend" that consent by searching for other objects to desire. But this suspension of consent is also supposed to be an activity that does

not conflict with God's causal hegemony. The obvious question is how one inactivity can be opposed to another.

In his last work, the *Réflexions sur la prémotion physique*, Malebranche provided what seems to be a distinctive third account of free will. He argued there that our will is a "moral" cause that does not produce the "degrees of speed" of its inclinations but merely directs those motions either toward or away from particular objects. The inspiration for this account is almost surely the claim in the *Corporis et Animae* of the Cartesian JOHANNES CLAUBERG (chapter 9) that while God alone can be a physical cause that creates and conserves the quantity of bodily motion, we can be a moral cause that "guides and directs" those motions in a particular way. Malebranche rejected this claim concerning bodily motion, but he came to see how Clauberg's views could be applied to the case of free human consent. The account in the *Réflexions* is in some ways a return to Malebranche's initial account in the *Recherche*, though his later writings introduce the crucial distinction between "natural" inclinations determined by God and "free" inclinations that we direct. Moreover, his most mature view sidesteps the main difficulty with the middle account in "Eclaircissement I" insofar as it allows for a kind of opposition between consent, where the mind acts as a moral cause of its free inclinations, suspension, where it refrains from so acting.

Influences

Malebranche's influence on seventeenth- and eighteenth-century philosophy was significant. This is clear in the case of GOTTFRIED LEIBNIZ (chapter 18), who wrote to Malebranche in 1679 that "I enthusiastically approve of the two propositions that you put forward: namely, that we see all things in God and that bodies strictly speaking do not act on us." Leibniz's discussion in his 1684 *Discours de la métaphysique*, moreover, bears an evident relation to Malebranche's *Nature et grâce*. There Leibniz followed Malebranche in insisting that God acts in accord with wisdom and that He selects from among an infinity of possible worlds that world which best reflects His perfection by balancing simple laws and variety of effects. Leibniz stressed, in line with Malebranche's views, that the simplicity constraint governs both laws of nature and laws of grace. The *Discours* also includes a section in which Leibniz commented on the Arnauld–Malebranche debate on the nature of ideas and offered some complimentary remarks concerning the vision in God. In his 1710 *Théodicée*, Leibniz highlighted his agreement with the claim in *Nature et grâce* that natural evil is due to the fact that God's wisdom dictates that He restrict himself to a "general will." However, he also charged in this text that Malebranche's occasionalism leads to a kind of Spinozism insofar as it denies the activity and thus the substantiality of creatures. Leibniz offered there his "pre-established harmony," on which creatures have the power to cause alterations in their own states. This theory, which is anticipated in the *Discours*, certainly distinguishes Leibniz's view from Malebranche's. However, Leibniz himself sometimes presented the pre-established harmony as an internal correction to Malebranche's system that is in accord with Malebranche's own emphasis on the perfection of divine action in creation.

Malebranche's influence extended across the Channel, where he not only gained admirers such as John Norris (1657–1711), Thomas Taylor (1669–1735?) and Arthur Collier (1680–1732), but also won the grudging respect of GEORGE BERKELEY (chapter 29) and DAVID HUME (chapter 32). Berkeley indeed appeared to his critics to be a "Malebranchiste de bonne foi," a view that Berkeley himself countered when he wrote that "there are no principles more fundamentally opposed than [Malebranche's] and mine." Berkeley did indeed differ from Malebranche in rejecting the existence of an external material world, in insisting that ideas exist in our mind rather than in God's, and in claiming that the senses reveal immediately the true nature of sensible objects. However, Berkeley followed Malebranche in rejecting the Aristotelian conception of nature and in attributing causal efficacy in natural interactions to God (though Berkeley did attempt, with questionable success, to leave room for the power of finite spirits to move their own bodies). Also, Berkeley held with Malebranche that our perceptions are related to certain "archetypes" in the divine mind that serve as the pattern for God's creation (Luce 1934 is the classic study of the relation between Berkeley and Malebranche).

In 1737, Hume wrote to his friend Michael Ramsey that he should prepare himself for "the metaphysical Parts" of the reasoning in Hume's *Treatise of human nature* by reading "once over la Recherche de la Vérité of Pere Malebranche," along with selected works from Descartes, Berkeley and Bayle. Malebranche is important primarily for the account of causality in the *Treatise*. Hume relied there explicitly on Malebranche's argument for the negative conclusion that neither external nor internal experience affords us any idea of power. With Malebranche, Hume emphasized the importance of necessary connection to our understanding of causality. Hume did reject Malebranche's own claim that God is the only real cause, noting in a famous passage from the *Enquiry concerning human understanding* that with such a claim "we are got into fairy land, long ere we have reached the last steps of our theory." Hume's preference is for a psychological account of causal belief that sticks closely to "common life and experience" and that emphasizes the central role of the imagination. Nonetheless, Hume's own discussion belies his remark in the *Enquiry* that "the glory of Malebranche is confined to his own nation, and to his own age."

References

Alquié, F., 1974, *Le cartésianisme de Malebranche*. Paris: J. Vrin.

André, Y. M., 1970, *La vie du R. P. Malebranche*. Paris: Ingold, 1886; Geneva: Slatkin Reprints.

Arnauld, A., 1990, *On true and false ideas*. (E. J. Kremer, trans.). Lewiston: The Edwin Mellen Press.

Easton, P., Lennon, T. M., and Sebba, G., 1992, *Bibliographia Malebranchiana: A critical guide to the Malebranche literature into 1989*. Carbondale and Edwardsville: Southern Illinois Press.

Foucher, S., 1969, *Critique de la recherche de la verité*. (R. A. Watson, Ed.) New York: Johnson Reprint.

Malebranche, N., 1958–84, *Oeuvres complètes de Malebranche* (20 vols.) (A. Robinet, Ed.). Paris: J. Vrin.

——1980a, *Dialogues on metaphysics*. (W. Doney, Trans.). New York: Abaris Books.
——1980b, *Dialogue between a Christian philosopher and a Chinese philosopher on the existence and nature of God*. (D. A. Iorio, Trans.). Washington, DC: Catholic University Press.
——1993, *Treatise on ethics*. (C. Walton, Trans.). Dordrecht: Kluwer.
——1997a, *Dialogues on metaphysics and on religion*. (N. Jolley and D. Scott, Trans.). Cambridge: Cambridge University Press.
——1997b, *The search after truth*. (T. M. Lennon and P. J. Olscamp, Trans.). Columbus: Ohio State University Press, 1980; Cambridge: Cambridge University Press.
Robinet, A., 1965, *Système et existence dans l'œuvre de Malebranche*. Paris: J. Vrin.
Sebba, G., 1959, *Nicolas Malebranche, 1638–1715: A preliminary bibliography*. Athens GA: University of Georgia Press.

Further Reading

Bardout, J.-C., 1999, *Malebranche et la métaphysique*. Paris: Presses Universitaires de France.
Gueroult, M., 1955–59, *Malebranche* (3 vols.). Paris: Aubier.
McCracken, C., 1983, *Malebranche and British philosophy*. Oxford: Clarendon Press.
Moreau, D., 1999, *Deux cartésiens: La polemique entre Antoine Arnauld et Nicolas Malebranche*. Paris: J. Vrin.
Nadler, S., 1992, *Malebranche and ideas*. New York: Oxford University Press.
——2000, (Ed.). *The Cambridge companion to Malebranche*. Cambridge: Cambridge University Press.
Radner, D., 1978, *Malebranche: A study of a Cartesian system*. Assen: Van Gorcum.
Rodis-Lewis, G., 1963, *Nicolas Malebranche*. Paris: Presses Universitaires de France.
Schmaltz, T. M., 1996, *Malebranche's theory of the soul: A Cartesian interpretation*. New York: Oxford University Press.
Walton, C., 1972, *De la recherche du bien: A study of Malebranche's science of ethics*. The Hague: Martinus Nijhoff.

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12

Dutch Cartesian Philosophy

THEO VERBEEK

In the summer of 1638 DESCARTES (chapter 5) received a letter from a Utrecht professor in medicine, who declared that he owed his recent appointment to Descartes and his philosophy. His name was Henricus de Roy, or Regius (1598–1679), a medical doctor who after studies in The Netherlands and abroad had returned to his hometown Utrecht. His appointment had been the result of an intensive campaign, led by a friend of Descartes, Henricus Reneri (1593–1639), who was professor of philosophy in Utrecht, with the support of Gysbertus van der Hoolck (†1680), one of the two Utrecht Burgomasters and as such the University's chief administrator. Regius's letter was the overture to the first period of Cartesian teaching in the Netherlands (and indeed anywhere) as well as to one of Descartes' most profitable Dutch friendships. However, before long the teaching as well as the friendship ended: the first in 1642 when after a crisis that profoundly shook the University the administration confirmed a "Judgment" by the "Senate" (the assembled professors) in which the teaching of the "new philosophy" was prohibited, and the second in 1647 when Descartes openly dissociated himself from his friend in the preface to the French translation of his *Principia*. The whole episode raises complex issues, which mean that even a partial examination serves as an introduction to Dutch Cartesian philosophy in general.

When Descartes first heard from and about Regius the *Discourse on the method* (1637) had been out for just one year and the new recruit must have come as a welcome surprise. For although Descartes had managed to stir up some interest in this his first published work its reception had been lukewarm. Few academics read French anyway and as long as Descartes did not care to reveal the principles on which he built – something he had carefully avoided doing in the *Discourse* – critics had very little to go on. Regius however had, on the basis of the *Dioptric* and the *Meteors* alone, developed a "Cartesian" system of his own, explaining the world in terms of matter and motion and reducing sensible qualities to size, figure, movement, etc.

The fact that Regius was hardly interested in metaphysics may well explain the benevolence with which he was welcomed by his Utrecht colleagues. However, benevolence gradually made room for irritation and distrust when in April 1641, shortly after the theologian Gysbertus Voetius (1589–1676) became rector of the

University, Regius started to organize disputations. What went on during a disputation was less controllable than during a lecture: In a lively atmosphere questions were raised and arguments put forward only to confound the "defendens," who, even if the professor was responsible for the submitted text and presided over the dispute, was always a student and often inexperienced. Now on December 4 1641 Regius allowed a student to submit the following thesis: "Mind and body produce a unity by accident." Usually Regius submitted a draft of the text to Descartes but in this particular case that does not seem to have happened, possibly because most of the material had already been discussed on earlier occasions. In any case the disputation ended in utter chaos, the thesis being interpreted in the sense that man is an accidental being (like, say, a heap of bricks) – a thesis associated with Neo-Platonism and Averroïsm, both of which were highly suspect from a theological point of view. Regius tried to defuse the row by alleging that he had tabled the thesis without any commitment to its truth but that was of no avail. Indeed, seeing many of her students become supporters of "new philosophy" the Theological Faculty urged the administration of the University to take measures. What they obtained was a public dispute under the presidency of Voetius. It took place, first on December 18 1641 on the basis of three corollaries formulated by the Theological Faculty, then on December 23 and 24 on the basis of a more elaborate "appendix," written by, or under the direction of, Voetius himself. On the second and third occasion seven corollaries were added moreover to illustrate Voetius' idea of philosophy as a handmaid of theology. Although afterwards Descartes tried to reduce the ensuing discussion to a merely verbal debate on man as an accidental being more issues were involved. In fact, in the corollaries submitted on December 18 three distinct claims are made: 1) the idea that man is an accidental being is declared to be absurd and possibly dangerous; 2) the theory of the movement of the earth is opposed to revealed truth and sound philosophy; 3) a philosophy rejecting substantial forms and real qualities is irreconcilable with "sacred physics." Let us have a closer look.

Unless we take Regius at his word and assume that he submitted the thesis on man as an accidental being simply as an exercise and without any doctrinal commitment it is likely that he saw it as the implication of Descartes' idea that the human body and the human mind are two "really distinct" substances. His reasoning was presumably that, if body and mind can exist in themselves, it is in the nature of neither the body nor the mind to seek a union with the other – so if there is a union at all this must be "accidental." However, the paragraph devoted to this question in Voetius' "appendix" shows that the relation of body and mind involves difficult and controversial issues on the destiny of man. Thus, Voetius insists that the "adequate and total subject of virtue and sin and therefore of reward and punishment" is not just the soul but man as composed of body and soul – so given the fact that one sins with body *and* mind one is also punished in body *and* mind (*Querelle*, p. 112–14). What is at stake therefore is the resurrection of the body: The rejection of the substantial unity of body and soul could cause doubt with respect to the fate of man after this life. Besides, would it still be possible to define man? To distinguish a monster (an accidental being) from a human being? A human being from an aggregate?

Regius' ideas on human nature were not the only ones that shocked the theologians. In the same disputation Regius, who had access to Descartes' *World*, had also claimed that the earth is moved by a double motion: One daily around its axis and the other annual around the sun. This thesis, too, was elaborately discussed in the "appendix" (*Querelle*, p. 114–15). Some of Voetius' arguments are purely philosophical, for example, that if the heliocentric theory were true a stone dropped from a tower would come down to the west of that tower, roofs and houses would be thrown off under the pressure of centrifugal force, sailing from west to east ships would go faster, etc. But the more important objection is, again, theological, namely, that the hypothesis of the movement of the earth is against the Biblical evidence of Joshua 10.13 ("so the sun stood still in the midst of heaven and hasted not to go down about a whole day"), Ecclesiastes 1.5 ("the sun also ariseth and the sun goeth down and hasteth to the place where he arose") and Psalms 19.5–6 ("in them hath he set a tabernacle for the sun, which is as a bridegroom coming out of his chamber [...] his going forth is from the end of heaven and his circuit unto the ends of it"). Indeed, so it was said, the arguments by which some people try to defuse that evidence (for example, by saying that these passages should not be taken literally or that they are accommodated to vulgar understanding) are weak and lacking in respect for the word of God – which is a polite way of saying that those people are guilty of atheism.

Finally, the theologians were led to criticise the very trademark of "new philosophy," namely, the rejection of "substantial forms" and "real qualities." According to them, indeed, such a move is irreconcilable with "sacred physics" – that is, the "physics" of *Genesis*. So Voetius declares in fact that new philosophy – not just Descartes' but any new philosophy – is against Scripture or in other words "atheist." Now Voetius' argument on behalf of real qualities seems to be straightforward. Like BERKELEY (1685–1753, chapter 29) after him he believed that the rejection of "real" qualities, that is, the idea that qualities like "red" or "sharp" or "bitter" can be reduced to more fundamental "primary" qualities like extension, motion, size, etc., raises doubts about the world and favors skepticism and therefore makes it more difficult to prove the existence of God, given the fact that most of the traditional arguments for the existence of God are based on the experience of the world. It is less easy to see what moved the theologians in their concern with "substantial forms." So what is the theological importance of "substantial forms"?

"Substantial form" fits into the Aristotelian scheme of "matter" and "form" – "matter" being whatever is unspecific in a thing and "form" whatever makes that thing belong to a natural species and turns it into the object of a general concept. That is also one of the roles of "substantial form." In virtue of their having a "substantial form" natural things – things that are not man-made – belong to a natural species and can be subsumed under a general concept or definition. But "substantial form" also accounts for a thing's existence as an individual substance – for its having a more or less independent existence and for its being able to be counted and given a proper name. Moreover, the "substantial form" of a thing is the active principle of all operations proper to that thing, that is, all that fall within the range of what is "natural" to the species – swimming for fish, hunting for tigers, thinking for men. In sum "substantial form" is responsible for whatever

cannot be attributed to matter, which is an awful lot given the fact that matter is supposed to have no properties and to be unable to exist on its own. Still "substantial form" is and does all those things only in cooperation with an appropriate matter with which it forms a "substantial" unity.

Not surprisingly the concept of "substantial form" caused many problems, not only to "new" philosophers. Ancient philosophers, too, declared themselves unable to solve all the problems raised by it. Thus, for example, to cite what is perhaps the most thorny question, they found it difficult to explain where substantial form comes from – if it cannot exist without matter it cannot come from without (for that would mean that it can exist independently); but it cannot already exist in matter either (because that would make matter as such substantial). What made "substantial form" attractive however is that it seems to be part of a universal pattern in nature (for wherever we look we see that in some ways things are specific whereas in others they have much in common with things of a different species), to agree with common sense (which firmly believes that there is a huge difference between natural and artificial things), and to perfectly fit theological dogma (which holds, for example, that there is a fundamental difference between a human being, which is a substantial unity of body and soul, and an angel taking the form of a man). Opposed to each other therefore are two different forms of intelligibility, one based on common experience (something is intelligible if it fits into a universally perceived pattern, agrees with common sense and can be accommodated with theology) and the other on mechanics and/or mathematics (something is intelligible if it can be seen as the instantiation of a mathematical truth or of a mechanical model). But on top of that there is, as far as Descartes is concerned, also a difference in what could be called epistemological style: one for which it is natural to strive after absolute certainty (and is prepared to sacrifice common experience to it) and another that finds it more important to unify experience in its different compartments (common sense, theology, scientific knowledge).

As a result, the fundamental question raised by the Utrecht conflict is twofold: 1) whether the intelligibility (mathematical, mechanical) incorporated in new philosophy is compatible with theology; 2) whether Descartes' ideal of certainty is compatible with theology. To the mind of the Utrecht theologians and for that matter to almost anyone involved in university teaching at the time, both questions raised fundamental doctrinal and institutional issues, which concern the freedom of philosophy, its place in the academic curriculum, etc. According to Descartes however there is no fundamental problem. As he explains at great length in several places in his work the only problem he sees is that institutional theology, which he sharply distinguishes from faith (*Discourse*, I, AT VI, 8/CSM I, 114), is committed to Aristotelianism and that, as yet, people do not see that by making scientific certainty depend on knowledge of God and the soul his own philosophy provides a more secure foundation of natural theology. Moreover, there is according to Descartes no danger at all that the criteria of clear and distinct knowledge could ever be applied to theology given the fundamental difference between strictly theological truth (the mysteries of the faith) and natural truth. So the fact that in natural science we work with the criterion of clearness and distinctness is of no consequence to theology, which works with a different type of "evidence," namely, authority and Scripture.

According to Voetius however there is a great risk. For he believes, not only that God created natural species (which presupposes the existence of substantial forms) but also that things (including humans) have as much autonomy as allows them to be the complete and real cause of their "natural" operations (which, again, is the work of their "substantial form"). In his view the rejection of substantial forms makes it impossible to refute philosophical monstrosities like atomism (Epicurean materialism) or the world-soul (pantheism) – for without a substantial form things either become aggregates (and then atomism is the logical choice) or lose their individuality (and then a world-soul comes into view). It would also have a leveling effect on the notion of being for it would make it impossible to distinguish between the properties a thing has in virtue of its substantial form (thinking in the case of human beings) and accidental properties (the fact that he is a man, has a certain age, etc.), between a natural thing and an artefact, etc. Moreover, Voetius foresees a dislocation and dispersion of real causes and ultimately an erosion of the notion of causality as such: Whatever a thing "does" would become the result either of the first cause (God) or of the external forces working on it – but in no case would the thing itself be the subject of its own operations (*Querelle*, p. 105–11). Finally, still according to Voetius, if people are brought to demand in matters of faith as much clearness and distinctness as according to Descartes they should in natural philosophy skepticism and atheism are bound to follow – indeed, the notion of "faith" would disappear (*Querelle*, p. 115). According to Voetius therefore new philosophy favors atheism and is itself a form of "indirect atheism," not because it would logically entail the denial of the existence of any God (indeed, he acknowledges the fact that Descartes provides a proof of the existence of God albeit in his view a very weak proof) but because it constitutes a threat to the Christian notion of God as Father and Lawgiver and therefore to the foundations of morality.

It should be underscored that the seventeenth-century notion of "atheism" is much wider than ours. For a seventeenth-century philosopher to be an atheist would be to deny, explicitly or implicitly, the will of God rather than the existence of God – indeed, given the fact that according to people like Voetius speculative atheism is impossible, the more correct word would be "impiety." Thus Descartes was accused of atheism and compared to Vanini (1584–1619), the most famous "atheist" of the early seventeenth century burned at the stake in Toulouse, because he replaces traditional and perfectly valid arguments for the existence of God by others which turn out to be much weaker (Schoock 1643, in *Querelle*, p. 270–6, 307–20). Still, if abstraction is made of this particular and from our point of view confusing connotation, some of Voetius' objections hit the nail on its head. It is correct to say that new philosophy makes no distinction between natural motion and "violent" motion, between a stone falling down and a stone thrown into the air – indeed, one of its main points is that all motion, whether "natural" or "violent," is explicable by the same laws. It is also correct that new philosophy makes no distinction between natural things and artefacts and that the only difference between them is their degree of complexity (which makes it impossible, for example, to construct an animal even if all its workings are mechanically explicable). And finally it is correct to say that, if the movement of a thing is the result of the various forces working on it, there is a risk at least of concentrating all activity in the first

cause (God) – as would happen in the systems of MALEBRANCHE (1638–1715, chapter 11) and SPINOZA (1632–77, chapter 16). All one can say is that Voetius' objections are little specific – that most of them can also be brought to bear on, say, the philosophy of GASSENDI (chapter 6) and generally on what came to be known as new science.

The strategy Descartes had planned for himself does not seem to work universally. For although Descartes would not dream of criticizing theology on behalf of philosophy he also refuses to subordinate philosophy to theology: "One truth can never be in conflict with another, so it would be impious to fear that any truths discovered in philosophy could be in conflict with faith" (*Letter to Father Dinet*, AT VII, 581/CSM II, 392). He aims for the coordination of reason and theology rather than subordination of one to the other. And the only way to achieve that is to assign to philosophy and theology two different areas and two different methods. For Descartes this starts already before philosophy begins, namely, in the first rule of "provisional" morality:

> The first was to obey the laws and customs of my country, holding constantly to the religion in which by God's grace I had been instructed from my childhood and governing myself in all things according to the most moderate and least extreme opinions. (*Discourse*, III, AT VI, 23/CSM I, 122)

Being accepted "on authority" practical notions – including those associated with religion – should not be called into question and are therefore excluded from the doubting experiment. They are set apart and not subjected to the criterion of "clear and distinct." That could imply however – and Spinoza would actually draw that conclusion – that religion is not knowledge but nothing but obedience and behavior. It could also mean that the relation of theology and philosophy is a matter of convention and therefore of arbitrary decision – for if by convention we decide that they are separated we may as well by convention decide that the one can be criticized by the other. But in the end Descartes replaced the distinction between practical and theoretical truth by a more complex scheme:

> ...three different sorts of questions should be distinguished. First, some are believed through faith alone – such as the mystery of Incarnation, the Trinity, and the like. Secondly, other questions, while having to do with faith, can also be investigated by natural reason and among these orthodox theologians usually count questions concerning the existence of God and the distinction between the human soul and the body. Thirdly, there are questions which have nothing to do with faith and are the concern solely of human reasoning, such as the problem of squaring the circle, or of making gold by alchemy and the like. (*Notes on a Broadsheet*, AT VIII-B, 353/CSM I, 300)

So even if there is some common ground between theology and philosophy – covered by Descartes' *Meditations* – there is, in principle at any rate, strict separation. For although in both theology and philosophy something is *known* it is on different subjects (mysteries vs. nature), on the basis of different criteria (authority vs. reason) and from different sources (Scripture vs. nature). Accordingly, the ques-

tion of the incompatibility of philosophy and theology does not even arise. But there can be no question either of subordinating philosophy (natural knowledge) to theology and faith: "Since we were born men before we became Christians we cannot believe that anyone would seriously embrace opinions which he thinks contrary to that right reason which constitutes being a man, simply in order to cling to the faith which makes him a Christian" (*Notes*, AT VIII-B, 353/CSM, I 301). As long as we have good reason to embrace faith is as little an act against reason as to trust our senses. But the real difficulty is that Cartesian method claims that it is possible to be certain of truth. For that means that if we know something to be true it is impossible for it to be false – indeed if it makes any sense at all to say of p that it is not only true but also known to be true (certain) it is that there can be no case in which p could turn out to be false. It is that certainty which gives Descartes the courage, not to say the boldness, to produce his own explanation of the Eucharist. And as we shall see shortly it is the same certainty that encouraged Cartesians to propose their own interpretation of those passages in Scripture where there is talk of the movement of the sun.

Although Voetius would probably agree with Descartes' tripartite scheme of truth, the problem for him goes much deeper mainly because he believes that human truth and human reason can never acquire the status they have for Descartes. For although Voetius does admit that some truths can be known by reason alone he also believes that in fallen man reason can never attain definitive truth. So if the Holy Ghost speaking in Scripture teaches that the sun is moving we should confess defeat even if it seems to concern no more than "natural truth." Reason is an instrument for processing data (produced by the senses or by Revelation), not a content that could be true on its own (a clear and distinct idea). This clearly emerges from the first additional corollary on philosophy as a handmaid of theology: "To claim that mechanics is the foundation of physics is not only ambiguous but also absurd for it would mean that we impose on the work of God the rules and measures of Vitruvius and Archimedes" (*Querelle*, p. 101). The fact that God is free and that his majesty prevents us from scrutinizing his decisions means that we cannot know a priori how the world looks – indeed, throughout the seventeenth century theologians were wont to repeat the Biblical question: "Where wast thou when I laid the foundations of the earth?" (Job 38.4). So to attribute "authority" to reason even in a limited area constitutes a threat to the authority of Scripture. For to say of the authority of reason that it is limited to, say, nature, means that within that area the authority of Scripture does not count – and that in turn means that the authority of Scripture is limited by our subjective beliefs.

Again, Descartes' reaction to the problems raised by theologians was to emphasize the autonomy and authority of reason *within a particular sphere*. So even if "clearness and distinctness" is the only criterion of truth in physics that does not mean that we should demand equal clearness and distinctness in the sphere of practical behavior or theology and faith. It is along those lines that most Cartesians also sought to meet the challenges posed by Orthodox theology.

The first to address the problem from a wider perspective was Johannes de Raey (1622–1702). At first De Raey was a student of Regius but he moved to Leiden in

1647 to take degrees in medicine and philosophy. He probably knew Descartes personally and was an eloquent defender of his ideas. In 1652 the administration of Leiden University appointed him as a teacher, albeit on unusual conditions. He was allowed to give "public" lessons – so would act under public authority – but should not expect any salary – so had the position of a private teacher. His lessons would be on Aristotle's *Problemata* – probably to emphasize the fact that he was not in charge of the regular course in physics – and he must respect the doctrines of Aristotle, "which are the only ones allowed in this university." The motive behind this is that in 1647 the University administration had forbidden professors to mention Descartes' name in their lessons or to discuss his opinions – a measure which, for that matter, was effective only in so far as it prevented theologians from attacking Descartes. But obviously the administrators could not ignore their own verdict and allow an overt Cartesian to teach. The fact on the other hand that they took all those precautions suggests, not only that De Raey was a brilliant teacher and attracted many students but also that he was given to understand that he should not provoke a conflict with the theologians. And that meant that he must avoid metaphysics – a ban on which had been in place since the beginning of 1648.

De Raey accepted his post by delivering an inaugural address which, as usual, can be read as a programmatic statement, consisting of two arguments (De Raey 1654). The first is historical. According to De Raey there is a vast difference between Aristotle and the Aristotelians; indeed, if we study Aristotle closely, it becomes clear that he and Descartes have much in common. The argument is not original. In a slightly different form it had already been used by another Leiden Cartesian, Adriaan Heereboord (1614–61) and indeed by Descartes himself: "I am sure that Aristotle's most passionate followers today would count themselves fortunate if they had as much knowledge of nature as he had" (*Discourse on method*, VI, AT VI, 70/CSM I, 147). Although the reason for making this claim is presumably polemical the point is genuinely Cartesian. What Descartes distrusts is not primarily the particular type of enquiry one finds in, say, Aristotle's biological treatises but the commentary as a literary genre and a vehicle of philosophical thought: "No one can conceive something so well and make it his own when he learns it from someone else as when he discovers it himself" (*Discourse*, VI, AT VI, 69/CSM I, 146). That is also the reason why he prefers the judgment of simple uneducated people of good sense (*Discourse*, I, AT VI, 10/CSM I, 115; II, AT VI, 12–13/CSM I, 117). To study the world through the eyes of another is never a good idea and it does not become any better if we replace one author by several authors. Indeed, since they cannot all be right this would expose us to a lot of error and eventually make us wholly incapable to know the truth. So by advancing his historical hypothesis De Raey strikes an authentically Cartesian chord.

De Raey's second point is that philosophy is contemplation – which means, on one hand, that it requires a break with common sense and common experience, which are associated with practical concerns, and on the other that one should not expect from it any practical solutions. Now this would probably not carry away the approval of Descartes, who on the contrary emphasizes the practical nature of his philosophy: "For they [the principles of my physics] opened my eyes to the

possibility of gaining knowledge which would be very useful in life and of discovering a practical philosophy which might replace the speculative philosophy taught in the schools" (*Discourse*, VI, AT VI, 61/CSM I, 142; cf. *Principles*, AT IX–B, 15/CSM I, 186–187). That does not necessarily mean that De Raey's claim is unfaithful to Descartes. Part of Descartes' physics (corresponding to Pt II of the *Principia* and much of *Le monde*) is "pure" in the sense that it relies on the construction of theoretical models – and that means that the proper agenda of Cartesian physics is not practical but theoretical and mathematical. So all one can say is that De Raey concentrates on only one of the various possibilities offered by the Cartesian programme. In sum, De Raey's position reveals a problem without solving it, namely, that of the relation between "pure" philosophy (whose evolution would be dictated by mathematics) and empirical science (as the explanation of phenomena given in experience).

The precise meaning of De Raey's programme becomes clear from his first book, *Key to natural philosophy, that is, a Cartesio-Aristotelian Introduction to the Contemplation of Nature* (1654), based on disputations held between 1652 and 1654. It shows that in allying Aristotelian and Cartesian philosophy De Raey is not just making a polemical point. Indeed, his idea is not that Aristotle was more original than most of the Aristotelians but is to prove that on essential points he and Descartes are in perfect agreement, especially on method. According to De Raey indeed Aristotle and Descartes use the same method because for both explanation proceeds from something already known (a *praecognitum* or *axioma*): We explain a given fact or a given problem by reducing it to something already understood. In a general way that is, of course, right except that for Aristotle what is already understood is generally experience whereas for Descartes it is a theoretical model and broadly speaking mathematics and mechanics. Indeed the reason why Descartes uses extension and local motion to explain the world is not that wherever we look we see extended bodies in motion (after all we are explicitly asked to forget all we know about the world) but that we understand those concepts no matter how the world looks like (*The world*, VI, AT XI, 56/CSM I, 92; cf. *Discourse*, V, AT VI, 42/CSM I, 132). And that is also more or less the way in which this principle is understood by De Raey. *Praecognita* are always intellectual ("pure"), not only if we are dealing with immaterial matters like the soul but also if we try to understand the world of body. In fact, they are, basically, clear and distinct ideas, which are innate to the mind, in particular those of "extension" and "local motion". In the last chapter however De Raey introduces the concept of ether or subtle matter as the *praecognitum* in the explanation of all those natural phenomena which are not simply the effect of the laws of motion, roughly speaking all those that are discussed in Pt IV of Descartes' *Principia*. So whereas the more general aspects of the world like gravity, the position and movement of the heavenly bodies, etc., can be accounted for on the basis of the laws of motion, which in turn can be deduced from the clear and distinct idea of extension, to explain other features of the world like magnetism, chemical phenomena, etc., we need a different *praecognitum*, namely, the notion of ether.

What De Raey is aiming at presumably is not a purely deductive science, which deduces a priori the whole world from a few innate notions but a hierarchical

system of concepts in which only the most general ones (extension and local motion) are given a priori, whereas all others have an intermediary position, situated between "first notions" and experience. Thus the significance of the notion of ether or subtle matter is not that it can be deduced from extension and local motion – it is at best compatible with them – but that it allows the explanation of a great variety of phenomena. So whereas the significance of extension and local motion is that they can be understood without reference to the experienced world the notion of ether must fit the notions of extension and local motion on one hand and a specific class of experienced facts on the other.

In the inaugural address of 1651 the notion of philosophy as contemplation is presented in general and fairly traditional terms only. But already De Raey drew the conclusion that philosophy has nothing to do with the disciplines taught in the "Higher Faculties" – Theology, Medicine and Law, which deal with practical problems. In this way De Raey secures the freedom of philosophy and its emancipation from a merely propedeutic position in the academic curriculum. However, that strict separation might collapse if one allows for a notion like that of ether, which, although it is compatible with those of extension and local motion, is not deduced from those notions – indeed, its necessity is imposed by what we see to be the case in nature. But in a strictly parallel way one could make philosophy profitable for medicine by introducing the *praecognitum* "machine" for the explanation of living bodies and ultimately for the cure of the sick – something which De Raey refuses to do. In sum, De Raey as yet does not realize the vast difference there is between what Descartes calls "going from the causes to the effects" and "going from the effects to the causes" (*Discourse*, VI, AT VI, 76/CSM I, 150; cf. *Principles*, IV, art. 203–6, AT VIII–A, 325–9/CSM I, 288–91) or what HOBBES (chapter 22) calls the science of nature, based on definitions, and the explanation of phenomena, based on probable suppositions (*De Corpore*, I, i). In fact, in later life De Raey became more and more emphatic in affirming the "pure" nature of true philosophy, undoubtedly because of Spinoza and perhaps even more Lodewijk Meyer (1638–81), a friend of Spinoza, both of whom were believed to use Cartesian principles in, or against, theology and faith. But let us first examine the orthodox Cartesian way of dealing with theology and faith.

The most influential Dutch Cartesian theologian was the German born Christophorus Wittich or Wittichius (1625–87). For Wittich the question of the relation between theology and philosophy is concentrated, neither in the mind–body problem nor in substantial forms, but in the heliocentric theory. Indeed, he probably agreed with Descartes that the Copernican thesis was essential to Cartesian physics (Descartes to Mersenne, [28] November 1633, AT I, 271/CSMK III, 41). The problem was how to reconcile it with theology without undermining the Calvinist principle that philosophy is not the "norm" or "authority" of interpretation and that, being absolutely clear, Scripture must be interpreted "by itself" – that is, basically, that Scripture must be interpreted literally and, in case that yields a contradiction, "clear" passages provide the authority to interpret "obscure" passages in a metaphoric way. For example, there are some passages in Scripture where God is said to sit or to walk but there are other passages, more clear, according to which he has no visible qualities

and indeed no body. So we use these passages to interpret the more obscure passages that make God walk or sit.

Now Wittich claims that, whenever the Bible speaks of nature, it is *secundum opinionem vulgi* (according to the opinions of the vulgar), not *secundum accuratam rei veritatem* (according to the precise truth of the matter). That does not mean that the Holy Ghost – the author of Scripture and a spirit of truth – actually endorses the opinions of the vulgar but only that, in order to be better understood, it uses their language – of course without committing itself to the world-view behind it. In the same way an astronomer can refer to the sun as "rising" even if he knows or believes that the sun does not move; a physician can speak of a "cruel" disease without thinking of diseases as agents, etc. So if Scripture refers to the sun as "moving" or "standing still" it does not mean to say that the sun moves. Indeed, nothing is specifically meant at all given the fact that Scripture is not concerned with the truth about nature but with salvation. And it addresses, not the learned, but the common people, to whom a scientific exposition would be misleading. Some of Wittich's arguments are taken from Scripture, as if to prevent the obvious objection that the reason behind his proposal is that passages like Joshua 10 are false (which would mean that philosophy is the norm or authority of interpretation). Thus he quotes Isaiah to the effect that the Bible is written *stylo humano*, "with a man's pen" (Isaiah 8.1). In any case, if God had spoken more accurately he would have made things very difficult for most people.

The controversy caused by Wittich's proposal threatened the delicate balance struck between theology and philosophy, which rested on the possibility of separating philosophy and theology. For here we see that even if philosophy limits itself to strictly physical problems it can create a theological problem. According to many theologians indeed Wittich used Cartesian physics as a theological tool – the reason for his proposal being, according to his adversaries, that in his philosophy it is impossible for the sun to be a moving body. And why would that stop at natural philosophy? The next step would be that all those passages are declared to be meaningless which do not agree with Cartesian metaphysics! The objection does not seem to be fair if only because Wittich's hermeneutic principle was partially at least based on a reading of Scripture, whose aim allegedly is to make man "wise unto salvation" (2 Timothy 3.15).

However, that for a Cartesian it is in fact difficult to avoid making theology in some way subordinate to philosophy became clear in a highly controversial book, *Philosophy [as] the interpreter of Holy Scripture* (1666) by Lodewijk Meyer. The theoretical basis of Meyer's theory is that words do not refer to things but to ideas. So if the aim of interpretation is to retrieve what the author "meant to say" what we are aiming for is a set of ideas. However, since ideas are private and since in most cases we cannot interrogate the author, this means that interpretation is essentially uncertain. This is a general claim, meant to be true of all sorts of texts. It would be destructive of theology – interpretation of Scripture – if it were not qualified in some way. However, Meyer pursues, Scripture is a text with "authority," that is, it is the only text of which we are certain that it contains the truth and nothing but the truth. Its meaning therefore is not just a couple of ideas but a set or system of true ideas. So if we knew the truth Scripture would be the only text of

whose interpretation we can be certain. Now it happens to be the case that Descartes' method makes it possible to link truth and certainty. It is that method therefore that allows us to identify the true meaning of Scripture and to certify (or reject) any given interpretation.

Eccentric though it is, Meyer's theory seems straightforward. In the "epilogue," however, and in answer to an objection, Meyer restates his theory in a significantly different way. The objection is that if we can interpret the Bible only in so far as we know the truth theology becomes irrelevant. Indeed, why should we trouble ourselves with interpreting a difficult text if the result can be certain only to the extent that it agrees with something we already know? Meyer's reply amounts to an elaborate discussion of the notion of signification. Signification is a contingent relation between what one would now call a *signifier* (a word, a sign) and something *signified* (a concept). We must know a word (or whatever is used as a sign) before it can be used as a *signifier* and we must have a concept before it can be *signified*. So we must have the concepts man and tree and know the words "man" and "tree" before we can decide (or learn) that "man" signifies man and "tree" tree. But the concept does not have to be true or adequate: "It is enough to have seen [men and trees] once or twice..." This means, however, not only that interpretation does not presuppose knowledge; but also that interpretation cannot produce (new) knowledge, given the fact that the ideas we identify as the meaning of a given text are always our own. More importantly, knowledge is always the result of a reflection on ideas. So even if interpretation may stimulate us to reflect on the ideas that we already have (which allowed us to interpret the text in the first place) its result as such can never be (new) knowledge.

This shows the complexity of Meyer's agenda. For whereas in the main text he seems concerned with saving the possibility of interpretation his claim in the epilogue is that even if interpretation is possible it still does not produce knowledge – so if theology is interpretation it cannot avoid acclaiming philosophy as its norm or authority and if it is knowledge it cannot be based on interpretation. But another claim is hidden in a few phrases in chapter 3:

> Thus to show my point by a few examples from Scripture: when one reads: "the arm of God" or "the finger of God" or when Christ says "this is my body" "I am the way, the truth, and the life" everybody knows what those words mean in common language. But that that would also be the true meaning is the opinion of no theologian sound of mind. (Meyer 1666, iii, 4, p. 7–8)

Why not? Obviously because a theologian knows (or believes) that God has no body, that the bread is not the body of Christ, and that Christ cannot literally be a road – or in other words that a literal interpretation yields something demonstrably false. So what is at stake is not interpretation as such but the idea that the idea that is signified by those words should be *true*. Accordingly, what is causing difficulty is not the fact that ideas are private but the fact that the true meaning of Scripture must be a system of true ideas, that is, the fact that we attribute authority to Scripture. Indeed, if Scripture had no authority at all (say, if it were a literary text) we would have less difficulty in interpreting it (Meyer 1666, p. 46). Meyer's true

claim therefore is not that interpretation is impossible except in one peculiar case but that if the object of interpretation is a text with "authority" – if the text is believed to contain the truth and nothing but the truth – it is inevitable to use criteria of truth that are external to that text or in other words that a text with authority can be interpreted only with the help of an instrument having as much authority as the text.

Obviously Meyer's book is a provocation. First of all, he explicitly rejects the Reformed principle of the absolute clarity of Scripture as well as the related principle that the Bible should and could be interpreted "by itself." Indeed according to him nothing is clear "in itself" – something is clear or obscure only with respect to what a particular individual knows or believes about truth, language, etc. (Meyer 1666, p. 46), that is, with respect to the ideas one already has. And since these are never the same for everybody Scripture cannot be equally clear to everybody. Meyer's book is also a provocation because he gives the same weight to Cartesian method as to Scripture. No Cartesian would accept that as a principle but Meyer shows how difficult it is to avoid it. For if "certainty" means anything at all it is that if a proposition is certainly true there is nothing on the basis of which it could ever become doubtful or false. So if it is certain that the earth moves and that the sun is at rest in the middle of the universe any proposition entailing the movement of the sun is false. Inversely, if Scripture contains the truth and nothing but the truth that truth can be saved only if we no longer consider it as a part of its meaning to teach that the sun moves or indeed to teach anything at all on nature. Accordingly, the price we pay for saving Scripture from falsehood is that we create a problem of interpretation.

Meyer brings to light the inherent tensions of the Cartesian position – tensions which would be fully exploited by Spinoza. They are caused by the simultaneous use of two criteria of truth: 1) something is known to be true simply for being asserted in Scripture (the principle of "the authority of Scripture"); 2) something is known to be true for being perceived by means of clear and distinct ideas. Meyer's point seems to be that we cannot negotiate between the two: Either we believe in the authority of Scripture (and then we uncritically accept whatever it contains) or we believe in the authority of reason (and then we should critically examine whatever is claimed to be true). The Cartesian remedy had been separation. But how can that be achieved if all knowledge is about ideas? The point had been moved earlier by theologians objecting to Descartes' systematic use of doubt. For even if they acknowledged Descartes' intention to protect theology and faith from doubt they also pointed out that there is no formal difference between ideas – all ideas being ideas in the mind there is no reason why we should except from doubt a particular class of ideas simply because they have to do with religion. It shows that the conventionalist interpretation of Descartes' decision to set apart the truths of faith does not work: What is needed is a formal and intrinsic difference between different classes of ideas. Again, De Raey seems to have realized the seriousness of the challenge.

From the mid-sixties and especially after he exchanged Leiden for Amsterdam (1666) he further elaborated in disputations and lessons some of the elements laid down in his early work. His *Thoughts on Interpretation* (*Cogitata de interpretatione*,

Amsterdam 1692), which contain the results of this evolution can be seen as the last original contribution to Cartesian philosophy in The Netherlands. De Raey's fundamental idea that philosophy is contemplation did not change. However, more than in the earlier work De Raey emphasizes the fact that there is an intrinsic difference between the ideas of science and all other ideas. That difference is precisely that the first are clear and distinct whereas the second are not. Accordingly although he still believes that "clearness and distinctness" is a criterion of truth – or in any case that clear and distinct ideas are true – their main role is one of demarcation: By being clear and distinct an idea qualifies as an object for philosophy. Accordingly, an idea is intrinsically clear and distinct. If we have no clear and distinct perception of it the reason is not that the idea would not be clear and distinct but that it is covered by other ideas that are obscure – thus, for example, the clear and distinct idea of extension can be covered up by the empirical idea of material bodies. Ideas on the other hand that are not clear and distinct – that is, in fact, all ideas that do not concern extension and local motion but objects of common experience – are intrinsically obscure and confused. The role of Cartesian doubt and Cartesian metaphysics is simply to separate the ones from the others and so to make possible the contemplation of nature – indeed De Raey sometimes identifies metaphysics and method claiming that its role is not to make any statements about a supernatural world but to separate the different domains of knowledge and discourse.

More particularly against Meyer and Spinoza, whom he accused of mixing philosophy and theology, De Raey developed this into a theory of language. Like Meyer – and most seventeenth-century philosophers for that matter – he assumes that the meanings of words are ideas. However, the fact that there are two clearly distinct classes of ideas means that there are also two types of language: The language of philosophy and science, which he sometimes equates with that of mathematics and mechanics, and the language of every day, which we use to refer to objects of common experience. These form two distinct linguistic systems, referring to two clearly distinct systems of ideas. Accordingly, it is impossible to use the one for interpreting the other. So if Meyer and Spinoza use philosophy to interpret Scripture they commit a category mistake given the fact that the language of Scripture is that of every day. On a more general level one can even lay down the principle that the more philosophy is true – that is, the more philosophy works on clear and distinct ideas – the less useful it becomes for other sciences (theology, medicine and law). That philosophy does not deal with theological problems does not rest on a convention but is the consequence of its using clear and distinct ideas. Inversely, the other sciences should not emulate philosophy but realize that their aim is interpretation (either of a text or of empirically given symptoms) and persuasion (more along the lines of Ramist dialectics than of Cartesian clear and distinct ideas).

Much could be said on this last stage in De Raey's evolution, which in some ways prefigures the work of Kant (1722–1804). So much is clear, what De Raey has in mind is a purely theoretical physics working with theoretical models without having a clear grasp of what it means for explanation to work with a model. That makes it difficult for him, if not simply impossible, to relate his physics to the world of experience. On the other hand he probably found Descartes' solution of the problem, which relies on God's inability to deceive us, unattractive because it would

involve him in theological controversy. Accordingly, he solves the problem by declaring his lack of interest. Indeed, for him physics is the contemplation of an ideal world – that that world also has a vague resemblance with the world of experience is of no interest to the true philosopher.

De Raey's *Thoughts on Interpretation* can be seen as the culminating point of a process of disintegration, which, although the first signs of it were already visible in Descartes himself, can be graphically illustrated in Dutch philosophy as it developed until the end of the seventeenth century. What one finds indeed is the development of three separate, almost unconnected, traditions. The first, of which Wittich and De Raey are the main exponents, tries to transform philosophy into a contemplative science working with theoretical models, thus emancipating philosophy from its subordinate position to one of complete autonomy within a specific area. The second, which is more or less confined to the medical profession, also relies on the use of theoretical (mechanical) models (basically the idea that animals are machines) but uses them in a heuristic way to provide guidance to anatomical observation and experimentation. The third, which would be of great importance to Spinoza, is concerned with developing a theory of action (actually a theory of the passions), meant to explain the particular way in which behavior (of oneself or of others) can be influenced and changed – a tradition associated with moral and political philosophy. In Descartes himself these three different and to a certain extent conflicting trends were held together by his metaphysics, which makes it possible to suggest that all particular disciplines are branches of the same tree of knowledge (*Principles*, "preface to the French edition," AT IX–B, 14/CSM I, 186). The fact that metaphysics was not usually taught in the universities as well as the related fact that right from the start theological complications became a grave concern for most participants in the debate may have hastened the process by which these traditions drifted apart.

References

De Raey, Johannes, *Clavis philosophiae naturalis sive introductio Aristoelico-cartesiana in contemplationem naturae*. Leiden: Elzevier, 1654.

Descartes, Rene, *Oeuvres de Descartes*, ed. Charles Adam and Paul Tannery, 11 volumes. Paris: Vrin, 1996, cited as AT. Translation by John Cottingham, Robert Stoothoff, John Murdoch, and Anthony Kenny, 3 volumes. Cambridge: Cambridge University Press, 1985–91, cited as CSMK.

Meyer, Lodewijk, *Philosophia S. Scripturae Interpres: Exercitatio paradoxica in quâ veram Philosophiam infallibilem S. Literas interpretandi Normam esse apodictice demonstratur & discrepantes ab hâc sententiae expenduntur ac refelluntur*. Amsterdam 1666.

Schoock, Martin, *Admiranda methodus*. Utrecht: Van Waesberge, 1643.

Verbeek, Theo, *La querelle d'Utrecht*. Paris: Les impressions nouvelles, 1988, cited as *Querelle*.

Wittich, Christoph, *Dissertationes duae quarum prior de S. Scripturae in rebus philosophicis abusu [...] altera dispositionem et ordinem totius universi et principalium ejus corporum tradit*. Amsterdam: Elzevier, 1653.

Further Reading

Des Chene, Dennis, 1957, *Physiologia: Natural Philosophy in Late Aristotelian and Cartesian Thought*. Ithaca: Cornell University Press.

—— 2000, *Life's Form: Late Aristotelian Conceptions of the Soul*. Ithaca: Cornell University Press.

Fowler, Colin, 1999, *Descartes on the Human Soul: Philosophy and the Demands of Christian Doctrine*. Dordrecht: Kluwer.

Goudriaan, Aza, 1999, *Philosophische Gotteserkenntnis bei Suárez und Descartes im Zusammenhang mit der Niederländischen Reformierten Theologie und Philosophie des 17. Jahrhunderts*. Leiden: Brill.

Janowski, Zbginiew, 2000, *Cartesian Theodicy: Descartes' Quest for Certitude*. Dordrecht: Kluwer.

Van Bunge, Wiep, 2001, *From Stevin to Spinoza: An Essay on Philosophy in the Seventeenth Century Dutch Republic*. Leiden: Brill.

Van Ruler, J. A., 1995, *The Crisis of Causality: Voetius and Descartes on God, Nature and Change*. Leiden: Brill.

Verbeek, Theo, 1991, "Descartes and the Problem of Atheism," *Nederlands archief voor Kerkgeschiedenis/Dutch Review of Church History* 71, p. 211–23.

—— 1992, *Descartes and the Dutch*. Carbondale: Southern Illinois University Press.

—— 1993, "From Learned Ignorance to Scepticism: Descartes and Calvinist Orthodoxy," in R. H. Popkin and A. J. Vanderjagt, *Scepticism and Irreligion*. Leiden: E. J. Brill, p. 31–45.

—— 1993, "Tradition and Novelty: Descartes and some Cartesians," in Tom Sorell, ed., *The Rise of Modern Philosophy*. Oxford: The Clarendon Press, p. 167–96.

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Cartesian Science: Régis and Rohault

DENNIS DES CHENE

In the history of philosophy, Jacques Rohault and Pierre-Sylvain Régis bear a twofold burden. They are professed followers, epigones. Worse yet, the natural philosophy they teach has been consigned to the Tartarus of fable: not a theory that failed, but something that failed even to be a theory. In the years in which they were turning Cartesianism into a system, NEWTON (chapter 26) and Huygens were preparing its demise. Its empirical claims were refuted, its mathematics was rendered obsolete by the calculus, its vortices and channeled magnetic particles met with the same rough justice DESCARTES (chapter 5) meted out to Scholastic forms and qualities.

Canonical history has little use for such figures. It prefers originals. Yet if ideas and arguments are not to seem to pass magically from one great mind to the next, we must have some account of the channels through which what was once novel and unique sediments into cliché and common ground. Those channels are not without bias and noise. Inevitably, currents from different streams meet and mix more or less coherently in the works of secondary figures, especially in the competitive intellectual world of the later seventeenth century, with its sometimes ferocious polemics fueled by religious and political opposition. Cartesianism became a movement and – to use Leibniz's word – a sect, divided within by disputes over the legacy of its founder, and facing opposition without from steadfast Aristotelians, pious theologians, and the avant garde of the new science.

In Régis and Rohault Descartes' legacy took the outward form of "system." They present themselves as reworking Cartesian concepts and arguments into something coherent and comprehensive. Rohault, the more modest of the two, aims to reform the teaching of physics, still weighted by the dead hand of Aristotle. He will retain for the old philosophy only what is true and conjoin it with the new physics of Descartes, in whom France is no less fortunate than Greece once was in Aristotle (Rohault 1718, "Præfatio"). Régis, following the plan of the School textbooks, adds to his lengthy treatment of natural philosophy a logic, a metaphysics, and a *morale*. Other works, he says, pile up experiments, propose hypotheses pell-mell, mix together metaphysics and logic with moral philosophy; and when those parts are combined, they yield only a "deformed and monstrous" body. He offers instead a "clear and easy System," so arranged that his readers will even be able to "learn Philosophy themselves without recourse to any Master" (Régis 1690, "Preface", p. ** r–v).

In the effort to systematize and to popularize Descartes' philosophy, Régis and Rohault found themselves confronting experiments and objections not faced by the master himself. Anatomists had shown Descartes' anatomy to be mistaken if not fantastic. Régis must adjust the description of the animal-machine to fit: the pineal gland is dethroned and the *centre ovale* takes its place. Both authors revise the rules of collision, both explain phenomena unmentioned by Descartes himself – the moon illusion, the periodicity of certain fevers. As for objections, in his *Entretiens*, Rohault attempted to defend Cartesian accounts of transubstantiation and the animal-machine. The metaphysical part of Régis's *Système* skirmishes repeatedly with MALEBRANCHE (chapter 11). Later, as the inheritor of Rohault and chief defender of the Cartesians of Paris, Régis answers the criticisms of Daniel Huet and Jean-Baptiste Duhamel; his last work was a defense of the compatibility of faith and reason.

Their extensions and retoolings of Descartes give their work an interest beyond that of documenting the reception of his philosophy. Like us, they find themselves engaged at times in rational reconstruction. They rearrange arguments, they decide what a true Cartesian ought to say in response to new questions. Compared with us they have two advantages. They are writing just decades after Descartes' death, and they do not know what is to come. They do not know that Newtonianism will sweep away their falsehoods and replace them with truths. Régis, though he disclaims any concern to be original, in fact elaborates positions that struck some of his contemporaries as both un-Cartesian and pernicious. Y. M. André, in his *Vie de Malebranche*, warns his reader against the "false Cartesianism" of Régis: "his metaphysics is filled with erroneous maxims that sap the foundations of all the science," his moral philosophy "is horrible in all its parts," and "in a word, no Escobar, no Banné has carried laxity so far": (quoted in Malebranche 1960, 17/1: 248). Even by the standards of the time, this is harsh. Indeed Régis, amid paraphrases and almost verbatim borrowings from Descartes, the Port-Royal *Logic*, and Rohault, offers propositions that, if not un-Cartesian, do play up radical tendencies in his predecessor's thought. So much so that his opponents did not shrink from invoking the dread name of SPINOZA (chapter 16) to impugn them.

In what follows, after a brief account of the careers of Régis and Rohault, I take up three topics: divine power, ideas and the vision in God, matter and the void. I do so in preference to a survey of positions. Such may be easily found elsewhere. I aim to show that not only for those interested in the outward face of Cartesianism but for those interested in its evolving, sometimes disputed content, the systems of Rohault and Régis merit study. Because Rohault's *Traité de physique* is mostly concerned with physical questions, I devote the greater part of this essay to Régis. Not only is his work more wide-ranging, but his controversy with Malebranche and his genuine, if sporadic, originality give his views broader interest for historians and philosophers alike.

Teacher and Student

Rohault was of that generation for whom the new science, not yet present in the universities, was acquired by self-study (Rohault 1718, "Præfatio", p. a4v; Clair

1978, p. 25; in what follows I draw on Clair's excellent bio-bibliography and the earlier work of Mouy). He was born at Amiens in 1618 to a family of merchants. His early education, no doubt Aristotelian, was at the Jesuit *collège* of Amiens. By 1650, the year of his marriage to Nicole Filassier, he had relocated to Paris as a "professeur des mathématiques." An office of *contrôleur des bois* for Paris, purchased in 1649, and properties at Les Halles provided his modest income (Clair 1978, p. 26).

Though the precise date of his conversion to Cartesianism cannot be ascertained, by 1655 Rohault had begun his famous *conférences*, which met on Wednesdays at his residence on the Rue Quincampoix not far from Les Halles. At these gatherings, attended by the scientific and on occasion the social elite of Paris, and by foreign visitors like Huygens, Rohault treated physical questions of all sorts. Each session began with a lecture of about an hour, and continued with a discussion of questions and objections, all in a "peaceable and gentlemanly [*honnête*]" manner. Some lectures included demonstrations; one auditor's notes imply that graphic figures were displayed or circulated (Clair 1978, p. 52). Contemporaries judged Rohault to be an able expositor, a bit pedantic perhaps, and on occasion pugnacious (Clair 1978, p. 46, 48). Their reports show that Cartesianism owed a great deal to his seventeen years of teaching.

Rohault's first wife died in 1663. Claude Clerselier, Descartes' literary executor, seeing in Rohault the future champion of Descartes, determined that his daughter Geneviève should marry him. This despite the displeasure of Clerselier's family at a *mésalliance* with a man who, though of "fort honnête famille," was of mediocre station – and the reluctance of the prospective son-in-law himself. Nevertheless Clerselier, who wanted the marriage "out of consideration of the philosophy of Descartes," persisted, and the two were wed in 1664 (Baillet 1696, 2: 241–2). Rohault thus became an intimate of the keepers of the flame. When Descartes' remains were translated from Stockholm to Paris in 1667, he was among those invited to the ceremonies (Baillet 1696, 2: 442).

Rohault published little until the year before his death in 1672. The *Traité de physique* was, however, essentially complete in 1663; from it was published in 1664, in the first French edition of Descartes' *Monde*, a treatise on fever. In the preface to the *Traité* Rohault writes that he decided to publish because defective copies of notes from his lectures were being circulated (Rohault 1671a, p. [xxvi], Rohault 1718, "Præfatio", a4v). The *Traité* was an immediate success. Within five years, it enjoyed nine printings (one pirated) and four editions; its last edition in French was in 1730. Latin translations, the most notable that of Samuel Clarke, appeared from 1674 to 1740. John Clarke's English translation of his brother's Latin first appeared in 1723. The *Traité* thus enjoyed some currency for over fifty years.

Clarke's translation was a battleground between Newton and Descartes, and in successive editions, the dissent at the bottom of the page grew ever more prominent. Rohault's work, thus inoculated, became "the standing Text for *Lectures* [at Cambridge]"; its annotations became "the first Direction to those who are willing to receive the Reality and Truth of things in the place of Invention and Romance" (Clarke 1738, 1: ii). Reality and truth sometimes leave Rohault but one or two lines

per page. Seldom has the proverb *traduttore traditore* been so well exemplified. Nevertheless, Clarke's interventions (admittedly on crucial questions like the essence of matter, the void, vortices, gravity, and light) leave much of the work untouched – most of the sections on terrestrial phenomena (the rainbow excepted) and almost the whole section on the human body. The now polyphonic work remained for many years the basis for teaching in England and elsewhere.

Rohault's other works did not fare so well. His *Entretiens sur la philosophie*, published without his consent in 1671 from one of the copies then circulating "in secret" (Rohault 1671b, p. 107), defend Cartesian doctrine on transubstantiation and the animal-machine. They deserve study, especially now that Clair has made them available. A posthumous collection, edited by Clerselier, of works on geometry, physical questions, and fortification, was published in 1682 with just one subsequent edition (though the *Mécanique* was published separately as late as 1723).

Among those converted to the new philosophy was Régis, some fourteen years younger and like Rohault from the provinces (Mouy 1934, p. 145–7). He was educated in theology at the Jesuit *collège* at Cahors. Arriving in Paris to complete his education, he attended Rohault's lectures. He showed enough promise that Rohault sent him to Toulouse to disseminate the new science, which he did, very successfully, there and elsewhere. On his return to Paris in 1680, he took up the mantle of Rohault, again with great success. But the King's confessors, having "most hideously depicted" the new philosophy to him, persuaded the King to order Harley, the archbishop of Paris, to end the teaching of Cartesianism. After just six months, Régis gave up his lectures. The King's confessors "were charmed to see the authority of Aristotle confirmed by that of the King" (André in Malebranche 1960, 17/1: 247). Ten years of negotiation, and a loosening of strictures on Cartesianism, had to pass before Régis's *Système* could be published. Like Rohault's *Traité*, it was a success. Régis's later works include defenses of Cartesianism against attacks by Huet and Duhamel, and a last work exhibiting the concordance of reason and faith (*L'usage de la raison et de la foy*, 1704). In 1699 Régis, along with Malebranche, was finally admitted to the Académie des Sciences; poor health prevented him from attending its *séances*. He died in Paris on 7 June 1707.

The careers of these two Cartesians exhibit a pattern of which other examples are easily found. Those who underwent conversion to the new philosophy were said to be – and felt themselves to be – transported from obscurity to clarity, from darkness to light. They entered a new universe. However much we may now wish to insist on continuity, the new science did come as a revelation to some – especially to those whose education was Aristotelian, and whose discovery of the new science came during or not long after their years in school. Rohault picked it up on his own; Régis had the benefit of entering an established circle of adherents. Both were able to attain prominence in Paris and elsewhere as exponents of the Cartesian science. That Cartesian science was *rentable* is significant. GASSENDI's (chapter 6) philosophy, even as digested by Charleton and Bernier, did not enjoy the same success. Philosophers tend to ignore such differences. Reception is messy, noisy, unjust; and one has only to read Bayle's *Nouvelles de la république des lettres* to see that "Cartesianism" designates no fixed point, no permanent body of doctrine

enshrined in a collected works. It is instead, until its definitive supersession by Newton and LOCKE (chapter 24), an arena of controversy, disputed titles, and fluid conceptions yet to be frozen into idealities like "rationalism."

Divine Will, Eternal Truths, the Laws of Nature

Régis's Descartes is a thoroughgoing voluntarist. God is "perfect thought," or, in more customary language, "a substance that thinks perfectly" (Régis 1690, 1: 86). He is perfectly simple, admitting of no intrinsic distinction. His understanding and will, therefore, do not differ from each other or from their operations. Régis can happily take over the Thomist formula that God is pure act (89). Hence there can be no priority of the understanding over the will. It is a mistake to suppose (as Malebranche does) that God, in creating the world, contemplated his own essence as if it were "the fecund source from which he could draw forth [...] every sort of reality and truth, whether that which regards the simple possibility of things, or that which regards their existence." God is not "being in general," not the infinite ground of possibility. On the contrary: "for a thing to be conceivable to God, it is absolutely necessary that it receive from his will the degree of truth and reality that it possesses." Otherwise it would enjoy, at least in its being possible, an independence from God which is "repugnant to the nature of a perfect being."

Possibility and impossibility come to be by the free decree of God, which is simply his will in act. Possibility, in Régis's usage, applies to "modal beings," that is, to "substances themselves" modified in various ways (1: 102). Extension in general, for example, is not a modal being, but every extended thing is. Before the divine decree, there are no substances, hence no modal beings, hence neither possibility or impossibility (save the logical impossibility of contradictions). Possibility, in short, resides in things.

The eternal truths likewise do not exist prior to the divine decree. They are, as Descartes said, created. Materially, an eternal truth is nothing but a modal being; formally, it is the act by which the mind conceives that modal being. "For example, extension and three sides are the matter of a geometric triangle, and the action by which the soul considers the three sides as existing in extension is its form" (1: 178). Formally, therefore, the eternal truths do not exist apart from the minds that consider them. Materially, they "suppose actually existing things"; they "consist in the substances that God has created" (179). Those substances are *not* eternal. Only the uncreated is eternal. Neither, therefore, are the truths that subsist in them. They are not eternal, but only immutable: "substances may always be compared, and God has willed that all souls should be determined to conceive the same truth when they compare things in the same manner." Their immutability is not absolute but dependent (180).

By the same token there is no order antecedent to creation. "I see quite well that a certain order that till now I regarded as preceding the decree, and serving as a rule for [God's] conduct, is a pure fiction of my mind." It was based on a false analogy between my own will and God's. My own will must follow the order established by God. But God's will *is* his decree, it *is* that order. Nothing antecedent

to the decree has, to use Malebranche's phrase, "the force of law in regard to God himself" (Malebranche 1960, 3: 138).

Régis here faithfully follows out the implications of Descartes' 1630 letters to MERSENNE (chapter 4) – the *locus classicus* for the doctrine of the creation of eternal truths. If we consider God "before" creation (since God exists always *in actu*, "before" denotes priority in essence, not in time), his perfection consists in his power alone, in the dependence of all things on him (Régis 1690, 1: 86). For Malebranche, on the other hand, God's perfection includes not only power or will but representation. God "includes in himself in an intelligible manner the perfection of all the beings he has created and can create, and it is by those perfections that he knows the essence of all things" (Malebranche 1960, 3: 136). Were Régis's God to contemplate himself before creation, he would encounter only his own necessary existence, not, as Malebranche supposes, the essence of all that is and can be.

The dispute between Régis and Malebranche descends to earth in their treatment of monsters (see Roger 1971, p. 400–3). Malebranche's God, whose general volitions follow the rule of order, has established certain laws governing the actions of matter. Those laws apply in particular to the action of the imaginations of mothers upon their fetuses. The result is that sometimes the offspring will be deformed. God foresees that such events will occur when he establishes the laws of nature. But foresight does not imply intention. "Having formed the design to produce an admirable work by the simplest ways and to bind all his creatures each with the other," God executed his plan *despite* the imperfections in individuals that inevitably would follow upon it (Malebranche 1960, 3: 483). Though the first animals of each kind, created by particular volitions of God, must have been well-formed, after that generation becomes the affair of material causes operating according to laws. The bodies of the descendants of Eve and Adam, well- or ill-formed, are the objects only of general volitions. "God by the laws of nature does not will the making of one animal alone, he wills a world." A world in which, as it happens, monsters occur; this by the demand of order (3: 90; see also 339–40).

Order demands nothing of Régis's God. Simplicity is a requirement imposed on the study of nature by us, not by God. It cannot be, then, that God, observing order, creates the world by way of general volitions which cannot but lead to imperfection in particulars. He is not like a king "who governs a kingdom through general laws because he has not the power to lead each of his subjects himself." No distinction can be made, in fact, between general and particular volitions. Régis strongly suggests that even to speak of volitions in the plural is repugnant to divine simplicity. Fair weather and foul, however contrary, "are two effects of one and the same volition" (Régis 1690, 1: 92).

In agreement with Arnauld, Régis holds that it is no use to say that "God produces Monsters, though he would rather that there weren't any, but is obliged to produce them to satisfy the simplicity of the Laws of nature" (*Réflexions philosophiques*, quoted in Roger 1971, p. 401). Those laws are nothing other than God's will itself. To hold that he does something in accordance with them that he would rather not is contradictory. Instead we must say that if God created the germs of all living things at once (a claim argued for elsewhere by Régis), then "there is nothing in the world, save moral evil, of which God is not the author," nothing he does not

produce himself "in a positive manner." The underlying thought, a radical but not unreasonable extension of claims made by Descartes, is that the very idea of natural evil presupposes ends in the act of creation. But there are no such ends. A theodicy of *natural* evil is superfluous.

Ideas

The mind, like God, is a thinking substance, but imperfect, mutable and finite. One mutation undergone by the mind is its acquisition of new powers in union with the body. Régis denotes by the term *esprit* or "mind" finite thinking substance considered simply as such. The mind modified by union he calls *âme* or "soul" (Régis 1690, 1: 113). Only the soul is capable of sensing, imagining, experiencing the passions, moving bodies. Apart from the body the soul retains only its power to conceive spiritual things and to love God (1: 269–70).

There is every reason to suppose, then, that the mind can think of bodies only when it has one. Indeed the idea of extension in general is essential to the soul. That idea comes to it not from the senses or the imagination or from comparing ideas of sense, but from its own nature: that is, from its being a thinking thing *modified* by union with an extended thing (1: 158–9). It is impossible, Régis says, that "the soul should perform any function in its quality of being a soul without perceiving of itself as it performs [the function] that it depends on the body it animates" (161). Everything that makes us actually and specifically human depends on the body, and to operate *as human* entails the perception of that dependence.

Every idea has an "exemplary" cause, which considered precisely is nothing other than what it represents (1: 77). The term *cause exemplaire*, borrowed from Scholastic classifications of causes, and ultimately from Platonism, typically denotes the model or plan of a thing, considered not as an end but as an efficient cause in the mind of its maker. "Such are in general all the objects on which God forms the ideas of the soul, which represents them" (1: 77). Note the direction of fit: ideas are formed on the basis of their actual causes. It is possible that the same applies to God himself. If before creation he is pure will, then the act of *making* bodies will be at the same time the act of *knowing* them. Our actions are subordinated to the idea God has given us; God's actions are subordinated to no pre-existent conception.

Descartes took it to be unproblematic that there are two orders of being: in reality and in thought. The sun in my perception is the sun itself existing in the manner of a thing thought: an *objectum* (Descartes 1964–91, 7: 387; see also 102–3). Malebranche preserves the distinction. In Descartes' conception, however, the order of thought is instantiated both in God and in human minds; for Malebranche it exists in God's mind alone. Our idea of extension is a divine idea which, by an act we must accept on faith, he made real in the world around us. Régis does not deny that there is an order of thought. He appeals to that order in his version of Descartes' causal proof of the existence of God. But so far as ideas of body are concerned, he approaches a kind of direct realism. To think of an extended thing is

to be modified by that thing in a certain way, or to be modified by a material impression left by that thing in the brain. Hence, where bodies are concerned, there is no need for an order of thought antecedent to the union of body and soul. The soul may as well acquire the idea of extension (which includes the ideas of its modifications) through the union itself.

Régis was therefore bound to reject one of Malebranche's most celebrated theses: the vision in God. When the soul is occasioned to think of the Sun by way of vision, and thus comes to think of a sphere, that thought consists in its being united with a spherical portion of the idea of extension, or "intelligible" extension, in God. Malebranche argued the claim at length in the *Recherche*, again in the tenth *Éclaircissement*, and once more in the reply to Régis that I will discuss below. Régis, mentioning, as he rarely does, his contemporary Malebranche by name, attempts to refute the arguments of the *Recherche*.

First of all, Malebranche writes, God acts in the simplest ways. The simplest way for God to reveal bodies to our understanding is to will that the soul "should see what is in its midst, namely God's own essence, which represents all bodies" (Régis 1690, 1: 185, paraphrasing Malebranche 1960, 1: 338). Moreover, the vision in God "poses a genuine dependence between God and the soul"; the soul depends on God not only for its existence but immediately for its perceptions too. But the soul, says Régis, could see bodies in God only by virtue of being united with God. That union cannot be the union of two bodies, nor that of two minds, or of a body and a mind. Those sorts of union require mutual interaction; but the human mind does not act on God. What remains is only the weaker union of cause and effect, which must be reciprocal. God is of course united with the soul in that way as cause to effect, but "only insofar as he has created it and conserves it and produces in it all its ideas and sensations in his capacity as first cause" or as the exemplary cause of the idea of a perfect being; and the soul of course has no causal effect on God (Régis 1690, 1: 185).

The vision in God is supposed also to explain our manner of thinking about particular things. "When we would like to think of something in particular, we direct our view first toward all beings and then apply ourselves to the consideration of the object we wish to think about" (Malebranche 1960, 1: 340). Hence when we desire to see various beings one by one, "it is certain that all beings are present to our mind". That can be true only if God himself, who "includes all things in the simplicity of his being", is present. Régis does not take issue with Malebranche's phenomenology. The ideas of all extended things must indeed be confusedly present to the mind. But "their presence is nothing other than the very idea of extension that God has put in the soul in uniting it with the body." Moreover if God included all beings, those beings would be "integral parts" of God. God would not be utterly simple. He would be composed of those beings "as a watch is composed of wheels and springs" (Régis 1690, 1: 187).

The only end in divine action – Malebranche here takes up a traditional claim – is God himself. Hence not only the love but the knowledge God has given us must "bring us to know something in him; for all that comes from God can only be for God" (Malebranche 1960, 1: 342–3). All that we love we love through the "necessary love we have for God." All particular loves are determinations of that love. So

too all we know we know by way of our "natural knowledge" of God, and all our ideas are "limitations of the idea of God."

Régis does not reject the traditional claim. But he does reject the consequence. "In order that God should act principally for himself, it is not necessary that we should see bodies in God" (343). It suffices that we see them in our own ideas so long as doing so disposes us to praise God. If, as Malebranche holds, the ideas of bodies are inseparable from the idea of God, that is not because they are limitations of it but because God has given us, through our intercourse with bodies, the idea of extension in general, of which ideas of particular extended things are limitations. Régis is careful to note that by "extension in general" he means not the abstract idea of extension, which exists only in thought, but the indefinitely large space of which every individual body is a portion. Rather than a vision in God we have a vision in bodies themselves.

Malebranche's reply, which I will not discuss, succinctly restates the argument for the vision and then answers each of Régis's objections. What is significant in their exchange is best brought out not by looking back at Descartes, but forward to HUME (chapter 32) and Kant. Order provides Malebranche with an criterion of intelligibility, on the basis of which human reason can arrive at *a priori* conditions governing the created world. We know, for example, that God prefers souls to matter, that he acts in the simplest ways, that the distribution of grace must be just, even by our lights, if only we understood well enough the underlying reasons. If, on the other hand, as Régis would have it, the divine understanding is *blank* before creation and the accompanying decree, then divine nature – the only *necessary* existent – sets no conditions at all on the laws of the world. What remains is: experience, by which we learn the laws of nature; the conventions by which human beings out of the state of nature chose to govern themselves according to their natural good; and revelation, our sole source of knowledge for the laws of Christian society (for this, see the moral part of Régis's *Système*). There is one exception. Divine immutability places, as it did for Descartes, a *formal* constraint on God's execution of his decree. From this the basic laws of natural change may be derived. But even their content is subject to God's free creation of the essence of body, which we come to know (as in Spinoza) by way of its constant presence in our perception. If the function of God in seventeenth-century philosophy is to function as a repository for the *a priori* conditions of scientific and moral knowledge, then for Malebranche that repository is rich and full; for Régis, it is all but empty.

Matter and the Void

The principles of natural things, according to Rohault, are matter and form (*Traité*, 1c6; Rohault 1718, p. 19–20). The first part of the *Traité*, after preliminaries on ideas, words, and method, is built around that distinction. Rohault is not endorsing the hylomorphism of the Schools. Matter and form are admissible only if correctly understood. Matter, or the substrate of change, is extension, space itself. Form, or that by which one natural kind is distinguished from another, is figure, without which no part of space can be conceived.

It is true that if matter is extension, that heat and cold and other sensible qualities do not exist in things, as Aristotle thought, but only in the mind (1c7no2, 1c2no41–3; Rohault 1718, p. 21, 11). Form, if it is figure, exists in things but is no substance. Cartesian matter and form suffice to explain natural change, and do not exceed the limits of clear and distinct perception. The real accidents and substantial forms of the Schools are excrescences. Physics has no use for them; and theology must attend to physics.

Matter, being space, is divisible and impenetrable; moreover there can be no vacuum. These are for Rohault immediate consequences of the Cartesian conception. I will consider them in turn.

1. *Divisibility.* There is no difference in nature between the parts of matter and the whole. Hence if the whole is divisible, so too are the parts. Even if every actual or potential part of matter must be conjoined with others, none depends on any other for existence. It was within God's power to have made some particles "of a sort that nothing in universal nature could make capable of division" (1c9no2; Rohault 1718, p. 29). But the indivisibility of those particles would owe everything to God's will and nothing to the nature of matter. The only difficulty, then, is to determine "into how many parts a certain portion of matter may be divided." The answer, argued geometrically and empirically is: indefinitely many.

But some might hold it absurd that a part of matter should be indefinitely divisible. A small cube could then be sliced so finely as to cover the Earth. Rohault replies that the objection arises from a failure of imagination: but reality easily exceeds its limits. The experience of lens makers shows that an ounce of gold, which in the shape of a cube will have a base of about one-sixth of an inch, could be flattened or drawn out to cover about 160,000 or even 320,000 times that area. If merely human tools can accomplish so much, Rohault concludes, we must not dare to put limits on the power of God.

The estimates above are painstakingly calculated by Rohault, as if to enlist the reader's assent by their precision and vividness. Moreover, we see that, knowing the density of gold and the desired thickness of leaf, one can *calculate* in advance the amount of gold required. No doubt the craftsmen whom Rohault was in the habit of observing had rules of thumb for such things. But Rohault is beginning to turn that craft into applied science – admittedly not profound science, but still worth noting as a small instance of the transformation of *technè* into technology.

2. *Impenetrability and solidity.* Every part of matter is impenetrable *per se*. But some macroscopic bodies are solid, some liquid. It is surprising, in view of the controversy recorded in the correspondence of Descartes and More, that neither Rohault nor Régis devotes more than a few lines to impenetrability. The argument they give is already in Descartes. A cubic foot of matter, Rohault writes, "already has all that is necessary to such a magnitude"; it does not seem that another cubic foot could be added without its becoming two cubic feet. Parts of matter – regions of space – are individuated by their *termini*. Parts with the same boundary are not two but one (*Traité* 1c7no6; Rohault 1718, p. 22). The argument is sound. But the conclusion follows only if parts of matter are indeed regions of space and nothing more.

Solidity, for a Cartesian, is first of all resistance to motion, especially to touch. A solid is a body that "consists in parts at rest among themselves so that their connection and continuity is not interrupted by any intervening matter" (1c22no9, Rohault 1718, p. 110–11). Clarke replies that mutual rest is neither sufficient nor necessary. Quoting Newton's *Optica* (Newton 1730, p. 388–9), he argues that particles cohere "not by *rest* (which is, rather, *Nothing*) but by mutual *attraction*," an attraction which, Newton admits, can hardly be conceived. The hardness of a body depends on the mutually contiguous area of its particles. On the basis of that and some further assumptions on the situation and movements of particles, Newton and Clarke propose to explain elasticity, malleability, friability, flexibility, and melting.

Newton's hypothesis is closer to the truth than Descartes'. Solids do cohere by the mutual attraction of their constituents. But Newton and Clarke's explanations are hardly less inventive than the Cartesians'. Their methods are similar: a collection of phenomena is gathered (Descartes and Rohault are as avid as any avowed Baconian). It is explained according to principles supported in part by *a priori* arguments, in part by retroduction, in part by refutation of alternatives. The difference would seem to be first, that Newton does not observe the requirement that the concepts employed in natural philosophy be clear and distinct; second, that mathematical control of the drawing of consequences from physical models, and the experimental control of experience by which to test them, are more extensive and secure.

3. *The void.* If space is matter, no part of space can be empty. "To ask if there is space without matter is the same as asking if there is matter which is not matter" (Régis 1690, *Phys.* 1pt1c3, 1: 285; Rohault, *Traité*, 1c8no1, Rohault 1718, p. 26). Not even God can produce a void. But since Rohault, like other Cartesians, is loath to place any limit on divine power, he contents himself with saying that what we would "conceive," if God were to annihilate the matter in a chamber without allowing any new matter to enter, is that the sides of the chamber would then be contiguous. So Descartes himself had said in the *Principles*. Régis, less cautious, says that God's power cannot include that of producing "the Philosophers' void." Because it includes a "manifest contradiction," it "cannot be the effect of a genuine power." We take nothing away from God by denying him the power to bring about the impossible.

The impossibility of a vacuum is part of what Lakatos would have called the "hard core" of Cartesian physics. The Cartesian, having adopted the position, seeks then to answer objections and to explain the phenomena *consistently* with it. For example: it does no good to assert that if God annihilated all the matter in a chamber then what remained would be space without solidity. Space cannot, as we have seen, but be impenetrable (Régis 1690, 1: 285). Instead one must explain only why in some regions of space the matter therein does not affect our senses. But for that purpose one may invoke the subtle matter already needed elsewhere.

By the time Rohault was writing the *Traité*, the scientific world was replete with experiments on the void. Rohault devotes over a dozen pages to the experiments of Torricelli, Pascal, and others. He himself was the inventor of a two-chamber device, the "chamber de Rohault" (Rohault 1718, p. 69 and Tab. 1, Fig. 7, Mouy 1934, p. 129).

The *horror vacui* of the Philosophers he dismisses outright. It is as if someone were to account for the movement of wood from the provinces to Paris by invoking a "fear of cold." This is to give a final cause where an efficient is required (Rohault 1718, p. 53). By the 1660s, however, the *horror vacui* was a dead horse. Cartesianism had more formidable opponents. Rohault considers in some detail the Torricelli experiment. A tube, at least 31 inches long, and full of mercury, is inverted and placed in a bowl. The column of mercury will descend until it is about 29 inches high, leaving a space at the top. That space was said by some to be a void.

Rohault must disagree. The space cannot be empty. It is indeed devoid of ordinary air (*aer crassus*). But the place of that air is taken by subtle matter.

(i) It is not empty. Rohault "empiricizes" a conceptual argument of Descartes. If heat is applied to the top of the tube, the mercury will descend. That must be because it is pushed down by something expanding within the empty space. Since nothing has no properties, *nothing* cannot be pushing the mercury down. So there is *something* there. Moreover, if the space were truly empty, then light could not traverse it: yet we do see things through the top of the tube. Clarke rejects both arguments. The second relies on a false theory of light; the second implies not that the space is full but only that it contains some subtle matter or mercury vapor (Rohault 1718, p. 61).

(ii) It contains no air. Birds and mice inserted into the empty space die. Flies become dormant. Moreover, if in inverting the tube one allows a little air in, one will see it rise through the mercury bit by bit, and the column of mercury will descend more slowly. But if no air is admitted, the column will drop suddenly, and nothing will be seen to pass through it. The space at the top is therefore not replenished with gross air.

(iii) It is filled with subtle matter. This is transmitted only through the pores of the glass (which it must have to be transparent). The pores of mercury are too small. One proof of this is an experiment of Wallis. If one takes care to purge all the air from the mercury (Wallis says that this is not easy), and then inverts a tube of airless mercury, a column of even sixty inches can be made to stand without descending. According to Rohault, the explanation is that the mercury prevents any subtle matter from entering. Clarke devotes a long note to refuting Rohault's account. Rohault "labors in vain" to explain how subtle matter enters the empty space. Subtle matter is, like the other Cartesian elements, entirely imaginary (Rohault 1718, p. 107). The mercury column stands not because there is no subtle matter pushing it out, but by mutual attraction between the particles of mercury and those of the tube.

I emphasize the empirical aspect of Rohault's physics in part to dispel the myth of Cartesian inattention to experience. Rohault insists on the importance of experiments. There are, he writes, three kinds: the "simple use of the senses", the trial and error practiced by chemists, glassmakers, goldsmiths, and other craftsmen; and finally those experiments which, after reasoning from the natures of things, one gathers "in order to show whether [one's idea] is false or correct." If we understand the nature of a thing, we *ought* to be able to draw out new and unforeseen effects from our idea of it (Rohault 1718, p. a1r).

Note the imperative. Science *ought* to generate *reasoned* experiments. Newton himself could hardly have described its dynamic better. Why then did the Cartesians fare so badly? Part of the answer undoubtedly lies in their relative neglect of another emerging imperative. The reasoning by which consequences are drawn to be tested must be controlled by mathematics. Descartes' assertion, for example, that the fineness of the particles of a fluid decreases the resistance felt by bodies moving through it can be evaluated quantitatively (Newton 1730, p. 365–9). Kepler's laws *ought* to be derivable from the vortex theory (as Fontenelle admitted, trying vainly to do so). Rohault is not averse to calculation. But a comparison with his contemporaries Newton, Huygens, and LEIBNIZ (chapter 18) shows how unmathematical the Cartesians remained; their hypotheses were thus prone to refutation not just by experiment, but by physical arguments exhibiting their absurdity.

Another part of the answer can be summed up in the word *hysteresis*. Rohault and Régis propound the new science. Yet old habits persist. Like their counterparts in the Schools, they write textbooks. Like them too, they become (despite Rohault's advice) increasingly content to rationalize adverse experiments thrown up by their opponents. Overwhelming evidence does lead them to give up some of Descartes' own positions. But on the whole, and especially with respect to such questions as the essence of matter, their attitude is that of apologists. Others – Spinoza, Malebranche, CORDEMOY (chapter 10) – who began as Cartesians gave up or overturned key parts of their inheritance. But for Rohault, bound not only intellectually but personally to Descartes' guardian, Clerselier, and for Régis, his successor, Descartes' legacy was, it would seem, too dear.

References

Baillet, Adrien, 1696, *La vie de Monsieur Descartes*. Paris: Daniel Horthemels. (Cited from Garland reprint, 1987.)

Clair, Pierre, 1978, *Jacques Rohault: 1618–1672: bio-bibliographie*. Paris: Editions du CNRS.

Clarke, Samuel, 1738, *The Works of Samuel Clarke, D. D.* London: John and Paul Knapton. (Cited from Garland reprint, 1978.)

Descartes, René, 1964–91, *Œuvres de Descartes*. Ed. Charles Adam & Paul Tannéry. Nouvelle présentation. Paris: Vrin.

Malebranche, Nicolas, 1960, *Œuvres complètes*. Paris: J. Vrin.

Mouy, Paul, 1934, *Le Développement de la physique cartésienne, 1646–1712*. Paris: J. Vrin.

Newton, Isaac, 1730, *Opticks*. 4th ed. London: William Innys, 1730. (Repr. New York: Dover, 1979.)

Régis, Pierre Sylvain, 1690, *Système de philosophie, contenant la logique, la métaphysique, la physique et la morale*. Paris: Anisson. (Cited from Johnson reprint, 1970.)

Roger, Jacques, 1971, *Les Sciences de la vie dans la pensée française du xviiie siècle*. 2nd ed. Paris: Armand Colin.

Rohault, Jacques, 1671a, *Traité de physique*. Paris: G. Desprez.

—— 1671b, *Entretiens sur la philosophie*. Paris: Michel Le Petit. (Cited from Clair 1978.)

—— 1682, *Oeuvres posthumes de Mr. Rohault*. Paris: G. Desprez.

—— 1718, *Physica*. Latin trans. Samuel Clarke. London, J. Knapton, 1697; London: J, Knapton, 1718. (English translation: J. Knapton, 1720; Johnson Reprint, 1970; Garland, 1987.)

Further Reading

Balz, Albert, 1951, *Cartesian Studies*. New York: Columbia.

Chappell, Vere (Ed.), 1992, *Essays on Early Modern Philosophers* (Vol. 3): *Cartesian Philosophers*. Garland: Hamden.

Clarke, Desmond, 1989, *Occult Powers and Hypotheses*. Oxford: Clarendon.

Lennon, Thomas, 1994, "The Problem of Individuation among the Cartesians." In Barber K. (Ed.). *Individuation and Identity in Early Modern Philosophy*. Albany: SUNY Press.

Watson, Richard A., 1982, "Transubstantiation among the Cartesians." In Lennon, T. (Ed.). *Problems of Cartesianism*. Montreal: McGill/Queen's.

—— 1987, *The Breakdown of Cartesian Metaphysics*. Atlantic Highlands, NJ: Humanities Press.

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14

Robert Desgabets

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Life and Works

Dom Robert Desgabets (1610–78) was an early defender and teacher of the Cartesian philosophy in the great Benedictine abbeys of the Lorraine region, France. Although he is little known today, he played an important part in the Cartesian world from 1650–78, through his association with Cartesians in Paris and Toulouse, particularly Claude Clerselier and Pierre-Sylvain Régis. He is perhaps the most original of the Cartesian thinkers, even lauded by Régis, as "one of the greatest metaphysicians of our century" (Régis, 1704, p. 328), yet only one book (Desgabets, 1675) and two small works (Desgabets, 1668, 1671) were published during his lifetime. His important philosophical works *Traité de l'indéfectibilité des creatures* (*c.* 1654), *Le Guide de la raison naturelle* (*c.* 1671), and *Supplément à la philosophie de M. Descartes* (1675), were not published until 1983 (Desgabets, 1983). It's not clear why none of these works were published during his lifetime. As late as 1748, Dom Catelinot failed in his attempt to publish an edition of Desgabets' works owing to "opposition in the congregation." Whatever the case, they were used primarily in discussions at Cartesian conferences and to aid Desgabets' teaching of the Cartesian philosophy.

Assessments of Desgabets' philosophy are few and varied. Victor Cousin remarked that Desgabets was "in reality closer to Aristotle than Plato and to Gassendi than Descartes" (Cousin, 1852, p. 132). More recently, Joseph Beaude has argued that Desgabets was, as he claimed, a loyal Cartesian, but that he presented a philosophy that relies upon grasping the truth of its principles intuitively rather than comprehending proofs and arguments (Beaude, 1974, p. 15).

The view of Desgabets' philosophy developed here is that he was a good deal more Cartesian and systematic than he has been given credit for. The key to unlocking Desgabets' system is his account of DESCARTES' (chapter 5) Creation Doctrine, that eternal truths and substances were created by God's free and indifferent will, discussed in Sections II and III. Desgabets' main tenets – that matter is indestructible, that every conception has a real object outside of it that exists as perceived, and that every thought, including that of intellection, requires a motion in the body – can be best understood in light of the Creation Doctrine.

Desgabets' life and work can be traced through his role in the "Eucharist Affair," his participation in the new science, and his revision of the Cartesian philosophy. I will take each of these up in turn.

The Eucharist affair

It was upon an appeal from Clerselier in 1654 that Desgabets entered into a thorny debate concerning the Eucharist. The mystery of the Eucharist, put simply, concerns how the bread and wine become the body and blood of Christ through the Holy Sacrament. Two questions naturally arise. One concerns how transubstantiation occurs, that is, how there can be a change of the bread into the body of Christ without a loss of the bread's substance, especially given that there is no change in the appearance of the bread. A second is how Christ's body comes to be really present in each and every host, at different times and places, while maintaining its unity as Christ's body. For a Cartesian, these questions are especially difficult given the Cartesian doctrine of matter. According to Descartes, a body just *is* its extension in three dimensions, it cannot be penetrated without losing its substantial being.

Given Descartes' notion of body and space as extension, ARNAULD (chapter 8) could not see how Christ could be really present in the bread, without being locally extended in the same physical space occupied by the bread. Clerselier offered a response in Descartes' defense but was counter-attacked by the French physician Pastel. It was at this point that Clerselier related the correspondence to a "very learned Benedictine," Dom Robert Desgabets. Desgabets' solution, which was gradually developed in a series of writings spanning more than two decades, was viewed as heretical and came at considerable personal cost to Desgabets.

Desgabets' first published thoughts on the matter came in an anonymous work, *Considérations sur l'état present de la controverse touchant le T. S. Sacrement de l'autel* (1671). Lemaire credits this work with having been the primary cause of censorship of Cartesian philosophy in France in the latter half of the seventeenth century, since it brings to light the incompatibility of the Cartesian philosophy with the official Church doctrine on the mystery of the Eucharist (Lemaire, 1901, p. 124). Clerselier and ROHAULT (chapter 13) had defended Descartes' ideas on the subject along similar lines, but no one had been willing, either privately or publicly, to argue as Desgabets eventually did, that the body of Christ is locally extended in the host.

Desgabets was aware of Arnauld's concern over the issue of real presence of the body of Christ in the bread, and the importance of this issue for the Cartesian metaphysics. The challenge for Desgabets was to show how the bread, whose essence is its extension in three dimensions, could take on the extension of another body, that of Christ, without losing *its* being. On the Cartesian doctrine of material substance, a substantial change would mean that the bread would lose its locally extended being altogether. To avoid this, Desgabets needed to show that the mystery of the Eucharist does not involve a substantial change of the bread into the body of Christ, but rather some kind of change of state, or in Cartesian terms, a modal change. Desgabets' solution was that the conversion of bread into the body of Christ is performed by a perfective conjunction, which operates according to the general laws of conjunction observed in the mind–body union of man. What is formed at the time of the Holy

Sacrament is a new state of being for matter and spirit, not a new substance or annihilation of one substance for another. In effect, the bread remains unchanged in its local extension while joining to the non-extended soul of Christ; the body of Christ becomes the local extension of the bread in virtue of the composite union of two substances, in just the way the human soul is united to a particular, locally extended body. Thus, this solution provided Desgabets with an explanation of the real presence of Christ's body in the bread. Moreover, the multiplicity of Hosts (one, ten, twenty, a thousand, etc.) and their unity in the being of Christ, could be explained by appeal to this perfective union. Each host is joined to Christ's soul by a perfective union; these unions account for multiplicity while Christ's indivisible soul grounds their unity.

Ironically, it was Desgabets' persistence and perhaps even imprudence that pushed the issue into the open. For it was shortly after the publication of *Considérations* in 1671, that Desgabets sent additional writings on the topic to Abbey Le Roi, who communicated them to Nicole and Arnauld. Arnauld found Desgabets' views dangerous and completely against tradition. It was through his acquaintance with Nicole and Arnauld that the non-Cartesian Le Géant learned of the document and the identity of its author. Le Géant alerted the Procurer General of the Congregation of Benedictines, who ordered Desgabets to report to his superiors concerning the matter. This led to an interrogation and the subsequent issuance of an order on December is 1672, that Desgabets renounce his views on the Eucharist. Desgabets obeyed, and retreated to a monastery at Breuil. This turn of events may be partly responsible for why Desgabets' main philosophical writings were not published in his lifetime. Fortunately it did not spell the end of his philosophical career, since the controversy attracted the attention of Cardinal de Retz, who was known for his radical spirit of reform among conservative ecclesiastics in France. The Cardinal was a partisan of the new Cartesian philosophy who invited Desgabets to the Cartesian conferences held at his residence, Château de Commercy. Here Desgabets criticized and corrected what he saw as the errors of Descartes, and completed his important "indefectibility thesis." This thesis, discussed below, amounts to the claim that matter and mind, once created, are indestructible in their essence and existence.

The New Mechanical Science

Desgabets' correspondence indicates that he was interested in mechanics before 1644, prior to his acquaintance with and conversion to Cartesianism. In Desgabets' estimation, the only legitimate rival system to Descartes' was that developed by PIERRE GASSENDI (chapter 6), but in the final analysis, the new scientific discoveries weighed decisively in Descartes' favor. There is some dispute about whether Desgabets was more of a Gassendist than a Cartesian, although the evidence weighs in favor of the latter.

It was probably Claude Clerselier who guided Desgabets in 1658 to the Cartesian conferences held at M. de Montmort's, where he reportedly participated in discussions with Jacques Rohault, Clerselier, and GÉRAUD DE CORDEMOY (chapter 10). Here, he revealed his scientific bent of mind, conducting numerous experiments. For

example, he demonstrated that the effects attributed to the so-called abhorrence of the void by nature could be explained in terms of the mechanics of air pressure. He also participated in discussions with engineers concerning various means of changing the course of the Seine after a sudden rise in the water level had flooded the Pont Marie in Paris. In addition, building on Harvey's discovery of the circulation of blood earlier in the century, Desgabets argued that if such a process were a mechanism that operated according to lawful movements, as Harvey's work suggested, it should be possible to transfer blood from one subject to another. He designed an apparatus and procedure for blood transfusion and, while, evidence of Desgabets' actual experimentation with blood transfusion is lacking, his descriptions of it show that he was aware of the possibility of shock if the quantities transferred were too great for the subject. Desgabets' account of blood transfusion illustrates that he possessed two important qualities as a scientific thinker: his method of searching for general explanations for a given problem, and his sensitivity to the specific physical details.

One of his more famous interlocutors was the Cartesian Géraud de Cordemoy. Despite his admiration for Cordemoy, Desgabets was shocked by the atomism in the *Discernement du corps et de l'âme* (1666), a copy of which had been sent to him by Clerselier in the year of its publication. Desgabets objected to certain developments found in Cordemoy that were favorable to the existence of the void and against the infinite divisibility of extension (Desgabets, 1666). According to Desgabets, the marriage of Cartesian and anti-Cartesian elements in this work forms an irreconcilable schism in the Cartesian philosophy. Although Desgabets himself was not one to adopt Descartes' ideas in their entirety, in his view his own criticisms perfect and maintain the integrity of the Cartesian principles, while Cordemoy's adoption of atoms and the void is a direct affront to the Cartesian metaphysics.

Desgabets' revision of Cartesianism

Desgabets was not the only or even the first of Descartes' successors to take up the project of revising the Cartesian philosophy. There are numerous figures in the period who considered themselves genuine Cartesians, such as Cordemoy, Pierre Cally, LOUIS DE LA FORGE (chapter 10), and Antoine Le Grand, who modified and extended Descartes's ideas. The great "Post-Cartesians" BARUCH SPINOZA (chapter 16), NICOLAS MALEBRANCHE (chapter 11), and GOTTFRIED LEIBNIZ (chapter 18) went beyond revisionist projects and spawned new systems of their own. Arguably, there are many strains of Cartesianism to be found in the period ranging from the intellectualism found in Malebranche, the empiricism found in Desgabets, to the mysticism found in Poiret.

Viewing Desgabets' work as a whole, one cannot doubt that what he viewed as a revision or perfection of the Cartesian philosophy others viewed as a fundamental departure. In his favor, he never strayed from the Cartesian metaphysics, i.e., its substance dualism of mind and matter, substance–mode ontology, mind–body union and interaction, and the view that extension is the essence of matter and thought the essence of mind; and he remained loyal to the Cartesian physics against that of the atomists. However, he rejected a number of Descartes' important doctrines: that the

mind is better known than the body; that humans are capable of pure intellection; that the cogito is the first principle of knowledge; that there are innate ideas; and that ideas have objective being. In his *Supplément à la philosophie de M. Descartes*, which was intended as a supplement to the *Meditations on First Philosophy*, Desgabets more than once remarked that "M. Descartes is not always a good Cartesian," which typifies his conviction that Cartesianism is more than the sum of the particulars set down by Descartes himself.

As one commentator points out, this poses a fundamental question to historians of philosophy concerning the respective roles of the singularity and universality of a system of thought (Beaude, 1979, p. 21). There is little doubt where Desgabets stands on this issue, since he relentlessly regulated the singularity of Descartes' system, while appealing to the universality of its principles. Desgabets preserved what he saw as the cornerstone of Descartes' thought – his metaphysical principles – and within that framework exercised a complete freedom with respect to drawing particular consequences from those principles. The result is a development of Cartesianism that is at times startling and illuminating. To better understand how Desgabets could claim allegiance to the Cartesian philosophy in the face of such apparently radical revision, I will examine some of his key doctrines and arguments.

Desgabets's Philosophical System

Desgabets' views on the nature of substance, which led to his formulation of the "indefectibility thesis," and the essential intentionality of ideas, are key to comprehending his philosophy, as well as his revision of Cartesianism. His discussions often suggest that these doctrines in turn depend on some common and more basic ground. He hints at it more than once when he states that Descartes could have avoided all of his errors had he attended more closely and completely to his "belle doctrine," of the free establishment of the eternal truths and immutable essences. (Desgabets, 1983, p. 232)

Beaude recognizes the importance and repeated recurrence of the "belle doctrine" (referred to here as the Creation Doctrine) in Desgabets' writings, but submits that it serves principally as a psychological boundary for Desgabets, to prevent him from succumbing to pantheism, "If he had known the work of Spinoza, it would be said that by this thesis, in saying himself more Cartesian than Descartes, he intended to exorcise a latent Spinozism in himself" (Beaude, 1979, p. 19).

Against this view, I propose that the Creation Doctrine, and the implications Desgabets believed it to have, provide a metaphysical and logical starting point for all of his fundamental philosophical principles and doctrines and their consequences. Desgabets' alignment with this core metaphysical doctrine in Descartes defines both his allegiance to and revision of Cartesianism.

Doctrine of the Creation of the Eternal Truths

The Creation Doctrine was first expressed in a letter by Descartes to MERSENNE (chapter 4) in 1630, (Descartes, 1984–91, III: 20–3) and can also be found in two of

his replies to Objections (Descartes, 1984–91, II: 261–631; and 291–4). This thesis, stated simply, is that God is the efficient, total, free, and indifferent cause of everything, including the eternal truths. It is a matter of much contention, both historically and in the present literature, what this doctrine amounts to. I'll not try to settle the question, but instead will follow Desgabets's interpretation of the doctrine.

Descartes was especially concerned with the Creation Doctrine in relation to the nature and status of the eternal truths. According to Desgabets, that $1 + 1 = 2$ is true, or that extension is the essence of matter, is external in that its truth doesn't depend on any particular movements or time, and necessary in that once God created it, it could not be destroyed or changed. Eternality and necessity derive from the immutability of God's will, and truth depends only on the unchangeable substances that God chooses to create. It is unintelligible to ask whether God might have created the world such that $1 + 1$ not equal 2, or whether the laws of logic could have been other than they are. For all of our knowledge of these truths depends on the actual world God created, and the truths themselves depend upon created substances, which once created, are unchanging:

> Let us then attribute to God what we should, let us think only of what we know, let us say that immutable truths, the natures of triangles and other things, depend so absolutely on God that none of it could exist, or be what it is, except by His sovereign and indifferent will. (Desgabets, 1983, p. 210)

The eternality and necessity that these truths enjoy is, then, also true of created mental and corporeal substance, and this, according to Desgabets, is what Descartes failed to attend closely enough to. Desgabets aimed to use the full extent of Descartes' Creation Doctrine as a means to correct Descartes' errors.

Desgabets agreed with Descartes that the distinction between essence and existence is merely a distinction of reason; essence is the nature of a thing as it is contained in its definition, and existence is the perfection by which this essence actually exists. The Creation Doctrine requires that there be no essence without existence, which is just to say that *everything* depends on God's will in his free and indifferent creation of the universe:

> ...creatures are only what God made them, and He gave them their essence and existence at the same time, which are the same thing in substance considered purely and simply. But in keeping with this, we must not amuse ourselves at will by knowing them in an order other than the one God established, nor imagine that they have being before their creation; to know them we must wait until God gave them their essence and existence which are equally contingent, and which they nonetheless posses irrevocably after receiving it. (Desgabets, 1983, p. 249)

Desgabets' voluntarism, then, is a qualified one, for although the eternal truths depend for their existence on God's will, once created, they are unchangeable. Significantly, Desgabets drew two immediate and important consequences of the Creation Doctrine applied to substances: first, substances, once created, have an irrevocable essence *and* existence; they are indefectible in their nature and being. Second, substances have no being before their creation and hence there is no means

of knowing them until God actually creates them. This means that there is no means independent of experience that can provide the foundation of our knowing these substances. Human knowledge of substance depends upon actually perceiving the created things themselves. The first consequence led Desgabets to develop the thesis of the indefectibility of created things; the second consequence led Desgabets to develop the principle of intentionality, i.e., that every perception (simple conception, as he often called it) is of an actually existing substance.

The Indefectibility Thesis

Desgabets' doctrine that created beings are indestructible in their essence and existence is perhaps his most original if not radical contribution to the Cartesian metaphysics. Given the Creation Doctrine, and the immutability of God's will in the act of creation, it follows that substances are incapable of change or annihilation. Once matter and mind are created, they must remain in their essence and existence. What is contingent is what God chose to create by His free and indifferent will, which happened to be finite matter and mind. What is necessary is that once God willed, what He willed is forever unchanging in its being. Matter is indestructible in its being as extended thing, and mind is forever unchanging in its being as thinking thing. What is subject to change are the *modes* or *states* of substance from one moment to the next (Desgabets, 1983, pp. 21ff.).

The Creation Doctrine applied to substances, particularly material substance, is the topic of Desgabets' important *Traité de l'indéfectibilité des creatures*. According to Desgabets, the *real* material substance is the total quantity of extended matter in the universe. The corporeal form of all particular bodies *results from* an *assemblage* of the local dispositions of matter, and these dispositions of matter in turn come from extended matter. Thus, in the same way that Descartes would have it that sensible qualities are nothing outside us but the local dispositions of matter, sensible objects are nothing outside us but *assemblages* of local dispositions of matter. Desgabets' metaphysical view is that the physical world is *really* a single object or substance whose parts, under various divisions, shapes and arrangements, form all the *appearances* in the "grand theatre of nature." Thus, the physicist's object really is the solid of the mathematician (Desgabets, 1983, p. 110). Individual bodies are not the true object of science or mathematics; they are but parts of matter that are assembled and disassembled through time.

The epistemological side of this metaphysical thesis is that if sensible qualities such as heat, color, and light are really modes of the mind that have no resemblance to the modes or accidents of matter that cause them, then, for the same reason, sensible bodies such as earth, water, and animals must also be modes of the mind that have no resemblance to the "assemblages" of local dispositions of matter that cause them. Individual bodies are assemblages of local dispositions of matter, and sensible bodies our *grasp* of those assemblages.

Desgabets' treatment of sensible qualities and sensible objects naturally evokes charges of idealism, particularly the problematic sort later identified by Kant. It seems as though our perception of individual bodies and their form is a modal being in our mind, which bears no resemblance to the local dispositions of matter

that produce it. Might we well just dispense with the local dispositions of matter, especially since Desgabets thought that God was the ultimate cause of bodies and our ideas? Desgabets rejected this move toward idealism for two related reasons: the skepticism and occasionalism he saw in it. According to Desgabets, certainty requires that the object of our thought be the true object as we perceive it. This means that when we perceive an extended thing, that it is extended, sized, shaped, at rest or in motion, is true of it. Desgabets' solution to problematic idealism depends on his establishment of the principle of intentionality and the temporal nature of thought, discussed below.

Desgabets also subscribed to the Cartesian conception of mind as an immaterial substance whose essence is thought, and the fundamental distinction between mind and matter. Minds, or immaterial substances, are of three kinds: uncreated, which is God; mind detached from body, which is an angel; and mind united with organized body, which is a reasonable soul (Desgabets, 1983, p. 127). Angels are the only pure minds in the created universe and they have no corporeal extension, no local presence or correspondence to time – they are simple and indivisible existence (Desgabets, 1983, p. 129). The third of these spiritual beings is man, who consists of a composite of thinking and extended substance (Desgabets, 1983, p. 69).

On the surface, Desgabets appears to stray slightly from the official Cartesian doctrine of dual substances, since he claimed that outside of God there are three sorts of simple created substances, matter or body, angel, and one that is composed of body and soul, who is man (Desgabets, 1983, p. 3). However, this tripartite division of substances is supported by a more fundamental bipartite division of material and spiritual substances, so that man is best understood as a *state* of being that emerges out of the conjunction of two substances, rather than as a substance in the primary sense. Man, like the Host of the Eucharist, is a modal being, not a substance. This of course has the consequence that individual souls are really just states of matter and mind conjoined locally, and death consists in the dissolution of the union. Although Desgabets asserted the indestructibility of body *and* soul in their being as substances, it leaves little room for personal immortality, since the individual in its united body and soul ceases to exist, in every respect.

Close attention to the creation doctrine, then, explains why substances are incapable of annihilation, why on the Cartesian physics individual bodies are modal beings and only the true object of science in so far as they participate in extended substance, and, likewise, why human beings are modal beings that through the union of mind and body participate in both extended and thinking substance.

Principle of Intentionality

Desgabets' formulation of the fundamental principle of truth and knowledge is based on the inherent intentionality of thought and is referred to by commentators as the "principle of intentionality." According to Desgabets, to have an idea of something is to have a true idea since *all* of our ideas have a real object outside of the understanding such that they represent those objects as they are. As *real objects* for Desgabets are substances, the truth of each idea resides in its grasp of substantial being (extended thing or thinking thing), not in its grasp of modal states of being such as stones,

plants, and animals, which are only objects in a secondary sense. All attributes, modes, and states of being from one time to another result from or depend upon the unity of being that exists only in mind, matter, or the substantial union of mind and matter. Desgabets' principle of intentionality is an important one to keep in mind since it not only encompasses Desgabets' answer to the Cartesian debate over the nature of the epistemological relation between ideas and world, but also permeates his revision of the Cartesian philosophy that has many far reaching consequences, not the least of which is his rejection of the method of doubt, his subsumption of the cogito, and, finally, his appeal to experience as the foundation of knowledge.

The key to the principle of intentionality is its connection to the Creation Doctrine. Recall that finite created substances are eternal and indestructible in their existence and being. This means that they are not subject to change. Only modal beings like stones, plants, and animals are subject to change and destruction (in their specific local dispositions). Only modal beings can be said to exist for a time/not exist for a time, or to endure. Time, and hence the duration of modal beings like stones and animals, depends on local movements of matter and would not exist without local motion. Hence, on Desgabets' view, and what he took to be Aristotle's, time is not really distinct from movement:

> ...for nearly everyone attributes time and duration not only to corporeal things that move, but also to the simplest creatures and to God himself,... But if we use good sense to discover it, without carrying our judgments beyond knowledge, it must be said simply that time, duration, succession of parts, which precede and follow one another, belong properly to local movement from which they are inseparable... (Desgabets, 1983, p. 43)

Thus time on Desgabets' account receives the same treatment as sensible qualities. Like our perception of red or cold, time is nothing in matter but a local motion. Time, red, cold, etc., are modes of mind that only exist as local motions in matter. Moreover, every thought depends equally on the local motions of the body to which it is united, and has duration in virtue of that dependence:

> All of our thoughts, without exception, are tied to the movement of our organs and depend on them, since our thoughts have an extended and divisible quantity, measurable with a clock. Now, those who know the true nature of movement and time know that every duration or successive extension is a local movement of the sort that thought must have movement by the union [with the body], for thought does not have movement by nature, in the same way that voluntary movement is not the will by nature, although it is voluntary because of its dependence on the will. (Desgabets, 1983, p. 299)

A pure thought, the kind that Descartes envisioned for metaphysical reasoning, would have no beginning, duration, end, or succession. In short, such a thought would be indivisible, and hence unthinkable by the human mind. So it is obvious why pure intellection of the sort Descartes claimed in the *Meditations*, is impossible for Desgabets, and why the issue of innateness is a non-starter. No ideas are innate since all ideas come from the senses in that they depend on the

movement of our sensory organs for their formation. Furthermore, no one idea contains more reality in it than another, since all ideas, whether of God, angels, or mountains, are equally spiritual and material in their being. And finally, all objects of thought exist as we perceive them, i.e., as really existing mental or physical substance.

Desgabets rejected Descartes' claim that ideas having no object at the time of conception could have a degree of being in thought. According to Desgabets, this amounts to an object of thought whose essence has no existence, or whose essence precedes its existence. Such a thought would be a thought of nothing – an impossibility. Moreover, if it were possible to arrive at any idea that has no object outside the understanding, the door would be open to doubt even our most simple conceptions. This would mean, Descartes' claims to the contrary, that even the *cogito* would fail, and that all human knowledge would be impossible (Desgabets, 1983, p. 224).

According to Desgabets, simple conceptions are the mind's grasp of things as they are in themselves, which is to say, in relation to their essence as extended things, or as thinking things. Thus, to conceive simply is to grasp material or mental substance as it is, minus any temporal ties. To conceive of modal beings is not simple conception and hence is open to errors of judgment. What then, on Desgabets' account, is it to conceive of so-called purely possible beings, such as ideas of enchanted palaces, of châteaux in Spain, of the Antichrist, of Julius Caesar, and of various not yet invented machines? They, like actual modal beings, are divisions of which matter is capable and so have a real existence in matter (Desgabets, 1983, pp. 236–37). The only difference between the kind of existence that these beings enjoy and the kind that belongs to the simple modes of matter (such local dispositions as motion, shape, size and arrangement) is that the former exist extrinsically by thought, while the latter exist intrinsically by the simple nature of matter. Mental division or grouping individuates matter according to its infinitely divisible nature, and *any* particular division made by thought actually exists in matter in this sense. That is, matter actually contains the divisions assigned extrinsically by the mind, though these divisions may not exist in fact at that or any future time. When God created the physical universe, He imparted motion to matter, thus actually dividing it into parts having various shapes, sizes and motions. These simple modes exist in matter at all times, since time is nothing more than a measure of the movements of some portion of matter in relation to another, and since all portions of matter have size, shape and motion, these simple modes are actual at any given time.

In summary, Desgabets dispensed with Descartes' doctrines of objective being and innate ideas, proposing in their stead his principle of intentionality and a realist theory of ideas. Once established, this "principle of principles" grounds the cogito, the criterion of clarity and distinctness, and the whole of the Cartesian philosophy (Desgabets, 1983, p. 302). Moreover, it is the senses via the local movements of the body that present us with matter as it exists at a particular place and moment, whereas essences are known by thought by a process of abstraction, that is, by eliminating a thing's temporal ties and considering it as it is in itself, in its material or immaterial being. The principle of intentionality is nothing but an expression of

the simple fact that essence and existence are really the same thing, and are distinguishable only in thought. Here again we see the metaphysical and logical force of the Creation Doctrine at work.

Cartesianism or Robertism?

Desgabets' rendering of the Cartesian philosophy raises the question whether it ought to be seen as a development of Cartesianism, or a revision so radical as to produce a new system of thought, "Robertism." In Desgabets' own day, Cardinal de Retz and Mme. Sévigné referred to him as the "Distiller" of Descartes' philosophy for the subtlety of his distinctions in metaphysics and the extremity of his conclusions in physics (Retz, 1887, vol. ix, pp. 209–23). Desgabets has been variously described as a materialist, empiricist, Gassendist, and Spinozist.

In deciding this question, we must first ask what common ground Desgabets shared with Descartes and whether that is sufficient to establish him as a disciple of Cartesianism. Then we must ask what is core, if anything, to the Cartesian philosophy – or to philosophical systems generally.

On the first question, the historical and textual evidence weighs heavily in favor of Desgabets as a genuine, even ardent, Cartesian. Desgabets studied Descartes' ideas closely for over twenty years; he taught his students Descartes' philosophy, he discussed and debated Cartesian principles at Cartesian conferences for over 20 years; he considered himself a loyal disciple of the Cartesian philosophy. His main philosophical writings are filled with references to and developments of Descartes' ideas. Moreover, I have argued that a doctrine central to the Cartesian metaphysics, the Creation Doctrine, operated as the cornerstone to Desgabets' approach to and development of Cartesianism. Indeed this doctrine is a core Cartesian doctrine that provided the foundation for the Cartesian physics, a point that Desgabets brought to light in startling detail. Both Descartes and Desgabets saw the strength of the Cartesian philosophy as its reunion of mathematics and physics. Of course, Desgabets' rejection of a number of core Cartesian doctrines, such as the method of doubt, the *cogito* as the foundation of certitude, innate ideas, and pure intellection, can't be overlooked. However, in intent and spirit, if not in all conclusions, Desgabets was a Cartesian *extraordinaire*.

The second question is more difficult to provide a singular answer to. It raises whether philosophical systems, generally or specifically, have an essence or logical structure, or are better identified as a cluster of ideas and doctrines held together by more contingent factors than logical connections. Moreover, it raises whether the identity of a philosophy is the sum of its originator's ideas, inferences, and formulations, and whether and to what extent it can accommodate revisions and developments. In this respect, if Cartesianism is the sum total of the particulars set down by Descartes across his lifetime, then *only* Descartes would qualify, and not *consistently* so. However, if Cartesianism is a dynamic, open-ended system of principles, whose proponents were free to revise and develop ideas along lines not undertaken by its originator, then many in the period, including Desgabets, were genuine Cartesians. Arguably, Desgabets' attention to and consistent defense of Descartes' insistence

that eternal truths and essences are created would have challenged Descartes, had he lived to learn of it, either to abandon the doctrine or take it in the direction urged by Desgabets.

If we give Desgabets the final word on the matter, that the Cartesian philosophy was the "true philosophy" whose allegiance was to truth not specific conclusions, then we can see how he could remark that Descartes was "not always a good Cartesian." In this respect, it can be said that it was in virtue of Desgabets' revisions and corrections that he was the through and through Cartesian he considered himself to be.

References

Beaude, Joseph, 1974, "Desgabets et son oeuvre." *Revue de Sythèse* 95: 7–17.

—— 1979, "Cartésianisme et anticartésianisme de Desgabets." *Studia Cartesiana* 1: 1–24. Amsterdam: Quadratures.

Cousin, Victor, 1852, *Fragments de philosophie cartésienne*. Paris: Didier.

Descartes, Rene, 1984–91, *The Philosophical Writings of Descartes*. (J. Cottingham, R. Stoothoff, D. Murdoch, and A. Kenny, (Trans.). 3 vols. Cambridge: Cambridge University Press.

Desgabets, Robert, 1666, "Lettre écrite à M. Clerselier touchant les nouveaux raisonnements pour les atomes et le vide contenues, dans le livre du discernement du corps et de l'âme." In *Ms de Epinal, series 1*.

—— 1668, "Discours de la communication ou transfusion du sang." In Jean Denis (Ed.) *Lettre écrite à Monsieur Sorbière Docteur en Médecine par Jean Denis aussi Docteur en Médecine. Touchant l'origine de la Transfusion du sang, et la manière de la pratiquer sur les hommes* (pp. 3–6). Paris: J. Cusson.

—— 1671, *Considérations sur l'état présent de la controverse touchant le T. S. Sacrement de l'autel*. Paris.

—— 1675, *Critique de la critique de la Recherche de la vérité*. Paris.

—— 1983, *Oeuvres philosophiques inédites de Dom Robert Desgabets*. J. Beaude (Ed.). 7 opuscules vols, *Studia Cartesiana*. Amsterdam: Quadratures.

Lemaire, Paul, 1901, *Le Cartésianisme chez les Bénédictins: Dom Robert Desgabets son système, son influence et son école*. Paris: Alcan.

Régis, Pierre-Sylvain, 1704, *L'usage de la raison et de la foi*. Paris.

Retz, Cardinal de, 1887, *Oeuvres du Cardinal de Retz*. M. R. Chantelauze (Ed.). Vol. ix. Paris: Hachette.

Further Reading

Armogathe, J.-R., 1977, *Theologia Cartesiana: L'Explication physique de l'Eucharist chez Descartes et dom Desgabets*. The Hague: Martinus Nijhoff.

Lennon, Thomas M., 1998, "The Cartesian dialectic of creation." In D. Garber, M. Ayers, (Eds.). *The Cambridge History of Seventeenth-century Philosophy*. Cambridge: Cambridge University Press.

Rodis-Lewis, Géneviève, 1974, "L'écrit de Desgabets sur la transfusion du sang et sa place dans les polémiques contemporaines." *Revue de Synthèse* 95: 31–64.

Schmaltz, Tad, forthcoming, *Radical Cartesianism: Desgabets, Regis, and French Receptions of Descartes (1663–1720)*. Cambridge: Cambridge University Press.

Watson, Richard A., 1966, *The Downfall of Cartesianism 1673–1712*. The Hague: Martinus Nijhoff.

—— 1982, "Transubstantiation among the Cartesians." In T. M. Lennon, J. M. Nicholas and J. W. Davis (Eds.). *Problems of Cartesianism*. Kingston and Montreal: McGill-Queens University.

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Grotius and Pufendorf

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The "modern" or "Protestant" tradition of natural law that emerged in the seventeenth century exerted a profound and long-lasting influence upon moral, political and legal thinking. The seminal figure in the emergence of this body of thought was unquestionably Hugo Grotius (1583–1645). Grotius is a thinker whose importance extends well beyond philosophy: his theory of natural law is generally regarded as having been one of the foundation stones of international law; and he has also been portrayed as a key figure in the emergence of those modern forms of systematic doctrinal legal writing that replaced the disorderly assemblage of formularies, commentaries and glosses characteristic of medieval legal scholarship. Yet these broader influences all stem from his central philosophical contribution: the defense of a natural law theory that viewed people as the possessors of rights, and political society (both municipal and international) as open to the governance of reason in consequence of its derivation from such rights. The immense fame of Grotius in his own period was founded upon this contribution, and this continues to be the focus of modern interest in his work. His most famous and influential follower was Samuel Pufendorf (1632–94), who departed from Grotius's position in certain key respects and endeavored to fit natural law theory to a non-teleological understanding of nature. Their combined influence ensured that the general tradition of thought would continue to shape moral and political philosophy well into the eighteenth century.

Grotius was a renowned scholar who displayed a great mastery of classical and biblical literature. Amidst this display of erudition, his work makes very little reference to the political circumstances of his day, and this in spite of the fact that he was actively involved in politics, holding public office in Holland, and later serving as ambassador for Queen Christina of Sweden. Yet it is impossible to understand the nature of his contribution without an awareness of the new form of international society that was emerging in the Europe of Grotius's period. Indeed, even the title of his principal treatise, *De Iure Belli ac Pacis*, points directly to Grotius's central concern with the standards governing sovereign states in their dealings with each other.

In medieval Europe, powers and jurisdictions were multiple and overlapping; but, with the emergence of the early modern state, a different situation became evident. Modern states claim exclusive territorial jurisdiction, and therefore regard the laws

of other states as having no claim upon them. The nature of the moral or juridical relations obtaining between these exclusive zones therefore assumed a problematic appearance: some might conclude that states could only stand to each other in postures governed by prudence and self-interest, rather than right or law. Theories of natural law that explored the moral relations obtaining between such autonomous entities naturally suggested the possibility that moral relations between individuals within the state could be conceived of in a similar way: theories suited to the newly emergent international order therefore fostered new forms of individualism in political thought more generally.

Such developments were sharpened and deepened by the fragmentation of Europe's religious inheritance. The scholastic tradition of political thought that drew its sources of inspiration from Aristotle's *Politics* tended to assume a relatively integrated community united by bonds of common belief. The Spanish natural lawyers of the later sixteenth century did much to adapt Thomist thinking to the changed situation, but tensions remained. An appropriate perspective was needed for reflection upon the ordering of a society marked by disunity and dissent.

The fragmentation of Christian belief, and the newly emergent sovereign states, formed an important backdrop for the work of Grotius and Pufendorf. Both writers took the existence of a strong state to be an essential precondition for an orderly society that allowed scope for religious dissent yet did not slip over into civil war. Grotius's view that secular rulers were entitled to enforce tolerance upon Churches was one of the factors leading to his imprisonment (for life: he escaped after two years). In their concern with strong centralized states, religious diversity, and individual rights, Grotius and Pufendorf addressed many of the themes that have dominated twentieth-century political debate.

That Grotius was an innovator is borne out by contemporary perceptions of his work; but the precise nature of his contribution is more difficult to assess. The popular and once widely-accepted picture of Grotius as the inventor of an essentially secular version of natural law theory, marking a radical break with the older Thomist or Aristotelian tradition, leaves much to be desired. Yet no alternative view has gained widespread acceptance: modern scholarly opinions continue to vary considerably on this question.

On the one hand are those who emphasize the internal complexity of the scholastic tradition, and the important developments that it underwent in the hands of writers such as Suarez. The sources of Grotius's key ideas, it is suggested, are to be found within the scholastic writers: claims of radical innovation are viewed as implausible. Brian Tierney, for example, emphasizes that reliance upon the scholastic tradition was really unavoidable, in so far as that tradition formed an indispensable part of the "usable past" for the seventeenth century. Protestantism's bitter hatred for every aspect of the medieval Catholic church, and the disdain of humanists for the works of scholasticism, made it impossible for the old theories to be utilized without their reformulation in a somewhat different idiom. Hence Grotius can appear to some eyes to be offering a dramatically new type of theory, while others see him as continuing an old tradition (Tierney, 1997, pp. 341–342).

On the other hand are those who defend the idea that Grotius did indeed make a radical break with the scholastic tradition by developing a theory of a far more

individualistic and secular character. The important work of Richard Tuck presents a powerful version of this view. Tuck regards Grotius's principal work, *De Iure Belli ac Pacis* as failing to make the theoretical foundations of his argument clear. Those foundations are presented more clearly (in Tuck's opinion) in an earlier unpublished work (part of which was published as *Mare Liberum* in 1609) found amongst Grotius's papers in 1864. Later in his life, Grotius adopted a more Aristotelian tone of voice, introducing numerous revisions to that end in the second edition of *De Iure Belli ac Pacis* in 1631. This was done, Tuck suggests, in an effort to rehabilitate himself with the Aristotelian Calvinists whose continued hostility was requiring Grotius to remain in exile (Tuck, 1993, chap. 5; 1999, chap. 3).

The debate remains hard to resolve. As Knud Haakonssen has aptly observed:

> The sources reveal an extraordinary degree of continuity between scholastic natural law... and the natural law doctrines that dominated Protestant Europe during the seventeenth and much of the eighteenth centuries. Yet it seemed to moral philosophers of these centuries, especially to the modern natural lawyers themselves, that something decisively new happened with Grotius. (Haakonssen, 1996, p. 15)

Grotius begins *De Iure Belli ac Pacis* by pointing out that, while Roman Law is studied intensively, little attention is given to the body of law "concerned with the mutual relations among states or rulers of states." In fact, he tells us, many believe that this law has "no reality outside of an empty name," for it is thought that "in the case of a king or an imperial city, nothing is unjust which is expedient." In the "Prolegomena" to the book he sets out the central ideas in his case for the existence of natural law. His remarks are sketchy, and suggestive of various possible interpretations, thereby providing ample scope for debate amongst later scholars.

The view that justice is inapplicable to the relations between states springs, in Grotius's view, from the assumption that law is important simply for the material advantages that it secures, combined with the belief that "great states contain in themselves all that is necessary for life." Here Grotius identifies two errors. In the first place, no state is so powerful that it may not need the help of other states, for trade or defense; and, secondly, material advantage is not the sole basis of law and of social order. The necessity of maintaining social order is indeed fundamental to law, but this is not simply in so far as man's material needs can be adequately satisfied only within society: man also possesses "an impelling desire for society." Thus, even if we had no lack of anything, our nature would still lead us into the mutual relations of society. Indeed, God willed that we should lack many things and therefore be the more constrained to cultivate the social life. The law of nature, in making social life possible, can therefore be rightly attributed to the divine will, since it is God's will that such traits as our desire for social life should exist in us.

On the face of it, this position does not seem to be dramatically different from that of Aquinas. Aquinas holds that a communal life is necessary for man for two reasons: to provide him with those things without which life itself would be impossible, and "to achieve a plenitude of life; not merely to exist, but to live fully, with all that is necessary to well-being." Full human flourishing is possible, according to

Aquinas, only within society; but this is a truth about the nature of the human *telos*, and not simply a truth about the necessary preconditions for satisfying human wants or material needs. Thus Aquinas develops his view by saying of man that "political community... assists him not merely to obtain material comforts... but also spiritual well-being" (Aquinas, 1959, p. 96).

There are certainly differences in tone here between Grotius and Aquinas. Rather than offering claims about the human essence or good in the Aristotelian or Thomist manner, Grotius seems to appeal to the fact of human desires. Instead of claiming, for example, that we can only realize our true nature in society, he simply claims that we in fact desire life in society. Nor (as we will see) does he seek to determine which is the best form of life or of government: he seeks only to find a possible basis for shared social order. On closer examination, however, these differences can seem illusory. For it is, according to Grotius, God's will that we should cultivate a social life, and our material needs for society are there to encourage our pursuit of that life. Nevertheless, subtle shifts in emphasis of this kind helped to make Grotius's theory into a turning point in political theory. Grotius sees life in society as essential for a truly human life, and he views the latter as an imperative good; but the presentation of this point in terms of desire enabled later writers such as HUME (chapter 32) to drop the framework of divine intentions entirely and offer a theory constructed in terms of straightforward interests and passions, rather than the human *telos*. When Hume's conception of utility as the common interest was replaced by a conception of utility which allowed the losses of some to be outweighed by the gains to others, many of the arguments developed within the natural law tradition could be absorbed and employed by the utilitarians.

Grotius sought to establish the content of natural law by two methods, which he called proof *a priori* and proof *a posteriori* (1.1.12). By "proof *a priori*" Grotius intends a process of intellectual reflection upon human nature and the human condition, indicating that certain institutions or rules are necessary if a tolerable social life is to be possible. Far from being a matter of pure reason detached from empirical circumstance, this notion of proof *a priori* leads Grotius to engage in forms of speculative history that were later to be pursued, outside the context of natural law theory, by the writers of the Scottish Enlightenment. Proof *a posteriori*, by contrast, proceeds not from the facts of human nature and circumstance but from the evidence of widely shared opinion: it consists in establishing that something is believed to be a requirement of natural law among all nations, or "all those that are advanced in civilization" (1.1.12). For such a common opinion, Grotius says, must be drawn either from a correct conclusion from the principles of nature, or from common consent. "The former points to the law of nature; the latter, to the law of nations."

Modern commentators have sometimes assumed that, by the *a priori* method, Grotius intends a process of pure rational reflection, ungrounded in knowledge of human nature or circumstance, and resembling mathematics. This is, of course, very far from being an accurate picture of Grotius's method, but it does reflect views widespread amongst his successors, and it receives a faint echo within Grotius's own text. Thus, the high prestige enjoyed by mathematics as a model for knowledge led later writers, such as LEIBNIZ (chapter 18) and SPINOZA (chapter

16), to seek to construct ethics on a basis of mathematical certainty; and the generally low esteem in which Aristotle was held in this period meant that philosophers attached little weight to his warnings against searching for an inappropriate degree of precision in ethical thought. In the case of Grotius, however, reliance upon the model of mathematics plays a debateable role. In his principal work, *De Iure Belli ac Pacis*, he observes that "just as mathematicians treat their figures as abstracted from bodies, so in treating law I have withdrawn my mind from every particular fact" (prol. 58). The latter claim, however, is expressly made to rebut the suggestion that he is simply concerned to intervene in current political controversies (such controversies having in the recent past led to Grotius's imprisonment and to the execution of his benefactor Oldenbarnevelt). It might, of course, be said that the very possibility of such abstraction from concrete circumstance assumes an understanding of moral knowledge as grounded in general principles; and such an understanding may be at odds with the model of ethical understanding provided by Aristotle's "phronimos." It would be easy, however, to overestimate the depth of the contrast involved here. Indeed, in spite of his invocation of mathematics, Grotius nevertheless endorses Aristotle's view "that certainty is not to be found in moral questions in the same degree as in mathematical science" (Grotius, 1625, 2.23.1). It is conceivable that Grotius might have viewed those necessities that obtain within the moral realm as possessing a similar ontological status to the necessities of mathematics (Grotius, 1925, 1.1.10.5); but this is very different from a claim that the mathematical and moral sciences resemble each other on the epistemological plane.

Pufendorf, by contrast, appears to place more weight upon the analogy with mathematics. Thus Pufendorf seeks to confine the validity of Aristotle's remarks (on the lack of moral certainty) to the realm of prudent concern for individual and collective welfare, distinguishing this from questions of the rectitude of human actions according to natural law; and he endeavors to explain Grotius's acknowledgment of the uncertainty of moral affairs by reference to a distinction between the abstract clarity of moral concepts and the complex circumstances in which they must be applied (Pufendorf, 1688, Bk. 1 Chap. 2).

While endorsing Aristotle's comments on the lack of certainty in moral affairs, Grotius nevertheless lamented the fact that Aristotle's intellectual pre-eminence had, for some centuries, "been turned into tyranny" (Prol. 42). He goes on to attack some of the central features of Aristotelian ethics, such as the thesis that virtue is invariably a mean in passions and actions (Prol. 43, 44). On this basis, Richard Tuck has suggested that Grotius's invocation of mathematics, and his rejection of the doctrine of the mean, were intended to sustain "a definite and *a priori* science of ethics... in which there will be little room for individual judgement" (Tuck, 1991, p. 518). Tuck construes Grotius as offering a general rejection of Aristotle's emphasis upon *phronesis*, the never-fully-articulable practical wisdom of the virtuous agent.

Tuck's view is hard to square with Grotius's express concurrence in the Aristotelian ascription of relative uncertainty to moral questions (2.23.1). It is in any case a mistake to suggest that Grotius wholly rejects the idea that virtue may be a mean between extremes, requiring a discerning practical wisdom. He accepts that "right

reason, which virtue everywhere follows, in some things prescribes the pursuing of a middle course" (Prol. 45); he rejects the doctrine of the mean only when it is stated as a general truth about all virtues (Prol. 43). In fact, whatever significance we do or do not attach to the comparison with mathematics, Grotius had other fish to fry in his attack upon the doctrine of the mean. In particular, Grotius rejects and soundly criticizes the application of this doctrine to justice, pointing out that it cannot be an injustice to accept less than one is due: justice in Grotius's view consists in abstaining from that which is another's (Prol. 44). The doctrine of the mean makes far more sense when applied to the type of justice that is exemplified in the distribution of resources, rather than the type of justice that is exemplified in particular transactions of respect for or encroachment upon another's rights. The attack upon the doctrine of the mean (in its application to justice) therefore forms a part of Grotius's wider attack upon the Aristotelian notion of distributive justice.

Rather than seeking to construct an ethics grounded in mathematical certainty, and leaving little room for judgment, Grotius intends, by his attack upon the idea of justice as a mean, to establish a distinction between questions of entitlement and questions of worthiness. He therefore distinguishes between "rights" and "aptitudes," the latter being a matter of worthiness, rather than strict entitlement (1.1.7). Rights are grounded in "the right to one's own" (*suum*) and are the concern of "expletive justice" (1.1.5); they follow from the basic requirements of social order, which is the source of law: "To this sphere . . . belong the abstaining from that which is another's, the restoration to another of anything of his which we may have, . . . ; the obligation to fulfil promises, the making good of a loss incurred through our fault, and the inflicting of penalties upon men according to their deserts" (Prol. 8).

Aristotle's "distributive justice," on the other hand, is concerned with aptitudes. Only expletive justice is "justice properly and strictly so called," while distributive justice is concerned with "those virtues which have as their purpose to do good to others, as generosity, compassion and foresight in matters of government" (1.1.8.1). Grotius tells us that this type of discriminating judgment "long ago" came to be referred to as an aspect of law, but "nevertheless, law properly defined has a far different nature, because its essence lies in leaving to another that which belongs to him, or in fulfilling our obligations to him" (Prol. 10).

The central point underlying this distinction between "rights" and "aptitudes" is the implicit denial of any juridical rights or duties flowing directly from the requirements of the common good. The role that our social nature plays in Grotius's theory is in this way restricted in its substantive implications: a distinction is established between the broader concerns of ethics or politics and the specifically juridical realm of negative duties to forebear from encroachment upon the domain of others. For Grotius, rights were essentially domains of liberty within which one might pursue one's self-interest: they were not simply the consequences for the individual of the requirements of common good. Thus, the concept of a right was closely linked to the concept of one's own domain of moral inviolability: the "*suum*". The *suum* encompassed one's body and liberty, and could be by convention extended into property in external things (1.1.5; 2.2.2). One had a right to that which was within one's *suum*, and a right against those who encroached upon or invaded one's *suum*.

It has frequently been suggested that Grotius's work marks a transition from theories of natural law to theories of natural rights. That there is some such shift can scarcely be doubted, provided that it is understood as a significant change of emphasis rather than a fundamental watershed. For it would be wrong to deny the significant role played by individual rights within scholastic thought (on which see Tierney, 1997), and equally wrong to overlook the fact that rights are derived by Grotius from a deeper natural law. The right to self-preservation plays a key role for Grotius (1.2.1); and there can be little doubt that a part of the attraction of this idea lies in its ability to command the support of persons of widely differing religious persuasions. It would, however, be a mistake to imagine that this right is a fundamental starting point for Grotius (comparable to Robert Nozick's derivation of a political theory from a fundamental right of self-ownership), for the right itself is derived from a set of claims about the requirements of social life, and God's intention that we should live in society.

HOBBES (chapter 22) also employs an individualistic notion of rights, and it is worth reflecting upon the differences between Hobbes and Grotius in this regard. For Hobbes, rights are to be contrasted with law precisely because rights are not limited by any notion of the *suum*. Each person in the state of nature has a right to everything; therefore, rights are inherently conflicting. Law is necessary to make social order possible, but in doing so it does not fulfil the requirements of any underlying structure of rights: it simply restricts or abrogates rights. For Grotius, on the other hand, rights indicate the possibility of a non-conflictual social order: conflict results from encroachment upon the rights of others. Positive law should trace out the ideal structure of non-conflicting rights and prevent the encroachment that constitutes disorder.

It is this difference in their respective conceptions of a right that places Grotius and Hobbes in different traditions of juridical thought. Hobbes can be seen as an originator of the tradition of legal positivism, emphasizing the source of authority of legal rules rather than their (just or unjust) content or groundedness in underlying principles. Grotius, by contrast, is an important figure in the emergence of systematic legal doctrinal thought of a kind that sees the legal order as expressive of certain fundamental principles, or fundamental rights. While fully recognizing the importance of sovereign power and positive law, Grotius sees the positive law as a means for the realization of a realm of non-conflicting domains of liberty. This makes the systematic study of law possible, for rather than solely being concerned to faithfully report the contents of authoritative enactments, the legal scholar can assemble and analyze the body of laws as an attempt to realize an underlying scheme of rights. Consequently, it has been suggested that Grotius was an originator of the idea that a legal system might be systematized around the notion of individual rights. His work *The Jurisprudence of Holland* has been described by Richard Tuck as "the first reconstruction of an actual legal system in terms of rights rather than laws" and "the true ancestor of all the modern codes which have rights of various kinds at their centre" (Tuck, 1979, p. 66).

Grotius has often been regarded as an absolutist, and it is true that his thinking does link the importance of individual rights to the need for sovereign authority. He denounces the view that sovereignty always resides in the people, which he says is

an opinion that "has given rise to many evils" (1.3.8). He does not, however, claim that the authority of princes and rulers is invariably unlimited; rather, their power depends upon the terms under which rights were originally transferred to them by the people. Nor does he seek to stipulate (as does Hobbes) the content that such a contract of transfer must have. Just as one may (Grotius tells us) enslave oneself into private ownership, one can also transfer the legal right to govern oneself, retaining no vestige of that right for oneself (1.3.8). In general, there is no right of rebellion, since a state acquires those rights that are necessary for public tranquillity (1.4.2); but there are limited exceptions to this, such as where the sovereign sets out with hostile intent to destroy the people (1.4.11), or where the right of resistance was expressly reserved when sovereign power was conferred. "For he who alienates his own right can by agreement limit the right transferred" (1.4.14). In this way, Grotius rejects the view that governmental authority depends upon the extent to which a form of government can claim to foster some contentious conception of the human *telos*, salvation, or the common good. Thus he observes that "Just as, in fact, there are many ways of living... and out of so many ways of living each is free to select that which he prefers, so also a people can select the form of government which it wishes; and the extent of its legal right in the matter is not to be measured by the superior excellence of this or that form of government, in regard to which different men hold different views, but by its free choice" (1.3.8.2).

Unlike Hobbes, Grotius does not regard property as the creation of sovereign power, but as an extension of the natural right to the *suum*. In mankind's original situation, each man could take whatever he needed from the common stock of resources (2.2.2.1), such a right being a consequence of the basic right of self-preservation. With the emergence of a less simple society, however, the avoidance of conflict required conventions governing property in external things. This was possible, Grotius tells us, only by "a kind of agreement" (2.2.2.5). The relevant conventions could take the form of tacit recognition of *de facto* control; Grotius is therefore able to regard occupation as a form of agreement, and to allow for the historical evolution of property, rather than requiring its deliberate imposition by a sovereign.

Grotius's reasons for requiring what he calls "a kind of agreement" have nothing to do with any need for consent as a waiver or transfer of equal rights originally enjoyed in the common stock of resources. Grotius makes it clear that the original situation of common possession was simply a matter of the absence of private rights in resources prior to their appropriation for self-preservation (Pufendorf was later to distinguish between "negative" and "positive" senses of common property: in terms of that distinction, Grotius has in mind only "negative community"). Thus we are told that, if a mere act of will were sufficient, one could not know what things another wanted in order to abstain from them; and, secondly, that several persons might desire the same thing (2.2.2.5). These reasons for requiring agreement seem to stem from the need to have some publicly available criterion that allocates things to persons: lacking later insights, Grotius only dimly perceives that a convention may not require "agreement" in any straightforward sense. We see here the emergence of themes that will bear full fruit in the work of Hume: in fact Hume cites Grotius's theory of property as resembling his own.

The Impious Hypothesis

Gierke described Grotius as offering "a purely secular philosophy of law" (Gierke, 1934, p. 36), and his claim has often been repeated. All too frequently, however, the claim has been supported by reference to a passage in the "Prolegomena" to *De Iure Belli ac Pacis*, where Grotius observes that what he has just been saying about natural law would have "a degree of validity even if we should concede that which cannot be conceded without the utmost wickedness, that there is no God, or that the affairs of men are of no concern to him" (Prol. 11). This passage might well be taken as an assertion of the secular basis of the theory, and it has frequently been so taken. Yet it is in fact the case that such an "impious hypothesis" was by no means an innovation on the part of Grotius, but formed a standard part of the long-running debate between "intellectualist" and "voluntarist" accounts of natural law in the writings of the scholastics (Gierke was well aware of these medieval precedents: see Gierke, 1900, p. 174 n. 256).

It is not entirely easy to give an account of the contrast between intellectualism and voluntarism that is helpfully general while not being too grossly over-simplified, because few writers adopted one or the other position in a simple and undiluted form. Painting with a broad-brush, we may say that voluntarists derived moral standards from the divine will, while intellectualists saw the divine will as determined or guided by independent standards. For the voluntarist, God has created morality by an act of will ungrounded in deeper considerations: that which is good is good because willed by God. For the intellectualist, God wills the good in recognition of its intrinsic goodness.

Theses more or less closely resembling Grotius's "impious hypothesis" had in fact formed a standard part of the debate between these two positions for centuries. Far from demonstrating the "secular" nature of Grotius's theory, therefore, the "impious hypothesis" appears to locate Grotius as a part of a long-running debate within Christian theocentric natural law writing. Modern commentators sympathetic to the scholastic tradition have regarded with skepticism the claim to find in Grotius a wholly new foundation for natural law, and have dismissed the attribution to him of great originality. One thing that must be conceded is that, if Grotian natural law has a new and somehow "secular" character, it is not to be found in the "impious hypothesis." Those who seek to defend Grotius's originality can at best claim that the hypothesis takes on a significance quite different from its traditional "intellectualist" meaning when located within the broader context of Grotius's work.

In fact, the "impious hypothesis" must lead us to ask whether Grotius was an intellectualist. Certainly, his "impious hypothesis" could be construed as asserting that moral standards are prior to and independent of the divine will, and this would amount to as clear an instance of intellectualism as one could hope to find. To interpret Grotius in this way would involve ascribing to him a set of metaphysical views very different from those held by his successors in the Protestant tradition, but it might also assume too easy an equation between the impious hypothesis and intellectualism. The most famous argument (prior to Grotius) from the hypothesis of God's non-existence was that of Gregory of Rimini, in his *Commentary on the*

Sentences of Peter of Lombard; but Gregory is generally thought to have been a nominalist follower of Ockham, rather than an intellectualist (see Crowe, 1976; Tuck, 1993, p. 198). Grotius was interpreted as an intellectualist by Pufendorf, who attacked him upon this very point; yet it is quite possible that the distance between Grotius and Pufendorf on this matter was less than Pufendorf imagined. Grotius's intention may simply have been to emphasize that the maxims of natural law are not arbitrary, but are founded upon the nature of man and the circumstances of the world. Thus John Finnis has pointed out the carefully qualified wording of the famous passage (Grotius ascribes only "a *degree* of validity" to what he has been saying, if God does not exist). His conclusion is that Grotius was not adopting a thoroughgoing intellectualist position, but a less extreme and more orthodox position that mediates between intellectualism and voluntarism. Natural law's obligatory force is, on this view, derived from the divine will; but its content may be determined independently:

> What is right or wrong depends on the nature of things (and what is *conveniens* to such nature), and not on a decree of God; but the normative or motivating significance of moral rightness or wrongness, in particular the obligatoriness of the norm of right and wrong, depends fundamentally upon there being a decree expressing God's will that the right be done (as a matter of obligation) and that the wrong be avoided (likewise). (Finnis, 1980, p. 44)

Some passages in Grotius might at first seem hard to square with this interpretation, but actually tend to confirm it. For example, Grotius observes "that God Himself, who cannot be bound by any established law, would act contrary to his nature if He did not make good His promises" (2.11.4). While at first glance suggestive of a limitation upon God's power, the careful formulation of this passage is in fact entirely consistent with a voluntarist stance: God is not *bound* to keep his promise, but would act contrary to his nature if he did not do so, for it is simply God's nature to keep his promises.

Grotius claims that God can no more make that which is intrinsically evil be not evil than he can cause that two times two should not make four (1.1.10.5); the idea that certain acts are intrinsically evil enables Grotius to draw a distinction between natural law and volitional divine law (1.1.10.2). Once again, these observations might be thought to suggest a thoroughgoing intellectualism; but, when read in context, they probably point to a position close to that of the Spanish Jesuit Francis Suarez, who attempted to construct a middle position between intellectualism and voluntarism. The sparsity of references to Suarez is plausibly explained by Grotius's unwillingness to reveal any reliance upon such Catholic writers. Suarez's view seems to be that God may have had a choice between creating different worlds, with different values; but having created one such world, his will is guided or informed by the nature of the values so created (for a helpful summary, see Schneewind, 1998, p. 59–62). Nevertheless, the obligatory force of morality (as opposed to its reasonableness) is, for humans, derived from God's will.

The influence of Suarez upon Grotius was probably not limited to the intellectualist/voluntarist issue. Suarez took the view that natural law establishes broad

limitations upon the types of social and political institutions that humans may adopt, but the specific form of those institutions was a matter for human agreement and thus for positive law. (For the views of Aquinas, see John Finnis, 1998, pp. 266–71.) This basic idea underpins those naturalistic aspects of Grotius's theory that emphasize the social and historical character of morality. These features of Grotius's work have sometimes erroneously been invoked as pointing to a considerable gulf between Grotius and the scholastic tradition; they certainly serve to connect Grotius with the writers of the Scottish enlightenment.

It is worth noting that the debate between intellectualists and voluntarists has a complex and double-sided bearing upon the idea that modern natural law theory somehow contributed to the emergence of more secular brands of political philosophy. For it should be noted that intellectualism sits comfortably with (even though it does not entail) the suggestion that humans could achieve an understanding of the moral law without reference to divine authority; while voluntarism suggests the inadequacy of our epistemic powers from this point of view. To that extent, intellectualism might be thought to foster secularism. Yet it is easy to reverse this particular coin. For the intellectualist regards moral qualities as part of the furniture of the universe, while the voluntarist regards moral qualities as resulting from the imposition of the divine will upon normatively inert facts. It is in this respect the voluntarist tradition, rather than the intellectualist, that rests upon epistemic and metaphysical assumptions close to those of such later philosophers as Hume.

Pufendorf

Whatever the true significance of Grotius's "impious hypothesis" may be, Pufendorf construed the claim as placing Grotius solidly within the intellectualist camp, and he critized Grotius on that basis. Thus he argues that Grotius's belief that certain acts are intrinsically evil contradicts his view that natural law is a matter of agreement with man's social nature, since "man received this social nature not from any immutable necessity, but from the pleasure of God." (Pufendorf, 1688, 1.2.6); to imagine that God might create man as a rational and social creature, and yet make murder and theft into duties, would be to imagine a contradiction: but "all acts of themselves were indifferent before the announcement of a law" (Pufendorf, 1688, 2.3.4, 2.3.19).

Grotius construes the divine creation of man's social nature as the creation of a world possessed of certain intrinsic properties. He is therefore able to endorse an Aristotelian picture of ethical properties as inhering in the nature of things (e.g. Grotius 1.1.10.5). Pufendorf, on the other hand, views all such ethical properties as flowing from the imposition of divine law. For Pufendorf, nature was not the teleologically ordered universe of the Aristotelian–Thomist view: his work has been seen as seeking to reconcile natural law theory with the philosophical or scientific conceptions of BACON (chapter 20) or DESCARTES (chapter 5). Far from leading him to a "secular" view, however, this project leads him to a much stronger emphasis upon the centrality of the divine will: for, once the older teleology was abandoned, it seemed impossible to conceive of moral facts as grounded in the nature of things

apart from the will of an intelligent being. Thus, in a passage that finds a later echo in Hume (David Hume, *A Treatise of Human Nature* (1740) Book III, Part I, section I), Pufendorf observes "That reason should be able to discover any morality in the actions of a man without reference to a law, is as impossible as for a man born blind to judge between colours" (Pufendorf, 1688, 1.2.6). Hume's naturalistic account of morality is a less dramatic departure from the views of his natural law predecessors than one might at first think: his innovative step was to shift the source of normativity from the divine will to human sentiments.

The centrality of the divine will for Pufendorf does not, however, lead to an account of natural law as an arbitrary imposition. It would have been open to God to create a being with characteristics very different from those of man, and for which the precepts of natural law would have been unsuitable. Instead God created man as a creature who cannot be preserved outside of society, and who cannot live in society without the observance of certain rules (Pufendorf, 1688, 2.3.5). The *content* of natural law can therefore be inferred from certain very general facts about human nature and human circumstances, in so far as the requirements of natural law can be assumed to fit man for society. These considerations taken independently of the divine will, however, would establish only that the observance of certain rules would promote desirable states of affairs such as peace and prosperity. The rules would then have an *instrumental* significance: they would be, as Pufendorf explained, "like the prescriptions of physicians for the regimen of health" (Pufendorf, 1682, 1.3.10).

Pufendorf's rejection of the Aristotelian–Thomist world view manifests itself not only in his rejection of any possibility of moral properties inhering in nature, but also in his account of the rationale and content of natural law. Pufendorf was careful to distinguish natural law from the divine law in a manner quite different from the distinction drawn by the scholastic tradition. The latter tradition, from Aquinas to Suarez, had regarded the natural law as that part of the divine governance of the world that was accessible to human reason; participating in divine governance in this way, natural law served mankind's *telos*. According to an important strand of Protestant thinking, by contrast, only faith and grace could bring salvation to man; natural law served the more immediate goal of making life in society possible, rather than any ultimate *summum bonum*. Thus, for Pufendorf, natural law concerns itself with shaping man's conduct in a way that makes it possible for him to live in a peaceful and orderly society; the divine law, on the other hand, is concerned with rendering man suitable for salvation in the next world. Consequently, natural law is concerned solely with the external aspect of conduct, and not at all with the inward aspects of virtue (see Tully's introduction to *Pufendorf*, 1682, p. xxiii). What are inseparable aspects of morality for the Aristotelian–Thomist view are dramatically separated by Pufendorf. It is in all probability this separation that accounts for the common but misleading perception of seventeenth-century natural law as essentially "secular" in character. We also find here a deepening of the division between juridical concepts of right and duty (on the one hand) and notions of virtue (on the other); the existence of that division has been a source of concern and puzzlement for some modern philosophers (see Anscombe, 1981; O'Neill, 1996).

Having thus separated natural law from any view about man's ultimate *telos* or virtue beyond the immediate goal of peaceful life in society, Pufendorf seeks to avoid any optimistic reliance upon innate benevolent dispositions in mankind. He emphasizes his continuity with Grotius by telling the reader that the basis for natural law is "sociality" (Pufendorf, 1682, 1.3.13) but he does not follow Grotius in assuming the existence of any innate disposition to love human society. Rather, Pufendorf insists that natural law must treat of man in a fallen condition, so that no such assumptions can properly be made. This led some of his critics to allege that he was a follower not of Grotius so much as Hobbes. There are resemblances between Pufendorf and Hobbes not only in their rejection, as part of their argument, of any innate disposition to seek society, but also in their conceptions of the fundamental law of nature. For Hobbes, this requires man to seek peace (*Leviathan* Chap. XIV); for Pufendorf it requires man to "cultivate and preserve towards others a sociable attitude" (Pufendorf, 1688, 2.3.15; 1682, 1.3.9). Thus "self-love and a sociable attitude should by no means be opposed to each other" (Pufendorf, 1688, 2.3.16). While sharing Hobbes' general view of the brutal savagery that would follow from man's unrestrained natural dispositions, Pufendorf does not follow Hobbes in his view that sovereign authority and sanctions can alone provide the necessary restraints that rescue man from such a condition. Natural law for Pufendorf, as for Hobbes, prescribes entry into civil society; yet, unlike Hobbes, Pufendorf holds that natural law also imposes duties of positive benevolence. These duties are not explained by reference to an Aristotelian account of the virtue of the benevolent agent, but by the way in which they cement the bonds of society by encouraging mutual goodwill (Pufendorf, 1682, 1.8). By this means, Pufendorf recognizes the educative and self-stabilizing role of civil society which, in altering dispositions and habits of behavior, encourages forms of social conduct that reduce dependence upon coercive enforcement of law.

Conclusion

The common picture of modern natural law theory as essentially secular in character conflicts with the theocentric assumptions that provide its basic structure. Yet some of those theocentric assumptions serve the function of reconciling the existence of natural law with a mechanical conception of nature from which teleological notions had been shorn. Thus, as Christine Korsgaard has pointed out, Hobbes and Pufendorf trace obligation to divine command "not so much because they hung on to a medieval or religious conception of the world, but rather because they had adopted" a view of the world as "indifferent and mechanical" (Korsgaard, 1996, p. 22). The position of Grotius is, as we have seen, closer to a more essentially medieval view. Yet, even for Grotius, teleological assumptions do not play a significant role in the argument, which is derived from human nature in the sense of man's natural tendencies, rather than in the sense of a metaphysical essence or *telos*. It is possible to find, in both Grotius and Pufendorf, structures of argument that to some extent will stand up without theocentric support. Thus it is that their insights can be adapted and adopted by more evidently secular writers such as Hume and Ben-

tham; and thus it is that modern natural law theory ultimately feeds into and informs the historical and social theories of the Scottish enlightenment.

Onora O'Neill has suggested that much early modern writing on justice and virtue adopts a belt-and-braces strategy, whereby claims are based in the first instance upon an account of human nature, but this account is itself grounded in a theory concerning the divine will. As O'Neill observes: "Once one has a belt, it may be tempting to discard the braces – particularly if one fails to notice that only the braces are keeping the belt securely in position" (O'Neill, 1996, p. 32). Perhaps it is some such strategy that we find in the creators of modern natural law.

References

Anscombe, G. E. M., 1981, "Modern Moral Philosophy" in G. E. M. Anscombe, *Collected Philosophical Papers* Vol. 3. Oxford: Blackwell.

Aquinas, Thomas, 1959, "Commentary on the Nichomachean Ethics", in A. P. D'Entreves, *Aquinas: Selected Political Writings*. Oxford: Blackwell.

Crowe, M. B., 1976, "The 'Impious Hypothesis': A Paradox in Hugo Grotius" *Tijdschrift voor Filosofie* 38, p. 379–410.

Finnis, John, 1980, *Natural Law and Natural Rights*. Oxford: Clarendon Press.

—— 1998, *Aquinas*. Oxford: Oxford University Press.

Gierke, Otto, 1900, *Political Theories of the Middle Age*, translated by F. W. Maitland. Cambridge: Cambridge University Press.

—— 1934, *Natural Law and the Theory of Society: 1500 to 1800*, translated by Ernest Barker, two volumes. Cambridge: Cambridge University Press.

Grotius, Hugo, 1925, *De Iure Belli ac Pacis* (1625), in two volumes, with translation by F. W. Kelsey. Oxford: Clarendon Press.

Haakonssen, Knud, 1996, *Natural Law and Moral Philosophy*. Cambridge: Cambridge University Press.

Korsgaard, Christine, 1996, *The Sources of Normativity*. Cambridge: Cambridge University Press.

O'Neill, Onora, 1996, *Towards Justice and Virtue*. Cambridge: Cambridge University Press.

Pufendorf, 1927, *De Officio Hominis et Civis*, (1682), in two volumes, with translation by F. G. Moore. Oxford: Oxford University Press.

—— 1934, *De Iure Naturae et Gentium*, (1660), the edition of 1688, in two volumes, with translation by C. H. and W. A. Oldfather. Oxford: Clarendon Press.

—— 1991, *On the duty of man and citizen*, (1682) translated by Michael Silverthorne and edited by James Tully. Cambridge: Cambridge University Press.

Schneewind, J. B., 1998, *The Invention of Autonomy*. Cambridge: Cambridge University Press.

Tierney, Brian, 1997, *The Idea of Natural Rights*. Atlanta, Georgia: Emory University.

Tuck, Richard, 1979, *Natural Rights Theories*. Cambridge: Cambridge University Press.

—— 1991, "Grotius and Selden" in *The Cambridge History of Political Thought, 1450–1700* ed. by J. H. Burns. Cambridge: Cambridge University Press, pp. 499–529.

—— 1993, *Philosophy and Government, 1572–1651*. Cambridge: Cambridge University Press.

—— 1999, *The Rights of War and Peace: Political Thought and the International Order From Grotius to Kant*. Oxford: Oxford University Press.

Further Reading

Besselink, Leonard, 1988, "The Impious Hypothesis Revisited" *Grotiana* 9 p. 3–63.

Buckle, Stephen, 1991, *Natural Law and the Theory of Property*. Oxford: Clarendon Press.

Crowe, M. B., 1977, *The Changing Profile of the Natural Law*. The Hague: Nijhoff.

Dunn, John, and Ian Harris, 1997, *Grotius*, 2 volumes. Cheltenham: Edward Elgar Publishing.

Dufour, Alfred, 1991, "Pufendorf," *The Cambridge History of Political Thought*. Cambridge: Cambridge University Press.

Edwards, C. S., 1981, *Hugo Grotius: The Miracle of Holland*. Chicago: Nelson-Hall.

Gordley, James, 1991, *The Philosophical Origins of Modern Contract Doctrine*. Oxford: Clarendon Press, chap. 5.

Haakonssen, Knud, 1985, "Hugo Grotius and the History of Political Thought" *Political Theory* 13 p. 239–65.

——(ed.), 1999, *Grotius, Pufendorf and Modern Natural Law*. Aldershot: Dartmouth.

Knight, W. S. M., 1925, *The Life and Works of Hugo Grotius*. London: Sweet and Maxwell.

Leibniz, W., 1972, "The Principles of Pufendorf" in *The Political Writings of Leibniz*, translated and edited by Patrick Riley. Cambridge: Cambridge University Press.

MacCormack, G., 1977, "Grotius and Stair on Promises" *American Journal of Jurisprudence*, pp. 160–7.

Mautner, Thomas, 1991, "Pufendorf's Place in the History of Rights-Concepts," in *Revolution and Enlightenment in Europe*, edited by Timothy O'Hagan. Aberdeen: Aberdeen University Press.

Olivecrona, Karl, 1971, *Law as Fact*, second edition. London: Sweet and Maxwell, pp. 275–96.

Schneewind, J. B., 1987, "Pufendorf's Place in the History of Ethics" *Synthese* 72 p. 123–55.

Tuck, Richard, 1983, "Grotius, Carneades and Hobbes" *Grotiana* n. s. 4, pp. 43–62.

——1987, "The Modern Theory of Natural Law" in A. Pagden (ed.) *The Languages of Political Theory in Early Modern Europe*. Cambridge: Cambridge University Press, pp. 99–119.

Westerman, Pauline C., 1998, *The Disintegration of Natural Law Theory*. Leiden: Brill.

Wieacker, Franz, 1995, *A History of Private Law in Europe*, translated by Tony Weir. Oxford: Clarendon Press, pp. 227–38; 243–8.

Zuckert, Michael, 1994, *Natural Rights and the New Republicanism*. New Jersey: Princeton University Press.

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16

Baruch Spinoza

STEVEN NADLER

Biography

Baruch Spinoza was born in 1632 in Amsterdam. He was the middle son in a prominent family of moderate means in Amsterdam's Portuguese-Jewish community. As a boy, he had undoubtedly been one of the star pupils in the congregation's Talmud Torah school. He was intellectually gifted, and this could not have gone unremarked by the congregation's rabbis. It is possible that Spinoza, as he made progress through his studies, was being groomed for a career as a rabbi. But he never made it into the upper levels of the curriculum, those which included advanced study of Talmud. At the age of seventeen, he was forced to cut short his formal studies to help run the family's importing business.

And then, on July 27, 1656, Spinoza was issued the harshest writ of *cherem*, or excommunication, ever pronounced by the Sephardic community of Amsterdam; it was never rescinded. We do not know for certain what Spinoza's "monstrous deeds" and "abominable heresies" were alleged to have been, but an educated guess comes quite easy. No doubt he was giving utterance to just those ideas that would soon appear in his philosophical treatises. In those works, Spinoza denies the immortality of the soul; strongly rejects the notion of a providential God – the God of Abraham, Isaac and Jacob – and claims that the Law was neither literally given by God nor any longer binding on Jews. Can there be any mystery as to why one of history's boldest and most radical thinkers was sanctioned by an orthodox Jewish community?

To all appearances, Spinoza was content finally to have an excuse for departing from the community and leaving Judaism behind; his faith and religious commitment were, by this point, gone. Within a few years, he left Amsterdam altogether. By the time his extant correspondence begins, in 1661, he is living in Rijnsburg, not far from Leiden. While in Rijnsburg, he worked on the *Treatise on the Emendation of the Intellect*, an essay on philosophical method, and the *Short Treatise on God, Man and His Well-Being*, an initial but aborted effort to lay out his metaphysical, epistemological and moral views. His critical exposition of Descartes' *Principles of Philosophy*, the only work he published under his own name in his lifetime, was completed in 1663, after he had moved to Voorburg, outside The Hague. By this

time, he was also working on what would eventually be called the *Ethics*, his philosophical masterpiece. However, when he saw the principles of toleration in Holland being threatened by reactionary forces, he put it aside to complete his "scanadalous" *Theological-Political Treatise*, published anonymously and to great alarm in 1670. When Spinoza died in 1677, in The Hague, he was still at work on his *Political Treatise*; this was soon published by his friends along with his other unpublished writings, including a *Compendium to Hebrew Grammar*.

Ethics

The *Ethics* is an ambitious and multifaceted work. It is also bold to the point of audacity, as one would expect of a systematic and unforgiving critique of the traditional philosophical conceptions of God, the human being and the universe, and, above all, of the religions and the theological and moral beliefs grounded thereupon. What Spinoza intends to demonstrate (in the strongest sense of that word) is the truth about God, nature and especially ourselves; and the highest principles of society, religion and the good life. Despite the great deal of metaphysics, physics, anthropology, and psychology that take up Parts One through Three, Spinoza took the crucial message of the work to be ethical in nature. It consists in showing that our happiness and well-being lie not in a life enslaved to the passions and to the transitory goods we ordinarily pursue; nor in the related unreflective attachment to the superstitions that pass as religion, but rather in the life of reason. To clarify and support these broadly ethical conclusions, however, Spinoza must first demystify the universe and show it for what it really is. This requires laying out some metaphysical foundations, the project of Part One.

"On God" begins with some deceptively simple definitions of terms that would be familiar to any seventeenth-century philosopher. "By substance I understand what is in itself and is conceived through itself"; "By attribute I understand what the intellect perceives of a substance, as constituting its essence"; "By God I understand a being absolutely infinite, i.e., a substance consisting of an infinity of attributes, of which each one expresses an eternal and infinite essence." The definitions of Part One are, in effect, simply clear concepts that ground the rest of his system. They are followed by a number of axioms that, he assumes, will be regarded as obvious and unproblematic by the philosophically informed ("Whatever is, is either in itself or in another"; "From a given determinate cause the effect follows necessarily"). From these, the first proposition necessarily follows, and every subsequent proposition can be demonstrated using only what precedes it. (References to the *Ethics* will be by part (I–V), proposition (p), definition (d), scholium (s), and corollary (c).)

In propositions one through fifteen of Part One, Spinoza presents the basic elements of his picture of God. God is the infinite, necessarily existing (that is, uncaused), unique substance of the universe. There is only one substance in the universe; it is God; and everything else that is, is in God.

Proposition 1: A substance is prior in nature to its affections.

Proposition 2: Two substances having different attributes have nothing in common with one another. (In other words, if two substances differ in nature, then they have nothing in common.)
Proposition 3: If things have nothing in common with one another, one of them cannot be the cause of the other.
Proposition 4: Two or more distinct things are distinguished from one another, either by a difference in the attributes [i.e., the natures or essences] of the substances or by a difference in their affection [i.e., their accidental properties].
Proposition 5: In nature, there cannot be two or more substances of the same nature or attribute.
Proposition 6: One substance cannot be produced by another substance.
Proposition 7: It pertains to the nature of a substance to exist.
Proposition 8: Every substance is necessarily infinite.
Proposition 9: The more reality or being each thing has, the more attributes belong to it.
Proposition 10: Each attribute of a substance must be conceived through itself.
Proposition 11: God, or a substance consisting of infinite attributes, each of which expresses eternal and infinite essence, necessarily exists. (The proof of this proposition consists simply in the classic "ontological proof for God's existence." Spinoza writes that "if you deny this, conceive, if you can, that God does not exist. Therefore, by axiom 7 ['If a thing can be conceived as not existing, its essence does not involve existence'], his essence does not involve existence. But this, by proposition 7, is absurd. Therefore, God necessarily exists, q.e.d.")
Proposition 12: No attribute of a substance can be truly conceived from which it follows that the substance can be divided.
Proposition 13: A substance which is absolutely infinite is indivisible.
Proposition 14: Except God, no substance can be or be conceived.

This proof that God – an infinite, necessary and uncaused, indivisible being – is the only substance of the universe proceeds in three simple steps. First, establish that no two substances can share an attribute or essence (Ip5). Then, prove that there is a substance with infinite attributes (i.e., God) (Ip11). It follows, in conclusion, that the existence of that infinite substance precludes the existence of any other substance. For if there *were* to be a second substance, it would have to have *some* attribute or essence. But since God has *all* possible attributes, then the attribute to be possessed by this second substance would be one of the attributes already possessed by God. But it has already been established that no two substances can have the same attribute. Therefore, there can be, besides God, no such second substance.

If God is the only substance, and (by axiom 1) whatever is, is either a substance or *in* a substance, then everything else must be in God. "Whatever is, is in God, and nothing can be or be conceived without God" (Ip15).

As soon as this preliminary conclusion has been established, Spinoza immediately reveals the objective of his attack. His definition of God – condemned since his excommunication from the Jewish community as a "God existing in only a philosophical sense" – is meant to preclude any anthropomorphizing of the divine being. In the scholium to proposition fifteen, he writes against "those who feign a God,

like man, consisting of a body and a mind, and subject to passions. But how far they wander from the true knowledge of God, is sufficiently established by what has already been demonstrated." Besides being false, such an anthropomorphic conception of God can have only deleterious effects on human freedom and activity.

Much of the technical language of Part One is, to all appearances, right out of DESCARTES (chapter 5). But even the most devoted Cartesian would have had a hard time understanding the full import of propositions one through fifteen. What does it mean to say that God is substance and that everything else is "in" God? Is Spinoza saying that rocks, tables, chairs, birds, mountains, rivers, and human beings are all *properties* of God, and hence can be predicated of God (just as one would say that the table "is red")? It seems very odd to think that objects and individuals – what we ordinarily think of as independent "things" – are, in fact, merely properties of a thing. Spinoza was sensitive to the strangeness of this kind of talk, not to mention the philosophical problems to which it gives rise. When a person feels pain, does it follow that the pain is ultimately just a *property* of God, and thus that God feels pain? Conundrums such as this may explain why, as of proposition sixteen, there is a subtle but important shift in Spinoza's language. God is now described not so much as the underlying substance of all things, but as the universal, immanent and sustaining cause of all that exists: "From the necessity of the divine nature there must follow infinitely many things in infinitely many modes (i.e., everything that can fall under an infinite intellect)."

According to the traditional Judeo-Christian conception of divinity, God is a transcendent creator, a being who causes a world distinct from himself to come into being by creating it out of nothing. God produces that world by a spontaneous act of free will, and could just as easily have not created anything outside himself. By contrast, Spinoza's God is the cause of all things because all things follow causally and necessarily from the divine nature. Or, as he puts it, from God's infinite power or nature "all things have necessarily flowed, or always followed, by the same necessity and in the same way as from the nature of a triangle it follows, from eternity and to eternity, that its three angles are equal to two right angles" (Ip17s1). The existence of the world is, thus, mathematically necessary. It is impossible that God should exist but not the world. This does not mean that God does not cause the world to come into being freely, since nothing *outside* of God constrains him to bring it into existence. But Spinoza does deny that God creates the world by some arbitrary and undetermined act of free will. God could not have done otherwise. There are no possible alternatives to the actual world, and absolutely no contingency or spontaneity within that world. Everything is absolutely and necessarily determined.

> Ip29: In nature there is nothing contingent, but all things have been determined from the necessity of the divine nature to exist and produce an effect in a certain way.
> Ip33: Things could have been produced by God in no other way, and in no other order than they have been produced.

There are, however, differences in the way things depend on God. Some features of the universe follow necessarily from God – or, more precisely, from the absolute

nature of one of God's attributes – in a direct and unmediated manner. These are the universal and eternal aspects of the world, and they do not come into or go out of being. They include the most general laws of the universe, together governing all things in all ways. From the attribute of extension there follow the principles governing all extended objects (the truths of geometry) and laws governing the motion and rest of bodies (the laws of physics); from the attribute of thought, there follow laws of thought (logic). Particular and individual things are causally more remote from God. They are nothing but "affections of God's attributes, or modes by which God's attributes are expressed in a certain and determinate way" (Ip25c).

There are two causal orders or dimensions governing the production and actions of particular things. On the one hand, they are determined by the general laws of the universe that follow immediately from God's natures. On the other hand, each particular thing is determined to act and to be acted upon by other particular things. Thus, the actual behavior of a body in motion is a function not just of the universal laws of motion, but also of the other bodies in motion and rest surrounding it and with which it comes into contact.

Spinoza's metaphysics of God is neatly summed up in a phrase that occurs in the Latin (but not the Dutch) edition of the *Ethics*: "God, or Nature," *Deus, sive Natura*: "That eternal and infinite being we call God, or Nature, acts from the same necessity from which he exists" (Part IV, Preface). It is an ambiguous phrase, since Spinoza could be read as trying either to divinize Nature or to naturalize God. But for the careful reader there is no mistaking Spinoza's intention. The friends who, after his death, published his writings must have left out the "or Nature" clause from the more widely accessible Dutch version out of fear of the reaction that this identification would, predictably, arouse among a vernacular audience.

There are, Spinoza insists, two sides of Nature. First, there is the active, productive aspect of the universe – God and his attributes, from which all else follows. This is what Spinoza, employing the same terms he used in the *Short Treatise*, calls *Natura naturans*, "naturing Nature." Strictly speaking, this is identical with God. The other aspect of the universe is that which is produced and sustained by the active aspect, *Natura naturata*, "natured Nature."

> By *Natura naturata* I understand whatever follows from the necessity of God's nature, or from any of God's attributes, i.e., all the modes of God's attributes insofar as they are considered as things that are in God, and can neither be nor be conceived without God. (Ip29s)

Spinoza's fundamental insight in Book One is that Nature is an indivisible, uncaused, substantial whole – in fact, it is the *only* substantial whole. Outside of Nature, there is nothing, and everything that exists is a part of Nature and is brought into being by Nature with a deterministic necessity. This unified, unique, productive, necessary being just *is* what is meant by "God." Because of the necessity inherent in Nature, there is no teleology in the universe. Nature does not act for any ends, and things do not exist for any set purposes. There are no "final causes" (to use the common Aristotelian phrase). God does not "do" things for the sake of anything else. The order of things just follows from God's essences with an

inviolable determinism. All talk of God's purposes, intentions, goals, preferences or aims is just an anthropomorphizing fiction.

> All the prejudices I here undertake to expose depend on this one: that men commonly suppose that all natural things act, as men do, on account of an end; indeed, they maintain as certain that God himself directs all things to some certain end, for they say that God has made all things for man, and man that he might worship God. (I, Appendix)

God is not some goal-oriented planner who then judges things by how well they conform to his purposes. Things happen only because of Nature and its laws. "Nature has no end set before it... All things proceed by a certain eternal necessity of nature." To believe otherwise is to fall prey to the same superstitions that lie at the heart of the organized religions.

> [People] find – both in themselves and outside themselves – many means that are very helpful in seeking their own advantage, e.g., eyes for seeing, teeth for chewing, plants and animals for food, the sun for light, the sea for supporting fish... Hence, they consider all natural things as means to their own advantage. And knowing that they had found these means, not provided them for themselves, they had reason to believe that there was someone else who had prepared those means for their use. For after they considered things as means, they could not believe that the things had made themselves; but from the means they were accustomed to prepare for themselves, they had to infer that there was a ruler, or a number of rulers of nature, endowed with human freedom, who had taken care of all things for them, and made all things for their use.
>
> And since they had never heard anything about the temperament of these rulers, they had to judge it from their own. Hence, they maintained that the Gods direct all things for the use of men in order to bind men to them and be held by men in the highest honor. So it has happened that each of them has thought up from his own temperament different ways of worshipping God, so that God might love them above all the rest, and direct the whole of Nature according to the needs of their blind desire and insatiable greed. Thus this prejudice was changed into superstition, and struck deep roots in their minds. (I, Appendix)

A judging God who has plans and acts purposively is a God to be obeyed and placated. Opportunistic preachers are then able to play on our hopes and fears in the face of such a God. They prescribe ways of acting that are calculated to avoid being punished by that God and earn his rewards. But, Spinoza insists, to see God or Nature as acting for the sake of ends – to find purpose in Nature – is to misconstrue Nature and "turn it upside down" by putting the effect (the end result) before the true cause.

Nor does God perform miracles, since there are no departures whatsoever from the necessary course of nature. The belief in miracles is due only to ignorance of the true causes of phenomena.

> If a stone has fallen from a room onto someone's head and killed him, they will show, in the following way, that the stone fell in order to kill the man. For if it did not fall to

> that end, God willing it, how could so many circumstances have concurred by chance (for often many circumstances do concur at once)? Perhaps you will answer that it happened because the wind was blowing hard and the man was walking that way. But they will persist: why was the wind blowing hard at that time? why was the man walking that way at that time? If you answer again that the wind arose then because on the preceding day, while the weather was still calm, the sea began to toss, and that the man had been invited by a friend, they will press on – for there is no end to the questions which can be asked: but why was the sea tossing? why was the man invited at just that time? And so they will not stop asking for the causes of causes until you take refuge in the will of God, i.e., the sanctuary of ignorance. (I, Appendix)

This is strong language, and Spinoza is clearly not unaware of the risks of his position. The same preachers who take advantage of our credulity will fulminate against anyone who tries to pull aside the curtain and reveal the truths of Nature. "One who seeks the true causes of miracles, and is eager, like an educated man, to understand natural things, not to wonder at them, like a fool, is generally considered and denounced as an impious heretic by whose whom the people honor as interpreters of nature and the Gods. For they know that if ignorance is taken away, then foolish wonder, the only means they have of arguing and defending their authority is also taken away."

In Part Two, Spinoza turns to the origin and nature of the human being. The two attributes of God of which we have cognizance are extension and thought. This, in itself, involves what would have been an astounding thesis in the eyes of his contemporaries, one that was usually misunderstood and always vilified. When Spinoza claims in proposition two that "Extension is an attribute of God, or God is an extended thing", he was almost universally – but erroneously – interpreted as saying that God is literally corporeal. For just this reason, "Spinozism" became, for his critics, synonymous with atheistic materialism.

What is in God is not matter itself, however, but extension as an essence. And extension and thought are two distinct essences that have absolutely nothing in common. The modes or expressions of extension are physical bodies; the modes of thought are ideas. Because extension and thought have nothing in common, the two realms of matter and mind are causally closed systems. Everything that is extended follows from the attribute of extension alone. Every bodily event is part of an infinite causal series of bodily events and is determined only by the nature of extension and its laws, in conjunction with its relations to other extended bodies. Similarly, every idea follows only from the attribute of thought. Any idea is an integral part of an infinite series of ideas and is determined by the nature of thought and its laws, along with its relations to other ideas. There is, in other words, no causal interaction between bodies and ideas, between the physical and the mental. There is, however, a thoroughgoing correlation and parallelism between the two series. For every mode in extension that is a relatively stable collection of matter, there is a corresponding mode in thought. In fact, he insists, "a mode of extension and the idea of that mode are one and the same thing, but expressed in two ways." Because of the fundamental and underlying unity of Nature, or of Substance, Thought and Extension are just two different ways of "comprehending" one and the same Nature. Every material thing thus has its own particular idea – a kind of

Platonic concept – that expresses or represents it. Since that idea is just a mode of one of God's attributes – Thought – it is in God, and the infinite series of ideas constitutes God's mind. As he explains,

> A circle existing in nature and the idea of the existing circle, which is also in God, are one and the same thing, which is explained through different attributes. Therefore, whether we conceive nature under the attribute of Extension, or under the attribute of Thought, or under any other attribute, we shall find one and the same order, or one and the same connection of causes, i.e., that the same things follow one another.

It follows from this, he argues, that the causal relations between bodies is mirrored in the logical relations between God's ideas. Or, as Spinoza notes in proposition seven, "the order and connection of ideas is the same as the order and connection of things."

One kind of extended body, however, is significantly more complex than any others in its composition and in its dispositions to act and be acted upon. That complexity is reflected in its corresponding idea. The body in question is the human body; and its corresponding idea is the human mind or soul. The mind, then, like any other idea, is simply one particular mode of God's attribute, Thought. Whatever happens in the body is reflected or expressed in the mind. In this way, the mind perceives, more or less obscurely, what is taking place in its body. And through its body's interactions with other bodies, the mind is aware of what is happening in the physical world around it. But the human mind no more interacts with its body than any mode of Thought interacts with a mode of Extension.

One of the pressing questions in seventeenth-century philosophy, and perhaps the most celebrated legacy of Descartes' dualism, is the problem of how two radically different substances such as mind and body enter into a union in a human being and cause effects in each other. How can the extended body causally engage the unextended mind, which is incapable of contact or motion, and "move" it, that is, cause mental effects such as pains, sensations and perceptions? Spinoza, in effect, denies that the human being is a union of two *substances*. The human mind and the human body are two different expressions – under Thought and under Extension – of one and the same thing: the person. And because there is no causal interaction between the mind and the body, the so-called mind–body problem does not, technically speaking, arise.

The human mind, like God, contains ideas. Some of these ideas – sensory images, qualitative "feelings" (like pains and pleasures), perceptual data – are imprecise qualitative phenomena, being the expression in thought of states of the body as it is affected by the bodies surrounding it. Such ideas do not convey adequate and true knowledge of the world, but only a relative, partial and subjective picture of how things presently seem to be to the perceiver. There is no systematic order to these perceptions, nor any critical oversight by reason. "As long as the human Mind perceives things from the common order of nature, it does not have an adequate, but only a confused and mutilated knowledge of itself, of its own Body, and of external bodies" (IIp29c). Under such circumstances, we are simply determined in our ideas by our fortuitous and haphazard encounter with things in the external

world. This superficial acquaintance will never provide us with knowledge of the essences of those things. In fact, it is an invariable source of falsehood and error. This "knowledge from random experience" is also the origin of great delusions, since we – thinking ourselves free – are, in our ignorance, unaware of just how we *are* determined by causes.

Adequate ideas, on the other hand, are formed in a rational and orderly manner, and are necessarily true and revelatory of the essences of things. "Reason," the second kind of knowledge (after "random experience"), is the apprehension of the essence of a thing through a discursive, inferential procedure. "A true idea means nothing other than knowing a thing perfectly, or in the best way." It involves grasping a thing's causal connections not just to other objects but, more importantly, to the attributes of God and the infinite modes (the laws of nature) that follow immediately from them. The adequate idea of a thing clearly and distinctly situates its object in all of its causal nexuses and shows not just *that* it is, but *how* and *why* it is. The person who truly knows a thing sees the reasons why the thing was determined to be and could not have been otherwise. "It is of the nature of Reason to regard things as necessary, not as contingent" (IIp44). The belief that some thing is accidental or spontaneous can be based only on an inadequate grasp of the thing's causal explanation, on a partial and "mutilated" familiarity with it. To perceive by way of adequate ideas is to perceive the necessity inherent in Nature.

Sense experience alone could never provide the information conveyed by an adequate idea. The senses present things only as they appear from a given perspective at a given moment in time. An adequate idea, on the other hand, by showing how a thing follows necessarily from one or another of God's attributes, presents it in its "eternal" aspects – *sub specie aeternitatis*, as Spinoza puts it – without any relation to time. "It is of the nature of Reason to regard things as necessary and not as contingent. And Reason perceives this necessity of things truly, i.e., as it is in itself. But this necessity of things is the very necessity of God's eternal nature. Therefore, it is of the nature of Reason to regard things under this species of eternity." The third kind of knowledge, intuition, takes what is known by Reason and grasps it in a single act of the mind.

Spinoza's conception of adequate knowledge reveals an unrivaled optimism in the cognitive powers of the human being. Not even Descartes believed that we could know all of Nature and its innermost secrets with the degree of depth and certainty that Spinoza thought possible. Most remarkably, because Spinoza thought that the adequate knowledge of any object, and of Nature as a whole, involves a thorough knowledge of God and of how things relate to God and his attributes, he also had no scruples about claiming that we can, at least in principle, know God perfectly and adequately. "The knowledge of God's eternal and infinite essence that each idea involves is adequate and perfect" (IIp46). "The human Mind has an adequate knowledge of God's eternal and infinite essence" (Iip47). No other philosopher in history has been willing to make this claim. But, then again, no other philosopher identified God with Nature.

Spinoza engages in such a detailed analysis of the composition of the human being because it is essential to his goal of showing how the human being is a part

of Nature, existing within the same causal nexuses as other extended and mental beings. This has serious ethical implications. First, it implies that a human being is not endowed with freedom, at least in the ordinary sense of that term. Because our minds and the events in our minds are simply ideas that exist within the causal series of ideas that follows from God's attribute Thought, our actions and volitions are as necessarily determined as any other natural events. "In the Mind there is no absolute, or free, will, but the Mind is determined to will this or that by a cause that is also determined by another, and this again by another, and so to infinity."

What is true of the will (and, of course, of our bodies) is true of all the phenomena of our psychological lives. Spinoza believes that this is something that has not been sufficiently understood by previous thinkers, who seem to have wanted to place the human being on a pedestal outside of (or above) nature.

> Most of those who have written about the Affects, and men's way of living, seem to treat, not of natural things, which follow the common laws of nature, but of things that are outside nature. Indeed they seem to conceive man in nature as a dominion within a dominion. For they believe that man disturbs, rather than follows, the order of nature, that he has absolute power over his actions, and that he is determined only by himself. (III, Preface)

Descartes, for example, believed that if the freedom of the human being is to be preserved, the soul must be exempt from the kind of deterministic laws that rule over the material universe.

Spinoza's aim in Parts Three and Four is, as he says in his Preface to Part Three, to restore the human being and his volitional and emotional life into their proper place in nature. For nothing stands outside of nature, not even the human mind.

> Nature is always the same, and its virtue and power of acting are everywhere one and the same, i.e., the laws and rules of nature, according to which all things happen, and change from one form to another, are always and everywhere the same. So the way of understanding the nature of anything, of whatever kind, must also be the same, viz. through the universal laws and rules of nature.

Our affects – our love, anger, hate, envy, pride, jealousy, etc. – "follow from the same necessity and force of nature as the other singular things." Spinoza, therefore, explains these emotions – as determined in their occurrence as are a body in motion and the properties of a mathematical figure – just as he would explain any other things in nature. "I shall treat the nature and power of the Affects, and the power of the Mind over them, by the same Method by which, in the preceding parts, I treated God and the Mind, and I shall consider human actions and appetites just as if it were a Question of lines, planes, and bodies."

Our affects are divided into actions and passions. When the cause of an event lies in our own nature – more particularly, our knowledge or adequate ideas – then it is a case of the mind acting. On the other hand, when something happens in us the cause of which lies outside of our nature, then we are passive and being acted upon. Usually what takes place, both when we are acting and when we are being

acted upon, is some change in our mental or physical capacities, what Spinoza calls "an increase or decrease in our power of acting" or in our "power to persevere in being." All beings are naturally endowed with such a power or striving. This *conatus*, a kind of existential inertia, constitutes the "essence" of any being. "Each thing, as far as it can by its own power, strives to persevere in its being." An affect just *is* any change in this power, for better or for worse. Affects that are actions are changes in this power that have their source (or "adequate cause") in our nature alone; affects that are passions are those changes in this power that originate outside of us.

What we should strive for is to be free from the passions – or, since this is not absolutely possible, at least to learn how to moderate and restrain them – and become active, autonomous beings. If we can achieve this, then we will be "free" to the extent that whatever happens to us will result not from our relations with things outside us, but from our own nature (as that follows from, and is ultimately and necessarily determined by the attributes of God of which our minds and bodies are modes). We will, consequently, be truly liberated from the troublesome emotional ups and downs of this life. The way to bring this about is to increase our knowledge, our store of adequate ideas, and eliminate as far as possible our inadequate ideas, which follow not from the nature of the mind alone but from its being an expression of how our body is affected by other bodies. In other words, we need to free ourselves from a reliance on the senses and the imagination, since a life of the senses and images is a life being affected and led by the objects around us, and rely as much as we can only on our rational faculties.

Because of our innate striving to persevere – which, in the human being, is called "will" or "appetite" – we naturally pursue those things that we believe will benefit us by increasing our power of acting and shun or flee those things that we believe will harm us by decreasing our power of acting. This provides Spinoza with a foundation for cataloguing the human passions. For the passions are all functions of the ways in which external things affect our powers or capacities. Joy, for example, is simply the movement or passage to a greater capacity for action. "By Joy . . . I shall understand that passion by which the Mind passes to a greater perfection" (IIIp11s). Being a passion, joy is always brought about by some external object. Sadness, on the other hand, is the passage to a lesser state of perfection, also occasioned by a thing outside us. Love is simply Joy accompanied by an awareness of the external cause that brings about the passage to a greater perfection. We love that object that benefits us and causes us joy. Hate is nothing but "Sadness with the accompanying idea of an external cause." Hope is simply "an inconstant Joy which has arisen from the image of a future or past thing whose outcome we doubt." We hope for a thing whose presence, as yet uncertain, will bring about joy. We fear, however, a thing whose presence, equally uncertain, will bring about sadness. When that whose outcome was doubtful becomes certain, hope is changed into confidence, while fear is changed into despair.

All of the human emotions, in so far as they are passions, are constantly directed outward, towards things and their capacities to affect us one way or another. Aroused by our passions and desires, we seek or flee those things that we believe cause joy or sadness. "We strive to further the occurrence of whatever we imagine

will lead to Joy, and to avert or destroy what we imagine is contrary to it, or will lead to Sadness." Our hopes and fears fluctuate depending on whether we regard the objects of our desires or aversions as remote, near, necessary, possible, or unlikely. But the objects of our passions, being external to us, are completely beyond our control. Thus, the more we allow ourselves to be controlled by *them*, the more we are subject to passions and the less active and free we are. The upshot is a fairly pathetic picture of a life mired in the passions and pursuing and fleeing the changeable and fleeting objects that occasion them: "We are driven about in many ways by external causes, and... like waves on the sea, driven by contrary winds, we toss about, not knowing our outcome and fate" (IIIp59s). The title for Part Four of the *Ethics* reveals with perfect clarity Spinoza's evaluation of such a life for a human being: "On Human Bondage, or the Powers of the Affects." He explains that the human being's "lack of power to moderate and restrain the affects I call Bondage. For the man who is subject to affects is under the control, not of himself, but of fortune, in whose power he so greatly is that often, though he sees the better for himself, he is still forced to follow the worse." It is, he says, a kind of "sickness of the mind" to suffer too much love for a thing "that is liable to many variations and that we can never fully possess."

The solution to this predicament is an ancient one. Since we cannot control the objects that we tend to value and that we allow to influence our well-being, we ought instead to try to control our evaluations themselves and thereby minimize the sway that external objects and the passions have over us. We can never eliminate the passive affects entirely. We are essentially a part of nature, and can never fully remove ourselves from the causal series that link us to external things. But we can, ultimately, counteract the passions, control them, and achieve a certain degree of relief from their turmoil.

The path to restraining and moderating the affects is through virtue. Spinoza is a psychological and ethical egoist. All beings naturally seek their own advantage – to preserve their own being – and it is right for them do so. This is what virtue consists in. Since we are thinking beings, endowed with intelligence and reason, what is to our greatest advantage is knowledge. Our virtue, therefore, consists in the pursuit of knowledge and understanding, of adequate ideas. The best kind of knowledge is a purely intellectual intuition of the essences of things. This "third kind of knowledge" – beyond both random experience and ratiocination – sees things not in their temporal dimension, not in their duration and in relation to other particular things, but under the aspect of eternity, that is, abstracted from all considerations of time and place and situated in their relationship to God and his attributes. They are apprehended, that is, in their conceptual and causal relationship to the universal essences (thought and extension) and the eternal laws of nature.

> We conceive things as actual in two ways: either insofar as we conceive them to exist in relation to a certain time and place, or insofar as we conceive them to be contained in God and to follow from the necessity of the divine nature. But the things we conceive in this second way as true, or real, we conceive under a species of eternity, and to that extent they involve the eternal and infinite essence of God. (Vp39s)

But this is just to say that, ultimately, we strive for a knowledge of God. The concept of any body involves the concept of extension; and the concept of any idea or mind involves the concept of thought. But thought and extension just are God's attributes. So the proper and adequate conception of any body or mind necessarily involves the concept or knowledge of God. "The third kind of knowledge proceeds from an adequate idea of certain attributes of God to an adequate knowledge of the essence of things, and the more we understand things in this way, the more we understand God." Knowledge of God is, thus, the Mind's greatest good and its greatest virtue.

What we see when we understand things through the third kind of knowledge, under the aspect of eternity and in relation to God, is the deterministic necessity of all things. We see that all bodies and their states follow necessarily from the essence of matter and the universal laws of physics; and we see that all ideas, including all the properties of minds, follow necessarily from the essence of thought and its universal laws. This insight can only weaken the power that the passions have over us. We are no longer hopeful or fearful of what shall come to pass, and no longer anxious or despondent over our possessions. We regard all things with equanimity, and we are not inordinately and irrationally affected in different ways by past, present or future events. The result is self-control and a calmness of mind.

> The more this knowledge that things are necessary is concerned with singular things, which we imagine more distinctly and vividly, the greater is this power of the Mind over the affects, as experience itself also testifies. For we see that Sadness over some good which has perished is lessened as soon as the man who has lost it realizes that this good could not, in any way, have been kept. Similarly, we see that [because we regard infancy as a natural and necessary thing], no one pities infants because of their inability to speak, to walk, or to reason, or because they live so many years, as it were, unconscious of themselves. (Vp6s)

Our affects themselves can be understood in this way, which further diminishes their power over us.

Spinoza's ethical theory is, to a certain degree, Stoic, and recalls the doctrines of thinkers such as Cicero and Seneca:

> We do not have an absolute power to adapt things outside us to our use. Nevertheless, we shall bear calmly those things that happen to us contrary to what the principle of our advantage demands, if we are conscious that we have done our duty, that the power we have could not have extended itself to the point where we could have avoided those things, and that we are a part of the whole of nature, whose order we follow. If we understand this clearly and distinctly, that part of us which is defined by understanding, i.e., the better part of us, will be entirely satisfied with this, and will strive to persevere in that satisfaction. For insofar as we understand, we can want nothing except what is necessary, nor absolutely be satisfied with anything except what is true. (IV, Appendix)

What, in the end, replaces the passionate love for ephemeral "goods" is an intellectual love for an eternal, immutable good that we can fully and stably possess, God. The third kind of knowledge generates a love for its object, and in this love

consists not joy, a passion, but blessedness itself. Taking his cue from Maimonides's view of human *eudaimonia*, Spinoza argues that the mind's intellectual love of God *is* our understanding of the universe, our virtue, our happiness, our well-being and our "salvation". It is also our freedom and autonomy, as we approach the condition wherein what happens to us follows from our nature (as a determinate and determined mode of one of God's attributes) alone and not as a result of the ways external things affect us. Spinoza's "free person" is one who bears the gifts and losses of fortune with equanimity, does only those things that he believes to be "the most important in life," takes care for the well-being of others (doing what he can to insure that they, too, achieve some relief from the disturbances of the passions through understanding), and is not anxious about death. The free person neither hopes for any eternal, otherworldly rewards nor fears any eternal punishments. He knows that the soul is not immortal in any personal sense, but is endowed only with a certain kind of eternity. The more the mind consists of true and adequate ideas (which are eternal), the more of it remains – within God's attribute of Thought – after the death of the body and the disappearance of that part of the mind that corresponds to the body's duration. This understanding of his place in the natural scheme of things brings to the free individual true peace of mind.

There are a number of social and political ramifications that follow from Spinoza's ethical doctrines of human action and well-being. Because disagreement and discord between human beings is always the result of our different and changeable passions, "free" individuals – who all share the same nature and act on the same principles – will naturally and effortlessly form a harmonious society. "Insofar as men are torn by affects that are passions, they can be contrary to one another... [But] insofar as men live according to the guidance of reason, they must do only those things that are good for human nature, and hence, for each man, i.e., those things that agree with the nature of each man. Hence, insofar as men live according to the guidance of reason, they must always agree among themselves" (Ivp34–5). Free human beings will be mutually beneficial and useful, and will be tolerant of the opinions and even the errors of others. However, human beings do not generally live under the guidance of reason. The state or sovereign, therefore, is required in order to insure – not by reason, but by the threat of force – that individuals are protected from the unrestrained pursuit of self-interest on the part of other individuals. The transition from a state of nature, where each seeks his own advantage without limitation, to a civil state involves the universal renunciation of certain natural rights – such as "the right everyone has of avenging himself, and of judging good and evil" – and the investment of those prerogatives in a central authority. As long as human beings are guided by their passions, the state is necessary to bring it about that they "live harmoniously and be of assistance to one another."

Theological-Political Treatise

The ostensive aim of the *Theological-Political Treatise*, widely vilified in its time, is to show that "the freedom to philosophize can not only be granted without injury

to piety and the peace of the Commonwealth, but that the peace of the Commonwealth and Piety are endangered by the suppression of this freedom." But Spinoza's ultimate intention is to reveal the truth about Scripture and religion, and thereby to undercut the political power exercised in modern states by religious authorities. He also defends, at least as a political ideal, the tolerant, secular, and democratic polity.

Spinoza begins the treatise by alerting his readers, through a kind of "natural history of religion," to just those superstitious beliefs and behaviors that clergy, by playing on ordinary human emotions, encourage in their followers. A person guided by fear and hope, the main emotions in a life devoted to the pursuit of temporal advantages, turns, in the face of the vagaries of fortune, to behaviors calculated to secure the goods he desires. Thus, we pray, worship, make votive offerings, sacrifice, and engage in all the various rituals of popular religion. But the emotions are as fleeting as the objects that occasion them, and thus the superstitions grounded in those emotions subject to fluctuations. Ambitious and self-serving clergy do their best to stabilize this situation and give some permanence to those beliefs and behaviors. "Immense efforts have been made to invest religion, true or false, with such pomp and ceremony that it can sustain any shock and constantly evoke the deepest reverence in all its worshippers." Religious leaders are generally abetted in their purposes by the civil authority, which threatens to punish all deviations from theological orthodoxy as "sedition." The result is a state religion that has no rational foundations, a mere "respect for ecclesiastics" that involves adulation and mysteries but no true worship of God.

The solution to this state of affairs, Spinoza believes, is to examine the Bible anew and find the doctrines of the "true religion." Only then will we be able to delimit exactly what we need to do to show proper respect for God and obtain blessedness. This will reduce the sway that religious authorities have over our emotional, intellectual, and physical lives, and reinstate a proper and healthy relationship between the state and religion. A close analysis of the Bible is particularly important for any argument that the freedom of philosophizing – essentially, freedom of thought and speech – is not prejudicial to piety. If it can be demonstrated that Scripture is not a source of "natural truth," but the bearer of only a simple moral message ("Love your neighbor"), then people will see that "faith is something separate from philosophy." Spinoza intends to show that in that moral message alone – and not in Scripture's words or history – lies the sacredness of what is otherwise merely a human document. The Bible teaches only "obedience [to God]," not knowledge. Thus, philosophy and religion, reason and faith, inhabit two distinct and exclusive spheres, and neither should tread in the domain of the other. The freedom to philosophize and speculate can therefore be granted without any harm to true religion. In fact, such freedom is essential to public peace and piety, since most civil disturbances arise from sectarian disputes. The real danger to the Republic comes from those who would worship not God, but some words on a page: "It will be said that, although God's law is inscribed in our hearts, Scripture is nevertheless the Word of God, and it is no more permissable to say of Scripture that it is mutilated and contaminated than to say this of God's Word. In reply, I have to say that such objectors are carrying their piety too far, and are turning religion into superstition;

indeed, instead of God's Word they are beginning to worship likenesses and images, that is, paper and ink."

From a proper and informed reading of Scripture, a number of things become clear. First, the prophets were not men of exceptional intellectual talents – they were not, that is, naturally gifted philosophers – but simply very pious, even morally superior individuals endowed with vivid imaginations. They were able to perceive God's revelation through their imaginative faculties via words or real or imaginary figures. This is what allowed them to apprehend that which lies beyond the boundary of the intellect. Moreover, the content of a prophecy varied according to the physical temperament, imaginative powers, and particular opinions or prejudices of the prophet. It follows that prophecy, while it has its origins in the power of God – and in this respect it is, in Spinoza's metaphysical scheme, no different from any other natural event – does not provide privileged knowledge of natural or spiritual phenomena. The prophets are not necessarily to be trusted when it comes to matters of the intellect, on questions of philosophy, history or science; and their pronouncements set no parameters on what should or should not be believed about the natural world on the basis of our rational faculties.

Spinoza provides an equally deflationary account of God's election, or the "vocation," of the Hebrews. It is "childish," he insists, for anyone to base their happiness on the uniqueness of their gifts; in the case of the Jews, it would be the uniqueness of their being chosen among all people. The ancient Hebrews, in fact, did not surpass other nations in their wisdom or in their proximity to God. They were neither intellectually nor morally superior to other peoples. They were "chosen" only with respect to their social organization and political good fortune. God (or Nature) gave them a set of laws and they obeyed those laws, with the natural result that their society was well-ordered and their autonomous government persisted for a long time. Their election was thus a temporal and conditional one, and their kingdom is now long gone. Thus, "at the present time there is nothing whatsoever that the Jews can arrogate to themselves above other nations." Spinoza thereby rejects the particularism that many – including Amsterdam's Sephardic rabbis – insisted was essential to Judaism. True piety and blessedness are universal in their scope and accessible to anyone, regardless of their confessional creed.

Central to Spinoza's analysis of the Jewish religion – although it is applicable to any religion whatsoever – is the distinction between the divine law and the ceremonial law. The law of God commands only the knowledge and love of God and the actions required for attaining that condition. Such love must arise not from fear of possible penalties or hope for any rewards, but solely from the goodness of its object. The divine law does *not* demand any particular rites or ceremonies such as sacrifices or dietary restrictions or festival observances. The six hundred and thirteen precepts of the Torah have nothing to do with blessedness or virtue. They were directed only at the Hebrews so that they might govern themselves in an autonomous state. The ceremonial laws helped preserve their kingdom and insure its prosperity, but were valid only as long as that political entity lasted. They are not binding on all Jews under all circumstances. They were, in fact, instituted by Moses for a purely practical reason: so that people might do their duty and not go their own way. This is true not just of the rites and practices of Judaism, but of the outer

ceremonies of all religions. None of these activities have anything to do with true happiness or piety. They serve only to control people's behavior and preserve a particular society.

A similar practical function is served by stories of miracles. Scripture speaks in a language suited to affect the imagination of ordinary people and compel their obedience. Rather than appealing to the natural and real causes of all events, its authors sometimes narrate things in a way calculated to move people – particularly uneducated people – to devotion. "If Scripture were to describe the downfall of an empire in the style adopted by political historians, the common people would not be stirred..." Strictly speaking, however, miracles – understood as divinely caused departures from the ordinary course of nature – are impossible. Every event, no matter how extraordinary, has a natural cause and explanation. "Nothing happens in nature that does not follow from her laws." This is simply a consequence of Spinoza's metaphysical doctrines. Miracles as traditionally conceived require a distinction between God and nature, something that Spinoza's philosophy rules out in principle. Moreover, nature's order is inviolable in so far as the sequence of events in nature is a necessary consequence of God's attributes. There certainly are "miracles" in the sense of events whose natural causes are unknown to us, and which we therefore attribute to the powers of a supernatural God. But this is, once again, to retreat to superstition, "the bitter enemy of all true knowledge and true morality."

By analyzing prophecy in terms of vividness of imagination, Jewish election as political fortune, the ceremonial law as a kind of social and political expediency, and the belief in miracles as an ignorance of nature's necessary causal operations, Spinoza naturalizes (and, consequently, demystifies) some of the fundamental elements of Judaism and other religions and undermines the foundations of their external, superstitious rites. At the same time, he thereby reduces the fundamental doctrine of piety to a simple and universal formula, naturalistic in itself, involving love and knowledge. This process of naturalization achieves its stunning climax when Spinoza turns to consider the authorship and interpretation of the Bible itself. Spinoza's views on Scripture constitute, without question, the most radical theses of the *Treatise*, and explain why he was attacked with such vitriol by his contemporaries. Others before Spinoza had suggested that Moses was not the author of the entire Pentateuch. But no one had taken that claim to the extreme limit that Spinoza did, arguing for it with such boldness and at such length. Nor had anyone before Spinoza been willing to draw from it the conclusions about the status, meaning and interpretation of Scripture that Spinoza drew.

Spinoza denied that Moses wrote all, or even most of the Torah. The references in the Pentateuch to Moses in the third person; the narration of his death and, particularly, of events following his death; and the fact that some places are called by names that they did not bear in the time of Moses all "make it clear beyond a shadow of doubt" that the writings commonly referred to as "the Five Books of Moses" were, in fact, written by someone who lived many generations after Moses. Moses did, to be sure, compose some books of history and of law; and remnants of those long lost books can be found in the Pentateuch. But the Torah as we have it, as well as as other books of the Hebrew Bible (such as Joshua, Judges, Samuel and

Kings) were written neither by the individuals whose names they bear nor by any person appearing in them. Spinoza believes that these were, in fact, all composed by a single historian living many generations after the events narrated, and that this was most likely Ezra. It was the post-exilic leader who took the many writings that had come down to him and began weaving them into a single (but not seamless) narrative. Ezra's work was later completed and supplemented by the editorial labors of others. What we now possess, then, is nothing but a compilation, and a rather mismanaged, haphazard and "mutilated" one at that.

As for the books of the Prophets, they are of even later provenance, compiled (or "heaped together," in Spinoza's view) by a chronicler or scribe perhaps as late as the Second Temple period. Canonization into Scripture occurred only in the second century BCE, when the Pharisees selected a number of texts from a multitude of others. Because the process of transmission was a historical one, involving the conveyence of writings of human origin over a long period of time through numerous scribes, and because the decision to include some books but not others was made by fallible human beings, there are good reasons for believing that a significant portion of the text of the "Old Testament" is corrupt.

Now in 1670 there was nothing novel in claiming that Moses did not write all of the Torah. Spinoza's most radical and innovative claim, in fact, was to argue that this holds great significance for how Scripture is to be read and interpreted. He was dismayed by the way in which Scripture itself was worshipped, by the reverence accorded to the words on the page rather than to the message they conveyed. If the Bible is an historical (i.e., natural) document, then it should be treated like any other work of nature. The study of Scripture, or Biblical hermeneutics, should therefore proceed as the study of nature, or natural science proceeds: by gathering and evaluating empirical data, that is, by examining the "book" itself – along with the contextual conditions of its composition – for its general principles.

> I hold that the method of interpreting Scripture is no different from the method of interpreting Nature, and is in fact in complete accord with it. For the method of interpreting Nature consists essentially in composing a detailed study of Nature from which, as being the source of our assured data, we can deduce the definitions of the things of Nature. Now in exactly the same way the task of Scriptural interpretation requires us to make a straightforward study of Scripture, and from this, as the source of our fixed data and principles, to deduce by logical inference the meaning of the authors of Scripture. In this way – that is, by allowing no other principles or data for the interpretation of Scripture and study of its contents except those that can be gathered only from Scripture itself and from a historical study of Scripture – steady progress can be made without any danger of error, and one can deal with matters that surpass our understanding with no less confidence than those matters that are known to us by the natural light of reason.

Just as the knowledge of nature must be sought from nature alone, so must the knowledge of Scripture – an apprehension of its intended meaning – be sought from Scripture alone and through the appropriate exercise of rational inquiry.

When properly interpreted, the universal message conveyed by Scripture is a simple moral one: "To know and love God, and to love one's neighbor as oneself."

This is the *real* word of God and the foundation of true piety, and it lies uncorrupted in a faulty, tampered and corrupt text. The lesson involves no metaphysical doctrines about God or Nature, and requires no sophisticated training in philosophy. The object of Scripture is not to impart knowledge, but to compel obedience and regulate our conduct. "Scriptural doctrine contains not abstruse speculation or philosophic reasoning, but very simple matters able to be understood by the most sluggish mind." Spinoza claims, in fact, that a familiarity with Scripture is not even necessary for piety and blessedness, since its message can be known by our rational faculties alone, although with great difficulty for most people. "He who, while unacquainted with these writings, nevertheless knows by the natural light that there is a God having the attributes we have recounted, and who also pursues a true way of life, is altogether blessed."

It follows that the only practical commandments that properly belong to religion are those that are necessary to carry out the moral precept and "confirm in our hearts the love of our neighbor." "A catholic faith should therefore contain only those dogmas which obedience to God absolutely demands, and without which such obedience is absolutely impossible... these must all be directed to this one end: that there is a Supreme Being who loves justice and charity, whom all must obey in order to be saved, and must worship by practicing justice and charity to their neighbor." As for other dogmas, "every person should embrace those that he, being the best judge of himself, feels will do most to strengthen in him love of justice."

This is the heart of Spinoza's case for toleration, for freedom of philosophizing and freedom of religious expression. By reducing the central message of Scripture – and the essential content of piety – to a simple moral maxim, one that is free of any superfluous speculative doctrines or ceremonial practices, and by freeing Scripture of the burden of having to communicate specific philosophical truths or of prescribing (or proscribing) a multitude of required behaviors, he has demonstrated both that philosophy is independent from religion and that the liberty of each individual to interpret religion as he wishes can be upheld without any detriment to piety.

> As to the question of what God, the exemplar of true life, really is, whether he is fire, or spirit, or light, or thought, or something else, this is irrelevant to faith. And so likewise is the question as to why he is the exemplar of true life, whether this is because he has a just and merciful disposition, or because all things exist and act through him and consequently we, too, understand through him, and through him we see what is true, just and good. On these questions it matters not what beliefs a man holds. Nor, again, does it matter for faith whether one believes that God is omnipresent in essence or in potency, whether he directs everything from free will or from the necessity of his nature, whether he lays down laws as a rule or teaches them as being eternal truths, whether man obeys God from free will or from the necessity of the divine decree, whether the rewarding of the good and the punishing of the wicked is natural or supernatural. The view one takes on these and similar questions has no bearing on faith, provided that such a belief does not lead to the assumption of greater license to sin, or hinders submission to God. Indeed... every person is in duty bound to adapt these religious dogmas to his own understanding and to interpret them for himself in whatever way makes him feel that he can the more readily accept them with full confidence and conviction.

Faith and piety belong not to the person who has the most rational argument for the existence of God or the most thorough philosophical understanding of his attributes, but to the person "who best displays works of justice and charity."

Spinoza's account of religion has clear political ramifications. There had always been a quasi-political agenda behind his decision to write the *Treatise*, since his attack was directed at political meddling by religious authorities. But he also took the opportunity to give a more detailed and thorough presentation of a general theory of the state that is only sketchily present in the *Ethics*. Such an examination of the true nature of political society is particularly important to his argument for intellectual and religious freedom, since he must show that such freedom is not only compatible with political well-being, but essential to it.

The individual egoism of the *Ethics* plays itself out in a pre-political context – the so-called "state of nature," a universal condition where there is no law or religion or moral right and wrong – as the right of every individual to do whatever he can to preserve himself. "Whatever every person, whenever he is considered as solely under the dominion of Nature, believes to be to his advantage, whether under the guidance of sound reason or under passion's sway, he may by sovereign natural right seek and get for himself by any means, by force, deceit, entreaty, or in any other way he best can, and he may consequently regard as his enemy anyone who tries to hinder him from getting what he wants." Naturally, this is a rather insecure and dangerous condition under which to live. In Hobbes' celebrated phrase – and Spinoza was clearly influenced by his reading of that British thinker – life in the state of nature is "solitary, poor, nasty, brutish and short". As rational creatures, we soon realize that we would be better off, still from a thoroughly egoistic perspective, coming to an agreement among ourselves to restrain our opposing desires and the unbounded pursuit of self-interest – in sum, that it would be in our greater self-interest to live under the law of reason rather than the law of nature. We thus agree to hand over to a sovereign our natural right and power to do whatever we can to satisfy our interests. That sovereign – whether it be an individual (in which case the resulting state is a monarchy), a small group of individuals (an oligarchy), or the body politic as a whole (a democracy) – will be absolute and unrestrained in the scope of its powers. It will be charged with keeping all the members of society to the agreement, mostly by playing on their fear of the consequences of breaking the "social contract."

Obedience to the sovereign does not infringe upon our autonomy, since in following the commands of the sovereign we are following an authority whom we have freely authorized and whose commands have no other object than our own rational self-interest. The type of government most likely to respect and preserve that autonomy, to issue laws based on sound reason and to serve the ends for which government is instituted is democracy. It is the "most natural" form of governing arising out of a social contract – since in a democracy the people obey only laws that issue from the general will of the body politic – and the least subject to various abuses of power. In a democracy, the rationality of the sovereign's commands is practically secured, since it is unlikely that a majority of a large number of people will agree to an irrational design. Monarchy, on the other hand, is the least stable form of government and the one most likely to degenerate into tyranny.

Since the outward practices of religion impinge upon the comportment and relations of citizens, they fall under "state business" and, thus, within the sphere of the sovereign's power. The sovereign should have complete dominion in all public matters secular and spiritual. There should be no church separate from the religion instituted and regulated by the state. This will prevent sectarianism and the multiplication of religious disputes. All questions concerning external religious rites and ceremonies are in the hands of the sovereign. This is in the best interest of everyone, since the sovereign will, ideally and in conformity with its "contractual" duty, insure that such practices are in accord with public peace and safety and social well-being. The sovereign should rule in such a way that his commands enforce God's law. Justice and charity thereby acquire the force of civil law, backed by the power of the sovereign.

On the other hand, dominion over the "inward worship of God" and the beliefs accompanying it – in other words, inner piety – belongs exclusively to the individual. This is a matter of inalienable, private right, and it cannot be legislated, not even by the sovereign. No one can limit or control another person's thoughts anyway, and it would be foolhardy and destructive to the polity for a sovereign to attempt to do so. Nor can speech ever truly and effectively be controlled, since people will always say what they want, at least in private. "Everyone is by absolute natural right the master of his own thoughts, and thus utter failure will attend any attempt in a commonwealth to force men to speak only as prescribed by the sovereign despite their different and opposing opinions." There must, Spinoza grants, be *some* limits to speech and teaching. Seditious discourse that encourages individuals to nullify the social contract should not be tolerated. But the best government will err on the side of leniency and allow the freedom of philosophical speculation and the freedom of religious belief. Certain "inconveniences" will, no doubt, sometimes result from such an extensive liberty. But the attempt to regulate everything by law is "more likely to arouse vices than to reform them." In a passage that foreshadows John Stuart Mill's utilitarian defense of liberty nearly two centuries later, Spinoza adds that "this freedom is of the first importance in fostering the sciences and the arts, for only those whose judgment is free and unbiased can attain success in these fields."

It is hard to imagine a more passionate and reasoned defense of freedom and toleration than that offered by Spinoza.

References

Spinoza Opera, edited by Carl Gebhardt, 5 volumes. Heidelberg: Carl Winters, 1925, 1972 [volume 5, 1987].

Spinoza, *Ethics*, in Edwin Curley, translator, *The Collected Writings of Spinoza*. Princeton: Princeton University Press, 1985, volume 1.

Spinoza, *Theological-Political Treatise*, Samuel Shirley, translator. Leiden: Brill, 1989.

Further Reading

Allison, Henry, 1987, *Benedict de Spinoza: An Introduction*. New Haven: Yale University Press.
Bennett, Jonathan, 1984, *A Study of Spinoza's Ethics*. Indianapolis: Hackett Publishing.
Curley, Edwin, 1988, *Behind the Geometric Method*. Princeton: Princeton University Press.
Donagan, Alan, 1988, *Spinoza*. Chicago: University of Chicago Press.
Garrett, Don, ed., 1996, *The Cambridge Companion to Spinoza*. Cambridge and New York: Cambridge University Press.
Nadler, Steven, 1999, *Spinoza: A Life*. Cambridge and New York: Cambridge University Press.
Smith, Steven B, 1997, *Spinoza, Liberalism and the Question of Jewish Identity*. New Haven: Yale University Press.
Wolfson, Harry, 1934, *The Philosophy of Spinoza*, 2 vols. Cambridge, MA: Harvard University Press.
Yovel, Yirmiyahu, 1989, *Spinoza and Other Heretics*, 2 vols. Princeton: Princeton University Press.

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17

Pierre Bayle

TODD RYAN

Life and Works

Pierre Bayle was a French philosopher, historian, intellectual journalist and religious thinker whose writings were marked by a spirit of skepticism and an insistence upon the inherent weakness of human reason. Among the major themes to be found in his works are an examination of the epistemological foundations of Christian belief, a searching critique of the pretensions of modern philosophy, and a brilliant and original defense of religious toleration. Although often subjected to furious attacks in his own lifetime, Bayle's work was to exercise a profound effect on subsequent generations of English language philosophers such as BERKELEY (chapter 29) and HUME (chapter 32), as well as the major figures of the French Enlightenment.

Bayle was born on November 19 1647 in Le Carla, a small village in rural, southwest France, and died in Rotterdam on December 28 1706. The son of a Protestant minister, Bayle was raised in a Calvinist milieu that profoundly influenced his intellectual development. Bayle was educated at the local elementary school, but owing to his family's limited means, he was forced to await the completion of his older brother Jacob's studies before he himself could pursue his education at the Protestant Academy in Puylaurens. As a result Bayle was partially self-educated, a fact he was to lament later in life. Soon after his arrival at Puylaurens in 1668, Bayle grew disenchanted with the quality of instruction at the Academy and secretly transferred to the Jesuit college in Toulouse, where he received a thorough training in the traditional Scholastic philosophy. While at Toulouse, Bayle converted to Catholicism when he found himself unable to reply to the arguments of a priest concerning the legitimacy of Protestantism. However, his conversion was short-lived. Immediately after defending his Master's thesis in Philosophy some fifteen months later, he reconverted to Calvinism in a covert ceremony. Because it was at that time a serious violation of French law to abandon the dominant Catholic faith, Bayle's abjuration earned for him the legal status of a *relaps*. As such, he was forced to flee his native country, arriving in Geneva at the end of 1670. As Elisabeth Labrousse has aptly remarked, Bayle learned from this experience that "it was possible to persist in an 'erroneous' belief and still be wholly

sincere and disinterested" (Labrousse 1983, 18). In Geneva Bayle studied theology with the intention of becoming a Protestant minister. He soon abandoned this project, serving instead as a tutor in various noble families before finally landing a position as Professor of Philosophy at the Protestant Academy of Sedan in 1675. There Bayle received his first sympathetic exposure to Cartesian physics and was quickly won over to the new mechanistic philosophy. It was also in Sedan that Bayle made the acquaintance of the theologian Pierre Jurieu, one of the most respected and influential members of the Huguenot community, who was later to become one of Bayle's most outspoken and relentless adversaries. Bayle remained at the Academy for five years until it was closed by royal decree in 1681. Aware of the growing hostility of the French authorities toward the Calvinist minority, Bayle decided to leave the country, securing a position at the École Illustre in Rotterdam, where he remained until his death in 1706.

Bayle's first published work, the *Lettre sur la Comète*, appeared in 1682 (an expanded edition was published in 1683 under the revised title *Pensées diverses sur la comète*). Published anonymously and written in the form of a letter to a Catholic theologian, the nominal argument of the *Pensées diverses* is that, contrary to the views of certain theologians, celestial phenomena such as comets are neither signs of divine wrath nor harbingers of impending calamity. In the early part of the work, Bayle offers a naturalistic account of comets based on the mechanistic principles of Cartesian physics. However, the true originality of the *Pensées diverses* is as a subtle work of Protestant controversy. Bayle uses the occasion of the recent comet of 1680 as a pretext for an attack on Catholic idolatry and superstition, arguing that if comets were intended as a spur to increased piety, then God would be actively promoting idolatry, since the vast majority of humans worship false gods. But, Bayle maintains, this would be contrary to God's design, since idolatry is more displeasing to him than atheism.

It is in this context that Bayle attacks the theological commonplace that morality presupposes religious belief, and that therefore atheists are incapable of moral virtue. For Bayle, as we shall see, the laws of morality are available to all human beings through unaided reason – that is, independently of any revealed religion. Thus an atheist is no less capable of distinguishing good from evil than a Christian. Nor does denial of the existence of God remove all incentive to adhere to these laws. Although not fearing divine retribution, the atheist can still be moved by an appreciation of the intrinsic goodness of an action, or by more self-interested motives, such as the desire for approbation. Indeed, Bayle maintains, history provides us with clear examples of virtuous atheists, including numerous ancient philosophers, as well as modern figures such as Vanini and SPINOZA (chapter 16).

From 1684 to 1687, Bayle edited the *Nouvelles de la République des lettres*, a monthly journal composed largely of reviews of recent publications in every domain of knowledge, especially philosophy, theology, and natural science. Bayle defined this Republic of Letters as an ideal society of intellectuals transcending all nationalist, religious, and ethnic boundaries. In keeping with this intellectual ideal, Bayle strove to maintain a detached style and objectivity of judgment that was quite unprecedented in the seventeenth century. Although banned in France, the *Nouvelles* proved to be an enormous success and spawned numerous imitators.

In 1686 Bayle published the *Commentaire Philosophique* in which he argued for civil toleration of religious sects. Unlike LOCKE (chapter 24), who in his *Letter on Toleration* seeks to found religious toleration on the strict separation of church and state, Bayle bases his argument on the inviolable rights of the individual conscience. For Bayle, those who act in good faith according to the settled dictates of their conscience are morally blameless, even if they are in error. Acting in accordance with an erroneous but sincerely held belief is not what is morally objectionable, but rather forcing an individual to betray the dictates of his conscience. The *Commentaire* drew considerable criticism, especially from Jurieu, who claimed that Bayle's arguments on behalf of the rights of the erroneous conscience led to religious indifferentism and ultimately to deism.

The first edition of Bayle's masterpiece, the *Dictionnaire historique et critique*, was published in 1696. A revised and greatly expanded second edition appeared in 1702. The *Dictionnaire* is a massive reference work, comprising thousands of articles on figures ranging from Aristotle to HOBBES (chapter 22), to obscure sixteenth-century Protestant theologians. Interspersed among the rather dry, largely biographical articles are a series of expansive footnotes in which Bayle engages in critical examinations of theological dogmas and philosophical theories from every historical period. Although banned in France for its purported anti-Catholic sentiments, the *Dictionnaire* enjoyed an immediate and enduring success, owing in large part to Bayle's unparalleled ability to imbue even the most abstruse philosophical discussions with an air of levity, rendering them accessible to the general public.

During the final years of his life Bayle became embroiled in a number of heated theological disputes. He devotes his final works, the *Réponse aux questions d'un Provincial* (1703), the *Continuation des pensées diverses* (1704) and the *Entretiens de Maxime et de Thémiste* largely to a defense of these views. Nonetheless, one also finds a great deal of clarification of his metaphysical thought, and the complicated question of his view concerning the relationship of faith and reason.

Civil Toleration

As a member of a minority religion whose legal status was steadily eroding under the reign of Louis XIV, Bayle had an enormous practical as well as theoretical interest in the question of religious toleration. The conventional wisdom of the age held that the political stability of a nation is predicated on religious uniformity of its citizens (an idea neatly captured in the slogan "une foi, une loi, un roi"). In keeping with this view, French authorities employed an escalating series of methods aimed at securing the conversion of the Huguenots to Catholicism, including financial enticements, destruction of Protestant temples, and forced removal of children from Protestant homes. This growing intolerance of the Calvinist minority culminated in the final withdrawal of all legal rights from Protestants with the revocation of the Edict of Nantes on October 15, 1685. This political repression was particularly egregious in that it amounted to a forced conversion to Catholicism: Protestants were legally forbidden to flee the country on pain of imprisonment or condemnation to the galleys.

In order to establish toleration as a positive value, Bayle had to confront a number of traditional arguments in favor of the forced conversion of heretics to orthodoxy. Chief among these was the claim that the erroneous pronouncements of the heretic are nothing short of blasphemous – a direct affront to God's divine majesty which must not be tolerated by the orthodox majority. The advocates of this view found Scriptural support for their position in the Biblical verse, "Compel them to enter that my house may be filled," which they interpreted as a divine injunction to constrain heretics to return to orthodoxy.

Although Bayle had outlined a theory of civil toleration in his earlier works (notably the *Critique Générale de l'histoire de Calvinisme de M. Maimbourg*, published in 1682), it was in the *Commentaire philosophique* that he presented his most sustained defense of toleration. In the first half of the work, he sets out to demolish the purported scriptural sanction of intolerance. Characterizing his work as a "new kind of commentary," Bayle begins with a bold affirmation of reason as the final arbiter in all disputes concerning the correct interpretation of the moral precepts in divine revelation. In the tradition of Natural Law theorists such as GROTIUS (chapter 15), Bayle maintains that there exists an objective moral law available to all rational beings. Any interpretation of revelation according to which we are commanded by God to violate the objective laws of morality is necessarily false. To compel a sincere believer to conform outwardly to a religion whose validity he does not recognize is to force him to betray the dictates of his conscience, which can only result in hypocrisy. Bayle carries the point further arguing that individual conscience is "the voice and law of God, recognized and accepted as such" by each individual (Bayle 1964–82, 2: 384). Bayle concludes that to act knowingly against the dictates of one's conscience is tantamount to deliberately disobeying what one takes to be the will of God. This disobedience is nothing less than contempt for God and the divine law and is thus intrinsically evil. Consequently, any alleged interpretation of Scripture requiring us to bring about such acts is *ipso facto* spurious.

Additionally, Bayle argues that if the literal interpretation of the passage were correct, heretics would be equally justified in persecuting the Christian majority whenever they found themselves in a position to do so, since every sect believes itself to be orthodox and in possession of the truth with respect to religious dogma. But here Bayle must reply to a weighty objection, all the more formidable in that it was backed by the imposing authority of Saint Augustine. According to Augustine it is not the mere fact of constraint that renders persecution morally good or evil, but rather the truth of the doctrine one is being forced to accept. There are for Augustine two kinds of constraint: the morally praiseworthy force by which the impious are constrained to join the true Church, and the morally abominable one by which heretics might try to compel the orthodox to abandon the true Church. Only those acts of persecution which further the cause of orthodoxy are morally permissible.

In response, Bayle invokes the rights of the errant conscience, arguing that all of the rights and duties that truth confers upon an enlightened conscience, a false belief bestows upon an erroneous one. The wife of Martin Guerre, who sincerely mistook another man to be her husband, had the same moral duties with respect to the impostor, as she would have had to her true spouse. Further, unlike the axioms

of logic and metaphysics, religious truths do not bear the mark of epistemic certainty. "It is impossible in our present state to know with certainty that what appears to us to be the truth . . . is the absolute truth" (Bayle 1964–82, 2: 437). In these conditions, all that can be required of us is that we honestly and sincerely search after the truth to the utmost of our abilities. If having done so we act according to what we believe to be our duty, we are morally blameless in the eyes of God, no matter how erroneous our beliefs may in fact be. Therefore, according to Bayle, the advocates of intolerance are wrong to claim that the false beliefs of the heretic provide moral justification for forced conversion to orthodoxy.

This insistence on the rights of the errant conscience coupled with the possibility of an insurmountable – and therefore wholly innocent – ignorance also affords a clear reply to those who would maintain that heretical statements are a culpable act of blasphemy against God. On Bayle's view, for such statements to be punishable, it is not sufficient that they be blasphemous according to the persecutors; they must be contrary to the heretic's own conception of God. Moral responsibility is relative to the settled judgment of each person's conscience. Thus, for example, in denouncing the dogma of the Trinity, the heretic is not guilty of blasphemy, since he is merely rejecting a conception of God that he himself does not recognize as legitimate.

However, Bayle's defense of toleration is not without its difficulties. Critics alleged that the appeal to the rights of the erring conscience is self-defeating, since it leaves open the possibility that the persecutors might themselves be acting according to the dictates of their conscience. That is, agents of repression may be sincerely persuaded that God demands the persecution of heretics. If Bayle's view were correct, it was argued, such individuals would have a perfect right, indeed a moral obligation, to intolerance. In response, Bayle claimed that certain moral truths, such as the immorality of murder or forcing others to act against their conscience, are so clearly apprehended by the "natural light" that anyone who claims to believe otherwise can rightly be suspected of acting in bad faith. Further, the consequences of religious intolerance are so politically disruptive, that the magistrate is fully within his rights to prevent religious persecution, even if this means restraining the agents of repression from acting according to their conscience. Whether this response is fully consonant with Bayle's theory remains an open question.

Metaphysics

Although he had an abiding interest in the philosophical debates that gripped his contemporaries, Bayle was not a systematic thinker in the field of metaphysics. His engagement with metaphysical issues is largely episodic and critical. That is, Bayle typically approaches metaphysical issues individually with respect to a certain specific theory, such as LEIBNIZ's (chapter 18) pre-established harmony, or Locke's contention that a purely material substance might be capable of thought. In this sense, the *Dictionnaire* represented the perfect venue for Bayle to give full range to his critical talents, outlining a view and criticizing it before moving on to the next topic.

Like many French intellectuals of the seventeenth century, Bayle was heavily influenced by the work of RENÉ DESCARTES (chapter 5), especially as developed by NICOLAS MALEBRANCHE (chapter 11). Bayle was deeply sympathetic with certain aspects of Malebranche's metaphysics, including his defense of mind–body dualism and his occasionalist account of causation. Indeed, Bayle saw the former of these doctrines as one of the major accomplishments of modern philosophy.

As is typical of Bayle, his arguments on behalf of mind–body dualism take the form of critical responses to the materialist systems of his philosophical opponents, notably the ancient Greek atomists Epicurus and Democritus. Chief among his arguments with these materialistic systems is the claim that thought cannot be causally produced by insentient matter. Descartes had identified extension, that is, three-dimensionality, as the essence of material objects, to which later mechanists such as Locke added solidity or impenetrability. In the article "Leucippus" Bayle seizes on this account of matter to insist that thought cannot be the causal effect of a material object. The ancient atomists had argued that although matter is inherently inanimate, a complex material object can be rendered conscious, when its parts are arranged according to a certain precise physical configuration. Bayle rejects this view arguing that if matter is essentially an inert, extended substance, then in any given material system, every effect that is specifically attributable to the reconfiguration of its component parts is reducible to various changes in the motion and shape of its parts. But we clearly and distinctly perceive that changes in motion are categorically distinct from acts of thinking. Therefore, he concludes, the mind must be a thinking substance distinct from the physical body.

However, despite its relative success in securing the immateriality of the soul, it would be wrong to think that modern philosophy was, in Bayle's eyes, devoid of internal difficulties. This is especially evident when Bayle discusses certain issues that lay at the heart of the new mechanistic physics, which was quickly replacing the moribund Aristotelianism. Such was the distinction between what Locke called primary and secondary qualities. According to Locke, perception of physical objects is never direct, but mediated by the ideas that they cause in the mind of the perceiver. Visual perception of an external object occurs when a material object causally interacts with our sense organs to produce within us certain ideas of the external object. According to Locke some of the ideas resulting from our causal interaction with bodies resemble qualities in the object that produced them. Among these so-called primary qualities of the object are shape, extension, number and motion or rest. Other ideas, such as colors, smells, tastes, and sounds bear no resemblance to the properties of the external object. These Locke calls ideas of secondary qualities. The distinction lay at the very heart of the new mechanistic science in that it provided a theoretical basis for the geometrization of nature – a mathematical, quantitative physics rather than the qualitative physics of Aristotelianism.

In the article on Zeno of Elea Bayle portrays the modern philosophers as defending this distinction by appeal to an argument from perceptual relativity, reminiscent of those found in the writings of the ancient Greek skeptic Sextus Empiricus. The same object that appears sweet to one palate appears bitter to another, or indeed to the same palate under different conditions (for example, wine

tastes sweet to a healthy palate, but bitter in times of sickness). However, because the object itself has not changed, but only the state of the perceiver, it was concluded that material objects have no intrinsic taste, but merely a power to produce various sensations of taste in the minds of conscious perceivers. Similar arguments were made against colors, smells, and the remaining secondary qualities.

Bayle argues that this fundamental distinction is unfounded, since by parity of reasoning the same arguments that prove that tastes and smells are not genuine properties of material objects are equally telling against the so-called primary qualities. The same body appears small from one perspective, but large from another. A tower that looks round at a distance appears square from up close. Therefore, Bayle argues, we ought properly to conclude that bodies themselves have no shape or extension. But if extension and shape, which were thought to be essential properties of matter, exist only in the mind of the perceiver, then physical objects themselves are essentially mind-dependent entities. Thus Bayle concludes modern philosophy commits us to the denial of the independent existence of matter.

In a similar vein, Bayle argues that if extended matter is an independently existing entity, it must be composed of mathematical points, physical atoms or parts that are divisible to infinity. It is impossible that extension be composed of physical atoms – that is extended, indivisible particles – because extension and indivisibility are incompatible properties. Every extended object is composed of distinct parts; they have, for example, a left side and a right side. These parts are numerically different and therefore capable of existing separately from each other. This entails that every extended object is essentially divisible. Therefore, the hypothesis of physical atoms is self-contradictory. Similarly, extension cannot be composed of mathematical points, since by definition these parts are extensionless entities having neither length, depth nor breadth. But, Bayle argues, no quantity of extensionless points can combine to form an extended object. Equally untenable is the hypothesis of infinite divisibility. If a physical object, such as a billiard ball, were infinitely divisible, it would be composed of an infinite number of parts, each of which no matter how small, must have some finite size. But an infinite number of finite quantities would produce an object of infinite size. Bayle concludes from this that material objects have no existence independent of the mind of a perceiver.

Problem of Evil

One of the constant themes in Bayle's mature writings is the irreconcilability of God's omnipotence and omnibenevolence with the existence of evil. Doubtless this preoccupation with the problem of evil owed much to the tragic circumstances surrounding Bayle's life. Witness to the relentless persecution of his correligionaries and forced into exile for having returned to the Calvinist faith of his childhood, Bayle was convinced of the fundamental injustice of the temporal realm. Yet the most devastating blow followed the publication of the *Critique Générale*, the anti-Catholicism of which incensed the French authorities. Finding themselves unable to punish Pierre Bayle directly, they ordered the arrest of his brother Jacob, who soon died in prison after refusing to abjure his Protestant faith.

Traditionally, Christian theologians offered a number of different theodicies – that is, rational attempts to reconcile God's nature as an omnipotent, omniscient and omnibenevolent being with the existence and pervasiveness of evil. The most important and widely accepted of these was based on an appeal to human freedom. According to this theory, God endowed human beings with the supreme good of free will, and it is only as a result of our subsequent misuse of this freedom that suffering was introduced into the world. Moral evil is the direct result of the freely chosen actions of humans. Consequently, they rather than God bear full responsibility for it. Physical evil, such as famine and illness, is in turn explained as God's just punishment of the wicked.

Bayle has little trouble exposing the inadequacies of this purported explanation on metaphysical, theological, and ethical grounds. For if it was out of benevolence that God endowed his creatures with free will, why would he also endow them with such powerful inclinations to evil? A supremely benevolent creator would not provide his creatures with a gift of such dubious value, when he was capable of foreseeing that as a consequence of its misuse, not only would suffering and misery prevail on earth, but the vast majority of humanity would be condemned to eternal torment. But having once endowed us with free will, why does God not intervene to prevent us from harming ourselves? Suppose that a mother allowed her daughters to attend a ball in full knowledge that they would succumb to the seductions of a suitor. Could she be said to love either her daughters or virtue? It was sometimes claimed that God cannot prevent us from using our free will, either on the metaphysical grounds that by definition a free will cannot be constrained, or on the ethical grounds that human freedom is an absolute good and therefore inviolable. But, Bayle observes, Christian theologians are in no position to make this argument. For it is commonly agreed that by means of an irresistible and effective grace, God can inexorably lead human beings to choose the better action without compromising their freedom. But if this is so, then God could prevent moral evil simply by bestowing upon us the grace necessary to always choose the morally right action.

Early in his career Bayle seems to have been deeply influenced by the theodicy articulated by Malebranche in the *Traité de la grâce et de la nature*. Yet, by the time he wrote the *Dictionnaire*, Bayle clearly has come to reject this solution as illusory. Malebranche argued that the existence of natural evil is the result of God's acting out of respect for his infinite wisdom. In creating the universe, God acted in the simplest and most general manner. That is, he chose to create a world in which a maximal number of effects were generated by the fewest and simplest laws of nature. Therefore, although God could have created a world devoid of famines and earthquakes, he chose not to do so, as this could only have been achieved in a manner ill-befitting his supreme wisdom.

For Bayle, it is God's benevolence and holiness rather than his wisdom that are his principal attributes. In Remark I of the article "Paulicians," Bayle observes that "It is clear to every man who reasons that God is a sovereignly perfect Being and of all his perfections, none belong to him more essentially than his goodness, holiness and justice" (Bayle 1740, 3: 633). A creator who would choose to respect his wisdom at the expensive of his goodness would simply not be God. In the posthumous *Entretiens*, Bayle derisively rejects the notion of a God "who prides himself

solely on [his] knowledge; he prefers to allow the whole human race to perish than to permit a few atoms to move more quickly or slowly than is dictated by the general laws" (Bayle 1964–82, 4: 62). Further, apart from the other difficulties inherent in the free will theodicy, Bayle maintains that Malebranche's occasionalism vitiates any appeal to human free will as an explanation of moral evil. If God is the sole efficient cause of every event, both mental and physical, then the possibility of genuine human agency is precluded. Bayle was aware of Malebranche's struggles to find an account of human free will compatible with his theory of divine causation, but Bayle finds them equally lacking. For example, Malebranche had likened the inclinations of the will to motion impressed on inert matter. Just as the motion of material substances has its origin in God's causal activity, so too, the motive force that pushes the will towards the good in general comes from God. Nevertheless, human beings are free in so far as they are capable of directing this force, stopping it on the particular objects of its desire. In Remark F of the article "Pauliciens," Bayle dismisses Malebranche's view, observing curtly "This is contradictory, since it does not require any less force to stop something moving than to move something at rest... it must therefore be the case that God moves it" (Bayle 1740, 3: 628; Bayle 1991, 180).

It is sometimes alleged that in comparing God to a mother who sends her daughters to a ball, or a father who presents his children with a gift, Bayle is guilty of anthropomorphizing God. That is, Bayle's arguments turn on the mistaken premise that the moral obligations of God are comparable to those of human beings. But this is false, and therefore it is legitimate to judge God's actions according to human standards. Yet for Bayle, as we have seen, there exists an objective moral law equally applicable to God and his creatures. To those who would resist the subjugation of an omnipotent being to independent laws of morality, Bayle replies that such a view leads inevitably to complete moral skepticism. In remark B of the article "Pyrrho," he writes, "You are going to tell me that the duties of a creator should not be measured by our standards. But, if you do this, you fall into the nets of your adversaries... Their major aim is to prove that the absolute nature of things is unknown to us and that we know them only relatively" (Bayle 1740 3: 733; Bayle 1991, 203). If divine goodness and justice are completely incommensurate with their nominal counterparts in the human realm, we would be left with no rational standard for judging the morality of our actions, since true justice must be that which governs God's actions, and by hypothesis this notion of justice would be incomprehensible to human reason.

Skepticism and Fideism

Thus we are led to one of the central claims of Bayle's philosophical writings: the impotence of human reason and the need to turn to revelation as the only secure source of truth. Whatever the subject at hand, be it the composition of space and time, the problem of the vacuum, or the nature of animal intelligence, human reason inevitably becomes embroiled in contradictions that it is powerless to resolve. Indeed, Bayle sometimes goes so far as to assert that Christianity itself is the

ultimate abettor of skepticism. In one of the most dramatic episodes in the *Dictionnaire*, Bayle purports to recount a conversation between two Catholic abbeys, one of whom maintains that the fundamental dogmas of Christianity are contrary to human reason. If knowledge is to be possible, and skepticism refuted, we must be in possession of some infallible criterion by which we can identify true propositions. If anything can serve as an infallible mark of truth, it must be self-evidence. Yet, the abbey goes on to insist, the revealed truths of the Christian religion show that even self-evident propositions can be false. It is a self-evident proposition that "things which are not different from a third thing are not different from each other." Nevertheless, this proposition is shown to be false by the doctrine of the Trinity, according to which there is only one God who nevertheless consists of three distinct persons. Similarly, it is self-evident that the numerically same object cannot exist in two different places at the same time. But the mystery of the Eucharist teaches that Christ's body exists entirely in every consecrated host. Thus, if Catholic mass is simultaneously being said in Paris and Rome, Christ's body exists in its entirety in both of these places. The conclusion Bayle draws is that self-evidence must be rejected as a certain mark of truth by all who embrace the Christian faith. The result is the ultimate victory of the skeptic.

Bayle tempers this insistence on the fundamental irrationality of Christianity with an appeal to religious fideism. On Bayle's view, the truths of revealed religion transcend the powers of human reason. Religious faith consists in the acceptance of these teachings despite our inability to rationally demonstrate, or indeed comprehend, them. In a clarification of his remarks on skepticism appended to the second edition of the *Dictionnaire*, Bayle asserts that it is an "incontestable maxim" that "the Christian religion is of a supernatural kind, and that its basic component is the supreme authority of God proposing mysteries to us, not so that we may understand them, but so that we may believe them with all the humility that is due to the infinite being, who can neither deceive nor be deceived" (Bayle 1740, 4: 641; Bayle 1991, 421). To maintain that Christian mysteries ought to be rationally demonstrated, or at least rendered compatible with human reason as a precondition of accepting them is to radically misconceive the nature of religious faith. At times Bayle seems to push this fideism to the limits of incoherence, suggesting that *it is a logical consequence* of the triumph of skepticism that we ought to accept the deliverances of faith as the sole source of truth. Thus at one point, in speaking of the authority of faith, Bayle claims that "reason itself commands us to prefer them to its direction." However, in its more modest formulation, Bayle's claim is simply that a recognition of the irrefutability of the skeptic's arguments can serve as a useful preliminary to acceptance of religious faith.

In a manner reminiscent of Kierkegaard, Bayle asserts that his insistence upon the incomprehensibility of Christian dogma has the additional benefit of the true virtue of religious faith. In the "Troisième Eclaircissement" Bayle observes that "the merit of faith becomes greater in proportion as the revealed truth that is its object surpasses all the powers of our mind; for, as the incomprehensibility of this object increases by the greater number of maxims of the natural light that oppose it, we have to sacrifice to God's authority a stronger reluctance of reason; and consequently we show ourselves more submissive to God" (Bayle 1740, 4: 644; Bayle 1991, 430–1).

Whether he is sincere in this, or whether he is subtly trying to undermine the foundations of Christianity by showing its fundamental irrationality is difficult to assess. Modern commentators have emphasized the consonance of Bayle's fideism with certain strands of Calvinist thought, while others see in Bayle a subtle opponent of Christian theology. Yet, as tepid and formulaic as these professions of faith may sometimes seem, it remains possible that Bayle was merely defending a conception of religious faith against those metaphysicians who were naively confident in their ability to explain the mysteries of Christianity. Perhaps on this score we can do no better than to listen to Bayle's own testimony. Speaking of a contemporary author who was reputed to have demonstrated the impossibility of free will, but who nevertheless claimed to believe in human freedom on the basis of divine revelation, Bayle writes, "He claims that just as Catholics and Protestants believe in the mystery of the Trinity, though it is opposed to the natural light, so he believes in free will, although reason furnishes him with strong proofs that everything happens by an inevitable necessity... One may cry out that he is not sincere... But is this not setting yourself up as a judge in a case in which it can be objected that you are not competent? Have we any right to decide what goes on in another's heart?" (Bayle 1740, 4: 259; Bayle 1991, 297–8).

Influence

Bayle's writings, especially the *Dictionnaire historique et critique*, exercised an enormous influence on succeeding generations of philosophers. George Berkeley was impressed by Bayle's claim that the new mechanistic philosophy inevitably leads to an insurmountable skepticism about the existence of the external world. Doubtless a good deal of the urgency in Berkeley's rejection of material substance as a response to skepticism is the result of his confrontation with Bayle. David Hume, in turn, was influenced by a number of themes in Bayle, including the latter's insistence on the problems surrounding the composition of extended matter and the existence of the vacuum, devoting an entire section of the *Treatise of Human Nature* to his own solution to the difficulties raised by Bayle.

G. W. Leibniz had enjoyed an amicable relationship with Bayle and benefited from a favorable, although by no means uncritical, exposition of his theory of preestablished harmony in the article "Rorarius." In a lengthy discussion of Leibniz's *Nouvelle système*, Bayle defended Malebranche's occasionalism against the charge that it required continual miraculous intervention on God's part. Bayle also objects to Leibniz's own theory of causation, arguing among other things that it is inconceivable that, in the absence of any mutual causal interaction, a simple, immaterial being could so modify itself as to accurately reflect the changes occurring in a numerically distinct substance. Soon after Bayle's death, Leibniz published his *Theodicy*, a sustained attempt to respond to the difficulties raised by Bayle with respect to the problem of evil.

Later in the eighteenth century, the French *philosophes* such as Diderot and VOLTAIRE (chapter 39) praised Bayle's arguments concerning the fundamental irrationality of Christianity, which they read as a thinly veiled attack on the essence

of religion. It was in this light that Voltaire dubbed Bayle's *Dictionnaire*, "the arsenal of the Enlightenment."

References

Bayle, P., 1740, *Dictionnaire historique et critique*. (4 vols.) Fifth edition. Amsterdam: P. Brunel.

—— 1964–82, *Oeuvres diverses*. (5 vols.) (E. Labrousse, ed.). Hildesheim: Georg Olms. (Reprint of the 1727 edition.)

—— 1991, *Historical and Critical Dictionary: Selections*. (R. Popkin and C. Brush, trans.). Indianapolis: Hackett Publishing.

—— 1999–, *Correspondance de Pierre Bayle* (10 vols.). Oxford: Voltaire Foundation.

—— 2000a, *Various Thoughts on the Occasion of a Comet*. (R. Bartlett, trans.). Albany: State University of New York Press.

—— 2000b, *Political Writings*. (S. Jenkinson, ed.). Cambridge: Cambridge University Press.

Labrousse, E., 1983, *Bayle*. Oxford: Oxford University Press.

Further Reading

Abel, O., and Moreau, P-F. (ed.), 1995, *Pierre Bayle: la foi dans le doute*. Geneva: Labor et fides.

Bost, H., (ed.), 1998, *Critique, savoir et érudition à la veille des Lumières. Le Dictionnaire historique et critique de Pierre Bayle (1647–1706)*. Amsterdam-Maarssen: Holland University Press.

—— and De Robert, P., (eds.) 1999, *Pierre Bayle, Citoyen du monde. De l'enfant du Carla à l'auteur du Dictionnaire*. Paris: Honoré Champion.

Bracken, H. M., 1977–8, "Bayle, Berkeley, Hume." *Eighteenth-Century Studies*, 11, 227–45.

Brush, C. B., 1966, *Montaigne and Bayle*. The Hague: Martinus Nijhoff.

Brykman, G., 1975, "Berkeley: sa lecture de Malebranche à travers le *Dictionnaire* de Bayle." *Revue internationale de philosophie*, 29, 496–514.

—— 1987–8, "Bayle's Case for Spinoza." *Proceedings of the Aristotelian Society*, 259–70.

Cummins, P. D., 1990, "Bayle, Leibniz, Hume and Reid on Extension, Composites and Simples." *History of Philosophy Quarterly*, 7, 299–314.

Delvolvé, J., 1906, *Religion, critique et philosophie positive chez Pierre Bayle*. Paris: Alcan.

Dibon, P., (ed.) 1959, *Pierre Bayle, le philosophe de Rotterdam*. Amsterdam and Paris: Elsevier and Vrin.

Jossua, J-P., 1977, *Pierre Bayle ou l'obsession du mal*. Paris: Aubier-Montaigne.

Kilcullen, J., 1988, *Sincerity and Truth: Essays on Arnauld, Bayle and Toleration*. Oxford: Oxford University Press.

Labrousse, E., 1963–4, *Pierre Bayle* (2 vols.). La Haye: Martinus Nijhoff.

Lennon, T., 1993, "Mechanism as a Silly Mouse." In Nadler 1993.

—— 1999, *Reading Bayle*. Toronto: University of Toronto Press.

McKenna, A., 1982, "Pascal et Épicure. L'intervention de Pierre Bayle dans la controverse entre Antoine Arnauld et le Père Malebranche." *XVII^e siècle*, 137, 421–8.

Mori, G., 1999, *Bayle Philosophe*. Paris: Honoré Champion.

Nadler, S., 1993, *Causation in Early Modern Philosophy*. University Park: Pennsylvania State University Press.

O'Cathasaigh, S., 1989, "Bayle's *Commentaire philosophique*, 1686." *Studies on Voltaire and the Eighteenth Century*, 260, 159–82.

Popkin, R. H., 1980, *The High Road to Pyrrhonism*. (R. Watson, ed.). San Diego: Austin Hill Press.

—— and A. Vanderjagt (eds.) 1993, *Scepticism and Irreligion in the Seventeenth and Eighteenth Centuries*. Leiden: E. J. Brill.

Rex, W., 1965, *Essays on Pierre Bayle and Religious Controversy*. La Haye: Martinus Nijhoff.

Rétat, P., 1971, *Le Dictionnaire de Bayle et la lutte philosophique au XVIIIe siècle*. Paris: Les Belles Lettres.

Sandberg, K. C., 1966, *At the Crossroads of Reason and Faith: An Essay on Pierre Bayle*. Tucson: University of Arizona Press.

Weibel, L., 1975, *Le Savoir et le corps: Essai sur le Dictionnaire de Bayle*. Lausanne: Editions L'Age d'Homme.

Whelan, R., 1989, *The Anatomy of Superstition: A Study of the Historical Theory and Practice of Pierre Bayle*. Oxford: Voltaire Foundation.

—— 1993, "The Wisdom of Simonides: Bayle and La Mothe Le Vayer." In Popkin and Vanderjagt (1993).

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Gottfried Wilhelm Leibniz

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Introduction

Gottfried Wilhelm Leibniz was born on July 1 1646 in Leipzig, where his father was Professor of Moral Philosophy. Between the ages of 14 and 21 he studied philosophy and jurisprudence at university, first in Leipzig and then in Altdorf. Following his Doctorate in Law at Altdorf he was invited to teach there, but he decided instead to enter public service under the Elector of Mainz. In this connection he was sent in 1672 to Paris with a view to diverting Louis XIV's attentions away from Northern Europe by suggesting a plan for the invasion of Egypt. During the four years he spent in Paris, waiting in vain for the opportunity to present the plan, he took the opportunity of gaining entry into the intellectual circles centered there. He came into contact with the philosopher NICOLAS MALEBRANCHE (chapter 11), and, most importantly for his intellectual development, was guided in mathematics and physics by Christian Huygens. He hoped to obtain a reseach position in the Paris Academy of Sciences, one of the great institutions of European learning. But this was not forthcoming and he was forced to retreat back to Germany, where he became a counselor at the Court of Hanover. Based there to the end of his life in 1716, he was employed in various ways by the Court: mining engineer, librarian, family historian, diplomat.

Leibniz had a deep-rooted desire for harmony. Besides expressing itself theoretically at various points in his philosophy, this lends a certain eclectic quality to his work in which he often strives to find germs of truth even in opposing theories. It also fuelled his longstanding project of effecting a reconciliation between the Catholic Church and the Lutheran Church of which he was a member. It did not, however, avert the unpleasantly acrimonious argument he had with the followers of the Englishman ISAAC NEWTON (chapter 26) as to whether he or Newton should be credited with the discovery of the infinitesimal calculus.

Leibniz's intellectual interests were as varied as his public activities. He worked on jurisprudence, theology, geology, physics, chemistry, mathematics, philology, Chinese history, politics, besides many branches of philosophy. He invented and constructed a mechanical calculator, a new kind of watch with multiple balance wheels, and had ideas for submarines, and air-jet propulsion. For years he nurtured

the idea of a kind of "universal encyclopedia," a grand systematizing of all knowledge; and this idea imbued his work on book cataloguing, on logic and a rational universal language, and his interest in the founding of learned societies and journals.

Though a prolific writer, Leibniz's published output was not great, whether on philosophy or the other subjects on which he worked. So far as philosophy is concerned there are a dozen or so articles in learned journals, and the lengthy *Theodicy* (1710). But amongst what he did not publish there were finished works for which he is now remembered (*Discourse on Metaphysics*, 1686; *New Essays on Human Understanding*, 1704; *Principles of Nature and Grace*, 1714; *Monadology*, 1714). There was also a large amount of material in the way of notes, drafts, and letters from his many philosophical correspondences.

We are faced with the fact that Leibniz never even wrote (leave alone published) an account of his philosophy that was lengthy, finished, and definitive. Moreover, the short articles and letters in which his ideas are typically found tend to vary in presentation and language (and, some have said, perhaps even in content) to suit the occasion. Of his two longest works the *Theodicy* is restricted to the problem of evil, and his views in *New Essays on Human Understanding*, are expressed as reactions to, and in an order dictated by, John Locke's *Essay concerning Human Understanding* (1690). It is true that the *Monadology* was written in response to requests for a systematic account of his philosophical ideas, but it is a highly compressed work.

None of this is to say that Leibniz's ideas form a disconnected and piecemeal collection, or that they were not well considered. There are connections between and common themes in all his work in the various branches of philosophy with which he dealt: ethics, logic, metaphysics, philosophy of language, of religion, of science.

The mid-1680s, when Leibniz was 40, are usually taken to mark the beginning of maturity in his ideas: this is the period of his *Discourse on Metaphysics* and of the lengthy correspondence he had concerning it with ANTOINE ARNAULD (chapter 8). But the ideas expressed then have their roots in his earlier thought: the years he spent in Paris (1672–6), where he came under the influence of Huygens and Malebranche, were extremely formative. They are still recognizable later too in *Principles of Nature and Grace* and the *Monadology*, written when he was nearly 70.

The *Monadology* (1714)

The *Monadology* is perhaps the work on which Leibniz's popular fame rests. This brief work gives a synoptic account of his ideas as they were towards the end of his life. In less than one hundred short, often cryptic, paragraphs it presents to us, as the ultimate elements of reality, the "monads," and explains their relation to each other and to God. "Monads" (from the Greek "monas," for unity) are "simple substances" or "atoms of nature." They are unextended, indivisible, immortal, mind-like entities or "souls," whose continually changing states are states of "perception." They are completely self-contained or "windowless": all of their changes

arise from an internal principle entirely within themselves. Moreover their present states contain some kind of memory of their past and anticipation of and striving towards their future. "Their present," Leibniz says in a striking metaphor "is big with their future" (Leibniz, 1998c, sect. 22). Though they cannot be affected from outside and exert no influence on each other, the changes in one monad harmonize with the changes in all the others and so they are "a perpetual living mirror of the universe" (Leibniz, 1998c, sect. 56).

Unlike the elementary monadic substances which are created beings, God is a necessarily existing substance. He is the ultimate reason of things, a perfect being from which all else derives its existence and perfections. The harmony between monads was brought about by God when he created them, each with their own internal principle of change. God's choice of one possible harmonious order or "world" rather than some other was not arbitrary (nothing is in this Leibnizian world) but was made according to the principle of the best: "since there are an infinite number of possible universes in the ideas of God ... there must be a sufficient reason for the choice God makes ... and that reason can only be found in the *suitability*, or the degrees of perfection, that these worlds contain" (Leibniz, 1998c, sects. 53–4).

Each part of the world is dense with created life: "every portion of matter can be thought of as a garden full of plants, or as a pond full of fish ... and although the earth and the air in between the plants in the garden, and the water in between the fish in the pond, are not themselves plants or fish, they do nevertheless contain others, ... so tiny as to be imperceptible to us. Thus there is no uncultivated ground in the universe; nothing barren, nothing dead" (Leibniz, 1998c, sects. 67–9). This teeming life is not all of the same kind: there are differences among monads in that the perceptual states of some of them are generally more distinct and heightened than those of others. Leibniz speaks of "completely naked monads" which are as it were in a "permanent stupour," whereas animals, by virtue of their sense-organs, have and are aware of more powerful, distinct perceptions. Human minds or souls are capable of still more. We are capable of reflective acts and of an awareness of ourselves; we are also capable of reasoning (according to the principles of non-contradiction and of sufficient reason).

Leibniz ends his *Monadology* by saying more about the way in which substances change their states, about the pre-established harmony between all substances, and their relation to God. Our souls, he says, act according to "the laws of final causes" (Leibniz, 1998c, sect. 79) – they act according to what they understand to be the best. As such they belong to the Kingdom of Grace; whereas bodies act according to the physical laws of efficient causes, or mechanical laws of motion, and belong to the Kingdom of Nature. The Kingdom of Grace consists of God as monarch, and minds or rational souls, which mirror or are images not only of the natural world, the Kingdom of Nature, but also of their creator. To him they are related as subjects, or even as children to a father.

Our being images of God consists partly in our being able to know and admire his greatness, and to love him. It also, Leibniz says, consists in our being able to produce something which resembles his creation. One thing Leibniz has in mind here is that human beings are able to make discoveries about the physical laws

which govern the Kingdom of Nature. Another is that they are able, like God himself, but unlike things subject to the purely mechanical causality of the Kingdom of Nature, to act voluntarily. Because of this and because, as rational souls, we human beings have self-consciousness and memory, we are susceptible to divine reward and punishment. Indeed, in the Kingdom of Grace, Leibniz tells us, there is "no good action which does not have its reward, and no bad one without its punishment" (Leibniz, 1998c, sect. 90). God achieved this justice by establishing a harmony between the two Kingdoms, of Nature and of Grace. Sins and good actions bring along with them their own punishments and rewards through the natural order of bodies.

General Philosophical Background

The world of the *Monadology* which Leibniz presented at the end of his life can strike the reader as "a fantastic fairy tale, coherent perhaps, but wholly arbitrary" (Russell, 1937, p. xiii). This indeed is how it struck Bertrand Russell when he came across it at the end of the nineteenth century, and its ideas certainly cry out for explanation. How exactly is this world of soul-like unextended monads meant to relate to the more everyday physical world which we as flesh and blood material creatures inhabit? Russell said that he did not really understand these ideas until he read them in the light of the much earlier *Discourse on Metaphysics* (1685) and the correspondence with Arnauld which followed it. It is indeed true that many of the same ideas can be found there, a little less briefly and starkly. But we need also to see them against the background of the historical situation in which Leibniz put them forward. One important part of this context is the philosophy of an earlier thinker who died when Leibniz was eight: RENÉ DESCARTES (1596–1650, chapter 5).

Descartes is often described as the "father of modern philosophy": and one thing that can be taken to characterize "modern philosophy" is the rejection of various ideas and doctrines which go back to Aristotle in classical Greece, ideas which had undergone some development in later centuries by Christian medieval writers such as Thomas Aquinas (1225–74), and by more recent Scholastics. Amongst these were such things as a belief in final causes, and an account of "substance" or "being" in terms of the so-called hylomorphic theory of form and matter.

For his part, Leibniz thought there was much of value in various of Aristotle's ideas. In his generous, eclectic way he wished to retain and adapt it to the thinking of "modern philosophy" as expounded by Descartes. Moreover he thought that some of what Descartes had put in its place was unsatisfactory. Yet this retention of some aspects of Aristotle and rejection of some of Descartes' does not mark Leibniz out simply as a reactionary in an era of philosophical change. For there is another feature of what was known in the seventeenth century as the "new philosophy," and of this Leibniz is an enthusiastic advocate. This was the belief that explanations of phenomena in the physical world (the Kingdom of Nature of the *Monadology*) should be "mechanical"; they should appeal only to the size, shape, and motion of matter and its parts. This belief was not in fact new; it was derived from the atomic theory of the early Greek philosophers Democritus and Epicurus. But it had been

revived earlier in Leibniz's century by PIERRE GASSENDI (chapter 6) and Descartes. The "mechanical philosophy" was propounded by these "new philosophers" in opposition to a broadly Aristotelian or Thomist doctrine according to which the properties of things in the world were to be explained in terms of what were known as their "substantial forms": as Aquinas taught in his *Summa Theologiae*, "a thing's characteristic operations derive from its substantial form" (Aquinas, 1964, 3a. 75, 76). Showing himself to be "modern" in this respect Leibniz says that the Scholastics had gone wrong in believing

> They could explain the properties of bodies by referring to forms and qualities, without taking the trouble to find out how they worked: as if we were happy to say that a clock has a time-indicative quality deriving from its form, without considering what all that amounted to. (Leibniz, 1998a, sect. 10)

Leibniz wished, then, to combine certain elements from an older philosophical tradition with the rejection by the new mechanical philosophy of substantial forms as explanatory principles. This wish appears all the more poignant in the light of the ironic fact that substantial forms also figure in one of the very parts of Aristotelianism which he wished to retain. As he himself said, in referring to this: "I know I am putting forward a considerable paradox in claiming to rehabilitate substantial forms when they have been all but banished" (Leibniz, 1998a, sect. 11). The rehabilitation takes place in connection with the notion of "substance." Leibniz thought that in his account of this notion the "modern philosopher" Descartes went wrong, and he thinks that from his own quasi-Aristotelian account of it, a number of very important truths follow.

Substance

According to Leibniz the notion of "substance" is one of the most important in philosophy. His monads, the basic elements of reality in the *Monadology*, are of course "simple substances," and though he did not begin to speak of *monads* as such until the 1690s, they descend from the "individual substances" of his earlier years.

According to Aristotle, the question "What is substance?" is the question "What is being; what is it to be?" Taking this question to mean "What is it about a substance which makes it a substance?", one thing we might expect from an answer is an account of the criteria for being substantial, for being a basic element of reality. But the question might also be answered by *examples* of substances, examples of things which satisfy those criteria and are taken to be basic elements of reality. As Aristotle conceived them, what characterized substances, primary units of being, was that they are the subject of properties, and what remain constant during a change of properties. As examples of such things Aristotle cited individual living corporeal things such as individual men or individual horses. These have properties, such as being learned, or being warm, and they undergo change of properties, such as becoming learned or changing from being cool to being warm.

In the *Discourse on Metaphysics*, Leibniz agrees with the characterization of substance as that which can have properties predicated of it; and he gives, along Aristotelian lines, Alexander the Great and Julius Caesar as examples of individual substances. But he thinks that such a characterization is merely superficial. More needs to be said about the *relation between* substances and their properties. Something needs to be said in explanation of how it comes about that substances have the properties that they do, and how it comes about that they change their properties over time.

It is natural to think that at least some properties of a thing are produced by or arise out of the thing whose properties they are. Many of an oak tree's properties, such as its ability to bear fruit, to leaf, to extract nutrition from the soil are "internal" to it; it is in the tree's nature to do these things. On the other hand the tree seems not to be completely self-sufficient. It requires the soil to be there for it to extract nutrition from, and the number of fruit or leaves it actually has on it at any moment seem "external" to it, at least partly imposed on it by the strength of the recent gale. In Leibniz's view, however, *all* of the properties of anything that can genuinely count as a substance must arise out of its nature, and not result from any interaction with other substances. According to Leibniz's deeper conception of them, individual substances are not merely subjects of properties, subjects which persist through changes of state, but things which themselves produce all their properties and are themselves the source of all their changes. The relation between a substance and its properties is that a substance is the source of those properties.

Thus, as Leibniz famously says in the *Discourse on Metaphysics*

> The nature of an individual substance... is to have a notion so complete that it is sufficient to include, and to allow the deduction of, all the predicates of the subject to which that notion is attributed. (Leibniz, 1998a, sect. 8)

Some such thought as this lies behind the remarks in the later *New System* (1695) that "in the strict metaphysical sense, one created substance has no real influence upon another... it is impossible that a true substance should receive anything from outside" (Leibniz, 1998e, sects 13–14); and it is similarly there too in the even later *Monadology* where, we have seen, substances are said to be windowless, with nothing coming in from outside.

At different times, though, this understanding of substances as being the source of their own properties is subject to different interpretational slants or models. In the *Discourse on Metaphysics* it receives a logical slant and is related to the "concept containment" account of truth, which Leibniz first proposed in some papers on formal logic which he had written a few years earlier. According to this account all true propositions (for example, "Caesar crossed the Rubicon") are such that the concept of the predicate (crossing the Rubicon) is contained in the concept of the subject (Caesar). In later years, and in accordance with Leibniz's mathematical interests, the states of the substance are conceived as being given not now in their "complete concept" but in a mathematical formula, "the law of the continuation of the series of its operations" (Leibniz, 1998b, p. 136). An even less static slant shows itself in a dynamic, vitalistic picture which Leibniz drew of substances in writings

such as *The New System*, or, even later, the *Monadology*. This picture shows the influence of recent work in biology which had been inspired by the newly invented microscope. According to it, a substance, in its temporal development and changes of state, is analogous to a metamorphosing, preformed organism. It has an internal force which drives it on through its successive states which it already contains, enfolded in itself. "Recently... we have discovered through careful investigations carried out on plants, insects, and animals that nature's organic bodies are never produced from chaos or from putrefaction, but always from seeds, in which there is without doubt already some *pre-formation*" (Leibniz, 1998c, sect. 74).

Leibniz's idea that the basic constituents of the created world are substances which are the source of all their changes, contrasts markedly with the so-called "occasionalist" conception held by his contemporary, Nicolas Malebranche. According to Malebranche, there is no real power or activity *in the created world*. God is the only real and efficacious cause; he alone has power and all force resides in him. Despite any appearance, created things do not act on each other. What are ordinarily picked out as causes in the natural world are only "secondary"; they are merely the "occasions" for God to produce what are loosely called their effects. Its being hit by a moving body is only a "secondary" cause of the motion of a previously stationary body – merely the appropriate moment for God, the primary cause, to produce motion in it.

Malebranche and Leibniz are in agreement that created substances do not interact. For neither of them do substances have any "real influence" on each other. But whereas for Malebranche God is the origin of substances' changes and properties, for Leibniz substances themselves are. To Malebranche it is impious to think otherwise than that God alone is possessed of force and activity. Attributing force to other things would be setting them up as pagan gods, and failing to acknowledge God's supreme divinity. It seemed to Leibniz, on the other hand, that God would lack all dignity were he the sole cause of events in the created world and had always to be acting on it. In creating the world God certainly chose how he wanted things to go, what laws and regularities he wanted things to obey, but having created substances as themselves the active sources of their pre-established changes he did not have act further. God is not, as Leibniz once put it, himself the "executor of his own laws"; rather, the substances which he creates carry out those laws for him.

Neither Leibniz nor Malebranche deny that there is the *appearance* of interaction between created substances and that the changes in one thing often take place in a regular and law-like way following on from changes in another. But for Malebranche this happens because God's direct action is in accord with rules he has set himself. Whereas for Leibniz it happens because God has pre-established it beforehand that the self-induced changes in one created substance will harmoniously correlate with the self-induced changes in all the others. So, though each substance is "completely protected from everything external" (Leibniz, 1998b, sect. 32) it nevertheless mirrors the whole universe. The pre-established system of harmonizing substances which God created was chosen by him, out of other possible systems, because in his wisdom he saw that it was for the best. In speaking of this actual world as "the best" Leibniz has in mind not only its "moral goodness" (which is a

matter of God's having created it with the happiness of human minds as his principal aim) but also its "metaphysical goodness" (which is a matter of God's having designed it in such a way that a richness and abundance of natural effects is produced by the laws of nature in the easiest and most simple ways).

Substances: Mental and Material

The conception of substances as the pre-determined active sources of their properties and unfolding changes clearly remained constant with Leibniz throughout his life. It is not so clear, however, that he remained constant about the kind of thing that would count as an example of a substance as so conceived. It is not even completely clear just what he does give as examples. In recent years particularly, Leibniz scholars have disputed much about this. Some read Leibniz as first proposing, in the middle period of his development (in the *Discourse on Metaphysics* and the correspondence with Arnauld), bodily flesh and blood individuals such as Caesar as examples of substances (as they would have been for Aristotle); and as then later moving on to count only mind-like monads, as appear in the *Monadology*, as substances. But, on the one hand, despite the mind-like nature of the monads, the *Monadology* seems also to speak of corporeal substances; and, on the other hand, there are suggestions even in the earlier *Discourse on Metaphysics* that matter might really be only an appearance, and that the whole of reality consists basically of minds and their perceptions.

What all of this comes down to is: What for Leibniz is the status of matter and material things, and what is their relation to substantiality? Leibniz certainly does not reject matter and bodies out of hand as simply non-existent. But what account does he give of their reality? Are they only phenomenal constructions out of our perceptions? Or are they illusory, *albeit* well-founded, appearances, like rainbows, somehow generated by aggregates of immaterial monads?

According to Leibniz's predecessor Descartes, there quite clearly are two *kinds* of substance, two kinds of basic reality – immaterial or mental substance, and material or corporeal substance. Individual human minds are instances of the first, and the matter of the corporeal world (human bodies, trees, animals, rocks) is what there is of the second. And though these two kinds of thing are often conjoined in some way (as in the case of a flesh and blood human being, where a mind goes together with an arrangement of matter) it is clearly possible for them to be quite separate. Rocks, for instance, are just chunks of material substance, and, for Descartes, human minds can survive without a material body.

Leibniz is basically happy with Descartes' category of mental substance, even though there are disagreements between the two philosophers on matters of detail. For example, Leibniz finds mind to be far more pervasive in nature than is allowed by Descartes. For Descartes non-human animals are just mechanical arrangements of matter, whereas, we have seen, for Leibniz there is a hierarchy of minds; besides rational, self-aware human minds there are animal minds too. Indeed Leibniz's world is one which positively teems with ensouled animals, far more than we might ordinarily think:

> Every animated thing contains a world of diversities in a true unity. And experience supports this multitude of animated things. We find that there are a prodigious number of animals in a drop of water. (Leibniz, 1998b, p. 125)

A second difference is that while for Descartes we are aware of our every perception, for Leibniz there are "little" or unconscious perceptions. Finally he disagrees with Descartes on the question whether mind can exist completely disembodied and apart from matter. Leibniz is insistent that minds are always associated with a material body and what we might think of as death is simply a re-folding up of a developed ensouled body into a smaller and more primitive organism. Leibnizian minds never exist disembodied, but need some sort of "completion" by matter.

> All of these differences are summed up in this passage: It is important to make a distinction between *perception*, which is the internal state of a monad which represents external things, and *apperception*, which is *consciousness*, or the reflective knowledge of that internal state. Apperception is not given to all souls, and is not given to particular souls all the time. It was for the lack of this distinction that the Cartesians went wrong, by regarding perceptions which are not perceived as nothing... And this is also what made those same Cartesians think that only minds are monads, that there are no souls of animals... The Cartesians offended too much against people's ordinary beliefs by refusing all feeling to animals; but at the same time they agreed too much with popular prejudices by confusing a *long stupor* arising from a confusion of perceptions with *death in the strict sense*, in which all perception would cease. (Leibniz, 1998d, sect. 4)

On the other hand it is clear that Leibniz is basically unhappy with the Cartesian category of purely material substance which has a completely mind-independent reality of its own. The idea that matter is, in its own right and completely unrelated to mind, a basic kind of reality obviously was anathema to him. He did not think that matter is simply non-existent, utterly unreal and to be dismissed out of hand. But what positively he did think is one of the questions about which scholars currently argue. Are there for him any *substances* other than minds? If so, and if as well as immaterial, mental substances Leibniz recognizes *material* substances too, then his view seems to be that their substantiality stems, not from their materiality as is the case for Descartes, but from the fact that they embody or are somehow associated with minds which are substantial in their own right. If, however, minds are the only substances then matter for Leibniz might be some kind of insubstantial, semi-real phenomenon, an appearance produced by a collection of monads; or, somewhat differently, it might simply be the harmonizing of the imaginary content of the internal perceptions of those monads. This second seems to be Leibniz's view in a letter he wrote in 1712: "I consider the explanation of all phenomena solely through the perceptions of monads functioning in harmony with each other, with corporeal substances rejected" (Leibniz, 1969c, p. 605).

A central objection Leibniz had to Descartes' material substance whose materiality was supposed *to be* its substantiality, was that it did not provide the unified, self-sufficient, activity which for Leibniz was characteristic of a substance. According to Descartes, the principal property of matter was simply that it was extended, and since extension as such is indefinitely divisible a chunk of matter cannot of itself be a

unified substance. In Leibniz's view a material substance requires a mind, or something like a mind (a "substantial form" or "entelechy" as he puts it) to unify it. Moreover matter considered simply as extended is purely passive and inert; it cannot contain, as an internal principle, its own future changes, leave alone bring them about. So again, a material substance requires something like a mind or entelechy to complement the passivity of matter and provide the activity required of a genuine individual substance. Indeed, even granted that a mere chunk of matter (such as a rock) is not a material *substance* there is something more inadequate about it. Leibniz thinks of mere non-substantial matter as presupposing material substances in that it is a collection of such substances – in the way, he says, that a piece of cheese when viewed under the microscope turns out to be a mass of worms.

Kingdom of Nature: Physics and Laws of Motion

For Leibniz, then, the passivity and inertness of matter as conceived by Descartes meant that Cartesian matter could not count as a substance; and it meant that unless it somehow had some kind of legitimacy dependent on substance and was somehow related to mind, it ran the risk of being a complete non-entity. But besides these metaphysical consequences there were consequences for physics too. It meant that Descartes' conception of matter did not meet the demands put on it by the new mechanical philosophy. The general picture drawn by that philosophy portrayed the physical world, Leibniz's "Kingdom of Nature," in mechanical terms and as consisting basically in the movements of extended matter and its parts, movements which were modified and changed by collisions between those parts. It was Leibniz's belief that if matter is to behave in the way the mechanical philosophy envisages it as behaving then Descartes' characterization of it must be inadequate.

According to Descartes the basic, the primary and principal, property of matter is spatial extension. But the fact that bodies displace each other in collisions and do not just pass through each other when meeting, means that they are impenetrable too. For Descartes their impenetrability was a logical consequence of their extension, but Leibniz argued that extension is not the ultimate or basic property Descartes made it out to be. Prior to it there must be solidity or impenetrability, which Leibniz sometimes calls "antitypy," a kind of passive resistance. It is in virtue of this antitypy that an extended material thing is extended and, as it were, has "body." When Leibniz first began to think about matter and motion, and before he studied with Huygens in Paris, he thought that this was all the "resistance" of moving bodies to each other amounted to. But he came to see that if what were becoming accepted as the correct laws of collision between moving bodies (laws recently published by Huygens) were to arise out of the nature of matter, something more was needed. The *size* of colliding bodies needed to be taken into account, and it was not sufficient to think of this in the Cartesian way, in terms just of geometrical extension. Unless bodies had what he called "inertia," a measure of the *quantity* of the solid matter or body of which they were composed, then it would be impossible to explain by reference to the nature of matter why large bodies are more difficult to move than small ones.

Leibniz also found problems with what Descartes had said about the motion of matter. As Descartes conceived it, matter, being essentially just extension, was purely passive. For Descartes, as for later occasionalist philosophers such as Malebranche, it had no force of its own and its motion was imposed on it by God. But in Leibniz's view motion must be more than an externally imposed modification. It must be more than just change of place, for otherwise there would be no difference between a stationary body and a moving body at a moment. So, underlying motion, there must be a force possessed by the moving body itself. This notion of an active force associated with the motion of bodies in the "Kingdom of Nature" is part of a link between Leibniz's philosophy of physics and his metaphysics of substance – a link which is central in his thinking. Though the details are obscure, he thinks of the active force of motion as a "derivative" or secondary force which is somehow a derivative of the active force met with in his account of substance. A lengthy debate took place between Leibniz and followers of Descartes as to how this force of motion was to be measured, a debate whose importance lay for Leibniz in his conception of it as a force integral to matter.

The Cartesian way of measuring it relates to a very plausible thought concerning the motion and activity in the world as conceived by the "mechanical philosophers." It surely makes sense to speak of the *amount* or *quantity* of that motion or activity: there would be a zero amount in a world in which nothing moved, and a world whose bodies were moving faster or which contained more moving bodies, would have more than a slower or smaller world. It seems plausible, then, to suppose that the quantity of a body's "motion" is directly proportional to its size and its speed: the quicker a body is moving or the larger it is then the more "motion" it has. Given this entirely plausible thought, Descartes also, and again plausibly, thought that while collisions between two bodies might well involve the mutual redistribution of their "motion," it would not involve any change to their overall or total quantity: to any amount of motion lost by one body in a collision there would correspond an equal amount gained by the other.

Now it might be natural to think, as Cartesians such as Malebranche did, that the "*force* of motion" possessed by a moving body would be equal to Descartes' quantity of "motion." But, while agreeing with the commonly held view that the "force of motion" should be a conserved quantity in a stable world, Leibniz, in an ingenious argument, published in a paper "A brief demonstration of a Cartesian error" (1686), showed that, whether overall constant or not, the "motion" of a moving body, as measured by Descartes, was not the same as its motive force or the force of that motion.

He suggested that the "force" possessed by a moving body should be conceived of as a force which could be used up in carrying the body up to a certain height (by rolling up a slope, perhaps), and regained as it fell back again. On this basis, and using some results derived earlier in the century by GALILEO GALILEI (chapter 4), he showed that though that force is proportional to the body's size (its mass or quantity of matter) it is *not* proportional to its speed, but proportional to the square of its speed. Leibniz came to call this force "vis viva" or "living force," and because of the link it had with his metaphysics of substance it became very prominent in his thinking.

Leibniz's claim about how motive force is to be measured did not in itself mean that the quantity of Cartesian "motion" possessed by a body is to be rejected out of hand. It meant only that the measure of the force underlying that motion is not size multiplied by speed. But Leibniz had also learnt from Huygens that it is possible for one body in a collision to gain more Cartesian "motion" than the other loses, whereas, by contrast, his "vis viva" *is* conserved.

Despite all of this, some Cartesians, such as Malebranche, retained quantity of "motion" as the measure of "motive force" and simply abandoned the widely held, very plausible, idea that the amount of "force" in the universe is conserved. Others (taking up yet another of Huygens' results) pointed out that Cartesian motion *is* conserved in collisions *if* its direction is taken into account. (Consider, for example, the case where an elastic ball, A, of unit size moving from left to right with three units of speed collides with a stationary ball, B, twice its size and where, as a result, A rebounds with one unit of speed and B begins to move with two units. In this case A loses two of its original three units of "motion" while B gains four. However, taking direction into account, A's three units of *rightwards* motion remain after the collision as is shown when its final single leftwards unit is subtracted from A's final four rightwards units. Leibnizian *vis viva* is of course conserved too: A's pre-collision 1 times 3 times 3 units are equal to the post-collision sum of A's 1 times 1 times 1 and B's 2 times 2 times 2 units.)

But despite the fact that it is conserved in collisions, "directed motion" (or "momentum" as it has come to be called) can hardly be the force which, it was commonly imagined, was constant in the universe and which underlay all activity and motion. For it is a merely relative and not an absolute quantity: a system of two very large and equal sized bodies moving towards each other with very large and equal speeds contains the same amount of "directed motion" (in fact zero) as does one of two very small and equal sized bodies moving towards each other with very small and equal speeds. Leibniz's entirely plausible intuition was that any conserved force must be absolute; it must be such that there is rather more in the first of those two systems than in the other, as indeed there is rather more "vis viva." Of course, non-directed Cartesian motion is absolute; but its drawback is that it is not conserved. Leibniz's "vis viva" (size multiplied by the square of the speed) was the only quantity on offer in the physics of the time which was both absolute and conserved.

Union of Mind and Body: Pre-established Harmony

Descartes' metaphysical schema according to which there are two distinct kinds of reality, material extended substance and immaterial thinking substance, seemed to many at the time to render problematical what was known as the "union" of the human body with the human soul or mind. Descartes himself had said that "Everyone feels that he is a single person with both body and thought so related by nature that the thought can move the body and feel the things which happen to it" (Descartes, 1991, p. 248). But, many people puzzled, how could there be any connection between two such dissimilar things? Gassendi, for example, asked "how can the incorporeal grasp the corporeal?" (Gassendi, 1984, p. 239). "How," he

wondered, "can there be any influence exerted upon a thing and any motion in it without mutual contact between the mover and the moved?" (Gassendi, 1972, p. 273). His idea that substances are "self-contained" and are themselves the source of all their properties and changes, suggested to Leibniz an innovative approach to these questions. The soul and the body, he famously proposed, are like "two clocks, [made] from the beginning, with such skill and accuracy that we could be sure that they would always afterwards keep time together" (Leibniz, 1998e, p. 192). According to Leibniz's way of pre-established harmony

> divine foreknowledge, . . . formed each of these substances from the outset in so perfect, so regular, and so exact a manner, that merely by following out its own laws, which were given to it when it was brought into being, each substance is nevertheless in harmony with the other, just as if there were a mutual influence between them. (Leibniz, 1998e, p. 192)

Descartes himself seems to have had no particular worry about the problem which others found in his doctrine, the problem of interaction between two distinct kinds of substance. He simply did not see why it was not just as possible for an unextended thing to put an extended thing into motion as for another extended thing, by colliding with it, to do so. But Leibniz produced a detailed argument which showed that such interaction between mind and body was actually ruled out by Descartes' physics. In following the argument we can leave aside the details of Descartes' physiology, according to which interaction between mind and body takes place in the pineal gland in the brain where the mind induces changes in the fluids (the so-called "animal spirits") which flow throughout the body and control movement in it. We need only note that if my mental wish to move my arm results in my arm's moving then there is an increase in what Descartes saw as the quantity of "motion" of the arm: after all, if a large stone had hit my arm and caused it to move then, according to Cartesian physics, it would have passed over to it a certain quantity of "motion." Yet it does not make sense to think of my mind, which is not a material extended object with size, as having any "motion" to pass over; so it apears that in the case of voluntary action there is an increase of motion with no corresponding decrease. Voluntary action, as when my mind causes movement in my body, seems simply inconsistent with Descartes' doctrine of conservation of motion.

It is not clear whether, as Leibniz implies, Descartes really was aware of this problem, but some of his followers undoubtedly were. As a consequence they argued that in voluntary action it is not that the mind *adds* any motion to the material world, it simply changes the direction of motion already there. The mind is like a horse rider, not contributing to the horse's motion but simply directing it this way or that. Leibniz acknowledged this as an "ingenious" way of saving the Cartesian physical law of conservation of motion, but he pointed out two important things. To begin with, that "law" is not worth saving. As we have already seen in an earlier section (*Kingdom of Nature: Physics and the laws of motion*), it actually does not hold in the material world, for the total quantity of Cartesian motion after a collision between two bodies is not always the same as that before. So it hardly

matters whether the action of the mind on the body is or is not consistent with this supposed "law." Leibniz also pointed out that what any such action needs to square with is a true law uncovered by Huygens, the law that motion *is* conserved *if* its direction is taken into account: a change in the amount of motion in one body in a collision requires to be balanced not so much by an equal change in *amount* in the other body, but by an equal change *in the opposite direction* (as in the case of the two balls discussed at the end of the previous section). Ironically, then, in the needless attempt to preserve a false "law" the Cartesians had unwittingly run foul of a true one. Leibniz commented that if Descartes had been aware of this true law he would have seen that *any* direct interaction between body and mind is ruled out by physical considerations, and would, he proudly says, "undoubtedly have been led to my system of pre-established harmony" (Leibniz, 1969a, p. 587). There is no direct interaction between the Kingdom of Grace (where changes take place according to the perception of what is for the best) and the Kingdom of Nature (where changes take place according to the laws of physical motion). There is, though, a divinely planned concomitance between the two.

Kingdom of Nature and of Grace: Grades of Life

In the Aristotelian tradition a human being is a substantial union of form or soul, and matter. It has a "rational soul" which forms or organizes material such as flesh, blood, and bones into a living creature, a creature which characteristically engages in various activities from synthesizing food, through to sensing, willing, and rational thought. Other animals, which lack reason, are informed by a "sensitive soul"; and all other living things, distinguished from the non-living by the power of self-nutrition, have as their organizing form a "vegetative soul."

Descartes rejected these ideas and construed all living things other than humans, purely as extended substance. All the functions which traditionally had been referred to sensitive or vegetative souls were now to be understood mechanically. Everything from the digestion of food, through to the reception of stimuli by sense-organs, and the movements of limbs in appropriate reaction to these stimuli, were construed as nothing more than movements of matter. In respect of all these functions humans are no different from other animals, and Descartes understood many of their activities purely mechanically too. But humans had been supposed to have "intellectual souls" also, and to be capable of rational thought. Descartes did not want to reject this idea completely. He did not want to reduce rationality to a mechanical, material process. So, in effect he assigned the reasoning functions of this "form" to the immaterial substance, the mind or soul of his scheme.

In response to this Leibniz, with his desire to restore substantial forms, continued, with some variation, to recognize the traditional distinctions between rational, sensitive, and vegetative souls. All corporeal substances, from human and animals through to the organic substances out of which matter such as dead bodies and blocks of marble are aggregated, have souls or minds or something analogous to them. But humans are distinguished from other animals by the fact that their soul is rational, the kind of soul or form which can properly be called a *mind* or *spirit*.

Only human animals have *thought* and *understanding*, which Leibniz connects with the ability to learn eternal truths, such as those of geometry. As for animals, both human and non-human, they have something akin to the "sensitive souls" of traditional thought, for what characterizes their souls, Leibniz says, is the activity of *sensation*. Animal bodies have sense-organs which focus, make distinct, and heighten the impressions made on them by sound waves, light-rays, and so on. Leibniz sometimes says that the distinction between understanding and sensation is only one of degree, and that sensations are "confused," "indistinct" thoughts.

All created substances are "living mirrors or images" (Leibniz, 1998c, sect. 83) of God's creation. This follows from the fact that their bodies, with which their souls are in pre-established harmony, react to all physical changes in the universe. But human rational souls have a self-consciousness and possess a moral identity which suits then for divine reward and punishment. They, therefore, mirror not only God's creation, the Kingdom of Nature as Leibniz calls it, but also God himself; so they are members also of the Kingdom of Grace and of the City of God. Being an image of God consists partly in being able to know and admire his greatness and goodness and to love him. It also, Leibniz says, consists in being able to produce something which resembles his creation. One thing he has in mind here is that human beings are able to make discoveries about the laws which govern the Kingdom of Nature, and to know the "eternal truths" which reside in God's understanding; another is that humans are able, like God himself, but unlike things subject to the purely mechanical causality of the Kingdom of Nature, to act voluntarily – that is, we act rationally according to final causes, according to our perception of what is right and good. Because of this and because, as rational souls, human beings have self-consciousness and memory, we are susceptible of divine reward and punishment. As befits a harmonious creation such reward and punishment is always forthcoming: in the Kingdom of Grace, Leibniz tells us, there is "no crime without punishment, no good act without its appropriate reward" (Leibniz, 1998d, sect. 15).

Human Freedom in the Kingdom of Grace

Leibniz's doctrine that the changes in a created substance unfold from within itself in accordance with a pre-established divine plan has always been felt to be in tension with the idea of human freedom. How can we be free if what we do is contained from the outset in our pre-determined natures? Indeed this is not the only element in Leibniz's philosophy which seems to point in the direction of determinism. His doctrine of truth according to which all true propositions are such that the concept of their predicate is contained in the concept of their subject has seemed to many to mean that all true propositions, including those about people's actions are necessarily true. It certainly seemed this way to Arnauld when he first heard of it in the summary of the *Discourse on Metaphysics* which Leibniz sent him in 1685. The claim in the *Monadology* that all reasoning is founded on the "two great principles" (Leibniz, 1998c, sect. 31) of the principle of non-contradiction and the principle of sufficient reason, has seemed to conflict with a belief in freedom; for the claim means that a reason or explanation as to why it is true can be found for any

truth. Perhaps not all true propositions are necessarily true with denials which need no more than a finite conceptual analysis and suitable definitions to be shown to involve a contradiction. But if there will always be a sufficient reason (perhaps in terms of the principle of the best) as to why things are as they are, it can seem as though even contingent truths of fact could not have been otherwise.

In fact there are different issues involved here. There is a general question whether the created world as a whole is such that all events in it are necessary, or whether beyond what actually happens in it there are intelligible possibilities which could be realized even if in fact they are not. If there are no such possibilities then perhaps there is no room not just for human freedom, but even for divine freedom. On the other hand, even if there are such possibilities prior to creation, God's goodness seems to mean that he will inevitably choose the best. And even if he had some freedom in ruling out all such possibilities except for the best, the fact that he has ruled them out in his creation of the actual world seems to mean that they are no longer real possibilities from the point of view of we human beings in that world. Finally, there is a question whether God's foreknowledge of the development of the created world, including the course of human history, is consistent with human freedom.

At different times Leibniz responded to different of these problems, and his readers have judged what he said to be of varying degrees of adequacy. Arnauld was shocked to read that "the individual notion of each person involves once and for all everything that will ever happen to him" for this seemed to him to mean that even *God's* hands were tied as to what kind of Adam, for example, he might want to create; indeed if

> The individual notion of Adam involved that he would have so many children, and the individual notion of each of these children involves everything that they would do, and all the children they would have, and so on [then] everything which will ever happen [to the human race]... is bound to happen by a more than fatal necessity. (Leibniz, 1998b, p. 98)

Leibniz replied that though in creating Adam God was indeed choosing an entire order of events the necessity involved was merely *hypothetical* and not *absolute*. As Arnauld himself acknowledged, it had been open to God to create a different world; though he choose an entire order of events, he knew exactly what he was choosing and could have chosen differently. As Leibniz insisted elsewhere, different orders of events are perfectly intelligible and possible in themselves. There really are different series of events from which God might have chosen:

> It cannot be denied that many stories, especially those we call novels, may be regarded as possible, even if they do not actually take place in this particular sequence of the universe which God has chosen. (Leibniz, 1969b, p. 263)

Arnauld eventually accepted that the Leibnizian scheme did not involve an all-pervasive necessity, but others with whom Leibniz corresponded expressed the worry that even if God was free in his choice of a given order of events, it can

hardly be that *we*, whom that order of events concern, are free. In answer to Isaac Jaquelot's claim that a substance's changes are unfree because, on Leibniz's account, they are a consequence of its nature Leibniz tried more than one tack. One was the suggestion that our future is in us only as inclination, not as a necessity – a point he had already made in the *Discourse on Metaphysics*, when he appealed to the astrological maxim that the stars merely incline but do not necessitate. Another was to argue for what is now known as a compatibilist conception of freedom. According to such a conception what matters for freedom is not that actions be done as a result of some arbitrary uncaused act of will, as a result of what he calls "loose indifference." What matters is rather that what determines them lies within and not outside of the agent. So in response to Jaquelot Leibniz stresses that a substance's actions are "spontaneous" – by which he means, not that they result from a spur of the moment whim, but that they are determined from *within the agent*. Jaquelot's worry was that Leibnizian substances are unfree because all their changes are a consequence of their natures; Leibniz's response is that, on the contrary, they are free *precisely because of* that: "there is no system in which true liberty, that is to say,... independence of the soul from everything except God, is more apparent" (Leibniz, 1997, p. 180). Leibniz admitted (and some have felt that this is a fatal concession) that the substances "did not contribute to their original constitution," for of course God created them, but he insisted that what is important is that they "will contribute to the actions which arise from it [their original constitution] in the course of time" (Leibniz, 1997, p. 181).

Sufficient Reason and Indiscernibility: Space and Time

Towards the end of his life Leibniz engaged in a lengthy correspondence with Samuel Clarke (a friend of Isaac Newton, who appears to have had some direct influence on Clarke's letters). This important exchange touched on many topics: God's action on the world, his relation to space, the relation of the soul and the body, gravitational attraction, the possibility of atoms and the vacuum, the principles of mathematics, physics, and metaphysics, and (most famously and influentially on consequent discussion) the question whether space and time are absolute or relative.

Mathematics, Leibniz says, has as an important foundational principle the "*principle of contradiction or identity*... that a proposition cannot be true and false at the same time." This, he says, is "sufficient to demonstrate every part of arithmetic and geometry" (Leibniz, 1969d, p. 677). For natural philosophy, however, something more is required, and this is the other of what the *Monadology* called the two great principles of our reasoning: the principle of sufficient reason. As first presented to Clarke, this is the principle that "nothing happens without a reason why it should be so rather than otherwise" (Leibniz, 1969d, p. 677). At times this seems to mean that "every event has a cause," so that there will always be an explanation, such as might ordinarily be given in natural science, for any event. At other times, however, it coincides with what Leibniz also calls the principle of perfection or of the best, according to which what happens happens as it does because, in the

divine scheme of things, it is for the best. It has as a corollary another famous metaphysical principle: the principle of the identity of indiscernibles. According to this, no two individuals or two states of affairs can be indiscernible from each other: of two such individuals one would have to be placed to the right of the other, but it could only be a matter of indifference, there could be no reason, which of them it should be.

In the *Discourse on Metaphysics* Leibniz uses the principle of sufficient reason, in something like its second form, to re-establish Snell's law concerning the refraction of light; in his correspondence with Clarke he uses it, along with the identity of indiscernibles, against Newton's postulation of an absolute space and time. He argues, for example, that if space were an absolute and objective uniform being, quite independent of material things and their mutual arrangements, then there would be no reason why, without changing the relative arrangement of things, God might not have created the world in a different place or with east and west reversed. But, according to the principle of sufficient reason, it is impossible that things be as they are for no reason. So Newton's view of space, which seems to allow that they could be, must be rejected. It must equally be rejected because there is no discernible difference in the world's being created in one place rather than another, or with an east–west reversal. Space, Leibniz puts it to Clarke and against Newton, is not absolute, but relative; it is simply the order of things in it. Clarke's response was that the sufficient reason for the whole world to be in one place rather than another, or one way up rather than another, could simply be that God willed it that way. But, as Leibniz was quick to reply, this simply allows, one step further back, that God himself might do something for no reason.

The Existence of God

Bertrand Russell claimed that Leibniz made use of the "lazy device of reference to an Omnipotent Creator" (Russell, 1937, p. 172). This was somewhat unfair. In Leibniz's philosophy God does not figure as an added-on extra or a stop-gap. Certainly he fills certain apparently crucial roles; but writing God out would require either showing that those roles are in fact dispensable, or finding some other way of filling them. Moreover, works such as the *Discourse on Metaphysics* or the *Monadology* do not just *refer* to God, or introduce him as a piece in a complex metaphysical board-game. To a large extent they are *about* him, and about our relationship with him from the practical point of view of piety and religion. Besides which, Leibniz produces rational arguments to show that God exists. Sometimes these are variations on traditional arguments, as for example, the improved "ontological argument." In this, Leibniz first argues that our notion of God represents a genuine possibility, something which Descartes, who merely deduced God's existence from his essence, omitted to do. In Russell's defense, however, it has to be acknowledged that Leibniz's argument for the existence of God sometimes is purely internal to his own system, as when he argues that God's existence is made manifest by the fact of pre-established harmony.

References

Aquinas, Thomas, 1964, *Summa theologica*. Thomas Gilbey & T. C. O'Brien, eds. London/New York: Blackfriars/Eyre & Spottiswoode/McGraw Hill. Original work written *c.* 1270.

Descartes, René, 1991, *Letter to Princess Elizabeth*, in *The Philosophical Writings of Descartes*, vol. 3. John Cottingham, Robert Stoothoff, Dugald Murdoch, Anthony Kenny, trans. Cambridge: Cambridge University Press. Original work written 1643.

Gassendi, Pierre, 1972, *Rebuttals concerning the Metaphysics of René Descartes*, in *The Selected Works of Pierre Gassendi*. Craig B. Brush, trans. New York and London: Johnson Reprint Corp. Original work published 1644.

—— 1984, *Fifth Set of Objections to Descartes's Meditations*, in *The Philosophical Writings of Descartes*, vol. 2. John Cottingham, Robert Stoothoff, Dugald Murdoch, trans. Cambridge: Cambridge University Press. Original work published 1641.

Leibniz, G. W., 1969a, *Considerations on Vital Principles and Plastic Natures*, in *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*. L. E. Loemker, trans. Dordrecht: Kluwer, 2nd. edn. Original work published 1705.

—— 1969b, *On Freedom*, in *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*. L. E. Loemker, trans. Dordrecht: Kluwer, 2nd. edn. Original work written *c.* 1679.

—— 1969c, *Letter to des Bosses, 16 June 1712*, in *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*. L. E. Loemker, trans. Dordrecht: Kluwer, 2nd. edn. Original work written 1712.

—— 1969d, *Leibniz's Second Letter to Clarke*, in *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*. L. E. Loemker, trans. Dordrecht: Kluwer, 2nd. edn. Original work written 1716.

—— 1997, *Correspondence with Jaquelot*, in *Leibniz's "New System" and Associated Contemporary Texts*. R. S. Woolhouse & Richard Francks, trans. Oxford: Oxford University Press. Original work written 1704.

—— 1998a, *Discourse on Metaphysics*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, trans. Oxford: Oxford University Press. Original work written 1686.

—— 1998b, *Correspondence with Arnauld*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, trans. Oxford: Oxford University Press. Original work written 1686–90.

—— 1998c, *Monadology*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, trans. Oxford: Oxford University Press. Original work written 1714.

—— 1998d, *Principles of Nature and of Grace*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, Trans. Oxford: Oxford University Press. Original work written 1714.

—— 1998e, *System of Nature*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, trans. Oxford: Oxford University Press. Original work published 1695.

—— 1998f, *Third Explanation of the New System*, in *G. W. Leibniz: Philosophical Texts*. Richard Francks & R. S. Woolhouse, Trans. Oxford: Oxford University Press. Original work published 1696.

Russell, Bertrand, 1937, *A Critical Exposition of the Philosophy of Leibniz*. London: Allen & Unwin, 2nd. edn.

Further Reading

Richard Francks and R. S. Woolhouse, *G. W. Leibniz: Philosophical Texts* (as above), provides English translations of a good selection of Leibniz's writings. Roger Ariew and Daniel Garber, *G. W. Leibniz: Philosophical Essays* (Indianapolis and Cambridge: Hackett, 1989), is a readily available alternative, which also includes some of the Leibniz-Clarke correspondence.

G. W. Leibniz: Philosophical Texts (as above) also includes a lengthy introduction to Leibniz's thought. Other general introductions are G. MacDonald Ross's *Leibniz* (Oxford: Oxford University Press, 1984) and C. D. Broad's *Leibniz: An Introduction* (Cambridge: Cambridge University Press, 1975). *The Cambridge Companion to Leibniz* (Cambridge: Cambridge University Press, 1995), edited by Nicholas Jolley, with contributions by various Leibniz scholars on a range of central topics, will take the serious student further and provide suggestions for even more study.

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Part II

THE SEVENTEENTH CENTURY: GREAT BRITAIN

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British Philosophy Before Locke

JILL KRAYE

Philosophy Ancient and Modern

It was not until the final decades of the seventeenth century that the triumph of modern over ancient philosophy was sealed in Britain. In the preceding period proponents of the old and the new philosophy engaged in frequent skirmishes and occasional pitched battles, with neither side emerging the clear victor. This is not to say, however, that there was a state of continuous warfare. For the most part the two camps lived together in peaceful, if at times uneasy, co-existence.

Thomas Stanley (1625–78) is a case in point. From 1655 to 1660 he published his three-volume *History of philosophy*, the first such work in the English language. A distinguished classical scholar and translator, Stanley naturally focused on the rise of philosophy in ancient Greece, using as his main source *The Lives of eminent philosophers*, a Greek work compiled in the third century AD by Diogenes Laertius. Modern thinkers appear in the book only in their capacity as supporters or interpreters of ancient philosophy: Stanley quotes passages from Bacon's *Advancement of learning* (III.5) and Montaigne's *Essays* (II.12) which recommend studying the lives and opinions of ancient philosophers; and in his account of Epicureanism he makes extensive use of Gassendi's erudite commentary on Diogenes Laertius's "Life of Epicurus." As an historian, Stanley stood firmly in a tradition of humanist scholarship dating back to the Renaissance, the aim of which was to recover, restore and revive the legacy of classical antiquity. But this commitment to the past did not prevent him from taking an interest in the intellectual currents of his own day: in 1663 he became a Fellow of the Royal Society, recently established in order to promote advancements in both science and philosophy.

Institutions, likewise, were often simultaneously backward- and forward-looking. In Oxford during the 1650s, when LOCKE (chapter 24) was a student there, the university's official curriculum in all branches of philosophy was still dominated by Aristotle, and scholastic habits of thought remained strong. Even in this seemingly hostile territory, however, inroads were made by new philosophical trends from France, transmitted through the writings of DESCARTES (chapter 5), GASSENDI (chapter 6) and later MALEBRANCHE (chapter 11). While John Webster (1610–82), in his *Academiarum examen* (1654), found ample evidence to back up his

portrayal of Oxford as a bastion of sterile scholasticism, Seth Ward (1617–89) and John Wilkins (1614–72), in their counter-blast, *Vindiciae academiarum* (1654), were equally able to muster evidence that the university was open to new ideas and provided a fruitful environment for scientific progress – a matter on which Ward and Wilkins, both soon to become founding Fellows of the Royal Society, could speak with some authority.

A number of classical philosophers were read, studied and translated during this period, especially in the fields of ethics and politics, where Cicero, Seneca and Plutarch held places of honor. But the crucial figure in the tug-of-war between ancient and modern philosophy was inevitably Aristotle. His long reign – or tyranny, depending on one's point of view – over philosophy, which had begun in the late thirteenth century, was now coming under increasing pressure. This was due primarily to scientific advances made by Copernicus and GALILEO (chapter 4), and also to the new metaphysical theories of Descartes. In other areas of philosophy, however, Aristotle's reputation was largely undiminished, as can be seen from some Latin notes jotted down by the professional physician and amateur philosopher, Sir Thomas Browne (1605–82):

> while much is lacking in Aristotle, much wrong, much self-contradictory, yet not a little is valuable. Do not then bid farewell to his entire work; but while you hardly touch the Physics and read the Metaphysics superficially, make much of all the rest and study them unwearyingly. (Browne, 1964a, vol. 3, p. 206)

Browne's unwillingness either to embrace Aristotle wholeheartedly or dismiss him out of hand was part and parcel of his balanced attitude towards the heritage of the classical past. This can be seen most clearly in his compendium of "vulgar and common errors": *Pseudodoxia epidemica, or enquiries into very many received tenets and commonly presumed truths*, which he first brought out in 1646 and afterwards continued to revise and enlarge. One of the main causes for the persistence of errors, according to Browne, was an excessive "adherence unto Antiquity," based on the widely held but misguided belief that the farther times are from the present, the nearer they approach "unto truth it selfe." For Browne, the foolishness of such a stance was shown by modern astronomical and geographical discoveries, which had proved many ancient notions to be palpably false. It was also demonstrated by the example of past thinkers themselves "and Aristotle most any": for the sages of antiquity were neither reluctant "to examine or refute" the doctrines of their predecessors, nor did they regard their own views as infallible, "submitting them ... unto the correction of future discovery." Playing on his love of paradox, Browne finds in the ancients a compelling argument against placing too much faith in antiquity. Moreover, while here he adduces the practice of Greek philosophers and scientists to support his conviction that the way to dispose of entrenched errors is to expose them to the scrutiny of reason and experience, elsewhere he makes the same point with reference to his fellow physician William Harvey, whose 1651 treatise *De generatione animalium* he praises for being "strongly erected upon the two great pillars of truth, experience and solid reason" (Browne, 1981, pp. 32–9, 288). Provided one carefully selected the right bits of Aristotle, there was no need to choose

between him and Harvey – a position which Harvey, a devoted Aristotelian, would no doubt have endorsed. The blend of the best of classical and contemporary learning which Browne presented in the *Pseudodoxia* was well suited to the tastes of the majority of the British reading public, who saw no unbridgeable gap between the old and the new.

Nonetheless, a vociferous minority rejected this cosy compromise and instead made a thoroughgoing commitment to one side or the other. Among the most outspoken defenders of ancient philosophy was Alexander Ross (1591–1654), a schoolmaster and Presbyterian preacher. Writing from the perspective of a die-hard Aristotelian, he churned out learned attacks on a range of modern heresies, from the heliocentrism of Copernicus to the mechanistic materialism of HOBBES (chapter 22). Even the *Pseudodoxia*, with its relatively mild criticisms of Aristotle and selective acceptance of new ideas, was too much for Ross to stomach: his *Arcana microcosmi* contains *A Refutation of Dr Browne's vulgar errors*, in which he rails against those who "reject Aristotles pure Fountains, and dig to themselves cisterns that will hold no water." In Ross's judgment, the reason thinkers such as BACON (chapter 20) and Harvey had gone astray was that "whereas they should stick close and adhere as it were by a matrimonial conjunction to sound doctrine," that is, to the teachings of Aristotle, "they go a whoring ... after their own inventions" (Ross, 1651, pp. 291–2).

Another leading spokesman for the ancients was the Anglican divine Meric Casaubon (1599–1671). Unlike Ross, he accepted that Aristotle's natural philosophy was for the most part obsolete; nor was he an unreflective opponent of the new science: according to his own testimony, as a young man he was "well acquainted with Sir Francis Bacon his workes and made tryall of divers of his experiments, though seldom," he admitted, "with any success" (Casaubon, 1999, p. 186). Nevertheless, as the son of one of the greatest classical scholars of the previous generation and no mean humanist himself, he feared that the wisdom inherited from antiquity was being devalued by the relentless emphasis which the leading lights of the Royal Society placed on newfangled developments in science and philosophy. This attitude had contributed to a general decay of learning, whose symptoms and causes Casaubon set out in an epistolary treatise of 1668. Also responsible for this decline into philistinism was Descartes, who had "the conceit & presumption, to cast all philosophie into a new mould, & to be proclaime himselfe, the Oracle of the world," just as his British counterpart Hobbes had done, "with no less confidence, though not soe great luck." Casaubon stated that it was the aim of both philosophers, but especially Descartes, "that all other bookes & learning should be layd aside," leaving only "what came from him, or was grounded upon his principles" (Casaubon, 1999, pp. 152, 157–8).

Casaubon's outburst was in part provoked by the writings of another Church of England minister, Joseph Glanvill (1636–80). In his 1661 treatise *The Vanity of dogmatizing*, Glanvill had energetically promoted the experimental science of the Royal Society, to which he was elected in 1664 (largely as a reward for his effective efforts as a propagandist), and had also sung the praises of the "unparallel'd Des-Cartes." His tactics included launching a fierce assault on the "unreasonableness" of those who continued to revere "Antiquity and Authority," especially that

pernicious form of "Pedantick Adoration" which afflicted the present-day followers of Aristotle. Glanvill portrayed the Peripatetic philosophy to which they enslaved themselves as a tissue of "steril, unsatisfying Verbosities": the term *materia prima*, or primary, unformed matter, for instance, is a "meer chimaera" and "signifies nothing" since "Matter cannot naturally subsist uninform'd." Moreover, the "disputing way of Enquiry" adopted by Aristotle and his scholastic disciples "far from advancing Science" was "no inconsiderable retarder." Nor could worthwhile results be expected from their "very dry and jejune account of Nature's Phaenomena": to say that a heavy body falls because of its manifest quality of heaviness "teacheth nothing"; and to accept that occult or hidden qualities such as magnetic attraction which operate at a distance were inexplicable, simply because Aristotle had been unable to explain them, amounted to "sloth and Philosophick penury." Indeed, Aristotelian philosophy had not been responsible for one single invention of use to mankind. Now, however, after centuries of Peripatetic sterility, "the fecundity of Cartesian principles" and "Neoterick endeavours" would bring forth great discoveries, making it possible to irrigate deserts, communicate over long distances "by Sympathetick conveyances" and fly "into the remotest regions" (Glanvill, 1970, pp. 136–88).

Glanvill's indictments of Aristotelianism were standard fare, repeated time and again by those who supported new approaches to philosophy and science. More unusual was the attack on Platonism issued by another Anglican clergyman, Samuel Parker (1640–88), who ended his days as Bishop of Oxford. It was doubtless the contemporary revival of Platonism at Cambridge (see chapter 21) which inspired Parker's *Free and impartial censure of the Platonick philosophie* of 1666. Although he has good words to say for Plato's ethical doctrines, he dismisses his logic as "weak and incoherent." A convinced Baconian empiricist, Parker has no time for Platonic epistemology with its absurd "Innate Notions": why, he asks, would divine providence "imprint such obvious and apparent Notices" as the whole is greater than its parts "upon the minds of Men" when they only need to open their eyes "to discover their undoubted Truth"? Rejecting Platonic ideas as "absolutely unfit to be made the foundation of all Science," he insists that the "Empirical way," based on "the plain and most undoubted Testimony of Sense and Experience," is "the safest and most unquestionable" road to knowledge. It was this path that the Royal Society, to which Parker had been elected the previous year, had chosen to follow, its fellows being "wholly addicted...to exact Experiments and Observations" (Parker, 1985, pp. 36, 45, 56–8).

Platonic natural philosophy, in Parker's opinion, suffered from the same defects as that of the Peripatetics. Plato's *anima mundi*, or "Universal Soul," like Aristotle's forms, was nothing but "senseless and insignificant Jargon"; it was therefore "prodigiously silly and ridiculous" of him to claim in the *Timaeus* that all "Phaenomena of Nature are only so many Tricks of this magical kind of Soul." Plato and Aristotle, unable to compete with "the Mechanical Hypotheses" put forward by the Presocratic philosopher Democritus, had cunningly constructed their "Philosophical Empire" on completely new principles which, because of "their obscurity and remoteness from sense," they knew could be neither proved nor refuted (Parker, 1985, pp. 41, 43).

New Science and Old Philosophy

Parker's reference to the "Mechanical Hypotheses" of Democritus illustrates the tendency in this period to associate fashionable new scientific theories with old established philosophical systems. Here we have another model of the interplay between ancient and modern: neither a state of peaceful co-existence nor of open warfare but a symbiotic relationship, whereby ancient notions gained currency and modern ones acquired venerability. Mechanism involved explaining natural phenomena not in terms of Aristotelian manifest and occult qualities but rather as the result of matter in motion. The theory of matter endorsed by many early modern philosophers who embraced this new conception of nature was atomism. Although the doctrine had originated in antiquity with Democritus, it had reached its fullest elaboration with Epicurus, whose denial of creation, the immortality of the soul and divine providence had made him *persona non grata* for Christians since the days of the primitive church. In the mid-seventeenth century, however, the French priest Gassendi had introduced drastic modifications to the theory which brought it into line with the truths of Christianity.

It was this "baptized" version of Epicurean atomism which became widely adopted in Britain, largely due to the efforts of Walter Charleton (1620–1707). A leading member of the medical profession – he was physician to Charles I and Charles II – Charleton was not an original philosophical thinker but rather a talented expositor and popularizer. He began his writing career in 1650 by translating and paraphrasing continental works of alchemical medicine. Soon, however, he was converted from a vitalist to a mechanistic conception of nature, possibly through his close contact with Hobbes and the Cavendish circle. At any rate, by 1652 he was familiar with the writings of Descartes and, above all, Gassendi, whose project to transform Epicurean atomism into a theologically respectable substitute for Aristotelian natural philosophy inspired him to write *The Darkness of atheism dispelled by the light of nature*. Following Gassendi, Charleton attempted to save the atomist baby while throwing out the pagan bath water: he thus removed the unacceptable elements of Epicureanism, leaving behind a central core which was perfectly compatible with Christianity. After expressing his astonishment that in Epicurus "so much of the Scholar and so much of the Fool could have met... in one and the same brain," Charleton (1652, pp. 60–1) denounced the Greek philosopher's absurd belief that the world had come into existence through the random collision and combination of atoms as they spontaneously swerved in their downward paths: it was impossible for "anything that dares to pretend to Humanity" to believe that "so many minute bodies or Atoms" could "meet and unite in just that number which was sufficient to make up the Globe of Earth." It was patently obvious, in fact, that only an infinite and divine intelligence could construct such a complex universe out of atoms. Purified in this way, Epicurus's natural philosophy not only presented no threat to religion, it actually reinforced Christian doctrines.

Two years later Charleton, his religious scruples satisfied, went on to present a detailed account of the principles of atomism, once again derived from Gassendi's writings, as he acknowledged in the title, *Physiologia Epicuro-Gassendo-Charltoniana*,

and reiterated in the subtitle, stating that doctrines in the treatise were *Founded by Epicurus, Repaired by Petrus Gassendus, Augmented by Walter Charleton.* Matter, he explained, was composed of atoms, which were all made of the same substance and which possessed magnitude, figure, solidity and weight. Having only quantitative features, they produced what later came to be known as secondary qualities solely through their positioning in the larger bodies which they formed: packed closely together, for instance, they produced hardness; packed loosely, softness. Although Epicurus's pagan atoms had been eternal and self-moving, the Christian atoms of Gassendi and Charleton were created *ex nihilo* by God, who had also impressed motion on them through an infusion of "Internal Energy." The divinely endowed motion of atoms would not be possible unless there were empty spaces into which they could move, or, as he put it, unless space had an "Admissive capacity, whereby it receives Bodies" (Charleton, 1966, pp. 68, 126). Therefore, contrary to Aristotle's denial of the void, it must exist. The entire physical universe consists solely of atoms moving within the void; and all natural qualities, even those regarded by Aristotelians as occult, are explicable in terms of the magnitude, motion, configurations and collisions of atoms. Yet for all his confidence in the explanatory power of mechanistic atomism, some of his attempts to explain occult qualities and complex biological processes still bear the imprint of his early interest in the non-mechanical vitalism of the alchemical tradition.

The influence of Epicureanism atomism, as Christianized by Gassendi and disseminated by Charleton, can be traced in the proceedings of the Royal Society, of which Charleton was an early and active member, as well as in the writings of BOYLE (chapter 23), Locke and NEWTON (chapter 26). There was, however, another version of atomism in circulation at the time, one associated not with Epicurus but rather with the traditional Aristotelian doctrine of *minima naturalia*, or the smallest natural bodies. The key figure in this last ditch attempt to drag the Aristotelian old guard into the mechanist vanguard was Sir Kenelm Digby (1603–65), courtier, diplomat, privateer, duellist, patron of the arts, collector of alchemical, medical and culinary recipes and, apart from a few years when he converted to Anglicanism, Catholic apologist. Little known today as a philosopher, in his own time his name was frequently mentioned in the company of Descartes, Gassendi and Hobbes, with all of whom he was in contact. His *Two treatises* of 1644 share the distinction with Descartes' *Principia philosophiae*, published in the same year, of being the earliest comprehensive accounts of the new mechanical philosophy; while his *Discourse concerning the regulation of plants* (1661) was the first work published under the auspices of the nascent Royal Society. For Glanvill (1970, pp. 22, 240), "the ingenious Sir K. Digby" was one of the "illustrious heroes" of the age; for Boyle, he was "our deservedly famous countryman" (Westfall, 1956, p. 111).

Surprisingly, given these impeccable testimonies to his good standing in the modernist camp, Digby, while contemptuous of contemporary Aristotelians, held Aristotle himself in the greatest respect – Descartes (1897–1913, vol. 2, p. 398) wondered if the passion of "Monsieur d'Igby" for Aristotle did not perhaps indicate that he was really on the side of the ancients. Digby was certainly not shy about expressing his unfashionable admiration for the Greek philosopher: no philosopher, he wrote, had ever looked as deeply "into the bowels of nature" as Aristotle and

therefore "whoever follows his principles in the main cannot be lead into errour." Since, however, all human beings were fallible, there were certain points which he had failed to grasp; and these Digby set out to modify and rectify in light of the new mechanistic understanding of nature. But he was adamant that his basic framework remained Aristotelian: "the very truth is, that the way we take, is directly the same solide way, which Aristotle walked in before us." The atomism he expounded in the first of his *Two treatises*, "Of bodies," was entirely consistent, he claimed, with the philosophy of Aristotle, whose *minima naturalia*, were "in our language and in one word . . . atomes." Furthermore, in his system, as opposed to that of Epicurus, there was no void, in accordance with the "repugnance of vacuities," a principle which was "exactly and rigorously Aristotles" (Digby, 1644, pp. 57, 343).

Despite this strong Aristotelian bias, Digby was as keen as other mechanists to demonstrate that all natural operations could be accounted for wholly in terms of matter in motion, without invoking occult qualities or other mysterious forces. He scored a notable popular success with his atomist explanation of the "powder of sympathy," a variation on the weapon salve, in which a chemical remedy was applied not to the wound itself but rather to something which had come into contact with it, a sword, for example, or bandage. The efficacy of this cure was traditionally ascribed to spiritual or astral influences, which were believed to bear the healing balm back to the wound – in reality, the treatment worked because it involved keeping the wound clean. According to Digby (1658, p. 199), however, when a blood-stained bandage was immersed in a solution of sympathetic powder, the vapor of blood atoms arising from the bandage and flowing back to the wound, whose heat, like that of a fire, drew the air to itself, carried along with them the powder atoms, enabling them to penetrate deeply into "the corners, fibres, and orifices of the Veins, which lye open about the wound; whence it must of necessity be refresht and . . . imperceptibly cured."

In a letter of 1669, Leibniz (1969, pp. 97–8) listed various thinkers who had sought "to reconcile Aristotle with modern philosophy," mentioning prominently among those "in our own times Kenelm Digby and his follower Thomas White." In fact, the intellectual partnership between the two men was so close, and they praised each other so lavishly, that it is by no means obvious which of them was the disciple and which the master. Apart from their philosophical collaboration, White (1593–1676), a Catholic priest, was also Digby's comrade-in-arms in the struggle to win freedom of worship for their co-religionists in Britain. Having languished in complete obscurity for centuries, White suddenly came to the attention of historians of philosophy when Hobbes' substantial and hard-hitting critique of his cosmological treatise *De mundo* (1642) finally appeared in print, in both a Latin edition and English translation (1973 and 1976). Any philosopher whom Hobbes took so much trouble to refute is bound to be of some interest; and, to be sure, White's arguments display a good knowledge of both ancient philosophy and modern science. But his attempts to work out a compromise between Aristotelian and Copernican cosmology are unavoidably strained and awkward. He claims, for example, that although the universe is heliocentric, as Copernicus had shown, the earth nevertheless occupies the central position, as in the Aristotelian system. He resolves this apparent paradox by maintaining that it is the circumference of the

earth's orbit, not the middle of the terrestrial globe, which is at the center of the universe. He is no more convincing when, combining the Copernican principle that the earth moves with the Aristotelian doctrine that an external agency is required to produce motion, he argues that it is the wind, pushing against the surface of the ocean, which causes the earth to move.

Reason and Religion

A crucial issue for those who espoused a mechanist form of natural philosophy, whether of the Epicurean or Aristotelian variety, was the status of the human soul, above all the question of its immortality. Seeking to avoid the taint of Hobbesian materialism, with its atheistic implications, many subscribed to a dualist ontology, broadly in line with that of Descartes, which enabled them to make a strict separation between the natural realm of matter, in which mechanist principles applied, and the supernatural realm of the soul and other spiritual entities, in which they did not. In this way, they could reasonably claim that there was no inherent conflict between their philosophical ideas and their Christian beliefs or even assert that reason offered powerful support for religion.

In 1643 Kenelm Digby, while imprisoned by Parliament as a self-confessed papist and royalist, wrote down his *Observations* on Thomas Browne's recently published *Religio medici*, the physician's meditations on his Christian faith. One of Digby's objections to the book was Browne's refusal to admit that the immortality of the soul could be demonstrated by philosophy as well as by religion. Digby (1643, pp. 11–12) himself believed that immortality was not only "an article of faith" but also "an evident conclusion of reason." To prove this point, however, would require "a totall Survey of the whole science of Bodyes," which he duly went on to produce the next year in his *Two treatises*. Although the "maine great theme" of this work is the immortality of the soul, Digby devotes the first, and by far the longer, of the treatises to an analysis of the principles from which "corporeall operations do proceed." After establishing that all operations involving physical bodies can be entirely explained by the principles of matter and motion, he goes on to demonstrate in the second treatise that the soul's operations transcend such mechanical explanations, taking care to point out that since he has banished "incomprehensible" occult qualities from the material world, they cannot be invoked to argue that the soul's spiritual operations are natural rather than supernatural. Having proved that the soul "cannot have a body for its source," he concludes that it must derive its "origine from some higher spring and source," in other words, it is an immaterial entity and so immortal (Digby, 1644, sigs. â4^{r}, ô6^{r}, û1^{r}, p. 349).

When Descartes was asked what he thought of this demonstration, which he knew only second-hand – unable to read English, he could not consult the *Two treatises* for himself – he answered that he was not as well informed about the state of the soul after death as Digby. The reply was not as facetious as it might seem, for he went on to say, in much the same vein as Browne, that while reason enabled us to indulge in fine hopes, it did not provide any certainty of immortality, which could come only from faith (Descartes, 1897–1913, vol. 4, p. 333).

Notwithstanding these reservations, Descartes must have recognized that Digby's proof of immortality, based as it was on a sharp distinction between bodies and souls, was indebted to his own metaphysics. Digby's friend and fellow atomist Walter Charleton likewise incorporated a brand of Cartesian dualism into his mechanist philosophy as a means of ensuring that it could accommodate immaterial and immortal substances such as the soul. Charleton's position on the question of whether the basic truths of faith could be proved by reason was closer to Digby's confidence than to Descartes' doubts, as emerges clearly from his treatise in dialogue form of 1657, *The Immortality of the human soul, demonstrated by the light of nature*, in which he uses strictly rational arguments to purge Epicureanism of its founder's heretical materialism and concomitant belief that the soul perishes with the body. Charleton's spokesman "Athanasius," adopting a rigid dualism reminiscent of Digby's *Two treatises*, says that "though I am an Epicurean, in many things concerning Bodies; yet, as a Christian, I detest and utterly renounce the doctrine of that Sect, concerning Mens Souls." In order to win over his pagan interlocutor "Lucretius," the Roman poet and disciple of Epicurus, he has to make the case that "Immortality is not only credible by Faith, or upon Authority Divine, but also Demonstrable by Reason." Just as Charleton had cleverly turned atomism into an argument for God's creation of the world in his *Darkness of atheism*, here he transforms it into a proof of immortality, asserting that "the admirable and almost divine operations" of the soul, even while it remains lodged within the body, show that it cannot possibly be "onely a certaine Contexture or disposition of thinnest and subtilest Atoms" (Charleton, 1985, pp. 8, 185).

Those thinkers concerned to produce a mechanical philosophy which was thoroughly consistent with Christianity needed to distance it from materialism not only by insisting on the immateriality and immortality of human souls but also by defending the existence of other incorporeal substances endowed with the power to perform supernatural operations, including witches and demons. Although this attitude seems superstitious and unscientific to our eyes, in the intellectual climate of the seventeenth century it was a perfectly rational and respectable position, energetically championed by proponents of the new science such as Joseph Glanvill. In a series of works attacking what he referred to as "modern Sadducism" – the ancient Sadducees were a Jewish sect who denied the existence of spirits – he maintained that a person who regarded the notion of witches and their secret contracts with the Devil as absurd would soon cease to believe in "either Angel, or Spirit, Resurrection of the Body, or Immortality of Souls" (Glanvill, 1676, "Essay VI," p. 2). No doubt with Hobbes in mind, Glanvill (1689, p. 62) declared that "those who dare not bluntly say, There is no God, content themselves (for a fair step and Introduction) to deny there are Spirits or Witches."

Glanvill's vision of a brave new world of scientific progress may not have been to the taste of Meric Casaubon, who preferred the old world of humanist learning, but the two Anglican divines were at one in their conviction that a refusal to believe in witches, wizards, devils and spirits was the first step on the road to full-scale religious disbelief. According to Casaubon (1672, p. 7), "not believing [in] the existence of spiritual existences, whether good or bad" and denying "supernatural operations" was "one prime foundation of Atheism." By contrast, "consideration of

the Devils power" in "supernatural operations by witches and magicians" would inevitably lead a "rational man" to "the acknowledgement of a Deity" and thereby to an acceptance of "the probability of most articles of the Christian faith." For Casaubon, the reality of witchcraft constituted one of the many rational proofs that could and should be called upon to demonstrate such fundamental religious truths as the existence of God. While he admitted that certain "Articles of the Christian faith" could not "be proved by reason," he was nevertheless convinced that "the grounds of the Christian faith itself upon which it stands" were "demonstrable to human reason" (Casaubon, 1670, sigs. $B5^{r}$, $L8^{r-v}$). This was confirmed by the fact that the greatest sages of antiquity, guided only by the light of natural reason, had been able to arrive at beliefs which were in harmony with Christian revelation: a point which Casaubon emphasizes in the notes to his English translation of the *Meditations* of Marcus Aurelius (1634, sig. $Mm2^{r}$), where he praises "the marvellous consent of this Heathen mans philosophy with the Holy Scriptures."

Glanvill, too, believed that reason and religion were allies, though for him this alliance was confirmed not by the pious thoughts of a pagan emperor but rather by the experimental science and mechanical philosophy of the Christian *virtuosi* in the Royal Society, who "by searching out the true laws of Matter and Motion" were helping to secure "the Foundations of Religion against all attempts of Mechanical Atheism" (Glanvill, 1665, sig. $a2^{r}$). In an essay on "The usefulness of real philosophy to religion," he refutes "the perverse Opinion of hasty, inconsiderate Men, that the study of Nature is prejudicial to the Interests of Religion" by showing that "the study of God's Works joyned with those pious Sentiments they deserve" is a glorification of the deity through his creation and therefore should be considered an authentic part of religion (Glanvill, 1676, "Essay IV," p. 1). In another essay on "The agreement of reason and religion," he argues that "Reason is very serviceable to Religion," for certain basic tenets of faith such as the immortality of the soul "are proved by Reason; and by Reason only" (Glanvill, 1676, "Essay V," pp. 2, 7).

Though on the opposite side of the confessional divide, the Catholic priest Thomas White (1656, pp. 410–11) also held that reason was extremely useful in the cause of religion, as when he drew on recent scientific theories and evidence to demonstrate the credibility of the biblical account of the Flood. Criticized by Hobbes (1976, p. 401) and others for blending science and theology in this way, White (1660, p. 25) was unabashed, proudly proclaiming, in the treatise *Reason and religion mutually corresponding and assisting each other*, that his "Philosophy and Divinity" were "so perfectly squared" that it was "impossible to know where one ended and the other began." White's confidence in the conformity of his philosophical and scientific beliefs to his religious convictions was the cornerstone of the major enterprise in his intellectual career: the attempt to construct a dogmatic bulwark against the rising tide of skepticism.

Between Dogmatism and Skepticism

White's solution to the skeptical crisis which dominated seventeenth-century epistemology was premised on the absolute certainty of Aristotelian principles in philoso-

phy and of the Catholic tradition in religion, whose complete accord guaranteed their mutual validity. Such a position was never likely to gain a foothold in the Protestant culture of Britain at a time when Aristotelian scholasticism was on the wane. The mainstream of British thinkers considered the sort of religious and philosophical dogmatism advocated by White to be as unacceptable as the revived Pyrrhonian skepticism he intended to refute. In an effort to avoid both extremes, they sought to devise methods that would enable them to arrive at a degree of certitude which, though limited, would nonetheless allay any debilitating doubts.

One of the very few philosophers to follow White down the path of dogmatism was his *alter ego* Kenelm Digby, who shared his friend's belief in the certainty of both Aristotelian philosophy and Catholic theology. A number of his *Objections* to Browne's *Religio medici* relate to the physician's fideism, his view that it was "no vulgar part of faith to believe a thing not only above, but contrary to reason" (Browne, 1964b, pp. 10–11). Digby (1643, p. 43) recommended that he should read White's *De mundo* to cure himself of this variant form of skepticism; for in this book doctrines which Browne thought could only be accepted on the basis of faith "were demonstrated by Reason." In his *Two treatises* Digby (1644, p. 341) states that since he has been "as exact and orderly" in treating philosophical and theological issues as "Mathematicians are in delivering their sciences," his conclusions have the same infallible certainty as those of mathematics.

It was this claim that philosophy was able to achieve the infalliable certainty of mathematics which was disputed by those seeking to steer an epistemologically safe course between the Scylla of dogmatism and the Charybdis of skepticism. On the Continent, MERSENNE (chapter 4) and Gassendi had been in the forefront of the search for this *via media*; in Britain it was the Anglican theologians who led the way. They were forced to deal with this issue by debates between Catholics and Protestants over the certitude of religious knowledge. The former took the all-or-nothing position that in questions on which salvation depended there was no middle ground between absolute certainty, which could only be guaranteed by the centuries-long tradition of the Roman Catholic Church, and complete uncertainty. Protestants, on the other hand, took the line that while the Bible itself was absolutely certain, interpretations of it by fallible human beings were necessarily less so, though still sufficiently certain for the purposes of salvation. William Chillingworth (1602–44), in *The Religion of Protestants, a safe way to salvation* (1638), distinguished three levels of certitude: absolutely infallible certainty, which was beyond human reach; conditionally infallible certainty, which humans could achieve but only in areas of knowledge such as mathematics, where iron-clad demonstrations compelled assent; and moral certainty, which was the sort of common sense belief, rather than knowledge, that any rational person has in relation to the everyday facts of life, such as the route from one town to another. Religious beliefs, according to Chillingworth, fell into this category. Such moral certainty was well below the level demanded by his Catholic opponents; but it was all that humans could attain in religious matters and therefore all that God required.

John Tillotson (1630–92), who became Archbishop of Canterbury a year before his death, developed Chillingworth's ideas further. He accepts the basic division of certitude into three levels, with the highest belonging to God alone and the lowest

achievable by ordinary people in their daily lives. He is more of an empiricist than Chillingworth, however, arguing that the middle level of certitude can be based not only on mathematical demonstration but also on the immediate evidence provided by the senses, especially sight and hearing, which he regards, following Aristotle, as the source of all knowledge. Tillotson raised other points which had ramifications beyond the context of religious polemics: discussing the limitations of human as compared to divine knowledge, he explains that "we do not know things in their realities, but as they appear and are represented to us with all their masks and disguises" (Tillotson, 1728, II, p. 538). Although this epistemological doctrine was not original to Tillotson – it featured in continental debates about skepticism – he may have played a role in its acceptance as a guiding principle by the Royal Society, to which he was elected in 1671.

This doctrine, combined with the notion of moral certainty, also taken over from the religious debate, was applied to our understanding of natural phenomena. Exponents of experimental science maintained that although we can never obtain absolutely certain knowledge of the real nature of things, as they are in themselves, we can acquire morally certain, that is, reliable though not infallible, knowledge about the world of appearances. Just as Protestant theologians held that moral certainty in religious matters was sufficient for salvation, so they held that in scientific matters this limited certitude was adequate to promote progress, since it enabled working hypotheses to be formulated and investigated. Samuel Parker (1985, pp. 45–6) could thus predict "a greater Improvement of Natural Philosophie from the Royal Society" than occurred "in all former ages," while admitting that "we must at last rest satisfied with ... the handsomest and most probable Hypotheses," since he doubted that it was possible to frame certain ones.

Another apologist for the new science, Joseph Glanvill, in his *Vanity of dogmatizing* laid stress on the weakness of our senses, which, even when aided by modern instruments such as the telescope and microscope, were unable to comprehend the infinite complexities of nature. As an empiricist, moreover, he held that all "the knowledge we have comes from our Senses"; and since they cannot penetrate beyond appearances, we can know "only Natures grosser wayes of working," not "her finer threads." Nor can we ever gain certain knowledge of causality; for the causality itself is "insensible," that is, it cannot be perceived by our senses. The only way, then, that we can "conclude anything to be the cause of another" is by "its continual accompanying it," as when we infer from the fact that near a fire we always feel heat that the former is the cause of the latter. Glanvill points out, however, that "to argue from a concomitancy to a causality, is not infallibly conclusive" – an anticipation of Hume's use of "constant conjunction" in his more comprehensive and sophisticated analysis of causality. Glanvill's aim in this treatise was not only to defend the epistemology of the new science but also to undermine that of the old, particularly the dogmatism of Aristotelians, whose pretensions to mathematical certitude he derided: the reason for the "uncontroverted certainty of Mathematical Science" was that it was built upon clear and settled significations of names, which admit of no ambiguity, or "... obscurity. But in the Aristotelian philosophy it's quite otherwise" (Glanvill, 1970, pp. 67–8, 160, 189–90, 218).

This assault on Aristotelianism provoked a response from one of its most dedicated supporters, Thomas White. In a Latin treatise of 1663, which appeared in English translation two years later under the title *An exclusion of sceptics from all title to dispute*, he counterattacked by branding Glanvill a skeptic and defended his own ground by asserting that Aristotle had devised a "Science in Physics and Metaphysics worthy to vye with Geometry" (White, 1665, p. 55), as White himself had shown in his *Euclides physicus* (1657) and *Euclides metaphysicus* (1658), in which he employed the geometrical method, later adopted by SPINOZA (chapter 16) in his *Ethics*, to expound Aristotelian natural philosophy and metaphysics.

In the way of such disputes between scholars, both then and now, White's reply was answered by Glanvill, who published an open letter to him in his *Scepsis scientifica*. Denying that his rejection of dogmatism meant that he embraced skepticism, he said that he regarded both as impediments to progress: "to believe that every thing is certain, is as great a disinterest to Science, as to conceive that nothing is so." But while White considered it "more suitable to the requisites of the present Age, to depress Scepticism," he looked "on Dogmatizing and confident belief as the more dangerous and common evil" (Glanvill, 1665, sig. a1^{v}). In an essay of 1676, "Of scepticism and certainty," he replied again to "the Learned Mr. Thomas White," who was "so highly celebrated by Sir Kenelm Digby." Simultaneously defusing the charge of skepticism and accusing his critic of mindless dogmatism, he complained that "by some all Men are accounted Scepticks, who dare dissent from the Aristotelian doctrines, and will not slavishly subscribe [to] all the Tenets of that Dictator in Philosophy." He also elaborated on the halfway house between skepticism and dogmatism which he and his colleagues in the Royal Society were attempting to construct. Its foundation was a distinction between "Infallible Certainty," which was "an absolute Assurance, that things are as we conceive and affirm, and not possible to be otherwise," and "Indubitable Certainty," which was "a firm Assent to any thing, of which there is no reason of doubt." The former type of certainty, *pace* White, was "proper only to Him, who made all things what they are; and discerns their true natures by an infallible and most perfect knowledge." Even though human beings could only hope to achieve indubitable certainty, this was no cause for plunging into the despair of skepticism: for "of greater Certainty than this there is no need" (Glanvill, 1676, "Essay II," pp. 37, 43, 47, 50).

White died the year in which Glanvill's essay was published, and that brought the debate to an end. Glanvill's victory, if only by default, showed that British philosophy was now firmly set on the course of a pragmatic empiricism. Philosophers before Locke were prepared to accept the limited certitude of knowledge based solely on appearances and determined to make the best of it.

References

Browne, T., 1964a, *The Works*. Ed. G. Keynes (4 vols.). London: Faber & Faber.

—— 1964b, *Religio Medici and other works*. Ed. L. C. Martin. Oxford: Clarendon Press.

—— 1981, *Pseudodoxia epidemica*. Ed. R. Robins (2 vols.). Oxford: Clarendon Press.

Casaubon, M., 1672, *A Treatise proving spirits, witches and supernatural operations by pregnant instances and evidences*... London: R. Pawlet.

—— 1999, *Generall learning: a seventeenth-century treatise on the formation of the general scholar*. Ed. R. Serjeantson. Cambridge: RTM Publications.

Charleton, W., 1652, *The Darkness of atheism dispelled by the light of nature*. London: William Lee.

—— 1966, *Physiologia Epicuro-Gassendo-Charltoniana: or a fabrick of science natural, upon the hypothesis of atoms, founded by Epicurus, repaired by Petrus Gassendus, augmented by Walter Charleton*. Introd. R. H. Kargon. New York and London: Johnson Reprint Company.

—— 1985, *The Immortality of the human soul, demonstrated by the light of nature*. Ed. J. M. Armistead. New York: AMS Press.

Chillingworth, W., 1638, *The Religion of Protestants, a safe way to salvation*. Oxford and London: L. Lichfield and J. Clarke.

Descartes, R., 1897–1913, *Oeuvres*. Eds. C. Adam and P. Tannery (12 vols.). Paris: Cerf.

Digby, K., 1643, *Observations upon Religio medici*. London: D. Frere.

—— 1644, *Two treatises, in the one of which, the nature of bodies; in the other, the nature of mans soule, is looked into: in way of discovery, of the immortality of reasonable soules*. Paris: Gilles Blaizat.

—— 1658, *A Late discourse*... *touching the cure of wounds by the powder of sympathy*... London: R. Lowndes and T. Davies.

—— 1661, *A Discourse concerning the regulation of plants. Spoken*... *on the 23 of January 1660. At a meeting of the Society for Promoting Philosophical Knowledge by Experiments*. London: John Dakins.

Glanvill, J., 1665, *Scepsis scientifica: or, confest ignorance, the way to science*... London: E. Cotes and H. Eversden.

—— 1676, *Essays on several important subjects in philosophy and religion*. London: J. Baker.

—— 1689, *Sadducismus triumphatus: or full and plain evidence concerning witches and apparitions*. Third edition. London: A. Baskervile.

—— 1970, *The Vanity of dogmatizing: the three "versions"*. Introd. S. Medcalf. Hove, Sussex: Harvester Press.

Hobbes, T., 1973, *Critique du* De mundo *de Thomas White*. Ed. J. Jacquot and H. W. Jones. Paris: Vrin.

—— 1976, *Thomas White's* De mundo *explained*. London: Bradford University Press.

Leibniz, G. W., 1969, *Philosophical papers and letters*. Ed. L. E. Loemker. Dordrecht: Reidel.

Marcus Aurelius, 1634, *His Meditations concerning himself*... Trans. M. Casaubon. London: M. Flesher and R. Mynne.

Parker, S., 1985, *A Free and impartial censure of the Platonick philosophie*. Introd. K. Robinson. New York: AMS Press.

Ross, A., 1651, *Arcana microcosmi; or the hid secrets of man's body disclosed;*... *With a refutation of Doctor Browne's vulgar errors*. London: Thomas Newcomb and George Latham.

Tillotson, J., 1728, *The Works*... *containing two hundred sermons and discourses on several occasions*... (3 vols.). London: J. Darby.

Ward, S. & Wilkins, J., 1654, *Vindiciae academiarum, containing some briefe animadversions*. Oxford: L. Lichfield and T. Robinson.

Webster, J., 1654, *Academiarum examen, or the examination of academies*. London: G. Calvert.

Westfall, R. S., 1956, Unpublished Boyle papers relating to scientific method. *Annals of Science*, 12, 63–73, 103–17.

White, T., 1642, *De mundo dialogi tres*... Paris: D. Moreau.

—— 1656, *Peripateticall institutions; in the way of*... *Kenelm Digby*. London: J. Williams.

—— 1657, *Euclides physicus*. London: J. Crook.

——1658, *Euclides metaphysicus*. London: J. Martin, J. Allestry & T. Dicas.
——1660, *Religion and reason mutually corresponding and assisting each other*. Paris: no publisher.
——1663, *Sciri, sive sceptices et scepticorum a jure disputationis exclusio*. London: no publisher.
——1665, *An exclusion of sceptics from all title to dispute*. London: J. Williams.

Further Reading

Clark, S., 1997, *Thinking with demons: the idea of witchcraft in early modern Europe*. Oxford: Clarendon Press.
Dobbs, B. J., 1971–4, "Studies in the natural philosophy of Sir Kenelm Digby." *Ambix*, 18, 1–25; 20, 143–63; 21, 1–28.
Feingold, M., 1997, "The Mathematical sciences and new philosophies." In N. Tyacke (Ed.) *The History of the University of Oxford* (Vol. 4): *Seventeenth-Century Oxford* (pp. 359–448). Oxford: Clarendon Press.
Foster, M., 1988, "Sir Kenelm Digby (1603–65) as man of religion and thinker." *The Downside Review*, 106, 35–58, 102–25.
Gelbart, N. R., 1971, "The intellectual development of Walter Charleton." *Ambix*, 18, 149–68.
Henry, J., 1982, "Atomism and eschatology: Catholicism and natural philosophy in the Interregnum." *British Journal for the History of Science*, 15, 211–39.
Hunter, M., 1995, *Science and the shape of orthodoxy: intellectual change in late seventeenth-century Britain*. Woodbridge, Suffolk: Boydell Press.
Jones, H. W., 1975, "Leibniz' cosmology and Thomas White's *Euclides physicus*." *Archives internationales d'histoire des sciences*, 25, 277–303.
Kargon, R. H., 1966, *Atomism in England from Hariot to Newton*. Oxford: Clarendon Press.
Krook, D., 1993, *John Sergeant and his circle: a study of three seventeenth-century English Aristotelians*. Ed. B. Southgate. Leiden: E. J. Brill.
Popkin, R., 1953, "Joseph Glanvill: a precursor of David Hume." *Journal of the History of Ideas*, 14, 292–303.
——1979, *The History of scepticism from Erasmus to Spinoza*. Berkeley: University of California Press.
Pyle, A. (Ed.), 2000, *The Dictionary of seventeenth-century British philosophers* (2 vols.). Bristol: Thoemmes Press.
Sharp, L., 1973, "Walter Charleton's early life and relationship to natural philosophy in mid-seventeenth-century England." *Annals of Science*, 30, 311–43.
Southgate, B. C., 1987, "'A philosophical divinity': Thomas White and an aspect of mid-seventeenth century science and religion." *History of European Ideas*, 8, 45–59.
——1993, *"Covetous of truth": the life and work of Thomas White, 1593–1676*. Dordrecht: Kluwer.
——1993, "'Torn between two obligations': the compromise of Thomas White." In T. Sorell (Ed.). *The Rise of modern philosophy* (pp. 107–27). Oxford: Clarendon Press.
Spiller, M. R. G., 1980, *"Concerning natural experimental philosophie": Meric Casaubon and the Royal Society*. The Hague: M. Nijhoff.
van Leeuwen, H. G., 1963, *The Problem of certitude in English thought 1630–1690*. The Hague: M. Nijhoff.
Wise, J. N., 1973, *Sir Thomas Browne's* Religio medici *and two seventeenth-century critics*. Columbia, Missouri: University of Missouri Press.

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Francis Bacon

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Francis Bacon (1561–1626) was instrumental in effecting a major shift in mentality from a contemplative to an empirical approach to the nature of the physical world. His achievement was twofold. First, he transformed the discipline of philosophy from something contemplative which focused above all on moral questions into something practical which focused centrally on questions in natural philosophy (what is now called science). Secondly, he set out an account of scientific method which has resulted in his being considered one of the founders of modern scientific method. Applying ideas for reform initially developed in the area of law to natural philosophy, his method takes the form of induction (a procedure that moves inferentially from observable effects to deeper underlying causes) which proceeds by means of elimination of various possible explanations by testing their consequences against experiment or observation.

Introduction

Bacon was brought up in a Renaissance humanist context, and was employed through his life in senior legal positions in government, ending up as Lord Chancellor, until his impeachment in 1621. Humanist education centered upon rhetoric, and it was rhetoric and the law that guided his thought. What was unusual about his application of precepts learned from rhetoric and law to natural philosophy was that he used them to propose a fundamental reform of philosophy.

In the Renaissance, a contrast was often drawn in classical terms between the life of contemplation (*otium*) and the life of practical, productive activity (*negotium*), and there was a decisive shift in favor of the latter in sixteenth-century England. There was a stress on practical questions, and the practical uses of learning, and philosophy – above all Scholastic philosophy – was widely regarded as a useless discipline which fostered argument for its own sake, never getting anywhere and never producing anything of value. Moreover, morality was widely seen as the key philosophical topic (following the Ciceronian model current in Renaissance Europe generally), and a number of Elizabethan thinkers, most notably the poet Sir Philip Sidney, were arguing that poetry was superior to philosophy, in that philosophy could only

discourse on the nature of goodness, whereas poetry could actually move people to goodness, which was the point of the exercise.

Bacon did two things: he shifted philosophy from *otium* to *negotium*, and he made natural philosophy replace moral philosophy as the center of the philosophical enterprise. The combination of these two (and they are intimately connected) is a radical move that marks a decisive break not only with earlier conceptions of philosophy, but also with earlier understandings of just what the task of the philosopher was.

The Reform of Philosophy and its Practitioners

Natural philosophy existed in a number of forms in the sixteenth and seventeenth centuries, and there were two extreme forms. The first was exemplified in alchemy, which was an esoteric but practical discipline which had little connection with traditional philosophical practice and which suffered, in Bacon's view, from a lack of structure, so that what few results were achieved were come upon by chance. At the other extreme was Scholastic natural philosophy, an intensely theoretical discipline which, in Bacon's view, produced nothing at all, despite its great sophistication, which turned out to be almost exclusively verbal. Bacon wanted something that could deliver the advantages of each of these without any of the disadvantages. He wanted something that would provide a detailed theoretical overview of the natural realm such that natural processes could not only be understood but, more importantly, transformed on the basis of this understanding: this is the context of his famous dictum that "knowledge is power." The ultimate aim was to transform natural processes for the common good (where the common good was very much something to be decided by the sovereign, on Bacon's view), and it was this, rather than some contemplative understanding of nature, that provided the rationale for natural philosophy, and by extension philosophy *per se*.

Bacon's first attempts at reform were in the area of law rather than natural philosophy, where he was concerned to systematize the law, provide regular records and reviews of legal decisions, and then try and discover some firm foundations for legal practice. The law worked with elaborate procedures for gathering of, assessment of, and testing of evidence. Moreover, it was an area of theoretical sophistication wholly devoted to practical ends. This was exactly the kind of thing that Bacon had in mind for natural philosophy, although natural philosophy was in a far worse state than law.

A Method of Discovery: from Rhetoric to Science

While Bacon started from a consideration of the law, law did not act as a model in its own right. Its importance arose from the fact that (especially once it had been reformed along Baconian lines), it exemplified a rhetorically-motivated account of discovery. This holds the key to Bacon's enterprise. His education, like that of any other schoolboy in the West in the early modern era, was in the liberal arts, the

study of which underlay a broad range of areas, including law and politics, on the one hand, and the issues of scientific demonstration and discovery on the other, and the most crucial part of the liberal arts in this respect was rhetoric.

At its most general level, the task of rhetoric was the formulation, organization, and expression of one's ideas in a coherent and compelling way. It was designed to help one find one's way around the comprehensive body of learning built up from antiquity, to recognize where appropriate evidence and arguments might be found, to provide models which were designed to give one a sense of what was needed if a particular question was to be investigated, or a particular position defended, models that would be shared with those to whom one was expounding or defending one's case. It was designed to help one focus one's mental powers in various ways, to organize one's thoughts in the most economical fashion, as well as providing models to show one how particular kinds of case were best defended, depending on such facts as the availability of and complexity of the evidence, and the state of knowledge in/opinions of/prejudices of the audience towards which one was directing one's arguments. At a general level, rhetoric was indifferent as to subject-matter, in that very comprehensive procedures were recommended that would aid one's investigations or one's case irrespective of whether one were conducting a scientific investigation or a legal one, although at a specific level there would be similarities or analogies (as regards the standing of various kinds of evidence, for example) and dissimilarities (as regards the means by which one collected evidence, for example) between legal cases and those in natural philosophy. The law, taken in a broad sense, was very much a paradigm case for rhetorical writers: rhetorical treatises were often seen explicitly as being directed towards lawyers and legislators, and examples were geared around the kinds of problem case that arose in law. In the light of this, it is only to be expected that using a rhetorical model for knowledge – that is, a model that gives direction on how to collect and assess evidence for a view, how to make a judgment on the basis of that evidence, and how to establish the correctness of one's judgment, using precepts derived from the study of rhetoric – is in many respects using a legal model. These connections are particularly strong in the case of Bacon's attempts to reform natural philosophy.

The Doctrine of Idols

If rhetoric is the first ingredient in Bacon's account of method, the second is a distinctive understanding of why the need for method arises. Here Bacon's stress on a psychological dimension to knowledge is important: questions of presentation of knowledge are not only recognized to be important, but have to be understood, where such an understanding is not supplementary to epistemology but actually part of epistemology. There is nothing new in this at one level, for it is simply part of a long tradition which begins in earnest with the Roman rhetoricians; but although it borrows from Greek writers, it is rather different from the approach to epistemological questions that we find in the classical Greek philosophers and Hellenistic philosophers. When one thinks of Bacon's general project in this context, it becomes clear that there is something novel here. For natural philosophy had

generally been the preserve of Greek philosophy, and had been pursued in a similar way by Scholastic philosophers. The Roman tradition, with the exception of Lucretius, had generally speaking not concerned itself with speculative natural–philosophical questions, dealing instead with practical moral, political, and legal questions. In thinking of persuasion in terms of a psychological theory, in thinking of psychological theory as part of epistemology, and in thinking of epistemology as being directed primarily towards natural philosophy, Bacon can provide himself with some of the resources to start thinking through natural philosophy not as a speculative but as a practical discipline.

This psychological dimension to epistemology is brought out fully in Bacon's doctrine of the "Idols of the Mind."

> As for the detection of false Appearances or Idols, Idols are the deepest fallacies of the human mind. For they do not deceive in particulars, as the others do, by clouding and snaring the judgement; but by a corrupt and ill-ordered predisposition of the mind, which as it were perverts and infects all the anticipations of the intellect. For the mind of man (dimmed and clouded as it is by the covering of the body), far from being a smooth, clear, and equal mirror (wherein the beams of things reflect according to their true incidence), is rather like an enchanted mirror, full of superstition and imposture. Now Idols are imposed on the mind, either by the nature of man in general, or by the individual nature of each man, or by words, or nature communicative. The first of these I call Idols of the *Tribe*, the second the Idols of the *Cave*, the third the Idols of the *Market-place*. There is also a fourth kind which I call Idols of the *Theatre*, superinduced by corrupt theories or systems of philosophy, and false laws of demonstration. But this kind may be rejected and got rid of... The others absolutely take possession of the mind, and cannot be wholly removed. (*De augmentis; Works* vol. 4, 431)

The second part of the "Great Instauration," which aims at the renewal of learning, is devoted to the "invention of knowledge," and has two components, one of which aims to rid the mind of preconceptions, while the other aims to guide the mind in a productive direction. These components are interconnected, for until we understand the nature of the mind's preconceptions, we do not know in what direction we need to lead its thinking.

In other words, various natural inclinations of the mind must be purged before the new procedure can be set in place. Bacon's approach here is genuinely different from that of his predecessors, as he realizes. Logic or method in themselves cannot simply be introduced to replace bad habits of thought, which Bacon identifies as "Idols," because it is not simply a question of replacement. The simple application of logic to one's mental processes is insufficient.

In his doctrine of Idols, Bacon provides an account of the systematic forms of error to which the mind is subject, and this is a crucial part of his epistemology, and it is in his treatment of internal impediments, the "Idols" of the mind, that the question is raised of what psychological or cognitive state we must be in to be able to pursue natural philosophy in the first place. Bacon believes an understanding of nature of a kind that had never been achieved since the Fall is possible in his own time because the distinctive obstacles that have held up all previous attempts have been identified, in what is in many respects a novel theory of what might

traditionally have been treated under a theory of the passions, one directed specifically at natural–philosophical practice.

The Idols of the Tribe derive from human nature itself, above all from

> the homogeneity of the substance of the human mind, or from its preoccupation, or from its narrowness, or from its restless motion, or from an infusion of the affections, or from the incompetence of the senses, or from the mode of impression. (*Novum Organum; Works* vol. 4, 58–9)

The Idols of the Tribe affect everyone equally, and are manifested in an eagerness to suppose that there is more order and regularity in nature than there actually is; in the tendency to neglect or ignore counter-examples to one's theories; in the tendency to extrapolate from striking cases with which one is familiar to all other cases; in the restlessness of the human mind, which means it is not satisfied with perfectly good fundamental explanations, mistakenly and constantly seeking some more fundamental cause *ad infinitum*; and in the tendency to believe true what one would like to be true. The Idols of the Cave, we are told, "take their rise in the peculiar constitution, mental or bodily, of each individual; and also in education, habit, and accident" (ibid, 59). They include fascination with a particular subject, which leads to over-hasty generalization; the readiness of some minds to focus on differences, and some to focus on similarities and resemblances, while a balance is difficult to attain naturally; the fact that some minds are overly attracted to antiquity and some to novelty; finally, there are those who are concerned wholly with material constitution at the expense of structure (the ancient atomists), and those who are concerned wholly with structure at the expense of material constitution.

These examples bring to light a very significant difference between the Idols of the Tribe and Idols of the Cave. There seems to be a set of routine procedures one can go through to remedy the situation in the latter case, procedures which are provided by the positive part of Bacon's doctrine – eliminative induction – whereas the case of Idols of the Tribe is, in most cases, much more difficult to remedy.

The Idols of the Market-place derive, in essence, from the fact that we have to express and communicate our thoughts by means of language, which contains systematic deficiencies. One kind of problem with language lies in the fact that words

> are commonly framed and applied according to the capacity of the vulgar, and follow those lines of division which are most obvious to the vulgar understanding. And whenever an understanding of greater acuteness or a more diligent observation would alter those lines to suit the true divisions of nature, words stand in the way and resist the change. (ibid, 61)

This leads to two kinds of linguistically-induced deficiencies. First, language provides names which refer to things that do not exist, such as "Fortune, Prime Mover, Planetary Orbits, Element of Fire, and like fictions which owe their origin to false and idle theories." The solution here is simply to get rid of the theories that give rise to these fictitious entities. The second kind of case is not so straightforward. It arises because words have multiple and/or ill-defined meanings, and this is

especially so in the case of terms – such as "humid" – which have been abstracted from observation. Bacon discerns a gradation in the "degrees of distortion and error" of terms, beginning with names of substances, where the degree of distortion is low, proceeding through the names of actions, and finally reaching the names of qualities – he gives the examples of "heavy, light, rare, dense" – where the degree of distortion is high.

Finally, the fourth kinds of impediment, the "Idols of the Theater," are neither innate in the mind nor in language but are acquired from a corrupt philosophical culture and its perverse rules of demonstration. Here a general remedy is available, namely following Bacon's positive methodological prescriptions:

> The course I propose for the discovery of sciences is such as leaves but little to the acuteness and strength of wits, but places all wits and understandings nearly on a level. For as in the drawing of a straight line or a perfect circle, much depends on the steadiness and practice of the hand, but if with the aid of a rule or compass, little or nothing; so is it exactly with my plan. (ibid, 62–3)

One of the great values of Bacon's account of the Idols is that it allows him to make the case for method in a particularly compelling way. Indeed, never has the need for method been set out more forcefully, for Bacon's advocacy of method is not simply as an aid to discovery. We pursue natural philosophy with seriously deficient natural faculties, we operate with a severely inadequate means of communication, and we rely on a hopelessly corrupt philosophical culture. In many respects, these are beyond remedy. The practitioners of natural philosophy certainly need to reform their behavior, overcome their natural inclinations and passions etc., but not so that, in doing this, they might aspire to a natural, prelapsarian state in which they might know things as they are with an unmediated knowledge. This they will never achieve. Rather, the reform of behavior is a discipline to which they must subject themselves if they are to be able to follow a procedure which is in many respects quite contrary to their natural inclinations, which is at odds with traditional conceptions of the natural philosopher, and which is indeed subversive of their individuality.

Eliminative Induction

What Bacon is seeking from a method of discovery is something that modern philosophers would deem impossibly strong: the discovery of causes which are both necessary and sufficient for their effects. Why place such strong constraints on causation, so that we only call something a cause when the effect always occurs in the presence of this thing and never in its absence? In the final analysis, what Bacon (like Aristotle before him) is after are the ultimate explanations of things, and it is natural to assume that ultimate explanations are unique. What Bacon's method is designed to do is to provide a route to such explanations, and the route takes us through a number of proposed causal accounts, which are refined at each stage. The procedure he elaborates, eliminative induction, is one in which various

possibly contributory factors are isolated and examined in turn, to see whether they do in fact make a contribution to the effect. Those that do not are rejected and the result is a convergence on those factors that are truly relevant. The kind of "relevance" that Bacon is after is, in effect, necessary conditions: the procedure is supposed to enable us to weed out those factors that are not necessary for the production of the effect, so that we are left only with those that are necessary.

He provides an example of how the method works in the case of color. We take, as our starting point, some combination of substances that produces whiteness, i.e. we start with what are in effect sufficient conditions for the production of whiteness, and then we remove from these anything not necessary for the color. First, we note that if air and water are mixed together in small portions, the result is white, as in snow or waves. Here we have the sufficient conditions for whiteness, but not the necessary conditions, so next we increase the scope, substituting any transparent uncolored substance for water, whence we find that glass or crystal, on being ground, become white, and albumen, which is initially a watery transparent substance, on having air beaten into it, becomes white. Third, we further increase the scope, and ask what happens in the case of colored substances. Amber and sapphire become white on being ground, and wine and beer become white when brought to a froth. The substances considered up to this stage have all been "more grossly transparent than air." Bacon next considers flame, which is less grossly transparent than air, and argues that the mixture of the fire and air makes the flame whiter. The upshot of this is that water is sufficient for whiteness, but not necessary for it. He continues in the same vein, asking next whether air is necessary for whiteness. He notes that a mixture of water and oil is white, even when the air has been evaporated from it, so air is not necessary for whiteness, but is a transparent substance necessary? Bacon does not continue with the chain of questions after this point, but sets out some conclusions, namely that bodies whose parts are unequal but in simple proportion are white, those whose parts are in equal proportions are transparent, proportionately unequal colors, and absolutely unequal black. In other words, this is the conclusion that one might expect the method of sifting out what is necessary for the phenomenon and what is not to take, although Bacon himself does not provide the route to this conclusion here.

This being the case, one can ask what his confidence in his conclusion derives from if he has not been able to complete the "induction" himself. The answer is that it derives from the consequences he can draw from his account. There are two ways in which the justification for the conclusions can be assessed: by the procedure of eliminative induction that he has just set out, and by how well the consequences of the conclusions so generated match other observations. In other words, there is a two-way process, from empirical phenomena to first principles (induction), and then from first principles to empirical phenomena.

Truth

Closely tied up with Bacon's account of method is his treatment of the question of truth. Bacon goes through a number of what he considers to be inadequate criteria

that have been used to establish truth. He rejects criteria depending on antiquity or authority, those deriving from commonly held views, and those relying upon the internal consistency or the capacity for internal reduction of theories, presumably on the grounds, amongst others, that such criteria do not bear on the question of whether there is any correspondence between the theory and reality. He also rejects "inductions without instances contradictory," that is, inductions which restrict themselves to confirming a theory, as well as "the report of the senses." None of these, he tells us, are "absolute and infallible evidence of truth, and bring no security sufficient for effects and operations." That he ties in evidence for the truth of a theory and its usefulness here is no accident, for these are intimately connected, telling us in *Valerius Terminus*

> That the discovery of new works and active directions not known before, is the only trial to be accepted of; and yet not that neither, in case where one particular giveth light to another; but where particulars induce an axiom or observation, which axiom found out discovereth and designeth new particulars. That the nature of this trial is not only upon the point, whether the knowledge be profitable or no; not because you may always conclude that the Axiom which discovereth new instances be true, but contrariwise you may safely conclude that if it discover not any new instance it is in vain and untrue. (*Works* vol. 3, 242)

Is Bacon providing a gloss on truth here, maintaining that it has been misconstrued, that to say something is true is exactly the same as saying that it is useful? Or is he saying that something is true, in the ordinary accepted sense, only if it is useful? Whichever, it is a very strong claim on Bacon's part. Are there no useless truths, and are there no falsehoods which have practical application? It is not simply that false premisses may lead to true conclusions, but there are cases where approximations which, while false, may have more practical value than the truths of which they are the approximation.

The solution becomes clear when we consider that since Antiquity debates on methods of generating truths had hinged on the question of generating informative truths: the aim is to discover something we did not already know. In particular, there was a concern among Aristotle and his Renaissance followers to show that formal modes of reasoning such as the syllogism were not trivial or circular, because, at the start of the inferential process, we have knowledge *that* something is the case, whereas at the end of it we have knowledge *why* it is the case. In particular what they sought to show was that the kind of knowledge of an observed phenomenon we have through sensation is qualitatively different from, and inferior to, the kind of knowledge we have of that phenomenon when we grasp it in terms of its causes.

This is also what Bacon was seeking. If we think in terms of "informative truths," Bacon's position makes a little more sense. He is saying that the only way in which we can judge whether something is informatively true is to determine whether it is productive, whether it yields something tangible and useful. And if something does consistently yield something tangible and useful, then it is informatively true. (The "consistently" here is important if we are to be able to rule out cases where false

premisses just happen on particular occasions to yield true conclusions, for we can assume that, unlike truths, they will not continue to do this indefinitely.) And the case of approximations can perhaps be dealt with by saying that these derive their usefulness not from their falsity but from their proximity to the truth, although the cases where the approximation is more useful than the true account cannot be handled so easily.

The question of the practicality of truth turns on its informativeness, but there is another dimension to this question which, although it is not explicitly mentioned by Bacon, is of importance in understanding his general orientation. In the humanist thought that makes up the source from which Bacon derives much of his inspiration, moral philosophy figures very predominantly. Now in this philosophy, being virtuous and acting virtuously are the same thing: there is no separate practical dimension to morality. This is all the more interesting because moral philosophy is a cognitive enterprise, one in which the practical outcome is constitutive of the discipline, something Bacon stresses in the *Advancement of Learning*. If we see natural philosophy as being in some respects modeled on moral philosophy, something which is natural enough in a humanist context, and which is reinforced in the shift from *otium* to *negotium*, then we may be able to make a little more sense of the idea that truth is not truth unless it is informative and productive. If we think of Bacon's project as transforming moral philosophers into natural philosophers, then we might expect some carry-over from conceptions of the moral philosopher. Notions which were quite appropriate in moral philosophy, but not (at least outside Epicureanism) in natural philosophy, remain in the transformation process. And this is exactly what we do find, most strikingly in the idea of truth as productive and informative. For Bacon, natural–philosophical truth is no more truth if it is not informative and productive of works than moral truth is if it is not informative and productive of works. "In religion," he tells us in *Redargutio Philosophiarum*, "we are warned that faith is to be shown by works," quoting Luke 6.44: "By their fruits ye shall know them." And he proposes that the same test that is applied in religion be applied in philosophy: if it produces nothing at all, or, worse, if, "instead of the fruits of the grape or olive, it bear the thistles and thorns of disputes and contentions," then we can reject it (*Works* vol. 3, 576).

Bacon's Legacy

In the early modern era, there emerged in the West a style of doing natural philosophy, a way of thinking about the place of natural philosophy in culture generally, and a way of thinking about oneself as a natural philosopher. Bacon played a key role in this. He inaugurated the transformation of philosophy into science, for even though the ideas of "science" and "scientist" in their modern sense were only really established in the nineteenth century, their genealogy goes back to Bacon's attempt to effect a fundamental reform of philosophy from a contemplative discipline exemplified in the individual persona of the moral philosopher, to a communal, if ultimately centrally directed, enterprise exemplified in the persona of the experimental natural philosopher. In turn, observation and experiment are lifted out of the pur-

view of the arcane and the esoteric, and planted firmly in the public realm. It is this that is ultimately one of the key developments that enables the transformation of scientific activity from an enterprise that had traditionally exhibited a pattern of slow, irregular, intermittent growth which alternates with substantial periods of stagnation, into the uninterrupted and cumulative growth that constitutes the general rule for scientific development in the West since then.

Bacon's reshaping and defense of natural philosophy, his establishment of its autonomy, legitimacy, and central cultural role are on a par with Plato's defense of the autonomy and centrality of the "quiet" virtues, such as justice and moderation. Both shaped the cultures in which they lived, and shaped them irreversibly, moulding those which followed, above all our own. Philosophy was torn apart as it gave birth to a scientific culture, and as one of the defining characteristics of modernity, the divide between the sciences and the humanities emerged. The division did not come about by chance, nor was it an oversight. It was engineered as part of the conditions of possibility of the emergence of a scientific culture, and its first engineer was Bacon.

References

The standard edition is *The Works of Francis Bacon*, ed. James Spedding, Robert Leslie Ellis and Douglas Denon Heath, 14 vols. (London: Longmans, Green, Reader, and Dyer, 1857–1874). This will eventually be replaced by *The Oxford Francis Bacon*, gen. eds. Graham Rees and Lisa Jardine, projected 12 vols. (Oxford: Clarendon Press, 1996 onwards) as the volumes appear.

Further Reading

For a general overview of Bacon's thought see Perez Zagorin, *Francis Bacon* (Princeton: Princeton University Press, 1998) and Markku Peltonen, ed., *The Cambridge Companion to Bacon* (Cambridge: Cambridge University Press, 1996). On his natural philosophy and method see Stephen Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy* (Cambridge: Cambridge University Press, 2001), Fulton H. Anderson, *The Philosophy of Francis Bacon* (New York: Octogan Books, 1971), Paolo Rossi, *Francis Bacon: From Magic to Science* (Chicago: University of Chicago Press, 1968), and the Introduction to Graham Rees, ed., *The Oxford Francis Bacon: Volume 6, Philosophical Studies c.1611–c.1619* (Oxford: Clarendon Press, 1996 onwards). Peter Urbach, *Francis Bacon's Philosophy of Science: An Account and Reappraisal* (La Salle, Ill.: Open Court, 1987) provides a comprehensive discussion of Bacon's account of method. Lisa Jardine, *Francis Bacon: Discovery and the Art of Discourse* (Cambridge: Cambridge University Press, 1974) and Antonio Pérez-Ramos, *Francis Bacon's Idea of Science and the Maker's Knowledge Tradition* (Oxford: Clarendon Press, 1988) concentrate on the role of rhetoric in Bacon's work. Julian Martin, *Francis Bacon, the State, and the Reform of Natural Philosophy* (Cambridge: Cambridge University Press, 1992) deals with Bacon's thought on legal questions. Charles Webster, *The Great Instauration: Science, Medicine and Reform, 1626–1660* (London: Duckworth, 1975) looks at the influence of Bacon between the time of his death and the founding of the Royal Society.

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The Cambridge Platonists

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Cambridge Platonism is the (not altogether accurate) term used since the nineteenth century to denote the remarkably original contribution to English seventeenth-century philosophy made by a group of thinkers based at the University of Cambridge. The most important philosophers of this group were Henry More (1614–87) and Ralph Cudworth (1617–89). Other members of the group included Peter Sterry (1613–72), John Smith (1618–52), Nathaniel Culverwell (1619–51), John Worthington (1618–71), George Rust (d. 1670) and the most important shaping influence among them, Benjamin Whichcote (1609–83). With the exception of More and Rust, all of the Cambridge Platonists were fellows of Emmanuel College. While not a school in the sense that they organized themselves as one, nor in the sense that they all subscribed to an agreed set of doctrines, the Cambridge Platonists exhibit common characteristics in their thinking which distinguish them as a philosophical grouping. With variations, they were all optimists about human nature who set a high value on human reason. They were anti-determinists whose defense of freewill opens the way for arguing the autonomy of the individual human subject. They were moral realists who held the eternal existence of moral principles and of truth. They were all dualists for whom mind is ontologically prior to matter, and soul or spirit is the fundamental causal principle in the operations of nature. They held that the human mind is equipped with the principles of reason and morality and that the truths of the mind are superior to sense-knowledge. They devoted their considerable philosophical learning to defending the existence of God and the immortality of the soul, and to formulating a practical ethics for Christian conduct. This religious emphasis may be explained in part by the fact that within the seventeenth-century academic framework, philosophy was subordinate to, and indeed a propaedeutic to theology. Nevertheless, they emphatically repudiated the scholastic methodologies of academic philosophy, and, in the main, adopted an accessible style for communicating their ideas. They were in fact the first philosophers to write primarily and consistently in English, in consequence of which, many philosophical terms of common currency derive from them (e.g. consciousness, self-determination and Cartesianism). As this terminology suggests, they were fully conversant with contemporary philosophy. And, contrary to what their innatist epistemology might suggest, they

took a lively interest in the developments that brought about the scientific revolution.

"Platonism" is therefore a misleading term to describe the philosophical affiliations of More, Cudworth and their colleagues from Emmanuel College, if by Platonism we mean an exclusive adherence to the teachings of Plato, and a concomitant repudiation of all other philosophy, whether ancient or modern. It is true that the Cambridge Platonists admired Plato, but they were certainly not Platonists in the narrow modern understanding of the term. They shared the Renaissance regard for the achievements of ancient philosophy, but, like the Humanists of the Renaissance, their interest was dictated by their sense of the relevance of classical philosophy to contemporary life. They interpreted Plato alongside the later Platonists, notably Plotinus, and drew on other ancient philosophies besides Platonism, including Stoicism and Greek atomism but also Aristotelianism. Importantly, they were also very much abreast of new developments in philosophy and science – with DESCARTES (chapter 5), HOBBES (chapter 22) and SPINOZA (chapter 16) and also BACON (chapter 20), BOYLE (chapter 23) and the Royal Society. From a modern perspective, it is easy to dismiss this receptiveness towards both ancient and modern philosophy as intellectual confusion. But to do so is to fail to recognize that they were working within a pre-existing conception of philosophy which itself constituted a framework for explaining continuities and new developments in philosophy. This was the "perennial philosophy" (*philosophia perennis*) proposed by the Italian philosophers such as Marsilio Ficino, and Agostino Steucho. Its most illustrious "modern" exponent was to be GOTTFRIED WILHELM LEIBNIZ (chapter 18). The Platonism of Cambridge Platonists must be understood in the light of this Renaissance model of philosophy.

Their adherence to Renaissance assumptions notwithstanding, the Cambridge Platonists belong with the philosophical revolution of the seventeenth century, when the authority of Aristotelianism was waning fast in the face of challenges from skepticism and competing alternative philosophies, notably those of Hobbes and Descartes. Although they did not share the stance of moderns like Bacon and Descartes who announced their modernity by proclaiming the death of tradition, they too sought an alternative philosophical framework to Aristotelianism. This explains not just their recourse to Platonism, but their receptivity to Cartesianism. Indeed, their philosophy can in some respects be viewed as modified Cartesianism. Smith, Culverwell, Cudworth, and More were among the first Englishmen to read Descartes. More was attracted to Cartesianism as a dualistic philosophy which he believed offered the best available natural philosophy. Such was More's enthusiasm for Cartesianism, that he entered into correspondence with Descartes and advocated the teaching of Cartesianism in English universities. Cudworth, too, was a dualist. He drew on Descartes' theory of the passions and incorporated the Cartesian account of body into his own philosophy (regarding Descartes as a reviver of Democritean atomism). In epistemology he conflated the Cartesian principle of "Clear Perceptibility or Intelligibility" with his Platonist identification of being with truth: "whatsoever is clearly and distinctly perceived to *Be, Is.*" Their reception of Descartes was, however, tempered by their Platonism and their religious priorities, as a result of which they voiced reservations about the value of Descartes' philosophy, as an answer to atheists and skeptics. Both More and Cudworth criticized Descartes'

rejection of final causes and identified what they regarded as philosophical weaknesses which opened the way to atheism: Cudworth, for example, argued that Descartes' proof of the existence of God is circular because it bases his proof on the truth of the faculties of the mind, and then proves the truth of those faculties from the existence of God. Although More retained Cartesian natural philosophy in broad outline, he regarded Descartes' account of the soul as inadequate, and eventually concluded that Cartesian physics could not explain all the phenomena of nature. His dissatisfaction with Cartesian metaphysics, in particular the Cartesian account of the soul, lead him to condemn Descartes as a "nullibist" that is, someone who claims God and the soul exists, but is unable to locate the soul.

For the purposes of this chapter, I shall concentrate on the three most important figures among the Cambridge Platonists: Benjamin Whichcote, Henry More, and Ralph Cudworth. Whichcote is usually considered to be the founding father of Cambridge Platonists. He was the most senior of the group, already installed at Emmanuel College when Cudworth, Smith, and Culverwell were admitted there. More and Cudworth were the only two Cambridge Platonists to publish substantial philosophical works. But the basic principles underlying both More and Cudworth's philosophical writings are evident in the less substantial writings of the others. In many ways the theological premises of their philosophy are more pronounced in these works, as is their humanistic Platonism.

Benjamin Whichcote

During the 1640s and 1650s, Benjamin Whichcote was a prominent figure in the University of Cambridge. He was appointed Provost of King's College when the Parliamentary authorities purged the ranks of Cambridge teachers during the Civil War, and he was Vice Chancellor of the University in 1650–1. However, he was removed from his post at King's College at the Restoration in 1660. Thereafter he found employment as a clergyman in London. The interruption to his academic career may explain why he published no philosophical treatises as such, but we can learn much about his philosophical orientation from his sermons and aphorisms which were printed after his death. His writings exemplify not only the basic philosophical principles of Cambridge Platonism but its origins in a tolerant, optimistic and rational theology. Whichcote's aphorisms amount to a collection of principles of practical ethics, founded on an optimistic view of human nature as rational and perfectible and on the belief that moral principles are immutable absolutes existing independently of human minds and institutions. Ethical principles are founded in the law of reason, not will, by a God whose supreme perfection is expressed in the attributes of goodness, wisdom, mercy, and justice. God, in conformity with His nature, is just, merciful and good and, in his dealings with his creatures acts not arbitrarily, but rationally. Since human beings are by nature rational, virtue itself, being founded in reason is natural to man. "Good is connatural to man" (Cragg, 1968, p. 423). Wrong-doing is therefore both irrational and unnatural (Patrides, 1969, p. 44). Virtue and vice are not the product of compulsion: men have the "liberty and freedom" to be good or wicked.

Whichcote's moral theory is underpinned by a Platonic metaphysics, according to which God is the sum of all perfections, the human mind participates in the divine and all things reflect the excellence of the first cause. Whichcote's metaphysics is not developed to any extent in his published writings, largely because he eschews metaphysical argument, as inappropriate for the sermon format. Nevertheless, he everywhere emphasizes the centrality of reason to religious belief and human conduct. By reason Whichcote means not the disputatious logic of the schools but the capacity for thought, for intellectual process in general: "consideration, discussion, examination, self-reflection and approving the reason of our minds to the reason of things as the proper rule" (Cragg, 1968, p. 64). Furthermore, Whichcote emphasizes practical reason. The knowledge to be gained thereby is not "bare knowledge" but knowledge which "doth... go forth into act." Not only is reason natural to man, but it is that which makes man "capable of God" (Cragg, 1968, p. 63), for "Reason discovers what is natural and receives what is supernatural" (Cragg. 1968, p. 424). Reason is the interlink between the divine and the human both in the sense that the human mind participates in the divine but also because that God has predisposed the human mind to be able to reason. Without reason we would have no means of demonstrating the existence of God, and no assurance that revelation is from God. Reason is therefore the foundation of faith, and, in human experience, reason is antecedent to faith. Whichcote does not, however, subordinate faith to reason, the divine to the human. On the contrary, reason is derived from God, and is the means whereby God predisposes human beings to knowledge of God: "God *made* men to know, that he himself IS." Furthermore, "God is the most knowable of any thing in the world" (Patrides, 1969, p. 58), the idea of God is innate in the human mind ("there is a natural indelible Sence of the Deity" (Patrides, 1969, p. 59). Revelation, as recorded in scripture, is supplementary to reason, a "superadded Instrument" of God's (Patrides, 1969, p. 60) Revelation is secondary to reason in the sense that it presupposes the existence of God, but requires "Reason and Argument" to prove it. In his sermon, "The use of Reason in Matters of Religion" (published by Shaftesbury in 1698), Whichcote's proof of the existence of God proceeds from thought (reason) to the idea of a being more perfect than himself. Although this appears to echo Descartes in *Discours de la Méthode*, it probably originates with Cicero's *De natura deorum*. Whichcote places great emphasis on *a posteriori* demonstration arguing from effects to causes, "the demonstrating of an *antecedent Cause*, by *subsequent Effects*" (Patrides, 1969, 54). God's works are "the EFFECTS OF GOD." Since natural phenomena ("the *Effects* in Nature") surpass the human, we may conclude that they are caused by a more perfect, knowledgeable, better and powerful being than ourselves. Although Whichcote did discuss natural philosophy in his writings, his focus on natural phenomena as the "effects of God" anticipates the use of natural philosophy as a central component of the apologetics of Cudworth and More.

Whichcote's optimism about human reason is shared by the other Cambridge Platonists, all of whom affirmed the compatibility of reason and faith. For example John Smith in his posthumously published *Select Discourses* (1660) outlines a hierarchy of four grades of cognitive ascent from sense combined with reason, through reason in conjunction with innate notions, and, thirdly, through disembodied, self-

reflective reason; and finally divine love. In his *An Elegant and Learned Discourse of the Light of Nature* of 1652, Nathaniel Culverwell argued that reason was imprinted in men's souls by God so that they might understand the law of nature. According to George Rust in his *Discourse of Truth* (1677), right reason is an "Innate Faculty of the Soul of Man." With Cudworth and More the divinized reason of Whichcote forms the basis of more fully worked out religious philosophy.

Henry More

Henry More spent his entire career as a fellow of Christ's College, Cambridge. He was a prolific writer whose published output included poetry, theology, and Bible commentary as well as philosophy. Of all the Cambridge Platonists, he was the most directly engaged in contemporary philosophical debate: from 1648–9 he corresponded with Descartes, and went on to develop a critique of Cartesianism. He also wrote against Hobbes, and was one of the earliest English critics of Spinoza (*Demonstrationem duarum* and *Epistola altera* both published in his *Opera omina*, 1671). More's main philosophical works are his *An Antidote Against Atheism* (1653), his *Of the Immortality of the Soul* (1659), *Enchiridion metaphysicum*, and *Enchiridion ethicum*. His most important statement of his own theology, his *An Explanation of the Grand Mystery of Godliness*, appeared in 1664, and propounds, in opposition to Calvinist pessimistic voluntarism, a moral, rational providentialism in which he vindicates the goodness and justice of God by invoking the Origenist doctrine of the pre-existence of the soul. The majority of the books he published in the latter half of his life were studies of biblical prophecy (e.g. *Apocalypsis apocalypseos*, 1680, *Paralipomena prophetica*, 1685). These theological writings are not separate from his philosophical agenda, as may best be illustrated from his *Conjectura cabalistica* of 1656 in which he presents his metaphysical doctrines in the form of an exposition of the symbolic wisdom contained in the first book of Genesis. Subsequently, More undertook more detailed study of the Jewish kabbalah motivated by the then generally accepted view that kabbalistic writings contained truths of philosophy, as much as of religion, in symbolic form. More's philosophy is aimed at a learned and international audience (he prepared a Latin translation, *Opera omnia*, for this purpose), but he also addressed his philosophy to a lay public, by adopting more accessible genres: his *Psychodia platonica* (1642) and *Philosophical poems* (1647) are philosophical poems written in the style of Spenser. His *Divine Dialogues* of 1678 is an accessible summary of his philosophical and religious teachings propounded in dialogue form.

The central element of More's philosophical output was a fully elaborated philosophy of spirit, developed over the course of several writings and most fully stated in *Enchiridion metaphysicum*. More explained all the phenomena of mind and of the physical world in terms of the activity of spiritual substance controlling inert matter. The category of spirit includes not just the souls of living creatures but God himself (who is an infinite spirit) and the Spirit of Nature. More explains soul–body interaction by his theory of "vital congruity," a kind of sympathetic attraction between soul and body engineered by the operation of a cosmic spirit which he

calls the Spirit of Nature or Hylarchic Principle. The Spirit of Nature occupies an intermediate position between God and created world. According to More its purpose is to "oversee and direct the Motions of the Matter, allowing nothing therein but what our Reason will confess to be to very good purpose" (*Antidote*, II. ii. 6). Similar to Plato's *anima mundi* (world soul), and the Stoics' *pneuma*, More's Spirit of Nature is a "Superintendant Cause" that constitutes the interface between the divine and the material. More describes it in quasi-emanationist terms as "the last Ideal or Omniform Efflux from God," which communicates God's providential order to the created universe, encapsulating "certain general Modes and Lawes of Nature" (More, 1662, Preface, p. xvi). It is the Spirit of Nature that is responsible for uniting individual souls with bodies, and for ensuring the regular operation of non-animate nature. Importantly, it accounts for phenomena that apparently defy the laws of mechanical physics (phenomena such as the inter-vortical trajectory of comets, the sympathetic vibration of strings and tidal motion).

More conceives of spirit as spatially extended. God, in More's account is an extended being (*res extensa*). And space, in More's conception shares properties of incorporeal substance. He first made the case for this in his correspondence with Descartes' view that only matter is extended. More argued that all substance is extended, whether material or immaterial and that space exemplifies non-material extension within which material extension is contained. Furthermore, space is infinite (here he anticipates his fellow Grantham-ite, Isaac Newton). The sources of More's concept of space are Plato's *chora* or "place of forms" in *Timaeus* 52b and Plotinus' gloss on this as void extent in *Enneads* 2.4 and 3.6. In his poem *Democritus platonissans* of 1647, More posited the infinity of the universe. Although written in the wake of enthusiasm after reading Descartes, More subsequently took Descartes to task in his correspondence for proposing that the universe was not infinite but indefinite. The parallel between God and space is most explicitly stated in *Enchiridion metaphysicum*, in which More argued that the properties of space are analogous to the attributes of God (infinity, immateriality, immobility etc.). Space is, therefore, "an obscure shadow" of God conceived as an infinitely extended spirit.

More regarded himself as above all a religious apologist, and presented his main philosophical works as arguments in defense of theism against the claims of rational atheists. As he says in the Preface to his *A Collection of Several Philosophical Writings* (1662), his intention, "is not to Theologize in Philosophy, but to draw an *Exoterick* Fence or exteriour Fortification about Theologie" (More, 1662, Preface, p. vi). *The Apology of Henry More* (1664) supplies a set of rules for the application of reason in religious matters, stipulating the use of only those "Philosophick theorems" which are "solid and rational in themselves, nor really repugnant to the word of God." He puts this into practice in his philosophical writings, which are largely devoted to demonstrating the existence and providential nature of God. The foundation stone of More's apologetic enterprise is his attempt to demonstrate the existence of incorporeal causal agents, that is, souls or spirits. Although he was writing with contemporary natural philosophy in mind (the so-called "Mechanical Philosophy" of Descartes and others) his argument recapitulates Plato's anti-atheist argument in *Laws* 10. Like Plato, More takes as his starting point the fact that the operations of nature cannot be explained simply in terms of the chance collision of material

particles. Rather we must posit "some power more than Mechanical" (More, 1662, *Immortality*, p. 12). This power More identifies as "spirit." It is a short step, he argues, from grasping the concept of spirit, to accepting the idea of an infinite spirit, namely God. Conversely, to deny the existence of soul or spirit leads, logically to the denial of the existence of God, or as he put it, alluding to James I's defense of episcopacy: "That saying is no less true in Politicks '*No Bishop, no King,*' than this in Metaphysicks, '*No Spirit, no God*' " (More, 1662, *Antidote*, p. 142).

In order the better to convince his assumed atheistic adversary, More attempted to tackle him "upon his own principles," by using arguments which anyone, except the thorough skeptic, must accept. In his *An Antidote Against Atheism* (1653) he adopts a threefold approach basing his arguments on, as he puts it, "the known and unalterable *Ideas of the Mind... the phaenomena of nature* and records of History" (More, 1662, *Antidote*, p. 142). In *Of the Immortality of the Soul* More addresses his arguments to rational materialists in general, especially those like Thomas Hobbes who denied the existence of incorporeal substance – "*all those so confident Exploders of Immaterial Substances*" (More, 1662 *Immortality*, p. 5). He answered Hobbes by showing that the same arguments whereby materialists demonstrate the existence of body, also support the obverse, the existence of incorporeal substances, "*that their own acknowledged Principles will necessarily inferre the Existence of them [Immaterial Substances] in the World,*" ibid). To this end, he commences with a series of self-evident axioms to establish that substance may only be known indirectly via its accidents or modes. The defining attributes of any substance are those "Properties, Powers and Operations" which are conceptually inseparable from the subject in question, although their inherence in that subject is inexplicable. Conceding the existence of extended (corporeal) substance, as any mechanical philosopher must, he proceeds to frame his definition of incorporeal substance (i.e. spirit) obversely to the defining attributes of corporeal substance, that a rational materialist (such as Hobbes) might give. His argument recapitulates his first letter to Descartes where he had attempted to persuade him that spirit is a variant type of extension. Thus, where the materialist concludes that this extended substance is body, More proposes that spirit too is extended. Where the materialist takes the properties of body to be solidity ("impenetrability") and separability into parts ("discerpibility"), More proposes that spirit is the obverse: insubstantial ("penetrable") and indivisibly unified ("indiscerpible"). In this way More sought to demonstrate that the *idea* of incorporeal substance, or spirit, was as intelligible as that of corporeal substance, i.e. body.

More underpins these a priori arguments for the existence of spirit, with a wide range of a posteriori arguments, taken from "the *phaenomena* of *nature* and records of History" to demonstrate the actions of spirit from the observable effects of its operations. Among the examples he adduces are experiments conducted by Robert Boyle and members of the Royal Society, and supernatural effects. These and other observable phenomena he explained as the operations of spirit. He interpreted Boyle's experiments as endorsing his hypothesis of the Spirit of Nature. The supernatural effects included examples attributable to the activity not just of spirit in general but of evil spirits. His documentation of the paranormal, especially cases of witchcraft and demons appears anomalous in his otherwise rational philosophy. But it must be acknowledged firstly that his apparent credulity was not unusual in his

time, and, secondly, that it is entirely consistent with the theory of spirit to which he subscribed. His most well-known fellow-believer was Royal Society member, Joseph Glanvill (1636–80), whose *Sadducismus triumphatus* More edited. What is unusual about More is that he applied to this kind of data the same investigative principles of the new experimental science of the day, and went to great lengths to check the reliability of the accounts he used. Furthermore, More's discussions of witchraft and demonology are just one set of a wider collection of data assembled to demonstrate the working of spiritual agents.

More's short treatise on ethics *Enchiridion ethicum* (1667, translated as *An Account of Virtue*), is in many ways indebted to Descartes' theory of the passions. More argues that ethics cannot be taught by definitions, but requires faith in God, virtue being the image of God in man. The good life consists in living both well and happily. Knowledge of virtue is attainable by reason, and the pursuit of virtue entails the control of the passions by the soul. The exercise of volition requires both the power and the motivation to do so. Free will is *autoexousy* (More uses the same term as Cudworth) or "the having a Power to act or not act within ourselves" (More, 1667, Book 3, chapter 1). Motivation to good is supplied by rightly directed emotion. And the attainment of goodness is experienced as joy. Since virtuousness consists of both reason and sensation More posits a special faculty of the soul combining the two, which he calls the "Boniform Faculty." This, in many ways anticipates Shaftesbury's concept of moral sense.

Cudworth

Cudworth, like his friend Henry More, was a university teacher whose entire career was spent at the University of Cambridge, where he held the post of Regius Professor of Hebrew. The same Parliamentary intervention that led to Whichcote becoming Provost of King's College resulted in the intrusion of Cudworth into the mastership of Clare College in 1647. In 1654 he was elected Master of Christ's College. He survived attempts to deprive him at the Restoration and remained in post until his death in 1689. Cudworth is best known today through his posthumously published *A Treatise Concerning Eternal and Immutable Morality* (1731 and 1996) and his *A Treatise of Freewill* (1848 and 1996). Along with two further manuscripts on the topic of "Liberty and Necessity," these were part of a projected continuation of his least-read work, his *True Intellectual System of the Universe* (1678), the only work of philosophy which he published in his lifetime. The immense weight of humanist learning which encumbers Cudworth's philosophy has served to deter modern readers and obscure the originality of his contribution to English philosophy.

Cudworth's philosophy is founded in his conception of God as a fully perfect being, infinitely wise and good. According to this anti-voluntarist view, the created world bears the hallmark of its creator: it is, therefore, orderly and intelligible, and organized for the best. God's wisdom and goodness are the guarantors of certainty and of moral values. God's attributes are therefore the foundation of the true intellectual system, and, it might be said, of the true order of morality. Misconceptions of God's attributes, which emphasize his power and will, result by definition in false

philosopical systems with skeptical and atheistic implications. For a philosophy founded on a voluntaristic conception of the deity would have no ground of certainty or of morality because it would depend on the arbitrary will of God. If the will of God determined all, God could, arbitrarily, decree non-sense to be true and wrong to be right.

In Cudworth's view the true intellectual system of philosophy combines a mechanistic atomistic natural philosophy with Platonic metaphysics and originated from Pythagoras and, before him, Moses. In Cudworth's account, Cartesian natural philosophy is a recently revived variety of this ancient atomism. The appeal of Descartes' mechanical philosophy to Cudworth is that it pre-supposes the existence of soul or spirit. Since motion, thought and action cannot be explained in terms of material particles, haphazardly jolted together, there must be some guiding originator, namely soul or spirit. For Cudworth, as for Plato, mind precedes the world.

The True Intellectual System is largely taken up with *consensus gentium* arguments for the existence of a supreme deity so as to show that theism is compatible with philosophy. Much of the book, therefore, consists of a survey of ancient sources, among which Cudworth distinguishes between those thinkers who proposed atheistic systems and those who did not. Among the former, Cudworth distinguishes four schools of atheistic philosophy, each of which is a type of materialism – Hylozoic atheism which attributes life to matter, Hylopathian atheism, which attributes all to matter, Cosmo-plastic atheism which makes the world–soul the highest numen. His critique is not limited to ancient philosophy, however. In accordance with the idea of perennial philosophy, each of these has its latter-day manifestations contemporary: Hobbes is an example of a Hylopathian atheist, Spinoza a latter-day Hylozoist.

Cudworth proposed his doctrine of "Plastic Nature" as an alternative to the mechanical account of the operations of nature. Like More's Hylarchic Principle, Plastic Nature is a formative agency which acts as an intermediary between God and nature, maintaining the day-to-day operations of the physical universe in an orderly fashion. It is the means whereby God imprints His presence on his creation and makes His wisdom and goodness intelligible in and through the natural world. Cudworth also describes it as a summation of all the laws of motion. Cudworth sees Plastic nature as some kind of spirit – reminiscent of the Platonic *anima mundi* – though it carries out its functions unconsciously. Through it he sought to account for the design and purpose in the natural order. By this hypothesis he explains God's immanence in the world, without requiring the immediate intervention of God in the minutiae of day-to-day operations in the natural world that an occasionalist account of God's operations would entail.

A Treatise of Eternal and Immutable Morality is the most fully developed account of epistemology by any of the Cambridge Platonists, and the most extensive treatment of innatist epistemology by any philosopher in the seventeenth century. Cudworth's epistemology is constructed round the basic Platonic principles of archetype and ectype (form and copy). "Wisdom, knowledge, and understanding, are eternal and self-subsistent things." Divine wisdom and knowledge is imprinted in individual minds as well as being reflected in the makeup of the physical world. The human mind, which mirrors the mind of God, is furnished with ideas and the ability to reason. The ideas in the mind are common to all minds, and cognition therefore

entails recollection. The ideas of things by which the mind knows are therefore anticipations – Cudworth uses the Stoic term *prolepsis*. But the mind is not a passive recipient of knowledge. Rather, it is an active participant in the cognitive process. According to Cudworth, "knowledge is not a passion from anything without the mind, but an active exertion of the inward strength, vigour, and power of the mind, displaying itself from within" (Cudworth, 1996, p. 74). Cudworth's innatist theory of mind does not repudiate the evidence of the senses. On the contrary, sensory input is important in the mind's relation to the body and to the external world. However, raw sense data is not, by itself, knowledge. We cannot understand the book of nature unless we know how to read. The external world is, intrinsically, intelligible, since it bears the imprint of its creator in the order and relationship of its component parts.

Not only do ideas exist independently of human minds, but so also do moral values. In a concerted attack on Hobbesian moral relativism, Cudworth argues that the criteria of right and wrong, good and evil, are not a matter of convention, but are part of the nature of things. The principles of justice and of morality are founded in the goodness and justice of God rather than in an arbitrary fiat of the divine will. Like Plato in the *Euthyphro*, he argues that it is not God's will that determines goodness. Rather, God wills things because they are good. In support of his position, he wrote extensively on free will (though only one of his treatises on the subject has been published).

Cudworth conceives of freewill not as a faculty of the soul, distinct from reason, but as a power of the soul which combines the functions of both reason and will, and directs the soul towards the good. Here again, Cudworth adopts a term from Stoicism: the *hegemonikon* or ruling principle which guides the soul towards the good. We are not induced to act either morally or immorally by external incentives, but inspired to do so by internal impulse towards the good. Freedom to act is essential to ethical choices, because without it there would be no moral responsibility. Moral action is therefore a matter of active internal self-determination, rather than compulsion from without. Moral conduct is active, not passive. The *hegemonikon* in Cudworth's conception has an integrative function. which not only combines the functions of will and reason, but unites the lower, animal, appetites of the soul and to the higher principles of the soul. In this way Cudworth bridges the divide between soul and body that characterizes Cartesianism. Furthermore, the *hegemonikon*, in Cudworth's account, is not simply the soul but the whole person, "that which is properly we ourselves" (Cudworth, 1996, p. 178). As the autonomous, unified subject, Cudworth's concept of *hegemonikon* lays the foundation for a concept of self identity founded in a subject that is at once thinking, acting and end-directed.

Increasingly, the Cambridge Platonists' contribution to English seventeenth-century thought is coming to be better understood. However, the full extent of their impact on intellectual developments in the period has still to be explored. It has too often been their fate in histories of philosophy to be defined negatively against their philosophical contemporaries, perhaps on account of the fame of their critique of Descartes, Hobbes, and Spinoza. Their Platonism and their theological priorities have been misunderstood as the hallmarks of mystical idealism. It is also the case that historical circumstances meant that their fortunes suffered in the seventeenth

century by a combination of premature deaths (in the case of Culverwell and Smith) and adverse political fortunes (both Whichcote and Worthington were deprived of their posts at the Restoration in 1660). The only one to sustain a prolific publishing career was Henry More. Cudworth's *magnum opus* was never completed as planned and Whichcote's only publications were sermons. Nevertheless, during the English Civil war and Republic (1642–60), their impact on the University of Cambridge was disproportionate to their small numbers, for during that period several of them were appointed heads of other colleges: Worthington became master of Jesus College, Whichcote Provost of King's College, and Cudworth Master first of Clare Hall and then of Christ's College. Whichcote also served as Vice-Chancellor of the University (1650) and Cudworth was appointed Regius Professor of Hebrew in 1654. Even after the Restoration, the eirenic spirit of the Cambridge Platonists is evident among the next generation of tolerant churchmen, who came to be known as the Latitudinarians: Simon Patrick (1626–1707), Edward Fowler (1632–1714), John Sharp, and Gilbert Burnet.

Evidence from publication and citation suggests that their philosophical influence was far-reaching. Their immediate philosophical heirs in the seventeenth century included one of the few female philosophers of the period, Anne Conway (1631–79), who studied with Henry More. Her *Principles of the Most Ancient and Modern Philosophy* (1692) developed a metaphysical monism that anticipates Leibniz. Another figure associated with More was John Norris (1657–1711) who was to become the leading English exponent of the philosophy of MALEBRANCHE (chapter 11). In his post-academic career as curate of St. Anne's Blackfriars in London, Whichcote was an influential preacher to a cosmopolitan audience whose number included John LOCKE (chapter 24). And Locke in turn was the intimate friend of Cudworth's philosophical daughter, Damaris Masham. Whichcote's philosophical wisdom was distilled from these sermons and published as sets of aphorisms in the seventeenth and eighteenth centuries. His *Select Sermons* were published with a preface by Locke's pupil, the philosopher Anthony Ashley Cooper, third EARL OF SHAFTESBURY (chapter 28) in 1698. The Latin translation of Henry More's writings ensured him a European readership that numbered, among others, Leibniz and Pierre Daniel Huet, Bishop of Avranches. Cudworth's philosophy had something of an Enlightenment afterlife, thanks to Edward Chandler's publication of his treatise on ethics in 1731 and to Johann Lorenz Mosheim's Latin translation of his entire works in 1733. Cudworth's impact is evident in the philosophy of Richard Price, and Thomas Reid. His theory of Plastic Nature was taken up in vitalist debates in the French Enlightenment. Far from being peripheral figures, without an intellectual legacy, the Cambridge Platonists were fully engaged with philosophical debate in seventeenth-century England and anticipated many developments in Enlightenment thought.

References

Conway, Anne, 1996, *The Principles of the Most Ancient and Modern Philosophy*. Trans. T. Corse and A. Coudert. Cambridge: Cambridge University Press.

Cragg, G. R., ed., 1968, *The Cambridge Platonists*. New York: Oxford University Press.
Cudworth, Ralph, 1678, *The True Intellectual System of the Universe*. London.
—— 1996, *A Treatise Concerning Eternal and Immutable Morality*. Ed. S. Hutton. Cambridge: Cambridge University Press.
Culverwell, Nathaniel, 1971, *An Elegant and Learned Discourse of the Light of Nature*. Ed. R. A. Greene and H. McCallum. Toronto: University of Toronto Press.
More, Henry, 1662, *A Collection of Several Philosophical Writings*. London.
Patrides, C. A., ed., 1969, *The Cambridge Platonists*. London: Arnold.
Smith, John, 1660, *Select Discourses*. Ed. R. Worthington. London.

Further Reading

Darwall, S. 1992, *British Moralists and the Internal Ought*. Cambridge: Cambridge University Press.
Gabbey, Alan, 1982, "*Philosophia cartesiana triumphata*: Henry More and Descartes, 1646–71." In T. M. Lennon et al., *Problems in Cartesianism*, pp. 171–249. Kingston and Montreal: Queens McGill University Press.
Hall, Rupert, 1990, *Henry More. Magic Religion and Experiment*. Oxford: Blackwell.
Hutton, Sarah (ed.), 1990, *Henry More (1614–1687). Tercentenary Studies*. Dordrecht: Kluwer Academic Publishers.
—— 1995, "Lord Herbert and the Cambridge Platonists." In S. Brown (ed.), *British Philosophy and the Age of Enlightenment, Routledge History of Philosophy*, vol. 5. London: Routledge.
Koyré, Alexander, 1957, *From the Closed World to the Infinite Universe*. Baltimore, MA: Johns Hopkins University Press.
Passmore, J. A. 1951, *Ralph Cudworth, an Interpretation*. Cambridge: Cambridge University Press.
Rogers, G. A. J., J.-M. Vienne, Y.-C. Zarka (eds), 1997, *The Cambridge Platonists in Philosophical Context. Politics, Metaphysics and Religion*. Dordrecht: Kluwer Academic Publishers.
Scott, Dominic, 1990, *Recollection and Explanation. Plato's Theory of Learning and its Successors*. Cambridge: Cambridge University Press.

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22

Thomas Hobbes

TOM SORELL

In our own day, at least in the English-speaking world, Thomas Hobbes is best known as the philosopher who first put rational self-interest at the heart of moral and political philosophy. Why should we keep our agreements with other people, or forgive those who trespass against us? The answer associated today with Hobbes is simple. "Because if we don't, things will go worse for us. In particular, we may get involved in large-scale, ultimately violent, conflicts that, given what people are like, are permanently a threat to our well-being." The way to get as much as possible of what we want and as little as possible of what we don't want, according to Hobbes, is to treat one another more or less as Christian morality tells us to. But we don't need to be Christian to behave like this; it is in our interest to do so, independently of our religious beliefs. Views like these are not studied in the twenty-first century as historical curiosities, but as a contribution to a still live debate in philosophy over the source of moral reasons for doing things. The historical Hobbes was not involved in quite these debates, and he contributed to many more subjects than morals and politics. What is more, he believed that his various contributions added up to something coherent. Just what these contributions are, how he believed they added up, and whether they in fact add up that way are the subjects of this chapter. Hobbes was a systemizer of philosophy, but the system of philosophy was not just a system of his own philosophy. He thought of his own work, his political philosophy included, as a contribution to a broader scientific movement that had built up momentum mainly in his own life-time. He recognized that the movement involved many people, and his own major contributions, both in his own opinion and that of posterity, can probably be boiled down to three: his work in political philosophy, his optics, and a certain form of exposition of the elements of philosophy or science as a whole.

Three Contributions to Science

Hobbes actually laid claim to be the *inventor* of the modern science of optics. He also thought of himself as the founder of science of natural justice or civil science. These claims probably exaggerate the novelty of his theories, but this does not make them

unimpressive. They are remarkable achievements, all the more so when one considers that Hobbes was largely self-taught in natural science, and that he came to theoretical questions late in a very long life. For his first forty years, he appears to have been only slightly acquainted with any sort of mathematics or natural science, and though some of his duties involved him in the political activities of his influential aristocratic employers, and in training youngsters who would one day be noblemen and exercise some political power, Hobbes was no theorist of politics in his youth. From the time he left Oxford in 1608, at the age of 20, until about 1628, he was a kind of superior domestic servant. His main employers throughout his life were the Cavendish family. William Cavendish, the first of the people Hobbes worked for, became Earl of Devonshire in 1618. Hobbes was engaged as tutor for William's son, as well as travelling companion on the Grand Tour of the Continent. Through the Cavendish family Hobbes came to have land interests in Virginia and a place on the board of the Virginia company. Except for a short period away from the family from about 1628 to 1630, Hobbes continued to work for the Devonshires up to 1640, coming into contact with their scientifically-minded cousins at Welbeck probably in 1630 or so. The Welbeck Cavendishes included Sir Charles Cavendish, whose interests in mathematics, optics and mechanics seem to have rubbed off on Hobbes when Hobbes was included in a Cavendish intellectual circle that also contained Walter Warner, Robert Payne and John Pell. Cavendish had further contacts on the Continent, and these networks overlapped with those that included DESCARTES (chapter 5). From the Welbeck circle and perhaps also from his contacts with Continental intellectuals whom he met on no fewer than three Grand Tours on the Continent, Hobbes appears to have acquired some sense of the subject-matter and techniques of some of the mathematical sciences and optics. His biographer, Aubrey, says that it was on one of these tours, perhaps the one that took place during 1634, that he became involved in a discussion about the nature of sense: Hobbes's optics was a theory of the functioning of light and the sense of vision, which he generalized into a theory of sense.

The other science Hobbes claimed to have invented also grew out of his work for the Cavendishes. His first political treatise, *The Elements of Law*, is dedicated to William Cavendish, brother of Charles. Completed in 1640, when it circulated in manuscript, it functioned as a briefing paper in parliamentary debates in England over the extent of the monarch's rights, debates that had been going on from the 1620s. The Cavendishes were supporters of an extensive royal prerogative, and each of Hobbes's political treatises gives foundations for this sort of view in a general theory about the state and human nature. These debates are a better starting point for understanding Hobbes's moral and political philosophy than debates in twentieth-century philosophy about the ground of moral motivation. As early as the 1620s, it was a live question in England whether the king could levy taxes unilaterally, whether he could order subjects to billet soldiers, whether he was limited in what he could do for the sake of military defense. Hobbes's political treatises all imply that the king can rightfully levy the taxes, that he can have soldiers billeted, that he has a free hand in matters of military defense. Why? Because any government can be understood to have vested in it by its subjects

the right to judge how the security and well-being of the many is to be secured. If this right is not vested in the government by the many, then each of the many retains the right, and when each person is as legitimate a judge as the next of the means of personal security and well-being, everything is permitted, including a policy of protecting oneself by pre-emptively killing off as many other people as possible, if one thinks that that will make one safe. In short, the alternative to abiding by the king's judgment can be violent anarchy. Those who challenged the extent of the king's rights in the 1620s and later were people who, in the terms of Hobbes's theory, wanted to retain their right to judge the means of their security, even while benefiting from a peace that depended on this judgment being delegated to the king. The task of *The Elements of Law* was to give arguments why the transfer of right was of the essence of the existence of government and of the essence of the maintenance of security. Part of the argument is from self-interest: things will go better for each person if they transfer the right to judge than if they retain it. The whole doctrine amounts to a science, because the duties not to impede the government are derived systematically from a theory of the risks of war inherent in human nature and the means of counteracting these risks.

The third of Hobbes's contributions – his exposition of the elements of philosophy or science as a whole – occupied him from about 1640 to 1658, and it suffered many interruptions and false starts. Perhaps in the late 1630s, Hobbes conceived the plan for a trilogy on body, man and citizen. This three-volume work would expound the elements of all of the sciences, natural, moral, and political, in a unified way. Or rather it would do this for what the work regarded as *genuine* sciences. For the trilogy *excludes* many branches of learning that had traditionally been regarded as branches of science or philosophy. It excludes certain kinds of metaphysics, theology and certain kinds of moral philosophy and politics. It includes geometry, but gives revisionary definitions of some of the most basic notions in plane geometry. It includes astronomy and physics, but expounds them in ways that only philosophers wedded to mechanistic approaches – explanations in terms of matter and motion – would have accepted. The volumes in the trilogy were published out of order. The last – on the citizen – appeared in 1642 – before the other two had even been significantly drafted. This third volume, entitled *De cive*, recycled some of the doctrine of *The Elements of Law* for an appreciative Continental audience. (Hobbes moved to Paris in 1640 when he judged that it was too dangerous to stay in England with his political allegiances in the period before the English Civil War.) The first volume of the trilogy was next to appear – in 1655. It stated the approach of the whole trilogy and outlined the elements of the sciences of natural bodies, just as the third volume was supposed to outline the elements of the science of bodies politic. The middle volume, *De homine*, which came out only in 1658, was half optics and half psychology. It is the least well studied of the three and, unlike the others, its Latin text has never fully been translated into English. The trilogy is not, as is sometimes thought, Hobbes's exposition of his own philosophy, but a systematization of the whole body of science, with his own contributions in optics and politics set alongside material openly appropriated from GALILEO (chapter 4), KEPLER (chapter 2), Harvey, his friend GASSENDI (chapter 7), and many Greek mathematicians.

What I have been calling Hobbes's three contributions to the science of his time are only a fraction of his total output. Besides the scientific writings themselves, there are polemical works in which Hobbes defends himself against his scientific and mathematical critics, sometimes unsuccessfully. There are also notable works of a non-scientific nature. Hobbes was a gifted linguist and classicist. He was a translator into English of two important Greek texts, Thucydides' *History of the Pelopennesian Wars* and Aristotle's *Rhetoric*, both of which are important for understanding his political philosophy. He wrote history – a history of the English Civil War and of the Church, to name two important pieces of work in this area. He was a poet and translator of poetry. He was also a literary critic, and a founder of modern biblical criticism. Many of Hobbes's non-scientific works have some connection with his political philosophy, which he outlined no fewer than three times: *Leviathan* (1651), the last to appear, stands with *The Elements of Law* and *De cive* as an important and in some respects the most refined of the three versions of the theory.

The New Optics

The mathematics and natural science that Hobbes became acquainted with in his middle age was largely that of scientific innovators. Sir Charles Cavendish and his circle have already been mentioned. Hobbes was also one of the first to read Descartes's *Discourse and Essays* in 1637, having been sent a copy by Sir Kenelm Digby. Of the three *Essays*, Hobbes seems to have known the one on optics best. He wrote notes on it and had a correspondence about it with Descartes, who replied testily to Hobbes when the latter insisted that he had arrived at some of the same conclusions before Descartes had. Hobbes claimed to have conceived some of his optical ideas to about 1630, and his letters to Sir Charles Cavendish in the mid-1630s show that he was developing these ideas as he travelled on the Continent.

An optical theory was expected to pronounce on the nature of light, on how light was transmitted to earth from the sun, on reflection and refraction, and the operation of optical instruments, like mirrors and lenses. An optical theory was also supposed to discuss vision. So it talked about the workings of the eye and its connection with other organs. It also discussed sensible qualities registered visually – shape and color – and perspective effects. Hobbes came at these topics many times. At least two optical treatises were composed in the early 1640s and his most polished optical treatise, *A Minute or First Draft of the Optiques* was published in 1646. Sections of this work were recycled in *De cive* (1658) and there is material informed by Hobbes's optical work in the first volume of the triology, *De corpore* (1655) and in *Leviathan* and elsewhere.

A work dating to the period 1628–30 was for a time thought to be by one of Hobbes's colleagues in the Cavendish circle, but recent research makes it nearly certain that it gives the earliest version of Hobbes's optical theory. The so-called *Short Tract* occupies only a few pages. It explains illumination on earth by reference to the continual emanation of particles from the sun, which contains *lux* or original light. The particles travel in straight lines, and the greater the distance from their

source, the weaker they are. Vision results from the impacts of the particles on animal spirits in the eye and their after-effects in animal spirits in the rest of the body. "Animal spirits" was the name of an imperceptible matter in circulation in the body, and connecting the activity of the various sense-organs, the brain and the heart. Although the general theory of light and vision in *The Short Tract* is sketchy, it has a distinctively mechanistic content. Light and visual effects are explained as the impact on bits of matter of other bits of matter. At the light-source end, there are the emanating particles; at the other end, there are the animal spirits in the eye and the rest of the body. In between there are the motions of the parts of the air and whatever other matter lies between us and the sun. Vision is decidedly *not* a matter of the reproduction in the air and in the eye of the qualities of a light source or of an illuminated object. Yet traditional optics – optics developed within the scientific framework of Aristotle – had held that seeing the color of something – a strawberry, say, was a matter of the strawberry's redness and shape being reproduced in the eye and then being abstracted by the mind. In Hobbes's theory – color was addressed in versions that came after *The Short Tract* – there is no need to think of color perception as the reproduction of color in the medium and in the senses, any more than the creation of the spectrum when white light passes through a prism requires one to suppose that the prism itself takes on all of the colors of the spectrum. The prism does not become colored, but it modifies the light as the light passes from the air into the material that the prism is made of. In a similar way, the eye does not become colored when it encounters the motion of the luminous object: the experience of color is an after-effect of the motion of the luminous object that does not resemble it at all. Hobbes also denied that the mind had a power of abstracting the content of sense experience in the way Aristotle had claimed.

Hobbes's optics was self-consciously anti-traditional, and though many of the details changed as he reworked the theory during the 1630s and 1640s, its mechanistic character did not. An important early change was the abandonment of the idea that light is propagated by emanation. This gave way to the idea that the movements in the original light source are trasmitted by contact with a uniform, pervading aethereal medium which in turn stimulates the eye and the bodily organs connected to it on contact. Just how the light source disturbed the medium was by dilating and contracting, instantaneously sending pulses through the medium in all directions. (Later, but only temporarily, he recognized a second type of motion of light, modeled on the motion of something within a moving sieve.) An after-effect of the motion of the medium, when it came into contact with the eye, was the creation of a phantasm or sense-image. This "phantasm" of a luminous body is what Hobbes came to call "light," dropping the idea that light is an original substance in the sun.

One stimulus for the revision of the detail in *The Short Tract* was the publication of Descartes' *Dioptrics* – one of the three essays in Descartes method introduced by the famous *Discourse on Method*. Hobbes was one of the earliest readers of this *Essay*. Descartes' theory, too, was mechanical. It suggested that the transmission of light was the movement of a medium, with instantaneous after-effects in the eye of the perceiver. Descartes had a different conception of the medium from Hobbes, however, and the two philosophers differed over refraction phenomena. In a treatise

(*Tractatus Opticus I* (*c.* 1640)) that originated in correspondence with Descartes over the *Dioptrics*, Hobbes proposed that an ordinary ray of light has length and breadth, and sections of the ray form parallelograms. When light is transmitted, the path of the ray is like that of a rolling cylinder. When a ray passes from air to a denser medium different points along the breadth of the ray can move at different speeds. The rolling cylinder path can then become like that of a rolling cone. Descartes had a different model of the path of light in reflection and refraction, though a mechanical one. For Descartes, the behavior of light was comparable to the behavior of a ball striking different sorts of surfaces. In correspondence, he rejected Hobbes's parallelogram model of the ray of light. Undoubtedly mistakenly, he also claimed that light could penetrate more easily a greater than a smaller quantity of matter, whereas Hobbes claimed, correctly, that denser media would deflect light from their path of entry. There were differences, too, in the account of the process of vision. Notoriously, Descartes holds that visual experience is irreducibly conscious, and is occasioned or caused by some mechanical process in the body and brain ending up in the pineal gland. Hobbes no doubt conceived the process of sensing as mechanical from start to finish, culminating in the brain, or perhaps the brain and the heart.

Hobbes's optics is important for more than one reason. Apart from introducing to the science of optics the predecessor of the notion of a wave front (latent in the parallelogram model of the light ray), it contributed importantly to (i) Hobbes's conception of a genuine natural science and (ii) his attack on traditional and bankrupt forms of would-be science well outside optics.

(i) Optics was a model natural science for Hobbes. Its effects could be demonstrated from clearly articulated first principles, including definitions. The *Short Tract* arranges its material this way. So does the later *Tractatus Opticus I*, with the difference that the *Short Treatise* principles are reclassified as hypotheses. As Hobbes's optical theory was refined, Hobbes was able to make it more economical. The early commitment to an original substance called *lumen* gives way to the identification of light with the psychological after-effect of motion from a light source stimulating animal spirits in the eye. This commits the theory to less. There is no substance of light, but only the motion of the dilating and contracting light source and the medium that fills all of the space between the light source and the eye. Color could also be seen as a "phantasm" – as something wholly within the mind resulting from the motion of a light source. Eventually, Hobbes adopted the same approach for the sensible qualities in general – heat and cold, odor, taste, and sound. In the *Elements of Law* (composed close to the time of *Tractatus Opticus I*) he says roundly that "whatsoever accidents or qualities our senses make us think there be in the world, they are not there, but are seemings and apparitions only. The things that really are in the world without us, are the motions by which these seemings are caused" (ch. 2, ix).

(ii) The idea that accidents and qualities are purely psychological after-effects of motions of different arrangements of matter was subversive of much traditional, i.e. Aristotelian, natural science. Aristotelian natural science was all a matter of tracing effects to the natures of a vast array of distinct substances. These natures were

among the things our senses made us believe were in the world: for they were supposed to dawn on us through a process of repeated observation. The natures of the planets were to move eternally in place, of terrestrial objects to tend toward the center of the earth, of human beings to be rational animals fit for political life. The ultimate building blocks of the physical world in Aristotle – the so-called sublunar elements of earth, air, fire and water – were defined by none other than the qualities – hot and cold, wet and dry – that were Hobbes's leading examples of figments of the mind caused by motion. When Hobbes came to pronounce on the things that natural philosophy had to suppose existed in order to get on with its explanations, the theory was as parsimonious as the successor to the theory of *lumen* was. All one had to assume were different kinds of motions.

The New Science of Natural Justice

Optics was one science Hobbes claims to have invented; the other was the "science of natural justice." His first venture in stating such a science, *The Elements of Law*, opens with a letter of dedication in which Hobbes throws some light on what he means by calling a book about politics scientific. He means a book that reaches conclusions about what citizens and rulers should do on the basis of principles that people would not find controversial. "To reduce this doctrine to the rules and infallibility of reason," Hobbes says, "there is no way, but first, to put such principles down for a foundation, as passion not mistrusting may not seek to displace." The principles that Hobbes "put down for a foundation" in *The Elements of Law* were to do with human cognitive and practical powers. On the basis of theses about how people could acquire knowledge and science on the one hand, and arrive at choices on the other, Hobbes described a predicament for human social life and then a solution to it. The predicament is simply stated: people cannot live well except in society; yet they are not naturally constituted to prosper socially. They rely on a sketchy experience of nature to find the causes of things; and they are easily led by their own individual passions and by rhetoric to prefer the short-term satisfaction of appetite to a durable well-being. The remedies for these shortcomings are natural science and the science of natural justice, respectively. The science of natural justice identifies a certain form of contract as the means of controlling the anti-social effects of the natural passions. And from the content of the contract Hobbes deduces a distribution of rights and duties for sovereigns and citizens.

The description of the overall doctrine as a "science of natural justice" is connected to its contractarian character. Justice is defined as keeping one's contracts, and the establishment and maintenance of a state or commonwealth is explained as the establishment and maintenance of a contract. The parties to the contract are not, as might be thought, a government or ruler on the one hand and a citizenry on the other. In the framework set out by Hobbes, only the people contract together; the ruler – either a legislature or a single leader – stands outside the contract. The people agree to leave judgments about their security and well-being to a person or body of persons, who, if they accept, *become* the ruler; but the people do not contract *with* the ruler to be provided with security and well-being. They

contract with one another all to abide by the ruler's judgment of the means until it becomes unsafe to do so. The ruler is a beneficiary of the contract, getting the obedience of the people for as long as he can keep them safe. The ruler judges what the means to security and well-being are to be and these are reflected in laws, which replace individual passions and experience as the guide to individuals' behavior. Some of the laws may require acts or omissions that go against the grain – payments of taxes, for example, or abstention from personal retaliation when one is insulted on the street, but so long as the acts and omissions really do promote the public safety and well-being effectively, disobedience is unjust. The ruler or ruling body may well fail to provide security and well-being, but even when that happens they have done nothing unjust to their subjects, and have not broken any contract. At most their failure means that the people who have contracted together do not have to go *on* leaving judgments of security to that ruling person or body of persons, so that the ruler loses his authority and is no longer safe from retaliation for his failure if people think that retaliation will increase their well-being.

An important effect of the contract is that the ruling individual or body of rulers has ultimate authority for *anything* and *everything* affecting public well-being and security. There is no specialized authority, such as spiritual authority or economic authority or military authority that someone else has, or that a ruler shares with some other person or corporate body, such as a church, a judiciary, the officials of a central bank, or the generals of an army. As soon as there is divided authority, there is a facsimile at the level of government of the kind of personal differences and conflicts that make government necessary in the first place. Government authority is either supreme authority or not authority at all, according to Hobbes. *Leviathan* showed that even a supposedly autonomous spiritual authority was rightly subordinate to the ruler, and that being law-abiding would never compromise a subject's chances of salvation.

Uncontroversial principles?

Did Hobbes succeed in finding principles for his doctrine which the passions would not mistrust? It is not clear that he succeded in *The Elements of Law*. Although there was no authorized publication of the book in Hobbes's lifetime, a pirated edition did appear in which the two parts of *The Elements of Law* were presented as separate books. The first of these, given the title *Human Nature*, was widely understood to maintain that human beings were selfish, power-seeking, aggressive creatures who could only be motivated to help others if there was something in it for themselves. Bishop Butler's criticism of Hobbes in the *Sermons preached at the Rolls Chapel* runs along these lines. Although this reading is probably wrong, it is not wild, and certain passages in the text appear to be in line with it. For example, in chapter 9, article 21 of Part One of *The Elements of Law*, Hobbes uses the metaphor of life as a race to relate the different passions to one another. And he says that the life-race must be supposed "to have no other goal, nor garland, but being foremost" – as if everyone was out to get the better of others. Later on in chapter 15, he says in effect that everyone is conceited, but that everyone experiences self-love but hates to see others thinking well of himself (article iv). A couple of paragraphs on he says

that what everyone wants is *bonum sibi* – what is good for themselves – not the good simply. And he goes on later to say that it is irrational not to subdue others in competition with oneself if there is no assurance that they will not threaten one's own safety. In the state of nature, he says, "might is right" (ch. 15, xiii).

These passages do not show that Hobbes believed in a power-hungry, selfish human nature, and there is no significant evidence anywhere that he believed human beings were uniform in their passions. What he did think was that there was a range of types of human passions from which any one person's passions would be drawn; but this did not mean that any two people were necessarily attracted to the same thing or detested the same people. Whether they were similar in their passions in this sense would depend on the experiences they had, and their constitutions: Hobbes says clearly that each man differs from every other in consitution and to that extent in the things they call good and evil (ch. 7, iii). And he says clearly that there is a great range of type of personality (ch. 14, iii). Moderate people are unlikely to have the ambitions and ruthlessness of the vainglorious, though all can be drawn into a war of all against all – the vainglorious out of greed and the moderate in self-defense. In Hobbes's other political works, he anticipates and tries to deflect the objection that he is painting too dark a picture of human nature. (*De Cive*, Preface to the Readers (Tuck and Silverthorne edition), pp. 10–11; *Leviathan*, ch. 13, para 9). What he says in both places is that the passions, whatever they are, cannot be helped, and that people cannot be blamed for doing what they think is necessary to defend their lives. Blame comes into its element when it is unreasonable to resort to violence and yet people do so anyway – as when people needlessly take the law into their own hands when there is a government to protect them from one another and punish transgressors.

The right of nature and its transfer

The idea that, until the state exists, people are blameless for even the violent things they do to protect themselves, brings us close to what Hobbes means by the so-called *right of nature*. This is each person's inalienable right to see as best they can to their own survival. The message of Hobbes's theory of human nature is not that this right resides in evil beings when human beings have it, but that the more distributed it is, the more exercising it can lead self-defeatingly to war. The message of Hobbes's theory of the state is that it is a moral imperative for each person to lay down, by transferring, this right, if others are willing to do so, too.

In what sense is it a moral imperative to lay down one's right to nature, and how is it to be done? Hobbes connects moral necessity with self-preservation. No-one can be blamed for trying to preserve themselves, and this lends support to the view that it can never be wrong to do so. A special case of trying to preserve oneself is trying to deliver oneself from conditions in which survival is uncertain. Yet this is the situation people are in when everyone has the right of nature and no-one is sure exactly what means people will use for their own self-preservation. This situation is what Hobbes calls "war." War may not be open fighting, but no-one can be sure that others will not resort to violence for gain or for pre-emptive defense. To leave a situation of war without, irrationally, making oneself a target for people with com-

plete freedom to treat others as they like, everyone or the overwhelming majority has to get out of that situation. They do this by all agreeing to have their behavior regulated by a ruler who binds them by laws promoting their safety (*EL*, ch. 19, vii; *De cive*, ch. 5, vii; *Leviathan*, ch. 18, para. 13). This agreement makes a union out of what otherwise would be a concourse of individual wills, and to make the union is the same as to create a body politic or commonwealth or a peace.

Having specified the contract as the means of transferring the right of nature, Hobbes' three political treatises then show that acts of second-guessing or resisting the government's decrees are cases of going *back* on the contract. Either the right to judge what is required for the public safety is delegated or it isn't. If it isn't, there is war, and everyone is fair game for everyone else; if it is, then people have to make themselves instruments for carrying out the ruler's judgments, and this means, above all, abiding by the ruler's laws. One doesn't keep the contract if one withdraws obedience when it costs one money or time or effort. One can only withdraw one's obedience if continuing to submit to the sovereign is as life threatening as each person retaining the right of nature is. This sets the threshold for justified lawbreaking very high indeed. Hobbes also builds into the idea of union a presumption against any sort of division of legislative authority. The more that authority is divided, the more the conditions are created for the disagreement and contention that characterize "war." Divisions between the different branches of government may be war on a smaller scale than the war of every man against every man; but if it interferes with raising money for defense against external invasion or divides the loyalties of the law-enforcers, it is just as much an invitation to a war of conquest or the breakdown of obedience to law, as mass disobedience.

Couldn't war be avoided if the vast majority of parties to the contract kept it, but a small minority did not? If the answer is "yes," might not an opportunistic few safely act accordingly? Can't it ever be rational, in short, to be unjust? Hobbes addresses this question in *Leviathan* when he answers "the Foole [who] hath sayd in his heart, there is no Justice" (ch. 15, para 4). He attributes to the Fool the view that one's obligation to keep covenants holds only when it is in one's interest, which is not always. His answer to the Foole is that the risks of being found out profiting now and then from violations of the contract are much greater than the rewards, and that there can be no rational *policy* of violation, but at best opportunistic violation that just happens to work out. Commentators on Hobbes in our own day have found a resemblance between this reasoning and what modern games theory calls *prisoner's dilemmas*: situations in which the best outcome for both of a pair of agents depends on each foregoing the best outcome for him personally. In a covenant among the many, the best policy, all things considered, and so the best policy notwithstanding local and temporary advantages that might be enjoyed from violating it, is for everyone to keep the covenant all of the time.

Not everyone has found Hobbes's answer to the Foole convincing, and there are many other difficulties for his theory. Two examples concern the conditional nature of laying down the right of nature, and the very extended conception of the safety that individuals are supposed to bargain for when they lay down the right of nature. I consider these in turn. The right of nature can never be given up *whatever* happens. If a particular agent in a strong state sincerely believes on a particular

occasion that his life is in danger, then, notwithstanding his having laid down the right of nature, he can blamelessly protect himself, even if that means resorting to violence. Sometimes that feeling of mortal danger will be unfounded, but even then an agent cannot be blamed for acting upon it. This fact leaves Hobbes having to condone the pre-emptive violence of paranoid groups who come to believe that they are targets of some government conspiracy. So long as they acquire the paranoid belief after having lived for a long time law-abidingly, and so long as they are acting on that belief rather than contriving a pretext for violence they want to unleash for other reasons, these people do nothing wrong. For Hobbes's theory makes laying down the right of nature conditional on its being safe to do so, and leaves judgments of imminent, mortal nature permanently in the hands of individuals.

The problem of the broad concept of safety is different. Hobbes says in all three political treatises that the safety that the ruler is entrusted by his subjects to provide extends beyond protection from attack to the provision of general well-being (*EL* ch. 28, i; *De Cive* ch. 13, vi; *L*, ch. 30, para 1). A civil order that distributes income so badly that the poor are forced to steal in order to survive; a regime that has everyone toiling to the point where they are exhausted or miserable would not be fulfilling the expectations of those who submitted to it in return for safety. But this consequence of Hobbes's broad definition of public safety sits uneasily with his criticism of the tendency of subjects to overdraw the costs of government. All of these costs, he says, are as nothing compared to the costs of the absence or dissolution of government. But surely they are something, if they take away from well-being, and if well-being is part of the safety government is supposed to provide.

The novelty of the science

Hobbes's optics counts as contribution to the new science, partly because it radically revises the traditional, i.e. the Aristotelian theory of the senses and of the sensible qualities. The novelty of his new science of natural justice is also connected with the way it revises Aristotle. There are many different departures from Aristotle. Perhaps the principal one is the denial of the very thing that Aristotle thought partly defined the human species: its aptness by nature for political life. The first chapter of *De cive* has only proceeded a paragraph before Hobbes decides to take issue:

> The majority of previous writers on public affairs either assume or seek to prove or simply assert that Man is an animal born fit for Society... On this foundation they erect a structure of civil doctrine, as if no more were necessary for the preservation of peace and the governance of the whole human race than for men to give their consent to certain agreements and conditions which, without further thought these writers call laws. This Axiom, though very widely accepted, is nevertheless false; the error proceeds from a superficial view of human nature.

Not only does this unmistakable challenge to Aristotle come at the beginning of *De cive*; Hobbes actually draws attention to its boldness in a footnote, saying that "it

may seem a piece of weird foolishness to set stumbling block on the very threshold of civil doctrine by insisting that man is *not born fit for society*." He is making the most of his opposition to Aristotle in order to draw the reader into his doctrine of anti-social man. The inhabitants of most commonwealths may want to belong to society, Hobbes says, or may need to belong; but this want or need does not supply the means of doing so, and human nature is consituted not by civility, but by the properties of often being vain, fearful, competitive, two-faced. One has only to be reminded of these facts to acknowledge them, *De cive* claims, and yet traditional political philosophy sustains the fiction that one does not come fully into one's own as a human being unless one assumes one's place in the *polis*. Hobbes does not only claim that one is fully human when one is at one's most anti-social; society is not a natural but an artificial arrangement that keeps what is anti-social in us under control.

At other points in his exposition of his moral and political philosophy in *De cive*, Hobbes calls attention to further departures from Aristotle. He claims that, unlike his predecessors in philosophy, he does not identify virtue with maintaining a mean between extremes, but with doing a type of action that is conducive to peace and self-preservation (ch. 3, xxxii). This enables him to provide a unified and grounded doctrine of virtue and vice, he says, or, what amounts for him to the same thing, a unified doctrine of the "laws of nature." And it is the grounding of the virtues in the good of peace and the doctrine of vices in the evil of war that enables him, as he thinks, to make an advance on theories in moral philosophy that make human individual desires the measure of the good. It is the same when he makes laying down the right of private judgment necessary and sufficient for citizenship. This, too, is meant to signify a rejection of Aristotle's doctrine that in citizenship one is called upon to use one's judgment as legislature or magistrate to make one's virtue rub off on the public.

The supremely beneficial science

When Hobbes compares his two contributions to modern science, he says that optics is "the most curious" and the science of natural justice "the most profitable" of all others. Why the most "profitable"? Because it saves us from the greatest of the avoidable calamities: namely, war, and because what it creates – peace – is a condition of the natural sciences – which give us the rest of the good things in life.

Commonwealths made possible the division of labor that created time and energy for science, and science spared people the insecurity of living at the mercy of nature. But there was no preserving commonwealths unless members of them had the knowledge necessary to guard against their dissolution. What was supposed to complete the passage from primitiveness to civilization was not the creation of commonwealths but the acquisition of a science – civil science – for keeping commonwealths intact. Civil science as the valuable science *par excellence*. Valuable as the commodities or benefits of natural science were (*De corp* ch. 1, vii), human beings could be helped even more when science was taken into the sphere of morality and government. Unless they had a science of government they risked losing all of the goods that had accrued from natural science. For the production and enjoyment of these goods would last only as long as there was civil order.

It was one thing for the content of the science to exist in books. It was another for it to be implemented and take effect. Hobbes says in so many words that he hoped *Leviathan* would fall into the hands of a sovereign able to act upon it (ch. 31, last para); and *Leviathan* is more explicit than the other two treatises about how Hobbes's political theory might be spread further. Hobbes contemplates a role for *Leviathan* itself as a textbook for university students, and there is the strong suggestion that if civil science were taught to elite youth of Oxford and Cambridge, it would trickle down through their households and landholdings to the wider mass of subjects.

All of Science Taught from the Elements

The two sciences that Hobbes claims credit for are supposed to fit into a larger scheme of science. He set out to describe the whole scheme in his trilogy, *The Elements of Philosophy*. The opening volume of the trilogy, *De corpore*, explains his purpose in the three books. He wanted philosophy or science to be made more widely available, and to replace experience as the basis for theoretical and practical conclusions. It was true, he said, that science was unevenly developed. He expected his readers to agree with him that geometry was a mature science, but

> [b]ecause I have not observed the like advancement in other parts of [science], my purpose is to lay open the few and first Elements of Philosophy in general, as so many seeds from which pure and true Philosophy may hereafter spring up little by little (*De corp.* ch. 1, i).

He was not assembling mere *examples* of "true" science devoted to questions that already established investigators were pursuing without much success. Descartes had followed *this* strategy in the *Discourse and Essays*. He compiled a sort of album of highly impressive results in optics, geometry and meterology, and presented them as the fruits of a very lightly sketched method described in *The Discourse*. The point of the *Essays* was not to enable Descartes' readers to employ the method to reach similar results themselves in other areas. The *Essays* were supposed to whet the appetite of readers for more results from *Descartes*, including a full-scale physics. Hobbes aims at something different: a restrictive definition of a preferred (or "true") science which many things called "science" in his time would not satisfy; an indication of the few sciences that *did* satisfy the definition, an account of what was common to these sciences, and an ordering of these sciences from most basic or fundamental to most dependent on the results of the other sciences. It is true that some of the sciences belonging to true science were, like the *Essays* in Descartes' case, pieces of the author's own work. So the trilogy can be seen, as in the case of the *Discourse and Essays*, as partly a work of self-advertisement. But it was also supposed to present the new science in such a way that it could be absorbed synoptically by a learned audience.

Part One of *De corpore* presents the restrictive definition and Hobbes's ideas about the way the new sciences are organized and what they have in common. He defines philosophy as "such knowledge of effects or appearances, as we acquire by true

ratiocination from the knowledge we have first of their causes or generation: And, again, of such causes or generations as may be from knowing first their effects" (ch. 1, ii). On the surface this is not far from a traditional definition of a science of physics or natural phenomena. In making it serve for the definition of philosophy in general, Hobbes is in effect claiming that there is no science of supernatural or extranatural things – no science of eternal or uncaused things like Plato's Forms or the Judeo-Christian God; no science of being in general (metaphysics); no science, even, of pure logic. Explanations further on in *De corpore* make it clear that by knowledge of "causes" Hobbes means knowledge of the motions that account for the displacement of a parcel of matter or rearrangement of its parts. The traditional, i.e. Aristotelian, four causes – material, efficient, formal, and final – are radically reduced, and the two that are central to Aristotelian physics – formal and final – are replaced by efficient causes. The definition entails that theology and "the doctrine of angels" have nothing to do with philosophy, that astrology does not – since it has to recognize causes beyond straightforward efficient ones, and that, for different reasons, history is a non-scientific discipline – since it arranges truths chronologicaly rather deductively or through the medium of true ratiocination.

When it comes to what science *does* include, *De corpore* (ch. 6, iv) mentions the following: geometry, the general science of motion (mechanics), physics, moral philosophy, and civil philosophy. "Physics" is defined broadly, so that it includes the subject-matter of optics. The list does not include "first philosophy," which Hobbes takes to be a purely definitional preliminary to the sciences just listed. Being purely definitional, it is no real science, as he explains in the Second of *The Six Lessons to the Professors of Geometry* (*EW* VII 225). So there are just six main sciences. This is a short list, shorter than that given by contemporaries of Hobbes, shorter even than lists given by Hobbes in other writings of his, such as *Leviathan*. Perhaps it is too short, even for a devotee of the new science who is concerned to classify many branches of traditional learning as mere pseudo-sciences. I shall come back to this point. A prior matter is what Hobbes supposes these few sciences have in common. There are indications of two different general answers in *De corpore*. One (ch. 6, vi) is drawn from the subject-matter of all of the sciences – all are concerned with bodies and with motions. Another is to do with a method (ch. 6, ii) that they may all share, though they differ in subject-matter. Neither of these answers is entirely unproblematic.

To take the bodies-and-motion answer first, how does this fit the most fundamental and the most successful of the sciences in Hobbes's inventory: namely, geometry? In plane geometry, for example, is it necessary to assume bodies and motion for the axioms to be acceptable or for the theorems to be proved? Hobbes says "Yes," leaning partly on the idea that the method of constructing figures is part of geometry; and that there are tasks of construction as much as proof set by Euclid. The construction is a mechanical process, and Hobbes thinks that, in order to be adequate, the definitions of the geometrical figures need to mention the motions required to make them. He thought that in geometry an ideal science of a given subject-matter could be achieved, precisely because the scientist knew the subject-matter from the inside – as the maker of the figures, rather than by inference from observation. Critics of Hobbes's geometry disputed his insistence on mechanical

definitions, on the ground that no-one needed to know about the relevant motions to understand what "circle" or "triangle" mean, and that is what definitions are supposed to supply: understanding of the meaning of terms. The suspicion that geometry might make sense in the abstract – apart from motions and matter – and that there ought to be a way of counting as a science without being a mechanical science strengthens if one turns from geometry to logic. Logic is not one of the sciences included in Hobbes's survey in chapter 6, but it *is* mentioned in *The Six Lessons to the Professors of Geometry*. Hobbes tries to give it a non-supernatural subject-matter by supposing that its subject-matter is combinations of names, and combinations of combinations of names – where the function of all of these things is to make chains of thought perceptible, and where these thoughts in turn can be reduced to some motions of brain matter. In the *Third Objections* to Descartes' *Meditations* (1641), the general approach was already quite explicit:

> [R]easoning will depend on names, names will depend on the imagination, and imagination will depend (as I believe it does) merely on the motions of the bodily organs; and so the mind will be nothing more than motion occurring in various parts of the inorganic body. (AT VII 178; CSM II 126)

And Descartes put his finger on some of the limitations of this proposal. He took it, contrary to Hobbes, that reasoning is a matter of linking together the significations of names rather than names simply, and he pointed out that some significations of names (such as the name of a thousand-sided geometrical figure) could not be imaged.

Hobbes's second way of unifying the sciences is by reference to method. All of the sciences move by reasoning from causes to effects or effects to causes. When the movement is from causes to effects, the method of reasoning is synthetic; when it is from effects to causes it is analytic. The method of geometry can be synthetic, because we can know the motions that make its subject-matter before we encounter the properties of the various figures. But in physics, we would need to be God, i.e. the maker of natural bodies, to be able to unfold the science synthetically. We are not God; so we have to try to work out what the causes of appearances *might* be. In physics, then, reasoning ends up with hypotheses – such as those listed at the beginning of *Tractatus Opticus I*, about the causes of appearances or sensible qualities. Hobbes gives a list of sensible qualities that physics is concerned with (*De corpore* (ch. 6, vi): light, color, transparency, opacity, sound, odor, savor, heat. What he calls *moral philosophy* in *De corpore* is connected with physics. It deals with the after effects of sensory information in deliberation and action. The leading concepts here are those of appetite and aversion – the tendencies, respectively, to move toward objects of sense that cause pleasure and away from objects of sense that cause pain. There are varieties of appetite and aversion that depend on foresight and on past experience, on the power of language to magnify appetite and aversion, and on the effects of appetite and aversion of competition over goods. Part of "moral philosophy" appears to be classification of the appetites and aversions, and part seems to be concerned with their causes and effects. To the extent that it is concerned with causes, the method of "moral philosophy" in this sense is analytic.

What about *civil philosophy* – the last of the sciences on Hobbes's approved list? Although Hobbes claims that the methods of this science, too, are resolution and composition, it is not clear that the methods can be the same as in the rest of science and yet fit the distinctive normative questions raised by civil philosophy. In the natural sciences questions are about the causes of observed effects: and answers are worked out by inference to conditions that are individually necessary and jointly sufficient for the observed effect. In Hobbes's example of light (*De corpore*, ch. 6, x), the necessary conditions include the presence of a "fountain of light," a transparent medium, normally functioning eyes, brain and so on. When all the conditions are present together, the observed effect is reproduced. But in civil philosophy, Hobbes is setting out the "causes" of something that has never before been produced – namely a lasting commonwealth. The method needs to be sufficient to produce an entirely new, and an ideal, artefact. Because the method needs to be aimed at producing something, it is like the method of constructing a geometrical figure. But the method does not consist of the manipulation of materials in any straightforward sense. It consists of arguments that will engage people's fear of death and hope for a good life and thereby motivate them to restrain themselves by total submission to a sovereign. The "artefact" is an on-going coordination of wills, but the cement of the artefact is nothing comparable to the rules for using a compass and rule. It is the belief in each subject that the purpose of the state is permanent security, that the facts of human life threaten security unless there is total submission, and that total submission is better – far better – than death. Hobbes uses a strained metaphor to make talk of "synthesis" and construction in geometry transfer to the science of commonwealths. Very little material in any of Hobbes's political treatises is concerned with constructing anything – except the formulation of the original contract: most of what he has to say consists of redescribing what initially seem to be inconveniences and instruments of oppression – taxation, military service, obedience to law – as means of avoiding general slaughter.

Do these objections to Hobbes's strained application of "synthesis" in civil philosophy show that Hobbes's science of politics is not really an advance on traditional political philosophy, or that it is not scientific? No. At most they show that Hobbes had trouble unifying the sciences by reference to analysis and synthesis *or* a supposed universal subject-matter of bodies in motion. Or perhaps what is emerging is a problem peculiar to Hobbes's design of his trilogy, and especially its opening instalment. Part One of *De corpore*, though it officially speaks about science as a whole – both natural and civil, both the science of natural bodies and the sciences of artificial bodies – has to introduce natural science immediately after its preliminaries, and this means that its remarks about the method and the subject-matter of science may in fact be given with natural science primarily in mind.

How do things stand when Hobbes describes the organization of science in *Leviathan*, which is wholly devoted to civil philosophy? *Leviathan* preceded *De corpore* into print by only a few years; so one would not expect great differences between the two books based on large-scale changes of mind. In fact, however, the two accounts are quite different. In *Leviathan*, Hobbes describes the organization of science in a very brief chapter devoted, in a way reminiscent of BACON (chapter 20), to the

difference between science and history. History is all to do with discrete facts; science shows how facts depend on or follow from general truths: it deals in consequences. History has a wide subject-matter, with the two main divisions of natural and civil history; but the branches of natural and civil philosophy are quite distinct from those of natural and civil history, according to Hobbes. He includes a table of the sciences to illustrate this. The table divides the sciences according to the two main types of body there are: natural bodies and bodies politic. Then the sciences of natural bodies and the sciences of bodies politic are in turn sub-divided. The subdivisions are very elaborate in the case of natural philosophy or science. But civil philosophy divides into only parts. One draws the consequences for the rights and duties of subjects from the institution of commonwealth; the other the consequences of the institution of commonwealth for the rights and duties of sovereigns. Confusingly, something called "the science of the just and the unjust" figures in the scheme of the *natural* sciences. Since "the science of the just and the unjust" sometimes functions as a synonym for "civil philosophy" in Hobbes's writings, it is unclear whether the apparent division between natural and civil philosophy is real after all. Again, it comes into natural philosophy as a branch of the natural scientific study of the consequences of speech, and Hobbes may here be assuming, extremely questionably, that speech is reducible to motion. *Leviathan*, then, does not unify the sciences any more successfully than *De corpore*. Nor does it seem to include the right sciences in its scheme of the sciences. Certain subjects that are dismissed as pseudo-science by *De corpore* are included in *Leviathan*'s table of the sciences, for example astrology. Other subjects that are included for example poetry, seem to have nothing to do with drawing consequences. And some sciences that ought to be included, for example medicine, are left out altogether.

Though it raises many questions that it does not satisfactorily answer, Hobbes's scheme of the sciences has at least this to be said for it: it goes some way toward redrawing in important ways the traditional map of the branches of learning. Hobbes's scheme abolishes the Aristotelian distinction between theoretical, practical, and productive sciences. It devalues the supreme theoretical sciences in Aristotle, theology or metaphysics, and it promotes politics from the status of non-science to a true demonstrative science, without abolishing the connections between politics, moral philosophy and rhetoric. Hobbes's new map is not perfect; but that does not mean it is not an improvement on what preceded it.

References and Editions

Descartes, R., 1984, *Philosophical Writings*, ed. and trans. J. Cottingham, R. Stoothoff, D. Murdoch. Cambridge: Cambridge University Press. 3 vols. References to this work by volume number and page number are abbreviated "CSM." Corresponding volume and page numbers are also given to the standard Adam and Tannery edition ("AT").

Hobbes, T., 1630?, *The Short Tract* in F. Tonnies, ed. *The Elements of Law Natural And Politic*. London: Simpkin and Marshall, 1899, Appendix I.

——1640, *The Elements of Law Natural and Politic* op. cit. References are abbreviated "*EL*".

——*c.* 1640, *Tractatus Opticus I*. Vol. 5 of Sir William Molesworth, ed. *Opera Latina*. London, 1845.

——1641, *Third Objections to Descartes' Meditations* in Cottingham, Stoothoff, Murdoch, op. cit. vol. 2.
——1642, *De cive (On the Citizen)*. R. Tuck and M. Silverthorne, trans. Cambridge: Cambridge University Press, 1998.
——1646, *A Minute or First Draught of the Optiques*. E. Stroud, ed. Ph.D. dissertation. University of Wisconsin, 1983.
——1651, *Leviathan*. R. Tuck, ed. Cambridge: Cambridge University Press, 1991. References are abbreviated *"L"*.
——1655, *De corpore*. References are to the 1656 translation in vol. 1 of Sir William Molesworth ed. *The English Works of Thomas Hobbes*. London, 1839. References to Molesworth are abbreviated *"EW"*.
——1656, *Six Lessons to the Professors of Mathematics*. References are to volume seven of *"EW"*.
——1658, *De homine*. London.

Further Reading

Baumgold, D., 1988, *Hobbes's Political Theory*. Cambridge: Cambridge University Press.
Boonin-Vail, D., 1994, *Thomas Hobbes and the Science of Moral Virtue*. Cambridge: Cambridge University Press.
Hampton, J., 1986, *Hobbes and the Social Contract Tradition*. Cambridge: Cambridge University Press.
Rogers, G. A. J. and Ryan, A., 1988, *Perpectives on Thomas Hobbes*. Oxford: Clarendon Press.
Skinner, Q., 1996, *Reason and Rhetoric in the Philosophy of Hobbes*. Cambridge: Cambridge University Press.
Sommerville, J., 1992, *Thomas Hobbes: Political Ideas in Historical Context*. London: Macmillan.
Sorell, T., 1986, *Hobbes*. London: Routledge.
——(ed.) 1996, *The Cambridge Companion to Hobbes*. Cambridge: Cambridge University Press.
Tuck, R., 1989, *Hobbes*. Oxford: Oxford University Press.

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23

Robert Boyle

LISA DOWNING

I. Life and Works

Robert Boyle, natural philosopher, was born in 1627 to Richard Boyle and Katherine Fenton. Despite Robert Boyle's status as youngest son of a large family, his father's wealth, influence, and title (first Earl of Cork) afforded him an income and allowed him to devote himself to intellectual pursuits. The young Boyle's education included Eton and private tutoring (both at home and on the continent).

From 1645–55, he made his home in a family manor at Stalbridge in Dorset. There he suffered serious illnesses which left him with a delicate constitution and weak vision (as a result of which all his later publications were dictated to amanuenses). There also a new enthusiasm for experiment (both for its own sake and as a route to religious understanding) turned his attention away from his early ethical writings and towards scientific pursuits. His scientific interests drew him to Oxford, where he assembled a laboratory and became associated with an intellectual/social circle which included many prominent or rising figures in British natural philosophy such as John Wallis, Robert Hooke, and Christopher Wren. Members of this group worked towards founding the Royal Society of London for the Improving of Natural Knowledge, the first modern scientific society, which promulgated the virtues of experimentalism and helped to solidify the successes of the new science.

In 1668, Boyle moved to London, where he took up rooms in the home of his sister, Katherine, Lady Ranelagh. Again he established a laboratory. He also played a role in public life, most prominently in the Royal Society but also in the Society for the Spread of the Gospel in New England. He died in 1691, within a few days of his sister. In his will, he funded a series of sermons, the Boyle Lectures, which were intended, in his words, "for proving the Christian Religion against notorious Infidels, viz. Atheists, Theists, Pagans, Jews, and Mahometans, not descending lower to any controversies, that are among Christians themselves" (Boyle 1772, vol. 1, p. clxvii).

Boyle published prolifically throughout much of his life, but most notably around the 1660s, during which time much of his earlier work came to fruition. He wrote mainly in the areas of theoretical natural philosophy, experimental natural philosophy, scientific methodology, and natural theology. Each of these areas is discussed below, with Boyle's corpuscularian theory receiving special emphasis.

Some of Boyle's most influential individual publications are mentioned below. Until recently, the standard (though problematic) edition of his works was Boyle 1772, *The Works of the Honourable Robert Boyle*, edited by Thomas Birch, 6 volumes. (Contemporary reprint editions of the Works are also available.) It is now being superseded by the authoritative *The Works of Robert Boyle*, edited by Michael Hunter and Edward B. Davis (vols. 1–7, 1999, vols. 8–14, 2000). Still more accessible are Boyle 1991, *Selected philosophical papers of Robert Boyle*, edited by M. A. Stewart, and Boyle 1996, *A Free enquiry into the vulgarly received notion of nature*, edited by Hunter and Davis. *The Royal Society Boyle Papers* (Boyle 1992), a large collection of Boyle manuscripts, is available on microfilm, with an accompanying guide – Hunter 1992. (References below, when not to Boyle 1991 or 1996 are to Boyle 1772, as it is at present more widely available than Boyle 1999–2000, and most secondary literature is keyed to it.)

II. Theoretical Natural Philosophy: Boyle's Corpuscularianism

The new mechanical philosophy

Boyle's most important philosophical contribution was his role in articulating and advancing the new mechanical philosophy of the seventeenth century. Boyle saw himself as part of a movement which sought to replace scholastic Aristotelian natural philosophy with a highly intelligible natural philosophy according to which bodies are machine-like, and bodily behavior is ultimately explicable in terms of the sizes, shapes, motions, and arrangements of the tiny particles of which bodies are composed.

More specifically, Boyle took on the project of defending a version of the new science which would be both valuable as natural philosophy and salutary for religion (Anglicanism). He saw this project as necessary because extant versions of mechanism were flawed. Atomism, promoted by GASSENDI (chapter 6), was tainted with atheism and libertinism (despite Gassendi's best efforts to free the theory from these associations), due to its roots in ancient Epicureanism. Cartesianism, the natural philosophy of RENÉ DESCARTES (chapter 5) and his followers, was tainted with dogmatism and loaded down with excess baggage, both physical and metaphysical. Boyle coined the very term "corpuscularianism" in order to have a concept that would include the basic tenets shared by atomism and Cartesianism, while leaving out disputed points:

> ...the Atomical and Cartesian hypotheses, though they differed in some material points from one another, yet in opposition to the Peripatetic and other vulgar doctrines they might be looked upon as one philosophy... (Boyle 1772, vol. 1, p. 355)

Boyle's corpuscularianism could thus provide a unified front against its enemies, particularly Aristotelianism. (Boyle is not a sympathetic interpreter of the Aristotelian tradition, though he treats Aristotle himself respectfully. I cannot here consider the justice of his various characterizations of and charges against late Aristotelian natural philosophy.) The other "vulgar doctrine" frequently singled out by Boyle for

attack is that promulgated by the "chemists" or "spagyrists" (those who purify substances by separating and recombining their component principles), but, as is discussed below in section III, his attitude towards the chemists is in fact a complex one.

Boyle provides a nice outline of the points he sees as being in dispute within the new science, between atomists and Cartesians, in declaring his attention to rise above any such dispute:

> ...I have forborne to employ arguments that are either grounded on, or suppose, indivisible corpuscles called atoms, or any innate motion belonging to them; or that the essence of bodies consists in extension; or that a vacuum is impossible; or that there are such *globuli caelestes*, or such a *materia subtilis*, as the Cartesians employ to explicate most of the phenomena of nature. For these, and divers other notions, I (who here write rather for the Corpuscularians in general, than any party of them) thought it improper needlessly to take in... (Boyle 1991, p. 7)

The distinguishing feature of atomism was its claim that there are ultimate unsplittable particles from which all bodies are composed, together with the claim that there is empty space, a void or vacuum, through which these atoms move. Further, atomists such as Gassendi maintained that atoms have an intrinsic tendency to motion. Descartes, on the other hand, held that because extension exhausts the essence of body, wherever extension exists, body exists; thus, the notion of empty space (vacuum or void) becomes self-contradictory. Instead of a vacuum, there is a plenum: The world is full. Speculative hypotheses about celestial globules or subtle matter are thus fuelled by the need to explain what apparently empty space is in fact full of.

The fundamentals of corpuscularianism

If these issues divide the new science, what unites it? In Boyle's view, it is exactly the principles that he lays out in *The Origin of forms and qualities* (1666), which, he tells us, may serve as "an introduction into the elements of the Corpuscularian philosophy" (Boyle 1991, p. 4). In a welcome departure from his usual digressiveness and prolixity, Boyle provides the reader with a ten point sketch of his corpuscularian natural philosophy, occupying just a few pages (Boyle 1991, pp. 50–2). A good way to begin an acquaintance with Boyle's theoretical natural philosophy is to consider these points in order.

The corpuscularians teach, first, "That the matter of all natural bodies is the same, namely, a substance extended and impenetrable" (Boyle 1991, p. 50). Boyle thus assumes that matter is catholic (everywhere the same), that there is really only one kind of stuff that makes up the physical world. Of course, this is a substantive assumption, although Boyle is right in supposing that it is shared by atomists and Cartesians. It is rejected, however, by his opponents. The Aristotelians (setting aside the controversial notion of prime matter) hold that there are four fundamentally different kinds of material stuff: earth, air, fire, and water. The chemists, as Boyle characterizes them here, uphold the Paracelsian *tria prima* – mercury, salt, and sulfur – as the three basic ingredients of all bodies.

Partisans of the new science are also unanimous on the point that matter is extended (dimensional or spatial). The notion of impenetrability, however, is trickier. Cartesians suppose that impenetrability simply follows from extendedness, thus eliminating the possibility of a vacuum. For atomists, impenetrability (or solidity) is an additional quality, above and beyond extendedness, which differentiates body from mere space. Boyle attempts to give a neutral account here, but in effect he treats impenetrability as a distinct quality from extendedness, since he assumes that a vacuum cannot be ruled out *a priori*, as it could be if extension simply implied impenetrability. Thus his sympathies on this issue are more atomist than Cartesian. It is important to note, by the way, that on any account impenetrability (or solidity) is not supposed to imply indivisibility. Indeed, Boyle sometimes lists divisibility as one of the general characteristics of matter *qua* matter. Rather, the term "impenetrability" refers to the property all bodies have of excluding other bodies from their location: No two bodies can occupy the same place at the same time. Though Boyle does not use this term, we may refer to extension and impenetrability as the catholic qualities of body.

Boyle's second point is simply to note that since all bodies have extendedness and impenetrability in common, we must look elsewhere for the source of their diversity. Motion has a unique importance here, as is clear from points three and four:

> 3. That motion, not belonging to the essence of matter... and not being originally producible by other accidents as they are from it, may be looked upon at the first and chief mood or affection of matter.
> 4. That motion, variously determined, doth naturally divide the matter it belongs to into actual fragments or parts; and this division obvious experience (and, more eminently, chemical operations) manifest to have been made into parts exceedingly minute, and very often too minute to be singly perceivable by our senses. (pp. 50–1)

Here Boyle gestures at a causal story according to which God adds motion to undifferentiated matter, thus creating particles. The specific causal account is not crucial to the theory, however. It is vitally important to Boyle to assert that motion is not essential to matter, for this is part of his effort to distance corpuscularianism from atheism. Matter moves, so if this motion cannot simply be derived from matter's essence, it must be somehow imposed by God. On the other hand, to endow matter with essential motion is to pave the way to atheism.

Also crucial is the implication that Boyle draws from experience and experiment, that the real action for the natural philosopher is typically at the micro-level. The minute parts of bodies must therefore be carefully characterized, which is the task of Boyle's fifth point. There he observes that each particle must have its own specific size (or bigness or bulk), its own shape (or figure) and must be in motion or at rest. Boyle tells us that size, shape, and motion/rest are thus the "primary... affections of the insensible parts of matter, considered each of them apart" (Boyle 1991, p. 51). Boyle calls these minute particles "minima naturalia," a term that may seem to be in tension with his professed agnosticism about atomism. By calling them minima, Boyle means to identify them as the least parts that are ordinarily created by natural processes, particles so small that "nature doth scarce ever actually divide"

them (Boyle 1991, p. 41). Nevertheless, he denies that these minima are absolutely indivisible: They are divisible mentally (that is, we can conceive of them being divided, since they are extended) and divisible by God. The minima, then, function for practical purposes like atoms. Boyle also employs a molecule-like notion, that of "primitive concretions or clusters . . . of particles" (Boyle 1991, p. 42), which are capable of being further broken down, but which tend to remain united through most natural processes. Both minima and primitive clusters qualify as corpuscles, the submicroscopic particles relevant to corpuscular explanations.

Boyle's sixth point begins to bring out the reductive nature of the corpuscularian project. The catholic qualities and primary affection of bodies are their basic qualities; further properties of bodies arise from the corpuscles, qualified with these basic qualities, and their spatial relations. In point six, Boyle explains how the spatial relations among particles create further qualities: position (or posture) and order. He then introduces a corpuscularian term of art, "texture," which denotes the spatial structure of an array of corpuscles. For a corpuscularian, if we knew a body's texture (including the size, shape, and motions of the body's component corpuscles), we would know all there is to know about its intrinsic features.

Thus (point seven) the naïve view that sensory qualities (like color, heat, sound, and odor) are further, distinct qualities in bodies, over and above the corpuscularian ones (of extension, impenetrability, size, shape, motion, and spatial arrangement or texture), is mistaken. There is nothing in bodies resembling our perceptions of color, odor, etc. Rather, such qualities are "but the effects or consequents of the above-mentioned primary affections of matter" (Boyle 1991, p. 51) on our organs of sense. Thus, Boyle formulates and defends a version of what has come to be called (following Locke's terminology) the primary/secondary quality distinction. Boyle rightly takes the project of explaining away the sensory qualities to be common to all parties of corpuscularians, and thus some version of the primary/secondary quality distinction can be found in his predecessors, notably GALILEO (chapter 4) and Descartes. Nevertheless, Boyle's version is both influential and philosophically interesting, as is discussed at more length below.

In points eight, nine, and ten, Boyle turns to the task of showing that corpuscularianism can replace every useful concept of Aristotelian natural philosophy. In doing so, he moves beyond his predecessors and extends the philosophical reach of the new science. Boyle is willing to agree with the Aristotelian that we can usefully talk about substances, that is, particular existent things that are members of kinds, for example this piece of gold. As Boyle understands it, an Aristotelian holds that what makes a piece of gold a piece of gold is the fact that the right sort of substantial form informs the matter that makes it up. Thus, the generation of a substance can be explained by the acquisition of a substantial form, and the destruction of a substance can be explained by the loss of the substantial form. Boyle finds such talk, when applied to physical things or bodies, to be mysterious and misleading. He argues first that people sort bodies into kinds based on their observable qualities, not supposed occult ingredients:

> . . . if (for instance) you ask a man what gold is, if he cannot show you a piece of gold and tell you "This is gold", he will describe it to you as a body that is extremely

> ponderous, very malleable and ductile, fusible and yet fixed in the fire, and of a yellowish colour....(Boyle 1991, p. 38).

This convention of qualities is what is "essential" to gold, that is, what is required for something to qualify as gold.

However, the corpuscularians do hold, in effect, that there is a hidden source of these observable qualities, namely, the corpuscularian texture of the body – the particular arrangement of particles, each with their own size, shape, and motion. This, Boyle allows, may be called the form of a body, as long as we understand that this is not something distinct from the matter of a body, but just the matter itself, considered with its particular corpuscular constitution (Boyle 1991, p. 40). Now we are in a position to see that the generation or destruction of a substance takes place whenever a body gains or loses qualities so that it newly has all the members of that set of qualities which is required to be a body of a certain kind, or newly lacks one or more of those members. And that takes place whenever the corpuscular constitution of the body has changed in such a way as to change the relevant observable qualities. (Alteration, on the other hand, takes place when a quality is gained or lost which is not in the essential set; this change too will have its corpuscularian explanation.) Given that we do not have sensory access to corpuscular constitutions, this may not seem much of an advance over the Aristotelian view. However, Boyle takes his account to be superior in two crucial respects: (1) It makes clear that the sorting of bodies into kinds is done by us, not nature, and is done on the basis of sensible qualities. (2) The notion of a corpuscular constitution is a clear and intelligible one which anyone can be made to fully comprehend, unlike the notion of substantial form.

Qualities and corpuscularian explanation

Boyle has two favorite mechanical metaphors: the clock, which illustrates the idea that natural bodies and organisms are machine-like, and the lock and key. This second metaphor is the key to his conception of how further qualities of bodies stem from the catholic qualities and primary affections of body:

> We may consider, then, that when Tubal Cain, or whoever else were the smith that invented locks and keys, had made his first lock... that was only a piece of iron contrived into such a shape; and when afterwards he made a key to that lock, that also in itself considered was nothing but a piece of iron of such a determinate figure. But in regard that these two pieces of iron might now be applied to one another after a certain manner, and that there was a congruity betwixt the wards of the lock and those of the key, the lock and the key did each of them now obtain a new capacity... And proportionably hereunto, I do not see why we may not conceive that, as to those qualities (for instance) which we call sensible, though, by virtue of a certain congruity or incongruity in point of figure, or texture (or other mechanical attributes) to our sensories, the portions of matter they modify are enabled to produce various effects upon whose account we make bodies to be endowed with qualities, yet they are not in the bodies that are endowed with them any real or distinct entities, or differing from the matter itself furnished with such and such a determinate bigness, shape, or other mechanical modifications. (Boyle 1991, pp. 23–4)

Thus, the corpuscularian texture of one body, considered in relation to another body with its own texture, provides the first body with the ability, capacity, or power to affect and change the second. For example, we may suppose that the shape and motion of the particles of the acid aqua regia (actually, a mixture of nitric and hydrochloric acids) allow those particles to insinuate themselves into the pores between particles of gold, so as to dissolve gold. Thus, aqua regia has the power to dissolve gold, but this power is nothing over and above mechanical affections: the sizes, shapes, motions, and arrangements of impenetrable particles.

One general moral that Boyle draws from this concerns the importance of relations to the powers or qualities of bodies: We must consider a body's position in the universe if we want a full understanding of its capacities. (In *Tracts about the cosmical qualities of things* (1670) Boyle extends this doctrine to special qualities which "depend upon... unheeded relations... to the determinate fabrick of the grand system or world..." Boyle 1772, vol. 3, p. 306). Further, the sensible qualities of bodies (e.g. redness, tartness, and warmth) are capable of this sort of relational analysis. In such cases, our sensory organs are the second body. Saltiness, for example, might be explained by the stiffness and sharpness of salt particles, which thus affect our tongues in a certain way (Boyle 1991, p. 149). However, special issues arise in the case of sensory qualities, since for a quality to be sensory, it must somehow be linked to a perception in the mind. Boyle, moreover, is a dualist, and thus believes that the mind is a spiritual, immaterial substance. Boyle tells us that because of the union of the human mind with the human body, the human mind perceives the effects that external objects have on the sense organs and gives them "distinct names, calling the one light or colour, the other sound, the other odour, &c" (Boyle 1991, p. 31).

This raises the philosophical question of what exactly, say, the redness of an apple is: Is it (1) an idea/perception in the mind, (2) a change in or state of the sensory organ, here, the eye, (3) a power in the apple, (4) a corpuscular constitution or texture in the apple (or perhaps both (3) and (4) at once, if powers are to be identified with textures), or something else? Boyle does not seem overly concerned with this question, which he might well regard as excessively nice. What is important, in his view, is (1) that we realize what sensory qualities are not, namely, distinct qualities in bodies on a par with size, shape, and motion, and (2) that we understand the basic account of how corpuscularian bodies give rise to experience of sensory qualities via their relation to our senses. Boyle does make the following astute and philosophically suggestive observation:

> ...bodies may be said in a very favourable sense to have those qualities we call sensible, though there were no animals in the world. For a body in that case may differ from those bodies which now are quite devoid of quality, in its having such a disposition of its constituent corpuscles that, in case it were duly applied to the sensory of an animal, it would produce such a sensible quality which a body of another texture would not. (Boyle 1991, p. 33)

He concludes from this, however, that in a world with no animals, bodies would dispositively but not actually possess colors, tastes, etc., which implies that actual

redness requires actual perception (or, at least, the existence of beings capable of actual perception).

The grounds for and the status of corpuscularianism

We have examined Boyle's own sketch of the content of corpuscularianism and seen some of its implications. What status does this set of principles have for him? An initial answer is provided by the fact that Boyle consistently describes corpuscularianism as an hypothesis. It is a proposal about the fundamental nature of corporeal reality, not something he puts forward as known to be true. Although this fits with the characteristic diffidence of all of Boyle writings, his stance here is more than merely rhetorical. Boyle holds that the mechanical hypothesis should be confirmed or disconfirmed through experiment, but that neither has yet been accomplished. Further, he believes that although the hypothesis is capable of confirmation, it will at best be highly probable, never absolutely certain. Nevertheless, he (undiffidently) holds that corpuscularianism represents the only fundamental and systematic scientific program worth pursuing, and that scholastic natural philosophy should be abandoned.

Indeed, many of Boyle's defenses of corpuscularianism tend to be comparative: its virtues are displayed against the defects of its competitors. In drawing these comparisons in "About the Excellency and Grounds of the Mechanical Hypothesis" (1674), Boyle also provides a set of criteria for evaluating the worth of an hypothesis in natural philosophy. A primary virtue is intelligibleness or clearness. Boyle maintains that endless scholastic disputes about substantial forms and related notions exhibit their unclarity, and that several notions employed by the chemists (hypostatical principles, the archeus) are equally obscure.

> But to come now to the Corpuscular philosophy, men do so easily understand one another's meaning, when they talk of local motion, rest, bigness, shape, order, situation, and contexture of material substances, and these principles do afford such clear accounts of those things that are rightly deduced from them only, that even those Peripatetics or chemists that maintain other principles acquiesce in the explications made by these, when they can be had, and seek not any further... (Boyle 1991, p. 140)

Because of the mechanists' endorsement of a macroscopic/microscopic analogy, all of their central notions are clear ones. The qualities taken as basic by corpuscularians and attributed to the minimal particles are the very same sorts of qualities familiar from ordinary experience with macroscopic objects – size, shape, motion, impenetrability. Thus the clarity so vaunted by Boyle is a fundamentally empiricist notion.

Boyle cites as a further virtue of his hypothesis that there cannot be fewer principles than matter and motion. The point of the fewness of principles is that a good scientific theory, in Boyle's view, is reductive: it minimizes the number of entities and/or properties that must be taken as primitive, and then explains other phenomena in terms of those few basic ones. Mechanism is indeed a highly reductive

theory, for the list of mechanical affections is very short. The implicit contrast, again, is with scholasticism, which as Boyle understands it, is inclined to posit a real quality to explain every manifest quality: snow is white because it has a real quality of whiteness (Boyle 1991, p. 16).

Boyle claims also that matter and motion are the most primary and simple principles, by which he seems to mean that we cannot conceive of them as arising from or reducible to anything else. This is an interesting thesis in that it attempts to provide conceptual foundations for the theory, but it is surely also a disputable one, if matter is taken in the substantive corpuscularian sense, as extended, impenetrable stuff.

Boyle is concerned to argue that the corpuscularian principles are very comprehensive. His worry is that they may seem so few and simple as to lack the explanatory capacity to account for the incredible variety of phenomena in the natural world. Here Boyle invokes the alphabet analogy: When we consider all the ways in which size, shape, motion, and arrangement may be varied, we will see that the corpuscularian basic qualities are like an alphabet, a small set of letters which can be used to create all of literature. Boyle also emphasizes that corpuscularianism can accommodate whatever genuine results are achieved by other theories. For example, if the chemists are right that sulfur has a special role in explaining some set of chemical reactions, the mechanical philosophy can accommodate this and then go yet further by explaining sulfur's properties in terms of the convening corpuscles that constitute it (Boyle 1991, p. 147).

A more serious worry that arises at this point is that the corpuscularian principles may be too comprehensive, in that it seems that any result could be made to agree with them. If a corpuscularian story could be invented to account for any conceivable result, then corpuscularianism looks untestable and empirically vacuous. This charge has some merit, but Boyle has two different sorts of replies to it.

1. Boyle holds that the general theory does have some definite empirical consequences. For example, since it maintains that sensory qualities arise from the relation between bodies and our sense organs (each possessing only mechanical qualities as basic qualities), it predicts a sort of relativity that is in fact observed (e.g. water feels cold to one hand, and warm to another, depending on the state of the hand). Further, Boyle holds that there are empirical results which favor corpuscularianism against its competitors. For example, Boyle argues that scholastic natural philosophy entails that if a chemical substance is disrupted by distillation into two clearly different substances, the original substantial form is destroyed, and one cannot restore the original substance simply by mechanically mixing the distillates. Yet, Boyle argues, this is exactly what he accomplished in his "redintegration" experiments with, for example, turpentine. The result of mixing the distillates has all the properties of turpentine, a fact which corpuscularianism can explain and which scholastic Aristotelianism must find deeply mysterious, given the absence of the substantial form of turpentine (Boyle 1991, pp. 90, 96). Chemists, on the other hand, maintain that their *tria prima* – salt, sulfur, and mercury – are simple and homogenous substances, not capable of further analysis, but, Boyle contends, ex-

periment shows otherwise (Boyle 1991, p. 147). Thus, the corpuscularian can account for experimental results which competing theories cannot.

Of course, as is noted above, Boyle held that empirical vindication of the corpuscularian theory was yet to come. And he shows a keen awareness of the difficulties involved in devising particular mechanical hypotheses that will be fully adequate to their explananda:

> For it is one thing to be able to show it possible for such and such effects to proceed from the various magnitudes, shapes, motions and concretions, of atoms; and another thing to be able to declare what precise and determinate figures, sizes, and motions, of atoms will suffice to make out the proposed phenomena, without incongruity to any others to be met with in nature... (Boyle 1991, p. 170)

Nevertheless, it seems that he hoped that natural histories of particular qualities (organized observation and experiment relating to cold, color, etc.) could eventually allow natural philosophers to devise and test specific mechanical hypotheses (Boyle 1772, vol. 1, p. 121). He thought, moreover, that he had already provided experimental evidence to support the hypothesis that qualities such as cold and taste have mechanical (rather than Aristotelian) causes (Boyle 1772, vol. 4, p. 230–70). And he expressed optimism that corpuscularianism would eventually accumulate explanatory successes sufficient for it to merit the assent of reasonable people (Boyle 1991, p. 152).

2. Boyle also maintains that only corpuscularianism offers prospects for genuine explanation. Thus, we ought to pursue this research program whether or not we have much in the way of empirical evidence for it at this stage. This defense rests on a further conceptual claim: Only corpuscularianism, Boyle contends, offers prospects for rendering intelligible how particular effects come about, for we cannot conceive of any bodily action apart from local motion. Thus, Boyle concludes that "...by whatever principles natural things be constituted, it is by the Mechanical principles that their phenomena must be clearly explicated" (Boyle 1991, p. 150). Boyle also acknowledges, however, that the reality of things need not always conform to our standards of intelligibility (Boyle 1772, vol. 4, p. 450). Nevertheless, in doing natural philosophy, we must seek to render the natural world intelligible.

III. Experimental Natural Philosophy and Methodology

Boyle's experimentalism

Boyle's role as an exponent of a theoretical program in natural philosophy has been considered at some length. But Boyle's role in the new science was not confined to this sphere. He was, if anything, more prominent in his role as an experimentalist. Indeed, the majority of his published works are concerned with practice rather than theory. Boyle was best known for his work on pneumatology and chemistry, and he published tracts on the spring of the air, respiration and the chemistry of blood, cold, color, saltpeter, gems, the degradation of gold, medical remedies, etc. His work

on the air pump was designed to create an "experimental vacuum," that is, a space devoid of air, while skirting more metaphysical debates about the existence of space devoid of all body whatsover (an issue that, as was noted in section II, divided atomists from plenist Cartesians). Boyle's *New experiments physico-mechanical, touching the spring of the air and its effects* (1660) triggered a fascinating controversy with HOBBES (chapter 22), with Boyle assuming the role of a defender of experimentalism against a different and in some ways more rationalist conception of natural philosophy. Boyle also corresponded with SPINOZA (chapter 16) (through Oldenburg) about the proper interpretation of Boyle's experiments with niter (saltpeter).

Boyle defended the practice of experimentation against charges of artificiality and emphasized the importance of variation and repetition in order to ensure reliability and eliminate artifactual results. In compiling histories of qualities such as cold and color, Boyle was self-consciously working in the tradition of FRANCIS BACON (chapter 20). Boyle was no naïve inductivist, however. Rather, he exhibited a sophisticated understanding of the way in which theory and experiment should mutually inform each other, with empirical data guiding the formation of hypotheses, which in turn inspire further experimentation.

Intermediate explanations and subordinate causes

An important question can be raised at this point concerning the fit, or lack thereof, between Boyle's theoretical corpuscularianism and his experimental science. Alan Chalmers (1993) has pressed the case that there is in fact no connection at all, and that Boyle's experimental program was successful precisely because (unlike Descartes) he did not typically attempt to provide mechanistic accounts of the chemical and pneumatic phenomena that he considered.

Boyle himself characterizes and explains the gap between (much of) his experimental work and his theoretical first principles. In the "Proëmial Essay" to *Certain physiological essays* (1661), Boyle notes that he has not for the most part had "immediate recourse to the magnitude, figure, and motion of atoms" (Boyle 1772, vol. 1, p. 308). In defending this practice, he addresses the issue of scientific explanation:

> I consider then, that generally speaking, to render a reason of an effect or phænomenon, is to deduce it from something else in nature more known than itself; and that consequently there may be divers kinds of degrees of explication of the same thing. For although such explications be most satisfactory to the understanding, wherein it is shewn, how the effect is produced by their more primitive and catholick affections of matter, namely, bulk, shape and motion; yet are not these explications to be despised, wherein particular effects are deduced from the more obvious and familiar qualities or states of bodies, such as heat, cold, weight, fluidity, hardness, fermentation, &c. though these themselves do probably depend upon those three universal ones formerly named. For in the search after natural causes, every new measure of discovery does both instruct and gratify the understanding; though I readily confess, that the nearer the discovered causes are to those, that are highest in the scale or series of causes, the more is the intellect both gratified and instructed. (Boyle 1772, vol. 1, p. 308)

Boyle's defense of corpuscularianism in "Excellency of the Mechanical Hypothesis", as was discussed in section II, suggests that only corpuscularianism explains. Here, in *Certain physiological essays*, Boyle lays out a fuller and more subtle account of scientific explanation. Only corpuscularianism provides a complete and fully satisfying explanation of how a particular effect is produced. However, intermediate explanations (which do provide a sort of genuine scientific explanation) can be gotten by reference to subordinate causes, as long as those subordinate causes are better known than what they are meant to explain. For example, Boyle takes it to be legitimate to invoke the heaviness of bodies in explaining their behavior, even though no natural philosopher has given a satisfactory corpuscular account of gravity (Boyle 1772, vol. 1, p. 309). Boyle shows a delicate appreciation of the difficulties that confront the natural philosopher on this issue. On the one hand, there is the danger of jumping too quickly to a particular mechanical hypothesis, motivated by theoretical/systematic considerations. On the other, he who invokes gravity and "desires no further account desists too soon from his enquiries, and acquiesces long before he comes to his journey's end" (Boyle 1991, p. 156).

Clearly there is no contradiction here between Boyle's experimental practice and his corpuscularianism. Boyle's acceptance of intermediate explanations does not contradict his stance that ideally these intermediate causes should themselves receive mechanical explanation. But is Boyle's corpuscularianism, then, of any positive use in his scientific practice? Boyle would defend the following answer: It is of use, for it encourages one to look for mechanical explanations, where they may be found. Where full mechanical explanations are not forthcoming, we may appeal to familiar empirical phenomena (gravity, the spring of the air) whose existence is not subject to dispute. Most importantly, however, corpuscularianism rules out appeal to mysterious entities which clearly conflict with mechanist assumptions, such as substantial forms, the soul of the world, the archeus, etc., and thus clears the way for us to ascend the scale of causes.

Boyle and chemistry

As is noted above in section II, Boyle sometimes sets up "the chemists" as the source of one of the vulgar doctrines opposed by the mechanical philosophy. However, he himself contributed greatly to experimental chemistry. Moreover, recent scholarship has made clear that (1) it is difficult, if not impossible, to draw a clean distinction between chemistry and alchemy in the seventeenth century (Newman 1994b) and (2) Boyle's natural philosophy was influenced by alchemical texts, and Boyle himself was heavily involved in experimentation directed at traditional alchemical ends, including the transmutation of metals.

Boyle's public stance *vis-à-vis* chemistry was to emphasize (indeed, to champion) its importance as an experimental science, while deploring its associated obscurity (Boyle 1991, p. 120). Further, he rejected any attempts to set up some chemical theory (e.g. Paracelsianism with its associated *tria prima*) as a basic natural philosophy in opposition to corpuscularianism. In the *Sceptical chymist* (1661), he draws the distinction this way:

> ... for though I am a great lover of chymical experiments, and though I have no mean esteem of divers chymical remedies, yet I distinguish these from their notions about the causes of things, and their manner of generation. (Boyle 1772, vol. 1, p. 459)

Of course, as is discussed above in section II, he also held that corpuscularianism was comprehensive enough to accommodate the empirical discoveries of the chemists, and perhaps a good deal of (al)chemical theory as well.

IV. Theology, Metaphysics, and Natural Philosophy

It bears repeating that Boyle's natural philosophy was meant to harmonize with and support religion. Thus, he was an active participant in seventeenth-century debates concerning the relation between God and nature, religion and natural philosophy, faith and reason. What role does God play in a corpuscularian cosmos? Boyle seems to answer this question definitively in the *Origin of forms and qualities*:

> ... according to my apprehension, it was at the beginning necessary that an intelligent and wise Agent should contrive the universal matter into the world (and especially some portions of it into seminal organs and principles) and settle the laws according to which the motions and actions of its parts upon one another should be regulated... But the world being once framed, and the course of nature established, the naturalist (except in some few cases where God or incorporeal agents interpose) has recourse to the first cause but for its general and ordinary support and influence, whereby it preserves matter and motion from annihilation or desition; and in explicating particular phenomena considers only the size, shape, motion (or want of it), texture, and the resulting qualities and attributes, of the small particles of matter. (Boyle 1991, pp. 70–1)

Boyle continues by employing the clock/watch analogy, emphasizing that such an automaton obviously requires an intelligent designer, but that once set in motion, its behavior should be explained in terms of its mechanical affections.

The ineliminability of God's role as a designer is emphasized by Boyle in a number of works, notably *A Disquisition about the final causes of natural things* (1688; Boyle 1772, vol. 5, pp. 392–444) and the "Essay containing a requisite digression concerning those that would exclude the deity from intermeddling with matter" (1663; Boyle 1991, pp. 155–75). Boyle consistently maintains that our admirably organized world could not have emerged via unguided processes from an initial chaos, and posits instead that God initially organized the world he created. Moreover, we are entitled to draw conclusions about God's existence and his general purposes from the natural world. In addition to classic examples such as the eye, Boyle often invokes "seminal principles" in this context, finely and intricately designed seeds required for animal (and perhaps mineral) reproduction.

God's role in the natural world, then, includes creation and initial organization/design of matter. What else is required of him in Boyle's cosmos? Boyle tells us (1) that God must settle the laws of nature and (2) that God must uphold the cosmos

via his ordinary support and influence. These roles might seem to be distinct, since the former is done by God "at the beginning," while the latter seems to be a continuous process. Elsewhere, however, Boyle expresses deep reservations about the application of the notion of law to nature:

> ...I look upon a law as a moral, not a physical cause, as being indeed but a notional thing, according to which, an intelligent and free agent is bound to regulate its actions. But inanimate bodies are utterly incapable of understanding what a law is, or what it enjoins, or when they act conformably or unconformably to it; and therefore the actions of inanimate bodies, which cannot incite or moderate their own actions, are produced by real power, not by laws; though the agents, if intelligent, may regulate the exertions of their power by settled rules. (Boyle 1772, vol. 5; p. 521)

The real power in question must be exercised by bodies or by God – laws are not entities and cannot do anything. Boyle saw both bodies and God as having a causal role, although he does not express a very precise view about how the causal labor is divided between them. It cannot be that bodies have all the causal power, for Boyle describes a thought experiment wherein the laws of impact are changed, while everything else (including, presumably, the qualities of bodies) remains constant (Boyle 1772, vol. 5, p. 140). Boyle had a favorable opinion of occasionalism (Anstey 1999), the doctrine that assigns all the causal power to God, yet he never adopts that position in his published works. In *A Free enquiry into the vulgarly received notion of nature* (1686; Boyle 1996), Boyle specifically attacks the idea (found most prominently in Cudworth and More) that some third thing – the spirit of nature, plastic nature, or hylarchic principle – distinct from both God and bodies, directs the behavior of the natural world. Rather it seems that for Boyle matter itself has certain powers – for example the ability to transmit motion at impact – but that those powers require continual regulation or supplementation by God in order for our particular, regular, law-like universe to result. This is part of God's ordinary concourse, his ordinary support of the created universe, and thus should not be described as divine intervention in nature.

V. Boyle's Influence

Perhaps Boyle's greatest historical influence was as a propagandist for experimental science. Together with Bacon, who had already attained that status, he became a sort of patron saint of British natural philosophy. Almost equally influential was his articulation and defense of corpuscularianism. This was the site of his most distinctively philosophical contributions. JOHN LOCKE (chapter 24), who worked in Boyle's Oxford laboratory and afterwards remained a close friend of Boyle's, was clearly influenced by Boyle's theoretical natural philosophy, as well as by the empiricism that Boyle shared with many of his contemporaries. Locke's distinctions (in his *Essay concerning human understanding*, Locke 1975) between primary and secondary qualities and between real and nominal essences are closely connected to positions advanced by Boyle in the *Origin of forms and qualities*.

Of course, Boyle achieved lasting scientific successes as well, which there is little space to address here. His program of pneumatic experimentation established many new results about vacua and air, including, most famously, "Boyle's law," the inverse proportionality of pressure to volume in gases. His work on hydrostatics was also notable. Boyle's systematic chemical experimentation aided the development of empirical methods for identifying chemical substances. More importantly perhaps, his (qualified) championing of chemistry as a legitimate empirical science with strong connections to the new corpuscular physics was crucial to chemistry's attaining that status. Boyle also exerted a continuing influence on British natural theology, both through his own writings and through his endowment of the Boyle lectures.

It is indicative both of Boyle's standing in the period and of the multiple aspects of his influence that both sides of the great dispute between NEWTON (chapter 28) and LEIBNIZ (chapter 18) tried to mobilize him on behalf of their cause. This battle, whose origin was the priority dispute over the calculus, soon grew to include natural philosophy more generally, particularly the question of the cause of gravity and the status of attraction. Newton, in attacking mechanist theories of gravity which posit swirling vortices in the plenum, cited Boyle *qua* experimentalist as having demonstrated the existence and properties of vacua (more precisely, as having shown that bodies moving in an airless space experience no resistance, Newton 1962, vol. 2, p. 543, the 1713 "General Scholium"). Leibniz, however, invoked Boyle *qua* corpuscularian theorist in his attack on the "chimerical" notion of attraction:

> In the time of Mr. Boyle, and other excellent men ... no body would have ventured to publish such chimerical notions. [...] Mr. Boyle made it his chief business to inculcate, that every thing was done mechanically in natural philosophy. But it is men's misfortune to grow, at last, out of conceit with reason itself, and to be weary of light. (Leibniz 1956, p. 92)

Both uses of Boyle's work are legitimate, if one-sided.

References

Boyle, Robert, 1772, *The Works of the Honourable Robert Boyle*. 6 vols. London: Birch.

—— 1991, *Selected Philosophical Papers of Robert Boyle*. M. A. Stewart (ed.). Indianapolis: Hackett.

—— 1992, *Royal Society Boyle papers*. Bethesda, MD: University Publications of America.

—— 1996, *A Free Enquiry into the Vulgarly Received Notion of Nature*. E. B. Davis and M. Hunter (eds.). Cambridge: Cambridge University Press.

—— 1999–2000, *The Works of Robert Boyle*. M. Hunter and E. B. Davis (eds.). 14 vols. London: Pickering and Chatto.

Chalmers, Alan, 1993, "The Lack of Excellency of Boyle's Mechanical Philosophy." *Studies in History and Philosophy of Science*, 24, 541–564.

Hunter, Michael, 1992, *Letters and Papers of Robert Boyle: A Guide to the Manuscripts and Microfilm*. Bethesda, MD: University Publications of America.

Leibniz, G. W., and Samuel Clarke, 1956, *The Leibniz–Clarke Correspondence*. H. G. Alexander (ed.). Manchester: Manchester University Press.

Locke, John, 1975, *An Essay Concerning Human Understanding*. P. H. Nidditch (ed.). Oxford: Clarendon Press.

Newman, William R., 1994a, Boyle's Debt to Corpuscular Alchemy. In M. Hunter (ed.). *Robert Boyle reconsidered* (107–118). Cambridge: Cambridge University Press.

——1994b, *Gehennical Fire: The Lives of George Starkey, an American Alchemist in the Scientific Revolution*. Cambridge: Harvard University Press.

Newton, Isaac, 1962, *Mathematical Principles of Natural Philosophy*, trans. Andrew Motte and Florian Cajori (2 vols). Berkeley: University of California Press.

Further Reading

Alexander, Peter, 1985, *Ideas, Qualities, and Corpuscles: Locke and Boyle on the External World*. Cambridge: Cambridge University Press.

Anstey, Peter, 2000, *The Philosophy of Robert Boyle*, Routledge Studies in Seventeenth-Century Philosophy. London: Routledge.

Hall, Marie Boas, 1958, *Robert Boyle and Seventeenth-century Chemistry*. Cambridge: Cambridge University Press.

Hall, Marie Boas, and A. Rupert Hall, 1964, *Philosophy and Natural Philosophy: Boyle and Spinoza*. Mélanges Alexandre Koyré (241–56). Paris: Hermann.

Harwood, John T. (ed.), 1991, *The Early Essays and Ethics of Robert Boyle*. Carbondale: Southern Illinois University Press.

Macintosh, J. J., 1994, "Locke and Boyle on Miracles and God's existence." In M. Hunter (ed.). *Robert Boyle Reconsidered* (193–214). Cambridge: Cambridge University Press.

Mandelbaum, Maurice, 1964, *Philosophy, Science, and Sense Perception: Historical and Critical Studies*. Baltimore: The Johns Hopkins Press.

McGuire, J. E., 1972, "Boyle's Conception of Nature." *Journal of the History of Ideas*, 33, 523–42.

More, Louis Trenchard, 1944, *The Life and Works of the Honourable Robert Boyle*. London: Oxford University Press.

O'Toole, Frederick J., 1974, "Qualities and Powers in the Corpuscular Philosophy of Robert Boyle." *Journal of the History of Philosophy*, 12, 295–315.

Shapin, Steven, and Simon Shaffer, 1985, *Leviathan and the Air-pump: Hobbes, Boyle, and the Experimental Life*. Princeton: Princeton University Press.

Wojcik, Jan W., 1997, *Robert Boyle and the Limits of Reason*. Cambridge: Cambridge University Press.

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24

John Locke

EDWIN MCCANN

John Locke is the greatest English philosopher, whether as measured by contemporary influence or by the lasting significance of his philosophical work. Locke's contributions both to epistemology and metaphysics (in his magnum opus *An Essay concerning Human Understanding*) and to political philosophy (in the *Two Treatises of Government*) were of the first importance. We will consider the main contributions to each of these areas in turn. In setting out Locke's leading doctrines, I will mainly follow the order in which they are presented in his major works.

Metaphysics and Epistemology

To gauge the significance of Locke's contributions we need to begin with a rough overview of the philosophical context in which the *Essay* was composed. The major development, dating from early in the seventeenth century, was the rise of the New Philosophy, or Mechanical Philosophy. This movement (or movements) of thought was closely connected with the advances in natural science which marked the period. The revolutionary results achieved by such figures as GALILEO (chapter 4) and DESCARTES (chapter 5) were taken by them and others to cast suspicion on the traditional epistemology and metaphysics, and the associated natural philosophy, handed down from Aristotle (although a good bit changed in the handing down) by the Scholastic philosophers (also called the "Schoolmen" or the "Peripatetics"). There were other live alternatives, in these early days of what we now know as the "Scientific Revolution," including a loose family of occultist and hermetical world-views which we tend to lump under the name of "alchemy," and related vitalistic views of nature promulgated by the Cambridge Platonists. Despite the profusion of alternative theories of nature, there is no doubt that the early mechanical philosophers rightly viewed the Aristotelian hylomorphic theory, the theory of substantial forms and real qualities, as their most formidable antagonist, and it was on this theory which Descartes, GASSENDI (chapter 6), and their followers principally leveled their sights.

In speaking of the New Philosophy, or the Mechanical Philosophy, I am using the labels which the partisans, and their opponents, used; but it is crucial for under-

standing Locke's larger philosophical agenda to realize that he wrote in opposition not only to the common Aristotelian and Spagyritic enemies but also to the rival strain in the Mechanical Philosophy, the Cartesians. For Locke the Cartesians were a target nearly as important as the Aristotelians. (In general, the Cartesians, in specifying that extension is the whole essence of matter or body, rejected the possibility of void space and held that matter is actually divided to infinity; the Corpuscularians, following principally Gassendi, held that the essence of matter includes solidity as well as extension, thus allowing for the possibility (and actuality) of void space, and of physically indivisible smallest parts of matter.)

It is in the context of the struggle between these various philosophies of nature that we can most fruitfully set Locke's epistemology and metaphysics. When Locke wrote, there was a well-worked out epistemology for the Mechanical Philosophy, the epistemology Descartes presented in the *Discourse on Method*, the *Meditations on First Philosophy*, and the *Principles of Philosophy*. Descartes' claims that we have clear and distinct ideas of body as extended substance and mind as thinking substance, and that, given their character as purely intellectual representations, the clear and distinct ideas of mind and body could not have been derived from sensory experience, constituted the basis for Descartes' confidence that (a) the nature and operations of bodies, including their motions and the changes depending on these motions, could ultimately be resolved in an explanatory framework which invoked at bottom nothing but extension and its modes, and which was thus in a straightforward sense purely mathematical; (b) it could be demonstrated that there is no void or empty space, the material universe constituting instead a plenum; and (c) that the two sorts of finite substances, mind and body, are fundamentally different in nature each from the other, and that this too could be demonstrated. Against this, the Gassendists had no systematic epistemology to offer, beyond a slightly reconstructed version of Epicureanism. It fell to Locke to supply this lack, and he did so, in the context of his distinctive and novel project of providing an inventory of the leading ideas stocking the human mind, together with a genealogy for each of them showing how they derived from simple ideas given in sensation and reflection, thus carrying out the declared purpose of the *Essay*, which was to "...enquire into the Original, Certainty, and Extent of humane Knowledge; together with the Grounds and Degrees of Belief, Opinion, and Assent..." (*E* I.i.2). Locke is looking to provide the first natural history of the human understanding, constructed along the lines and adapting the methods of the natural histories which Locke's colleagues in the newly formed Royal Society were busied with; in the same section (*E* I.i.2) Locke continues:

> It shall suffice to my present Purpose, to consider the discerning Faculties of a Man, as they are employ'd about the Objects, which they have to do with: and I shall imagine I have not wholly misimply'd my self in the Thoughts I shall have on this Occasion, if, in this Historical, plain Method, I can give any account of the Ways, whereby our Understandings come to attain those Notions of Things we have, and can set down any Measures of the Certainty of our Knowledge, or the Grounds of those Perswasions, which are to be found amongst Men...

Locke goes on in the introduction to forewarn us that the reach of our faculties, limited as they are by the stock of ideas with which experience supplies us, will fall

far short of what we would like, and certainly far short of what has been claimed by exuberant dogmatists (among whom one would have to number Descartes).

The call for a natural history of the human cognitive faculty (a project which Kant was later to deride as that of giving a mere "physiology of the human understanding") actually stands as the first attempt ever to apply scientific method to the systematic description of the cognitive operations and abilities of the mind, an enterprise which HUME (chapter 32) was later to take up under the heading of a "science of human nature," although with a quite different conception of scientific method. But even though Locke organizes his book around that overall project, it is not lost on him that some of the particular results he gains put such limits on the extent of human knowledge as to undermine the more ambitious Scholastic (and, for that matter, Cartesian) metaphysical and epistemological claims with which the more modest Corpuscularian version of mechanism finds itself in conflict. The use to which these results of Locke's account of the cognitive faculty can thus be put is captured in a famous simile in the *Essay*'s Epistle to the Reader:

> The Commonwealth of Learning, is not at this time without Master-Builders, whose mighty Designs, in advancing the Sciences, will leave lasting Monuments to the Admiration of Posterity; But every one must not hope to be a Boyle, or a Sydenham; and in an Age that produces such Masters, as the Great – Huygenius, and the incomparable Mr. Newton, with some other of that Strain; 'tis ambition enough to be employed as an Under-Labourer in clearing Ground a little, and removing some of the Rubbish, that lies in the way to Knowledge...

The substantial forms and real qualities of the Scholastic Aristotelians, the clear and distinct ideas of body and of thinking substance that, according to Descartes, give us insight into the fundamental nature of reality and which can give us *a priori* assurance of the truth of mechanism (Cartesian mechanism, that is); these and other of the flotsam and jetsam strewing the road to knowledge will be swept away as Locke's project is carried out.

The first order of business in the *Essay* is to refute the doctrine (or family of doctrines) which would imply that we have ideas and/or propositional knowledge which is not derived solely from sensory experience, but are instead somehow inscribed in our minds by God or are in some other way present in our intellects prior to, and independently of, our sensory experience. Locke's attack on what has come to be called innatism drew much attention, and criticism, from his contemporaries; indeed, it was one of three major claims which were the most controversial, the other two being the treatment of substance and the assertion of the possibility of thinking matter. Locke attacks innatist claims in three different areas. The first, and most interesting to us, has to do with propositional knowledge; here, the claim under attack is that there is a small stock of principles which are known innately and which function as the foundations of all knowledge (examples Locke gives are the principle of identity, given by Locke as "Whatever is, is" and the principle of contradiction, given as "the same thing cannot be and not be").

The second area, and the one of most import to Locke's contemporaries who sought to found morality on some sort of natural illumination rather than, as Locke

did, on a combination of revelation contained in scripture and the unaided application of reason to moral matters, involves the claim that there are innately known principles of right conduct inscribed by God in the human soul. The third and most general innatist claim which Locke attacks is the claim, which is implied by either of the previous two claims, that the mind comes into existence stocked with certain ideas (the two ideas Locke gives as examples are the idea of God and the idea of substance). Each of these three aspects of the innateness hypothesis has a separate chapter devoted to it in Book I of the *Essay* (chapters two, three, and four, respectively).

It is important to realize two things about Locke's target in these attacks: first, Locke is after no particular version of the innateness hypothesis, but instead casts his arguments in broad enough terms as to direct them against the Scholastics, the CAMBRIDGE PLATONISTS (chapter 21), and the Cartesians, different though the particulars of their respective views might be; and second, that he is attacking innatism as a basis for justification in knowledge and for obligation in morality. Locke himself cheerfully admits, indeed he insists, that there are many innate, in the sense of natural, capacities of mind involved in the fixation of belief and the attainment of knowledge; among those he lists are the faculty for comparing ideas, for compounding or combining them, for abstracting general ideas from particular ones, for remembering or retaining them. The crucial thing is that these are general capacities which by themselves do not give rise to propositional knowledge, nor do they provide any ideational contents.

Locke's attack on innateness is three-pronged. First, he questions the datum which was to be explained by the innateness hypothesis, the alleged universal assent enjoyed by the first principles of knowledge and the first principles of right action. As regards the latter, he points to the widely differing sets of customs, and moralities, encountered by European explorers on their voyages, and as to the former, he points to the cases of "children and ideots [sic]" as counterexamples. The latter group unfortunately will never be able to assent to such principles as "the same thing cannot be and not be" and the latter are not now able to do so, even though they give at least behavioral evidence of being able to assent to such instances of the principle as "yellow is not sweet" and "sweet is not bitter" and "worm-wood, and sugar-plumbs [or another example: a rod and a cherry] are not the same thing."

Second, even if we discount all the counter-evidence and accept at least for the sake of argument the alleged universality of assent, this universality can be explained by an alternative and more economical explanatory hypothesis, namely that simple ideas received by sensation and reflection, operated upon by such native faculties of mind as discerning of sameness and difference, memory (retention), comparing, composing or enlarging, and abstracting (see especially *Essay* Book II chapter 11, as well as *E* I.ii.15; *E* I.iv.22; and see, of course, *E* I.ii.1). It is the availability of such alternative, empiricist explanations that undermine innatist attempts to save their hypothesis from counterexample by limiting the relevant population to children that have come to the use of reason (*E* I.ii.6–14), or to those who understand the terms used in the proposition (*E* I.ii.17–24). In both cases the time lag between birth and the age at which the child has the use of reason or is able to

understand the terms involved in complex propositions, allows for a considerable amount of experience to have been had by the child, affording plenty of ideas of sensation and reflection and ample opportunity for using its natural faculties upon the material given in experience.

The third, and by far most general and most important argument against innatism is given in *E* I.ii.5, although it is adverted to at a number of later junctures in Book I of the *Essay*. It concerns the innatist's central notion of being *in* the mind, or of something's being *imprinted* on the mind. Locke's point is simple and straightforward: we can make sense of the claim concerning some item (an idea, perception, belief, or proposition) that it is in the mind if this means only that it is now being perceived by the mind, or that it is an explicit object of awareness, or, in an extension of this notion, if it previously had been perceived by the mind, and the mind is now capable of reviving that previous perception. Any other criteria for something's being in the mind – such as, to cite one criterion Locke mentions, the mind's having the capacity to come to know or assent to a proposition, would make all truths innate, whether they're ever thought of or not. These considerations allow Locke to reject any form of the innateness hypothesis which seeks to explain innateness in terms of dispositions to assent to or come to know certain propositions. This takes care of even "sophisticated" versions of innateness, whether they are couched in terms of metaphorical comparisons to the way the figure of a statue may be prefigured in the veins of the block of marble from which it is carved, or of equally metaphorical talk of innate truths being stored in the "depths" of the soul, or "stamped" on the soul by its maker.

Having thus cleared the ground of the innateness hypothesis as an explanatory alternative to the claim that all of our ideas derive from simple ideas given in sensation and reflection, Locke proceeds in Book II of the *Essay* to show how all of our ideas may be derived from simple ideas given in sensation and reflection. In effect, Book II is a natural history catalog of all our basic ideas, including, notably, those of such sensible qualities as size, shape, motion, solidity, color, sound, taste, hot, cold; items of reflection such as pleasure or pain; and more categorial ideas such as space, duration (time), number, infinity, power, substance, cause and effect, identity, and others. We'll focus here on some of Locke's more notable treatments of these basic ideas, beginning with two general issues about ideas; first, the question of whether Locke's theory of ideas commits him to representative or indirect realism, and second, the distinction between ideas of primary qualities and ideas of secondary qualities.

The biggest problem in deciding whether Locke is a direct realist about perception, or an indirect or representative realist, is in fixing what these labels really mean. If we take it that the latter view holds that we have no immediate awareness of external objects in sensory perception, but instead have immediate awareness only of ideas in our minds that are representations in some sense (whether causally, or inferentially, or both) of external objects, then Locke is not an indirect or representative realist. For he holds that having a (simple) idea of a quality of an external object which has been "received from without" just is perceiving that external object. The reading of Locke which holds him to be an indirect realist is based on a few passages, of which *E* IV.iv.3 is the most often cited:

> 'Tis evident, the Mind knows not Things immediately, but only by the intervention of the *Ideas* it has of them. *Our Knowledge* therefore is *real*, only so far as there is a conformity between our *Ideas* and the reality of Things.

This passage is not evidence of a commitment to indirect realism, however, because in it Locke is talking about knowledge, and not perception, of things. Indeed in the very next section Locke stresses that the connection between the powers or qualities in bodies that are the causes of simple ideas in us "is sufficient for" real knowledge:

> *First*, The first are simple *Ideas*, which since the Mind, as has been shewed, can by no means make to it self, must necessarily be the product of Things operating on the Mind in a natural way, and producing therein those Perceptions which by the Wisdom and Will of our Maker they are ordained and adapted to. From whence it follows, that *simple* Ideas *are not fictions* of our Fancies, but the natural and regular productions of Things without us, really operating upon us, and so carry with them all the conformity which is intended; or which our state requires: For they represent to us Things under those appearances which they are fitted to produce in us: whereby we are enabled to distinguish the sorts of particular Substances, to discern the states they are in, and so to take them for our Necessities, and apply them to our Uses. Thus the *Idea* of Whiteness, or Bitterness, as it is in the Mind, exactly answering that Power which is in any Body to produce it there, has all the real conformity it can, or ought to have, with Things without us. And this conformity between our simple *Ideas*, and the existence of Things, is sufficient for real Knowledge. (*E* IV.iv.4)

To have a simple idea caused by a power or quality in a body, in the usual or natural manner, just is to perceive that power or quality and thereby to perceive the body. We should not allow the fact that Locke secures the reality of our knowledge in this regard by reference to a natural causal relation to lead us to think that it is by some sort of causal inference that we know the body to have the power or quality in question, or that we know the body to exist; having received the simple ideas from without, in the usual and natural way, we thereby know that the body exists and has these qualities. (For Locke's summary dismissal of skepticism with regard to the senses, see *E* IV.2.14 and *E* IV.11.3).

This treatment of the relation between powers and qualities in bodies and the simple ideas they produce in us is centrally involved in Locke's treatment of the distinction between primary and secondary qualities. The chapter setting out this distinction (*E* II.8) is one of the most widely read chapters in the *Essay*, and it is regarded as one of Locke's enduring philosophical legacies (whether for good or ill depends on whether one takes it as a fruitful insight or a dreadful mistake – there are philosophers in both camps). The target of the distinction between primary and secondary qualities is the Aristotelian doctrine of real qualities. The Aristotelians held, in general, that distinct kinds of sensation, or as Locke and other philosophers following Descartes called them, ideas of sensory qualities (as of color, heat or cold, shape, etc.) corresponded to distinct real qualities in bodies; in the technical terminology of the Aristotelians, the perceptions of these qualities in our minds were the same in species with the real qualities in the objects, the species having been transmitted (non-mechanically) from the objects (where they exist in matter) to the

mind of the perceiver (where they do not exist in matter, but by way of idea). The mechanical philosophers rejected the Aristotelian theory of real qualities, arguing for a distinction between the sensible qualities we attribute to things relative to our perceptions of them and the small stock of qualities they have in themselves, a stock, they claimed, exhausted by what Boyle called the "mechanical affections" of things. Here again the deep differences between the Cartesian and the Gassendist strands of the Mechanical philosophy become evident, and the difference is crucial for the proper understanding of Locke's views. Descartes, following Galileo, held that sensible qualities as such were nothing but sensations or sensory ideas, and so existed only in the mind, in contrast with such modifications of extension as size, shape, and motion, which exist in body. For Locke and BOYLE (chapter 23), on the other hand, sensible qualities are in bodies, in a certain sense to be explained, and not only in the mind. Locke bases the distinction between primary and secondary qualities (the terminology, as well as the basic distinction, stems from Boyle) on the general concept, or nominal essence, of *body*, which a body is defined as being an extended, solid substance. Any finite extended solid thing will have a determinate size and shape, and will be either at rest or in motion; a physically indivisible extended solid thing cannot change its size and shape, possessing a perfect unity; and larger bodies, which are aggregations of physically indivisible extended solid parts, will have sizes and shapes, overall or compounded motions (or rest), as well as internal structures that are a function of the relative situation and motions of their parts (which taken together Locke and Boyle call the "texture" of the larger body). These determinations of the state of extended solid substances are the primary qualities of body.

To be distinguished from these are the secondary qualities, such as color, taste, smell, hot or cold, and so on, which are nothing but powers the bodies have to produce the corresponding sensations in us. The powers, like their causal basis in the body itself (i.e. the texture of its extended solid parts) are in the body, although unlike the primary quality basis, the power that results from it can be specified only in relation to the sensory ideas it produces in perceivers. It is this difference to which Locke is pointing when he famously says that ideas of primary qualities are resemblances of something really in bodies, whereas ideas of secondary qualities are not resemblances (see *E* II.8.14–15). He is not claiming, as Berkeley and others have taken him to claim, that our perceptual ideas of the sizes, shapes, and motions of observably large bodies are any more immune from illusion and/or misjudgment than are our ideas of color and heat; indeed, in arguing for the distinction he insisted that the causal process by which ideas of the primary qualities of observably large bodies are produced in us is exactly the same as the causal process by which ideas of their secondary qualities are produced (see *E* II.8.11–13). Accordingly, the examples he goes on give of corpuscularian resolutions of changes in the observed qualities of bodies as a result of changes in the microphysical structure, or texture, of these bodies are not epistemic relativity arguments, but simply so many testaments to the ability of the corpuscularian mechanist to give a satisfying explanation of a wide range of phenomena which, and this is the key point, are if not unintelligible, at least problematically explained on the hypothesis of real qualities. Thus although the title of this chapter and its placement are on the face of it

appropriate – Locke is dealing with "further considerations concerning simple ideas," and specifically showing that not all our simple ideas are resemblances of anything existing in the body which is the cause of the these ideas – the treatment of the distinction between primary and secondary qualities, with which the chapter is mainly taken up, is clearly mainly aimed against the Aristotelian doctrine of real qualities, with an implicit sideswipe against the Cartesians as well.

This agenda is also evident in the accounts given in the Book II catalog of the leading ideas in our minds, notably our ideas of substances, and our idea of identity and diversity. Both of these accounts drew intense contemporary criticism, particularly on the part of Edward Stillingfleet, Bishop of Worcester, who saw in these accounts a philosophical threat to the Christian doctrine of the trinity. On Locke's account, our ideas of substances are complex ideas compounded of a group of simple ideas (of for example color, size, shape, motion, and other observable powers and qualities of a body, or of particular beliefs, desires, sensations, willings, and other states of mind accessible through reflection and taken to be states of what Locke calls a "spirit"), bound together with the idea of substance in general, which is the idea of a substratum "wherein [these qualities and powers] do subsist, and from which they do result" (*E* II.23.1). It's the latter component of our complex ideas of substances that poses the special problem for the overall program of explaining how it is that all of our ideas derive from simple ideas given in sensation and reflection. Locke's proffered explanation of the derivation of the idea of substance in general, namely that it is simply the idea of "something" that is the subject of inherence of observed powers and qualities, a "something" that is supposed by us on the strength of our conviction that none of these powers and qualities can exist by itself or through itself, or by and through mere combination with other powers and qualities, purports to provide an indirect derivation of the idea of substratum from ideas given directly in sensation and reflection, since it is the supposed support of those ideas. The indirectness of the derivation, however, means that we have an irremediably obscure and confused notion of substratum – it is "something, we know not what" that underlies qualities and powers.

This analysis enables Locke to preserve the rough and ready notion of a substance underlying observable powers and qualities and to show how it derives (indirectly) from sensation and reflection, while leaving us with an idea of substance that can be put to no use in "deciding of questions in philosophy" (*E* II.13.20; see the whole of the discussion in *E* II.13.17–20, in connection with *E* II.23.1–4). This latter, negative result undercuts the Aristotelian claim that the idea of substance is a central and fundamental notion on which a metaphysics of natural objects (which would include such central Aristotelian claims as that natural objects are compounds of matter and form, that substances have a special *per se* unity, and others) can be rationally built, and at the same time it stands as a rejection of the Cartesian claim that we have clear and distinct ideas of God, body, and mind as substances, which clear and distinct ideas could be put in the service of *a priori* metaphysics.

Locke's discussion of identity is located in a chapter that was added to the second edition of the *Essay*, chapter 27 of Book II. It is one of the most influential and enduring of Locke's philosophical legacies, mainly because of the extended (from

section 9 on) treatment of the nature of personal identity. Here it is not only the content of Locke's discussion, but its methodology, that has been of lasting importance, for Locke introduces the methodology of constructing thought-experiments, or "puzzle cases," most with a distinctively sci-fi cast to them, to elicit the intuitions of the reader concerning the conditions of personal identity. Locke opens his discussion with a consideration of the general notion of identity, beginning with the case of objects which have their identity conditions given by what he calls "identity of substance." The clearest case is that of the identity of body, as determined by identity of substance. Atoms, to begin at the bottom, cannot change in any way except with regard to such extrinsic properties as motion or relative situation or location in space. Any body having the same size and shape, and what is crucial, tracing a spatiotemporally continuous path in space and time back to our original atom, is the same body with that atom. We can then derive identity conditions for parcels of matter: a parcel of matter considered at a later time is identical with a parcel of matter considered at an earlier time so long as they consist of exactly the same atoms, connected together (connected together anyhow, not necessarily maintaining the same order). But even with this extended notion of identity determined by identity of substance, some of our judgments of identity are not covered. For example, the identity of the oak tree standing in the field with the sapling that was there hundreds of years ago cannot be a function of identity of substance, for there will be very few if any atoms of matter in the oak tree that were also in the sapling: what we want to say is the same tree is constituted, at these different times, of two distinct parcels of matter.

So Locke recognizes a second way in which identity is determined, and that is by way of idea. According to our idea of an oak tree, quite distinct parcels of matter can be stages in the life of a single tree as long as each parcel has the sort of qualities (trunk shape and size, leaf shape and size, composition of bark, etc.) characteristic of oak trees and the parcels are each stages in a succession of spatiotemporally continuous and largely overlapping, but not necessarily identical, parcels of matter which gradually succeed one another. It is by way of illustration of this general thesis about identity (that there are two kinds of identity, identity determined by substance and identity determined by idea) that Locke turns to the special case of personal identity. This is a case, Locke notes, of identity determined by idea; and since the idea of a person is that of "a thinking intelligent Being, that has reason and reflection, and can consider it self as it self, the same thinking thing in different times and places; which it does only by that consciousness, which is inseparable from thinking, and as it seems to me essential to it" (*E* II.27.9), the identity of a person will be secured by sameness of consciousness. Locke is often referred to as a "memory theorist" of personal identity, and he does focus in his examples on standard questions about whether one person can remember having done or undergone what a person with whom he or she is putatively identical did do or undergo; but he points to memory only as one indicator, or effect, of underlying sameness of consciousness. It is the latter which is the crucial relation.

Locke then presents a vividly drawn series of thought-experiments, involving persons switching bodies, souls passing along memories one to another, different persons "acting" the same human body at different times, and so on, to establish

that the conditions for personal identity are not given by identity of substance (whether material, immaterial, or a combination of the two), nor are they given by identity of a man, or living human being. (This method of approaching questions of personal identity by vivid and sometimes far-fetched thought-experiments, designed to elicit our intuitive judgments about the case, has come to be the dominant method in contemporary debates on personal identity.) Locke argues that we can conceive a situation in which a single person, as determined by sameness of consciousness, should "inhabit" different living human beings (the body-switching case of the prince and the cobbler, *E* II.27.16); we can conceive of situations in which the same consciousness should be passed from one spirit or immaterial substance (or soul) to another, so that the two distinct immaterial substances constitute the same person (perhaps the soul underlying my conscious states today switched places with the soul underlying your states yesterday, each of the souls passing our respective cumulative memories and other continuities of consciousness onto its successor without our having noticed it – see *E* II.27.13), and situations in which the same immaterial substance or spirit (or soul) is, successively, the subject of the states of one continuing consciousness, and then to the states of another, entirely distinct, continuing consciousness (as would be the case if the immaterial substance that is the subject of my conscious states may be the very same soul that was the subject of Socrates' conscious states, although I have no access to Socrates' experiences through memory or any other internal means – see *E* II.27.14).

On Locke's account, there is an important analogy between the identity of persons and that of plants and animals (including human animals), in that their identity conditions are not determined by identity of substance; but there is an interesting disanalogy as well, making personal identity a special case. For plant and animal identity, as well as for identity determined by identity of substance, spatiotemporal continuity is required; in the unique case of personal identity, such continuity is not required: as is shown by the day-man/night-man case of *E* II.27.23, the same person can have her or his identity reach across substantial temporal gaps in which no states of consciousness attributable to that person occur. This is a welcome result for Locke, for as the chapter draws to its end it becomes increasingly clear that Locke wishes his account to bear directly on a host of difficult questions in eschatology, notably the justice with which a resurrected person will receive his doom at the time of the last judgment, and (what was the subject of an extended discussion in the Stillingfleet correspondence) the question of what exactly it means for a person to be "resurrected in his own body" in order to receive that judgment. However welcome the result might be in regard to (then) hotly debated issues of eschatology, what was most important for Locke in his account of identity generally, and of personal identity in particular, was that it secured the identity of plants, animals, human beings, and persons without any need to invoke a continuing immaterial principle of identity, as were the substantial forms of the Aristotelians. For them, it was the informing of successive parcels or "quantities" of matter by the same continuing substantial form that made colts and adult horses, saplings and mighty oaks, the same animal, or plant; and the paradigm substantial form for them was the soul of a living thing, which attains its

most distinctive expression in the rational soul of a person. If one rejects this doctrine of substantial form, as Locke and the other mechanists do, one has either to deny that there is any genuine identity beyond identity determined by substance (a heroic prospect, as evidenced by Hume's self-admitted failure in regard to personal identity) or show how such identity can be accounted for without having to resort to immaterial principles of identity and unity, as Locke's account of identity as determined by idea seeks to do.

Locke's treatment of identity, particularly if seen in the context of his rejection of substantial forms, is closely connected with his account of the semantics of general names for natural kinds, and particularly with his distinction between real and nominal essences. In taking up this topic we are moving out of Book II of the *Essay*, which was titled "Of Ideas" and which was, we have seen, a sort of natural historical catalog of our ideas, showing them all to be derived from sensation and reflection, and into Book III, "Of Words," one of the great achievements of the *Essay*. Locke was the first of the early modern philosophers to attempt to give a systematic account of the function of language in philosophical and scientific inquiry; while other philosophers certainly identified the abuse of language, and the taking of words for things, as culprits in the Scholastic perpetuation of Aristotle's "hard words and dark notions," none had based these charges on a systematic account of the semantics of names for kinds. As we have already seen, Locke takes it that our ideas of (kinds of) substances are complex ideas consisting of a collection of observable powers and qualities (the ideas of which are simple ideas given in sensation and reflection) together with the idea of substance in general, or substratum. In Book III Locke gives an account of meanings of names for the kinds of substances (i.e. general terms which apply to each and all of the members of a kind) according to which the meaning or signification of the name is the complex idea of the sort of substance with which the name is (conventionally) associated.

As an example, the idea of gold as a metal that is yellow, malleable, ductile, fusible, fixed in the fire, and soluble in aqua regia is the meaning or signification of the word "gold"; and through this signification relation the word "gold" comes to apply to each and all of the parcels of matter which have these qualities. Locke calls the complex idea which serves as the meaning of the word "gold" and which brokers the applicability of the word "gold" to all the pieces or parcels of gold in the world, the nominal essence of gold. Now a crucial question here is, what determines the content of a general idea of a kind, which as nominal essence serves as the definition for that kind? Locke's answer is clear: which qualities and powers are included in the defining characteristics for a kind is a function of human agreement and convention, or as he puts it, nominal essences are "the workmanship of the understanding." Not that they are made up out of whole cloth; Locke stresses that in constructing our ideas of the kinds of substances we go on the basis of observed similarities and regularities, and we take it as a requirement for an acceptable idea of a kind of substances that there are in reality instances of the kind defined by the idea, a requirement that does not hold for ideas of modes. There are, however, many different, and crosscutting, regularities and similarities to be found in nature, so that it becomes a function of human needs and interests, and historical accident, which ones are picked out by us and included in the nominal essence.

This sets up a sharp distinction, introduced at *E* III.3.15, between the nominal essence of a given (kind of) substance, and the real essence of a substance. The latter is defined as "the very being of anything, whereby it is what it is," that is to say, the "real, internal constitution" of a thing on which depend its properties and qualities (including each of the properties and qualities included in the nominal essence of the kind to which the thing belongs). Locke goes on in *E* III.3.17 to distinguish two competing notions of what the real essence of an object is. The first is that of the Aristotelians, who on Locke's telling effectively identify the real essence of a substance with its nominal essence. On their theory of substantial forms, the form of an individual substance is the foundation of all those properties which determine the substance's membership in a natural kind, and is thus what determines the conditions for the continuing existence and identity of that individual substance (on the assumption that the substance cannot change kinds, and cannot exist except as a member of the kind to which it belongs). Locke here adverts to several problems for this view, stemming from difficulties with substances that don't fit into the classificatory scheme of genus and species, and we'll encounter others presently. Perhaps the most damning criticism Locke offers is at *E* II.31.6, where he claims that we literally cannot make sense of the doctrine of substantial forms:

> If any one will say, that the real Essence, and internal Constitution, on which these Properties depend, is not the Figure, Size, and Arangement or Connexion of its solid Parts, but something else, call'd its particular *form*; I am farther from having any *Idea* of its real Essence, than I was before. For I have an *Idea* of Figure, Size, and Situation of solid Parts in general, though I have none of the particular Figure, Size, or putting together of Parts, whereby the Qualities above-mentioned are produced... But when I am told, that something besides the Figure, Size, and Posture of the solid Parts of that Body is its Essence, something called *substantial form*, of that, I confess, I have no *Idea* at all, but only of the sound *Form*...

This passage anticipates the distinction drawn at *E* III.3.17 between two notions of real essence, the substantial form conception, and "the other, and more rational Opinion" derived from the Corpuscularian hypothesis and adverted to above, according to which the real essence of a body is the microphysical constitution of that body, which is the result of compounding the sizes, shapes, motions (or rest), locations, and relative situations of the solid parts of the body. According to the Corpuscularian version of the Mechanical Philosophy there is nothing over and above these "mechanical affections" of the solid parts which is causally active in a body, and these solid parts work their (perhaps joint) effects through the means of impulse or contact action (or at least, this is the only way that we can conceive them to work their effects – see *E* II.8.11).

Locke has a battery of arguments, set out mainly in the chapter "Of the names of substances" (Book III, chapter 6) but adverted to elsewhere as well (see *E* III.9, *E* III.10, *E* IV.4.11–16), to show that the natural kinds into which substances are classified have no absolute basis in the nature of things, or as Locke might put it, that the kinds of things are not founded on real essences. Locke focusses on cases like those of monsters and changelings. (The former are deformed in bodily shape

relative to the shape of typical members of the species, so in the case of human monsters, beings that have a significantly deformed human body; the latter beings have well-formed human bodies, but no trace of rationality or of the higher cognitive functions typical of the human species.) Although such creatures as these are the offspring of human parents, their figures and/or capacities are sufficiently different from those typical of the species to which their parents belong as to make us hesitate or refuse to count them as members of their parents' species. But there is no single, separate species to which they belong; so if we are to follow the Aristotelians and insist that every natural thing must have a form which is the basis of its membership in its proper species, we will either have to say that there are as many different forms, and so as many different species, as there are creatures that do not fit in any of the standard species, an expedient that would make our species classifications *ad hoc* in the extreme, and which would furthermore undermine the taxonomic principle that, in the case of biological organisms, the offspring of two parents is a member of whatever species the parents are members of; or we would have to say that there are natural things which do not have a form, and so belong to no species whatsoever. Neither of these is a palatable consequence for the substantial forms theorist.

These extreme failures to fit into an established taxonomic scheme point up three general truths about our sorting of things into kinds that are evident even in cases where there is minor uncertainty about the appropriate classification (about whether, for example, we should place a yellow metal that has all the properties of gold, except that it is a little less malleable than the typical sample of gold, in the same species of metal with the typical cases of gold or instead recognize a distinct species here): first, that in arriving at our classifications, and in attempting to resolve disputed assignments to species, we have nothing to appeal to except the manifest or sensible qualities and powers of things – we have no epistemic access to real essences, whether conceived as substantial forms or as corpuscular inner constitutions; second, that any disputes that arise over proper classification are resolved by decision (convention, arbitrary agreement) rather than by the discovery of facts that are themselves determinative (thus, for example, as the case of "monstrous births" shows, the principle that the offspring of two members of a species belongs to its parents' species does not hold universally); and third, attention to the semantics of general words for kinds of things will show that there is no difference whatsoever in the way words for kinds of artifact (as clocks, chairs, etc.) and words for kinds of natural object (such as gold, tiger, or water) behave, in that in both cases we have the same ways of settling disagreements about classification, etc. These facts about our taxonomic practices do not consist with the implicit Aristotelian claim that these practices rest on a commitment to substantial forms as the basis in reality for our classifications (a reality which, admittedly, our actual classification scheme may only approximate), nor, indeed, do they consist with any claimed basis, in anything beyond or beneath the collections of observable qualities and powers which we have assembled into the nominal essence, for claiming that our classifications mark or approximate the (supposed) joints cut out by nature itself.

Of course, this result does not go so far as to show that there are no joints in nature prior to our classifications, nor that there are no essences of species beyond

the nominal essences which are the workmanship of our own understanding (following, it must be stressed, observed similarities among the substances); it only shows that an explanation of the rationale, success, and/or usefulness of our taxonomic practices as these are reflected in our use of kind names gives us no basis for concluding that there are joints in nature, carved out by some set of essences of species, whether substantial forms, or structural similarities among substances at the level of corpuscularian microstructure, or something else.

This slender result is already enough to undermine the theory of substantial forms; however, Locke has a quite independent line of attack that is more decisive. This attack is contained in a dense, complicated set of passages (*E* III.6.4–6) in which Locke sets out the relation between real and nominal essence. Locke argues that there is nothing that is essential to an individual:

> 'Tis necessary for me to be as I am; GOD and Nature has made me so: But there is nothing I have, is essential to me. An Accident, or Disease, may very much alter my Colour, or Shape; a Fever, or Fall, may take away my Reason, or Memory, or both; and an Apoplexy leave neither Sense, nor Understanding, no nor Life. Other Creatures of my shape, may be made with more, and better, or fewer, and worse Faculties than I have: and others may have Reason, and Sense, in a shape and body very different from mine. None of these are essential to the one, or the other, or to any Individual whatsoever, till the Mind refers it to some Sort or *Species* of things; and then presently, according to the abstract *Idea* of that sort, something is found *essential*. (*E* III.6.4)

There are two themes here: first, and most significant in terms of the attack on Aristotelian substantial forms, there is the declaration that the individual John Locke can persist as the same individual even through the loss of such properties as are required for him to be a human being (life), or a person (reason, memory). Locke presumably would point here to the fact that, barring a particularly explosive death, or one that otherwise significantly disrupts the integrity of the body, we have enough bodily continuity preserved in the process of transition from a living human being to a corpse as to give us reason for thinking we have the same individual. The Aristotelian claim that an individual cannot remain the same individual through changes involving the loss of properties necessary for membership in the kind to which it belonged, which of course implies that the individual does not retain its substantial form, does not stand up to our intuitive judgments in the case.

The other theme is that a given quality or power of a thing ranks as an essential property only relative to a nominal essence; to continue the present example, we can say that rationality, or having a continuing life characteristic of a human organism, is essential to Locke considered as a human being, i.e. under the nominal essence *human being*. Since nominal essences are the workmanship of the understanding, so too would be the essential properties of individuals, which they have, of course, not *as* individuals, but as members of whatever species it is to which our classification scheme assigns them. This leads in *E* III.6.6 to an important clarification of the notion of real essence. Even real essences, it turns out, are *essences* only by reference to nominal essences. The notion of real essence defined in *E* III.3.15

was that the real essence was the being of anything, whereby it is what it is; in *E* III.6.6 this is glossed as being the foundation (causal basis in the object) of the qualities and powers the possession of which places the object in its sort or species. Which qualities and powers these are is of course determined by the nominal essence of the species, and it is only because they are the causal basis in the object of its possession of its (nominally) essential properties that real essences can be said to be essences. We should note that this treatment of the relation between real and nominal essences does not commit Locke to the claim that any two members of the same species, as defined by the general idea that is the nominal essence of the species, need have any salient structural similarities at all – he can leave open the possibility that two objects that exhibit the defining qualities of a species have very few, and only very general, similarities at the level of microstructure (although of course if the defining nominal essence is a very rich one there will probably be significant similarities in underlying structure).

The fourth and final Book of the *Essay* is entitled "Of Knowledge and Opinion." Knowledge is defined, famously (or notoriously) as "the perception of the connexion and agreement, or disagreement and repugnancy of any of our Ideas" (*E* IV.1.2). Ideas can agree or disagree in respect of: identity and diversity; relation; co-existence or necessary connexion; or real existence. The agreements or disagreements of ideas with respect to the first three sorts can be known by either intuition or demonstration, whereas with respect to real existence the cases break down as follows: we can have knowledge of our own existence by intuition; we can have knowledge of God's existence by demonstration; and of the existence of anything else we have only sensitive knowledge, which is of a much lower order of certainty than either intuitive or demonstrative knowledge, but which is nevertheless possessed of enough certainty in order to qualify as knowledge. The last chapters of the Book (from chapter 15 on) concern matters of opinion or probability, including an influential treatment of the respective provinces of faith and reason (chapter 18).

The most important chapter of Book IV, in terms of the *Essay*'s announced purpose of drawing the limits to human knowledge, is chapter 3, entitled "Of the Extent of Humane Knowledge." In this chapter and the related chapter 6, "Universal Propositions, their Truth and Certainty," Locke addresses the question of the status of explanation in natural philosophy, with mixed results for the Corpuscularian program. On the one side, Locke shows that in principle there could be genuine demonstrative knowledge of universal propositions asserting connections between qualities and powers in substances, and thus that one needn't subscribe to the Cartesian fantasy of clear and distinct ideas of body and its modifications in order to provide for the possibility of Corpuscularian explanations that would carry the certainty required to come up to the traditional standard of *scientia* in natural philosophy. On the other side, he argues that the real prospects of delivering such explanations, given the severe limitations on our knowledge imposed by the limited extent of our ideas, are so slim as to make it the reasonable strategy to give up any efforts we might make toward a genuine science of body and to settle instead for the inductive, case-by-case, merely probable conclusions achievable through the method of natural history.

In Book IV chapter 3 Locke identifies two distinct deficits in our ideas of substances which give reason for pessimism regarding our prospects for actually achieving considerable knowledge of the necessary co-existences of qualities in bodies: first, the limits to our powers of sensory discrimination means that we will probably never have any detailed idea of the microphysical structure of any body, let alone of all the bodies which are involved in any causal interchange. Second, and the "more incurable part of Ignorance" (*E* IV.3.12) in this case, is that we cannot conceive how the mechanical affections of bodies act on the mind to produce ideas of sensory qualities, which qualities are, after all, the items whose necessary co-existence in a body is what the scientist is seeking to establish. We cannot even conceive how there could be lawlike relations here, let alone what the actual laws are; or rather, following the suggestion of *E* IV.3.28–9, we can imagine that there are lawlike relations which hold between the primary quality constitutions of bodies and the sensations they cause in us (and therefore the sensible qualities which are defined in terms of those sensations) only by putting the laws down to the "arbitrary Will and good Pleasure of the Wise Architect," i.e. God.

Why does Locke think there is this deep conceptual incommensurability between mind and body? This brings us to the third of the inflammatory claims of the *Essay* (the other two being the denial of innate ideas and the dismissive treatment of the idea of substance), and indeed the most inflammatory: the conjecture that it is possible, for all we know, for systems of matter to have the power of thought, or in other words, the possibility that matter can think. Locke asserts this possibility in *E* IV.3.6, where it is called on to witness to the general poverty of our ideas:

> We have the *Ideas* of *Matter* and *Thinking*, but possibly shall never be able to know, whether any mere material Being thinks, or no; it being impossible for us, by the contemplation of our own *Ideas*, without revelation, to discover, whether Omnipotency has not given to some Systems of Matter fitly disposed, a power to perceive and think, or else joined and fixed to Matter so disposed, a thinking immaterial Substance.

Locke agrees with the many philosophers, including Descartes, who think that there is no affinity whatsoever between matter, as we conceive its nature (in Locke's case, as extended solid substance) and mind or spirit, as we conceive its nature (as a thinking, willing substance). But while this lack of affinity means that we are unable to conceive any means by which states of mind and states of body can be connected, thus leading to the conceptual incommensurability noted above, we cannot argue from this lack of affinity to the dualistic conclusion that mind and body must be two distinct substances. Instead, Locke argues, there is no less difficulty in imagining that God, by arbitrary fiat, "superadds" the power of thought to fitly organized systems of matter, than that he grafts onto such a system an immaterial substance which would be the proper subject of states of mind. Our inability to rule out the possibility of thinking matter is just one more instance of our general and profound ignorance in metaphysics, just another reminder to those who suffer from the same dogmatic impulses as do the Scholastics and the Cartesians that we need to rein in our presumption to knowledge. But we needn't see this as distressing; as Locke reminded us in the Introduction to the *Essay*,

> And it will be an unpardonable, as well as Childish Peevishness, if we undervalue the Advantages of our Knowledge, and neglect to improve it for the ends to which it was given us, because there are some Things that are set out of the reach of it. It will be no Excuse to an idle and untoward Servant, who would not attend his Business by Candle-light, to plead that he had not broad Sun-shine. The Candle, that is set up in us, shines bright enough for all our Purposes. (*E* I.1.5)

"All our purposes" means all of our legitimate purposes, which for Locke are exhausted by our finding our way to salvation. That is our overriding concern; but if, secondarily, we would try to use such powers as we have to discover important general truths about the world around us, we should try at the very least to remove the rubbish that lies on the path to this knowledge.

That's what Locke set out to do in the *Essay concerning Human Understanding*. The project of the *Essay*, to draw the limits to what we can legitimately claim to know by taking stock of the faculty of understanding and reason itself, was the inspiration for the later projects of Hume and Kant; the particular claims about the processes of perception, reasoning, and so forth became the basis for work in what we later came to know as experimental psychology, chiefly through Locke's influence on Condillac; and his positive, although tentative, support for the new mechanistic philosophy, although in a version shorn of the ebullient dogmatism of Descartes, provided philosophical foundations (of, perforce, a modest sort) for the scientific work of NEWTON (chapter 26), and certainly (as Voltaire's *Lettres anglaises* attest) helped smooth the way for Newton's pre-eminence in the intellectual world of the eighteenth century.

Political Philosophy

Locke's contribution to political philosophy was also of the first importance, both in the context of practical politics (in the near term, providing a strong theoretical basis for the legitimacy of the new sovereign installed in the course of the Glorious Revolution, the aim announced in the second sentence in the Preface to the *Two Treatises of Government*, first published in 1689–90, and in the longer term, through its profound influence on the American Founders), and in the context of political philosophy itself, where the importance of Locke's contributions has been rediscovered in the wake of John Rawls' revival of the social contract tradition in political philosophy. For a full understanding of Locke's treatment of "The True Original [i.e. origin], Extent, and End of Civil-Government" (the descriptive subtitle of the *Second Treatise* [i.e. Book II of *Two Treatises of Government*]) we need to take into account the *First Treatise* [Book I of *Two Treatises of Government*], which is not usually read by the student or by anyone other than scholars of Locke's political philosophy. On the title-page (which, by the way, did not carry Locke's name in any of the printings issued during his lifetime, as a result of Locke's almost obsessive campaign to keep his authorship of the work a secret, finally to be revealed in a codicil to his will) the *First Treatise* is described as follows: "In the Former, The False Principles and Foundation of Sir Robert Filmer, and his Followers, are Detected and Overthrown." The major target of the *First Treatise*, and evidently a precipitating

occasion of the writing of both books of the *Two Treatises*, was Filmer's book *Patriarcha, or the Natural Power of Kings*, published in 1680 in the midst of the Exclusion Crisis. Filmer argued for the absolute sovereignty of the monarch on the basis of two main premisses: first, that no man is born free (*1T*.i) or as Locke colorfully puts it, "Life and Thraldom we enter'd into together, and can never be quit of the one, till we part with the other" (1T.i.4), in that the circumstances of birth, for every human being except Adam (the first man), entail absolute subjection to the parental authority, effectively making children the slaves, or property, of the parents, whereas Adam, being God's direct creation, is subject to God's authority and is God's property; and second, because God's creation of Adam as the parent to all human beings entailed God's donation to Adam of absolute authority over all human beings, an authority which is inherited by all subsequent monarchs. In this way, political authority derives from parental authority.

Locke points out, at some length, crippling problems for both of these claims. Against the first, Locke reminds us that parental authority does not extend so far as to make children the slaves or property of the parents, and that certainly it does not extend so far as to give parents the right to destroy their children (whereas Locke, Filmer, and many other political theorists of the seventeenth century agreed that the legitimate political authority of the state included in its scope the right to put to death those who had committed severe enough crimes); that parental authority vests equally in the mother as in the father, and that there is no natural subjugation of woman to man, as Filmer had argued (see especially *1T*.v, although it must be noted that Locke recognized a "Conjugal Power" of husband over wife in the ordering of household affairs (see *2T*.7.77–86)); and that, in general, if political authority derives from parental authority then every parent is in effect a monarch. Against the second claim, Locke brings out, in chapters 8–11 of the *First Treatise* (with chapter 11, "Who Heir?" being the longest chapter in the *Two Treatises*, nearly twice the length of the next longest chapter) the myriad problems that would attend any attempt to trace a line of succession through a lineage of first born sons connecting any present-day monarch back to Adam.

While the *First Treatise* is entirely given over to detailed criticism of Filmer's attempt to derive the absolute sovereignty of the monarch from a supposed original donation of special parental authority to Adam, including detailed counter-interpretations of many scriptural passages adduced by Filmer in support of his argument, the *Second Treatise* presents an alternative account of political authority in a civil society, a positive theory which undercuts the absolutism of Filmer, and equally, that of HOBBES (chapter 22), whose own version of social contract theory attempted to provide for a sovereign with absolute authority. Characteristically, Locke's argument for his positive account of political legitimacy in civil society contains, *en passant*, implicit criticism of Hobbes's theory on a number of central points.

The first and most important premiss of Locke's argument is that both reason and experience show that all "men" are naturally free, equal, and independent. Locke describes the state of nature which exists prior to the creation of civil society in order to exhibit these basic facts about the human condition. In the state of nature, human beings are, in Locke's words, in "*a State of Perfect Freedom* to order their

Actions, and dispose of their Possessions, and Persons as they think fit, within the bounds of the Law of Nature, without asking leave, or depending upon the Will of any other Man" (II.2.4) and in "A *State* also of *Equality*, wherein all the Power and Jurisdiction is reciprocal, no one having more than another." (*2T*.2.4) In *2T*.2.6 Locke goes on to explain what the Law of Nature is:

> The *State of Nature* has a Law of Nature to govern it, which obliges every one: And Reason, which is that Law, teaches all Mankind, who will but consult it, that being all equal and independent, no one ought to harm another in his Life, Health, Liberty, or Possessions. For Men being all the Workmanship of one Sovereign Master, sent into the World by his order and about his business, they are his Property, whose Workmanship they are, made to last during his, not one anothers Pleasure. And being furnished with like Faculties, sharing all in one Community of Nature, there cannot be supposed any such *Subordination* among us, that may Authorize us to destroy one another, as if we were made for one anothers uses, as the inferior ranks of Creatures are for ours. Every one as he is *bound to preserve himself*, and not to quit his Station willfully; so by the like reason when his own Preservation comes not in competition, ought he, as much as he can, to preserve the rest of Mankind, and may not unless it be to do Justice on an Offender, take away, or impair the life, or what tends to the Preservation of the Life, the Liberty, Health, Limb or Goods of another. (*2T*.2.6)

The obligation to preserve oneself, and to preserve others as far as this is consonant with one's own self-presentation, entails what Locke in *2T*.2.7–13 describes as an executive power, or right, to enforce the law of nature by imposing penalties, up to and including death, which provide for reparation and restraint of violations of the rights everyone has by virtue of the law of nature.

There are two crucial differences between Locke's conception of the state of nature and Hobbes'. First, and this is something Locke underscores by distinguishing the state of nature from a state of war (II.3), it is not to be supposed that there will be such a level of conflict between persons in a state of nature, putting them at such risk in regard to their life and possessions, that narrow self-interest alone will dictate the rationality of putting in place a political entity (in Hobbes, the sovereign) which is capable of maintaining order. For Locke, the main reasons for preferring citizenship in a civil society to remaining in a state of nature are, first, that citizens are able to rest more secure in the knowledge that there is an enforcement apparatus that is more effective than the unaided efforts of individuals (see *2T*.9.123–30), and second, that the tendency which individuals might have to punish transgressions against themselves more severely than is proportionate to the seriousness of the crime, which excess would itself constitute a violation of the law of nature, argues against leaving each person to be judge and executioner in cases of crime against himself. This last reason is closely connected with the second, and most important, difference between Hobbes and Locke on the state of nature: where for Hobbes "laws of nature" primarily concern the right of self-preservation and the keeping of covenants, but are left ungrounded, Locke derives the obliging force of the law of nature directly from the fact that human beings are God's property and so any act which threatens harm constitutes an assault on God's property rights. So when persons in a state of nature mutually consent to transfer each person's execu-

tive power to a central authority, it is not because the alternative, remaining in a state of nature, is so horrific as to be nearly unthinkable, but instead because this arrangement promises somewhat more security, and most important, promises to minimize the total number of violations of God's property rights (see *2T*.7–8, 87–122). This is a very different basis for social contract theory than the one Hobbes gave, and it allows Locke more flexibility in dealing with questions of tacit consent (*2T*.8.119–22) to what Locke insists is a historically established social contract (*2T*.8,100–12).

We find a similar basis in Locke's famous treatment of property (*2T*.5). It is crucial for Locke that the world and all its creatures were given by God to all human beings as common property for use in preserving and enhancing human life. Of course most of the raw materials, creatures, and land which we put to use in providing for our preservation and for commodious living must be taken from the common stock if it is to be utilized, and in the course of appropriating these things and working on them to make them useful and valuable (labor being by far the most significant source of the added value in commodities) we inevitably and inextricably mix our own labor, which we own, with the commodity itself. It is the mixing of our labor with the object, together with God's general grant to human beings of (common) property rights to the things of the world, that invest individual humans with exclusive property rights in individual things. As these property rights are thus prior to civil society, they are not subject to interference by the authorities in such a society, and certainly not to the arbitrary decrees of a would-be absolute monarch.

This brings us to the most politically potent consequence of Locke's treatment: the citizens' right of rebellion against tyranny. If either the legislature, or (the more salient case in the historical circumstances in which Locke wrote) the monarch acts systematically against the life, liberty or possessions of the citizens of a civil society, placing their own self-interest above the interest of the citizens, the government of that society is *ipso facto* dissolved, and the citizens then have the right to oppose the tyrant(s) using force, and to establish a new government (see *2T*.19). In thus firmly asserting the right to rebellion in circumstances of tyrannical government Locke makes a decisive break both with Filmer and with Hobbes.

Conclusion

In the space of two years (1689–90) Locke published two books, *Two Treatises of Government* and *An Essay concerning Human Understanding* which have had profound and lasting consequences, inside and outside of philosophy. Both these works are marked by clear-headed common sense accompanied by penetrating argument; and both evince a decisive rejection of any claim to authority, whether epistemological, moral, political, or religious, licensed merely by tradition or by the social position of the claimant. It was, accordingly, with Locke's work that the Enlightenment truly commenced; whether that's a ground for praise or censure is another matter.

References

Locke, John, 1975, *An Essay concerning Human Understanding*, edited by P. H. Nidditch. Oxford: Clarendon Press. References are to Book, chapter, section number.

—— 1998, *Two Treatises of Government*, edited by Peter Laslett (Student Edition). Cambridge: Cambridge University Press. References are to Book, chapter, section number.

Further Reading

Introductions to Locke's philosophy

Chappell, Vere, (ed.) 1994, *Cambridge Companion to Locke*. Cambridge: Cambridge University Press.

Jolley, Nicholas, 1999, *Locke: His Philosophical Thought*. Oxford: Oxford University Press.

Woolhouse, Roger, 1983, *Locke*. Brighton: Harvester.

Collections of articles

Chappell, Vere, (ed.) 1998, *Locke (Oxford Readings in Philosophy)*. Oxford: Oxford University Press.

Martin, C. B. and D. M. Armstrong, (eds.) 1968, *Locke and Berkeley: A Collection of Critical Essays*. London: Macmillan.

Tipton, I. C. (ed.) 1977, *Locke on Human Understanding (Oxford Readings in Philosophy)*. Oxford: Oxford University Press.

Selected books

Ayers, Michael, 1991, *Locke: Epistemology and Ontology*. London: Routledge.

Bennett, Jonathan, 1971, *Locke, Berkeley, Hume: Central Themes*. Oxford: Clarendon Press.

Dunn, John, 1969, *The political thought of John Locke: an historical account of the argument of the "Two treatises of government"*. Cambridge: Cambridge University Press.

Mackie, J. L., 1976, *Problems from Locke*. Oxford: Clarendon Press.

Simmons, A. John, 1992, *The Lockean Theory of Rights*. Princeton: Princeton University Press.

—— 1993, *On the Edge of Anarchy: Locke, Consent, and the Limits of Society*. Princeton: Princeton University Press.

Yolton, John W., 1970, *Locke and the Compass of Human Understanding; a selective commentary on the Essay*. Cambridge: Cambridge: Cambridge University Press.

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The English Malebrancheans

STUART BROWN

MALEBRANCHE (chapter 11) was a major figure in French philosophy in the late seventeenth century and beyond. He was both a popularizer of the "modern" philosophy of DESCARTES (chapter 5) and an apologist for religious belief, offering elegant and accessible defenses of his own synthesis of the philosophies of Descartes and Augustine. Enthusiasm for Malebranche was not confined to France but spread to several other countries, including England, where it peaked in the 1690s and the early 1700s. During this period a number of English translations were made of his major works. There were two separate English editions of the *Search after Truth* (1694 and 1694–95) and the *Treatise of Nature and Grace* (both in 1695) as well as editions of *Christian Conferences* (1695) and *A Treatise of Morality* (1699). Lay interest in the new philosophy had increased and was already catered to by periodicals such as the *Athenian Mercury*, which flourished in the 1690s. These translations also served in turn to increase attention to Malebranche's philosophy both amongst students and the wider public.

Students at Oxford were already reading the books of "modern" philosophers, including Malebranche, sometimes on the advice of their teachers and sometimes in spite of it. In 1693 three undergraduates of Magdalen College delivered Latin orations defending the new philosophy. One of these was Thomas Taylor, who later became a leading English Malebranchean. Another was the young Joseph Addison, later the famous essayist. Addison visited Malebranche in Paris in 1700 and formed the impression, which he reported in a letter, that the illustrious French philosopher by that stage had more admirers in England than in his own country. Though this was something of an exaggeration, Malebranche does seem to have had a remarkable English following at this time. His philosophy appealed to Quakers as well as Anglicans and lay people – such as Mary Astell and Lady Mary Chudleigh – as well as university-trained clergymen. The leading English Malebranchean was a one-time Oxford don and Anglican clergyman, John Norris. Oxford produced two other notable followers in Thomas Taylor and Arthur Collier, also Anglican clergymen. In Oxford, according to Mordecai Feingold, "Malebranche appealed to many others besides this small group of philosophers" (Feingold, 1997, p. 412). But these three all wrote Malebranchist books and so are the best known to posterity of Malebranche's Oxford disciples.

John Norris (1657–1712)

John Norris was born in Wiltshire and educated at Winchester and at New College, Oxford. His time as a fellow of All Soul's College in the 1680s was to be a formative one. It was during this period that he discovered Malebranche and he changed from being a latter-day Cambridge Platonist to being the first of the Oxford Cartesians. Like many of the Oxford dons of his time, Norris was an Anglican clergyman. In 1689 he left Oxford in order to take charge of a parish – Newton St Loe in Somerset. In 1692 he became rector of Bemerton, near Salisbury, in Wiltshire, where he remained until his death. His duties allowed him ample time to produce a substantial number of books, of which the most important philosophically was his *Essay towards the theory of the ideal or intelligible world* (1701–4).

Norris seems to have begun his philosophical career as a Christian Platonist influenced by traditional sources. His early *Metaphysical Essay towards the Demonstration of a God, from the Steady and Immutable Nature of Truth* (published in Norris, 1687) is a version of an argument common amongst philosophers who followed Augustine. It is not an argument Descartes himself either would or indeed could have used, since Descartes held that even the so-called eternal truths are subject to the divine will. In this matter Norris was not tempted to agree, preferring to follow Augustine in holding that Platonic ideas and eternal truths were in the divine nature. On this account not only is God the source of truth but, in apprehending it, we are immediately aware of God. Thus it seems Norris was right to claim that he had already accepted a version of the doctrine that everything we know we perceive in God even before he read Malebranche. He claims to have found confirmation of some such doctrine in the writings of Platonic philosophers, including Plotinus, Proclus, Augustine, and Ficino. When, in the mid 1680s, he made a study of Malebranche, he was clearly enthused by what he read. Malebranche's most distinctive doctrine, that we see all things in God, was derived in part from the Augustinian doctrine of the divine illumination according to which knowledge of eternal truths is knowledge of incorruptible things which exist in God alone. Malebranche's defense of this doctrine so impressed Norris that, while he (rightly) claimed to have thought of it for himself, he readily conceded that Malebranche had "established the truth of it beyond all cavil or exception" (Norris, 1689, p. 185f.).

Norris had corresponded with the distinguished Cambridge Platonist, HENRY MORE (chapter 21), and may at one time have been close to being what he has sometimes been called, the last of the Cambridge Platonists. But, as Hoyles (1971) argued, Norris came to disagree with the older Cambridge Platonists over the crucial question of Descartes and the mechanical philosophy. More and Cudworth reacted against mechanistic explanations of the natural world and sought to defend a vitalistic philosophy of nature. In consequence they saw Descartes' philosophy as subversive of religious belief. Malebranche, however, was so successful at integrating Augustine and Descartes and at harmonizing Christian belief with the mechanistic philosophy that this situation was, in the eyes of his followers, entirely transformed. Cartesianism, so far from presenting a threat to religious belief, became a philosophical bastion. For, in Malebranche's version, it

emphasized creaturely dependence upon God as few philosophies have done, before or since.

Not only was God the source of all knowledge but, for Malebranche, God is the only true cause of any change in the world. What we usually think of as causes of change in the world are not, in fact, causes properly speaking but no more than "occasions" on which God, in accordance with his wisdom and his general will to act in a regular way, chooses to bring about the change. Norris, following Malebranche, was attracted to "occasionalism," as this view is known, partly for its religious implications. But it was, philosophically speaking, a solution to a serious difficulty that presented itself for Descartes' theory of mind and body. Descartes held that mind and body were quite separate substances that, in the case of humans, were mysteriously united. He also allowed that they interacted. But this gave rise to a problem of how body and mind could possibly interact if they were as different as Descartes claimed. According to the mechanistic view of matter, a body could only be moved by another body that was adjacent to it. But the mind, according to Descartes, is not in space at all. So it is impossible for the mind to cause any change in a body. And the same problem arises the other way around. A radical answer to this problem is to propose that mind does not, strictly speaking, act on body at all, or *vice versa*, but that changes in the states of minds are occasions for God to bring about changes in the states of bodies, and *vice versa*.

Occasionalism later became a common variant of Cartesianism. Malebranche was not the first to see that it was a solution to Descartes' difficulties about how mind and body could interact. But he pointed up the religious implication of occasionalism, namely, that the creation was totally dependent on its Creator. Norris embraced occasionalism and the mechanical philosophy on these terms. And so, in contradistinction with the Cambridge Platonists, he endorsed the claim of "the Moderns" that there are no other principles but matter and motion to be used in explaining the world (Norris, 1701–4, II 87–9). He also invoked occasionalism (Norris, 1695) in order to support his own view that God alone is the proper object of human love. For even sensory pleasures are not strictly caused in us by worldly objects, he argued, but by God alone. God is the only source of anything we can regard as good. It is to God alone, Norris concluded, that our love should be directed.

Norris became a champion of Cartesianism from the late 1680s. It is ironical, and was from his point of view unfortunate, that this should have happened in England around the very time when LOCKE's (chapter 24) *Essay Concerning Human Understanding* was published. For, on a number of cardinal points, Locke's philosophy was entirely opposed to that of Descartes and Malebranche. Indeed it was the fate of Norris's philosophy and that of English Malebranchism generally to be constantly confronted and eventually eclipsed by Lockeanism. Norris, following Plato, thought that true knowledge was of an ideal world of unchangeable things of which the world around us was but an imperfect copy. Knowledge for him is of universals, which are divine ideas, and of eternal truths. Norris was quick to see that Locke's philosophy was very different from his own and pressed the author of the *Essay* for an account of "the Nature of Ideas" (Norris, 1690, p. 3). Locke retorted that it was enough for his purposes to consider ideas as no more than "*the immediate objects of*

perception" (Acworth, 1971, p. 10). Locke's contention was that all ideas are derived from sense experience or internal reflection. They are, in the first place, particular objects of immediate perception and only become general through a process of human manufacture called "abstraction." We can put abstract ideas together so as to produce, in some cases, what Locke is willing to call "eternal verities" but, unlike Norris, he does not mean that they exist prior to the understanding (Locke, 1690, IV xii § 14). On the contrary, Locke held that "all general Knowledge lies only in our own Thoughts, and consists barely in the contemplation of our own abstract Ideas" (Locke, 1690, IV vi § 13). At this point, as at many others, Locke's philosophy is remote from that of Norris or any other kind of Platonism.

This fundamental opposition between Locke's philosophy and that of Norris emerges in controversies that engaged them and their disciples. One such controversy concerned the meaning of the commandment "Thou shalt love the Lord thy God with all thy heart...," which Norris interpreted to meant that the love commanded for God was exclusive of all other loves. In arguing for this position in Norris (1688) he distinguished between two kinds of *love*: the love of *desire* in which a good for oneself is sought which one lacks: and the love of *benevolence*, which only seeks the good of another when the other lacks it. Norris (here disagreeing with Malebranche) argued that God's love for his creatures could only be that of benevolence, since He lacks nothing. But, just because God lacks nothing, the nature of human love for God cannot be that of benevolence but can only be that of desire. We love God because he is the supreme good for us. Our desire for the supreme good for us should, moreover, be entirely exclusive of all other desires.

Norris had conducted a correspondence with Mary Astell on this topic, which he published (Norris, 1695). His view was attacked, however, by a friend and follower of Locke, Damaris Cudworth, Lady Masham. Masham regarded Norris's conclusions as extreme and dangerous and his precepts as tending to render people unfit for a "Sociable life" and fit only for a monkish existence (Masham, 1696, p. 123). Philosophically she disputed the "abstruse" conception of love which lay at the center of his claim that love should only be directed to God and not to creatures. Following Locke she appealed to an idea of love based upon "that disposition or act of mind we find in ourselves towards anything we are pleased with" (Masham, 1696, p. 18). We learn the meaning of the word "love" by reflecting on our own dispositions, for instance, in our tendency to take pleasure in the well being of our friends. We would have no conception of what it is to love God if we did not already love some of the creatures (Masham, 1696, p. 62). Norris did not reply but Astell made a penetrating counter-attack on Masham's conception of love, claiming that it would make it impossible for Christians to obey the commandment to love their enemies: for "though we are enjoyned ever so often, it is not possible to be pleased with that which does not please" (Astell, 1705, p. 136). But, notwithstanding its difficulties, it was Locke's theory of ideas and not Norris's that was to be built upon by those British philosophers of the eighteenth century whose influence was to be most enduring.

Another point at which Norris and Locke were at variance was the natural immortality of the soul. Locke did not think much of the Platonic arguments designed to show the immortality of the soul. Indeed he suggested that we did not know that the soul was essentially different from matter. God might, he claimed,

have endowed matter with thought. This suggestion was opposed by Norris, who embraced the Cartesian view that the mind was essentially different from matter and who argued in favor of immortality, using an argument he could have derived from Plato and Descartes:

> ... that which has no parts, as an Immaterial Being (such as we conceive the Soul to be) is not, cannot possibly be corrupted. And so Incorruptibility necessarily and immediately follows from the very Nature of the Soul, and is essential a Property of it, as that its 3 Angles be equal to 2 right ones, is the Property of a *Triangle*. (Norris, 1708, p. 38)

Norris did not think this argument proved immortality, since it would still be in God's power to annihilate the soul. But since, according to Norris's way of thinking, God would have no good reason to destroy what he had created in his own image, he concluded that what he called "natural immortality" was certain and that immortality without qualification was highly probable.

Norris, more than anyone else, was responsible for disseminating Malebranchean ideas in England in the late seventeenth and early eighteenth centuries. His books sold well and many of them remained in print for some time after his death. John Wesley read Norris as a student and accepted some of his main ideas, including his view that the love owed to God should be exclusive of all other. Isaac Watts was also impressed by Norris and attempted to incorporate some of his ideas into a generally Lockean framework. Norris corresponded with and impressed a number of lay men and women and it is likely that he influenced a wider readership who did not themselves record their thoughts for posterity. Arthur Collier, perhaps his most important disciple, placed Norris alongside Descartes and Malebranche as a leader of the new philosophy. In doing so he over-rated him. But it would be difficult to over-rate Norris's importance in bringing Malebranche to the attention of English readers.

Malebranche's First English Translators

In early 1694 there were two English translations in progress of Malebranche's *De la recherche de la vérité*. One of these was being prepared by Thomas Taylor of Magdalen College, Oxford and the other by Richard Sault, a mathematics tutor and writer in London. Curiously, Norris had some involvement in the London project though apparently not in the Oxford one. The London publisher managed to get out part of Sault's translation in late 1694. But the first complete translation that appeared was that of Taylor, which appeared early the following year. It included for good measure a translation of the *Treatise of Nature and of Grace*, the Malebranche book by which Taylor himself was particularly influenced.

Thomas Taylor (1669–1735)

Thomas Taylor completed his first degree at Oxford in 1690. He had, for a while, been a Clerk of All Souls, when Norris himself was there. It is probable that it was

Norris – later referred to by Taylor as the "one who best understands" Malebranche – who first aroused the younger man's interest in Malebranche's writings. Taylor left Oxford in 1695 to become rector of Burcester in Oxfordshire and later (from 1700 till his death) rector of Nursling in Hampshire. It was here that he wrote his only book, *Two Covenants of God with Mankind* (1704).

Particularly important for Taylor was Malebranche's view, developed in his *Treatise of Nature and of Grace*, that God has established two kinds of order in the universe: not only that established by laws of nature, as was generally accepted, but also that established by laws of grace. His *Two Covenants* was advertised in the sub-title as "an essay design'd to shew the use and advantage of some of Mr. Malebranche's principles in the theories of Providence and Grace." Just as God's perfection expresses itself in the simplicity, regularity, and richness of the natural world, so too it expressed itself in the operations of providence. Nothing God does in either realm can be arbitrary or *ad hoc*. God, in Malebranche's language, acts by a "general Will" and not by "particular wills." This is why even a perfect world would not lack evil. For, as Taylor put it:

> If he Acted by *particular Wills*, like particular and finite Agents, 'tis certain he would never have made a monster, he would never have blasted Fruit when it was halfe ripe... But as He Acts by a *General Will*, and makes not one particular Creature but a whole World, and governs it not by particular but by general Laws; we may say that it was impossible for God to create a perfecter World than he has Created: because it was impossible to created a perfecter World, by ways so simple and uniform, and general, as those by which he has Created and governs this. (Taylor, 1704, p. 153–4)

Thus far Taylor follows Malebranche closely. At times Malebranche seemed willing to take his thought (that even matters of divine grace are governed by laws) to what seems to be its logical conclusion and to deny that there are "miracles" in the sense of special divine interventions in the regular order of events. To deny this would also to be to deny that God might intervene in the natural order in response to prayer. Malebranche himself was moved, no doubt by his sense of religious orthodoxy, to backtrack and qualify his position at this point. And here too Taylor followed him, claiming to find some place for miracles and petitionary prayer and allowing that God does sometimes act through particular wills. It is not clear, however, that either of them could consistently make such qualifications.

A common objection to the "occasionalism" of Malebranche was that, in reserving all true causal powers for God, such a theory involved denying human agency and therefore human free will and moral accountability. Malebranche himself sought to answer such a line of criticism without renouncing any of his principles. Taylor also wished to retain occasionalism and laws of grace without denying human agency and free will. This is already clear in an early sermon, which he published, where his Malebranchism is already conspicuous. He emphasized that everything in the universe is determined by "fixt and standing Laws of Nature" which are nothing but "the General Will of an All-wise and Universal Being, who holds the Reins of the Universe in his Hands." Though it is clear that Taylor

embraced occasionalism in general with its stress on the divine agency, he did nonetheless wish to exempt human actions: "There is nothing in this World except Man, that he hath made the Arbiter of its own actions. All other things do not properly act, as suffer his Agency upon them" (Taylor, 1697, p. 8f.).

Taylor, for all his commitment to the new philosophy, had been trained in scholastic philosophical theology, in which the freewill problem was a standard topic, conceived as the problem of reconciling God's foreknowledge of what happens in the world with human freewill. In his *Two Covenants* he begins by distinguishing necessary or eternal truths from those truths that are contingent or dependent upon God's will. God beholds all necessary truths "in his Infinite and Eternal Mind" and knows contingent truths "by Consulting his own Will" (Taylor, 1704, p. 127). But, as to those truths that are contingent upon *human* free will, Taylor insists that free action requires a liberty of indifference and this means for him that human free actions are inherently uncertain and cannot be known in advance. Since this is a necessary truth, he points out, it is no reproach to God that He does not know what we will freely choose to do. For it is no reproach to God that He cannot perform contradictions (Taylor, 1704, p. 133).

Taylor claimed that his book was "bottom'd upon Mr Malebranche..." But his denial of divine omniscience, at least in respect of human actions, seems incompatible with the Malebranche general providence in which he had previously professed to believe. Taylor seems bound to make his God – what Malebranche could not fairly be accused of making *his* – into a fussing interventionist who is constantly modifying his plans in the light of what it turns out human choose to do. For, if God does not know what people are going to do, his providence is limited to the natural course of events, including the consequences of human actions. He has no advance assurance that all will turn out for the best if the laws he has established for nature and the natural consequences of human actions are left to take their course. A providential outcome is only assured by assuming that God is able to intervene by miracles and "particular wills" to limit the damage to his purposes that can be caused by wrong use of human free will.

In short, Taylor's philosophy tends towards incoherence. For, on the one hand, his solution to the problem of evil calls for a highly regularized providence to which there are no exceptions, God acting always by a general will and never by particular wills; whereas, on the other hand, his solution to the problem of free will seems to imply that God, in relation to human free actions, characteristically acts by particular wills and not by a general will.

Richard Sault (1660?–1702)

Malebranche's other earliest English translator, Richard Sault, was a non-conformist layman. He may have been a product of one of the early dissenting academies, possibly Morton's in Newington Green, where a rigorous intellectual training with a slant to Modern philosophy was available. For a while he ran a "mathematick school" near the Royal Exchange in London. He married the half-sister of the publisher John Dunton, who provided him with literary work and involved him as

a main contributor to his *Athenian Mercury* (initially called the *Athenian Gazette*). Sault contributed as an expert on mathematics, surveying, physics and astronomy but he also showed a good knowledge of the work of Descartes, LEIBNIZ (chapter 18) and NEWTON (chapter 26). It was Dunton, himself an admirer of Malebranche, who commissioned Sault's translation. When Dunton got into financial difficulties and could no longer patronize him, Sault moved to Cambridge, where he ended his days as an impoverished tutor.

Sault was influenced by Malebranche's Christian Cartesianism and by the style of his popular dialogues, such as one translated (probably by him) as *Christian Conferences*. His own *Conference betwixt a modern Atheist and his Friend* (1693) is cast as four dialogues. In it he sought to prove that the existence of God "is more evident than any Mathematick demonstration" (Sault, 1693, Preface). His demonstration of the existence of God is the most original feature of the *Conference* but even this, with its conclusion that "there is a being which possesses all the degrees of perfection of which we have ideas," was probably Cartesian in inspiration. Starting from the reflection that we have knowledge and power, albeit to a limited degree, he argues that these attributes must be derived from some source outside ourselves. This source must, in turn, possess them either derivatively or perfectly. Ultimately, his argument is, we must have recourse to a being possessed of infinite knowledge and power.

Sault's argument for the immortality of the soul is similar to that employed by Descartes and Norris, only without their subtlety and qualification. The soul is by definition, he claimed, "an immaterial thinking substance" and in consequence cannot lose its individuality. He did not consider two objections to which such an argument is open. In the first place it is not clear why memory, which is necessary to an individual's sense of their own identity, is bound to be preserved even if a soul continues to have thoughts. Nor did Sault acknowledge, as Descartes had done, that there might be processes other than disintegration whereby souls cease to exist upon the death of living bodies.

Taylor and Sault are likely to have had more influence as translators than through their own books, which did not have a wide circulation. Taylor's translation of Malebranche's *Recherche de la vérité*, which went into a second edition, seems to have been the more successful. It was on the reading list for Oxford students in the early eighteenth century and appears to have been the text used in Trinity College, Dublin, for instance by GEORGE BERKELEY (chapter 29), on whom Malebranche was to have a seminal influence.

Malebranchean Idealism: Arthur Collier (1680–1732)

Arthur Collier was born in Langford Magna, near Salisbury in Wiltshire, where his father was rector. He and his brother William were up at Oxford together in the late 1690s and seem to have made a careful independent study of Descartes and Malebranche. Arthur became an Anglican clergyman and, in 1704, reclaimed the living in Langford Magna that his father had lost, and remained there until he died. His parish was close to that of Norris and it is possible that they were acquainted. He

had a deep respect for Malebranche and Norris even though he developed their ideas in a direction to which they were opposed. He had, on his own account, arrived at his own position as early as 1703 but had allowed himself "ten years pause and deliberation" before going into print. He admitted, however, his reluctance to enter into controversy with his illustrious neighbor and perhaps it is significant that his book was published the year after Norris's death. The title of his book, *Clavis universalis*, is likely to have been suggested by Norris's claim that Malebranche's *Search after Truth* was a "universal Key," i.e. that it would serve as the means of regulating the understanding and so of guiding the quest for truth.

Collier, however, was proposing, a new direction. His choice of subtitle, "A New Inquiry after Truth," makes this clear. But the new direction needs to be seen as emerging from a problem in Cartesian philosophy. A number of critics have posed the question as to why God found it necessary to create matter, on Cartesian terms, if it was not necessary as a cause of perceptions or in any other apparent way. The implication of this criticism was that the Cartesians were inconsistent in admitting matter when, on their terms, God could have given us all the experiences we have without creating it. Collier seems to have been the first Malebranchean philosopher to grasp this particular nettle by dispensing with matter and so embracing an immaterialist or idealist metaphysics.

Collier's idealism has struck some scholars as sufficiently like that of the now much more celebrated Irish idealist George Berkeley as to make it incredible that he should have thought it up for himself. But Collier's notes show that the tendency of his philosophy was already established before Berkeley published his *Principles* in 1710. Amongst the now lost papers seen by Robert Benson there was an outline in three chapters, dated January 1708, on the question whether the visible world is outside us or not (Benson, 1837, p. 12). The degree of convergence between the philosophies of Collier and Berkeley is remarkable. But it may be partly accounted for by reference to the influence of Malebranche on each of them and what has aptly been described as "the internal dialectic of Cartesianism" (McCracken, 1986, p. 40).

There are, in addition, reasons why Collier and Berkeley were inclined to idealism independently of either the influence of Malebranche or the problems of Descartes. Idealism was a tendency of Platonist philosophers, as it has been argued (Brown, 1997) both Berkeley and Collier were. Like Malebranche they were both much attracted by a highly philosophical quotation from the Bible that refers to the God "in whom we live, and move, and have our being" (Acts 17:18). Malebranche had already appealed to this text in defending his doctrine that we see all things in God (Malebranche, 1674–5, III. ii. 6) and it became a favorite Biblical quotation for the Malebranchists. According to Benson, it was one of Collier's "favourite maxims" (Benson, 1837, pp. 54f.). In its original context, it was probably intended to commend Christianity to Stoic philosophers who had a pantheistic conception of God. For those in the mainstream of Christianity who thought of God as a pure spirit, on the other hand, the Biblical quotation could readily be given an idealistic interpretation, as it was by Berkeley as well as Collier.

Despite the points of both large and detailed convergence between Collier and Berkeley, the older English philosopher is in a number of ways very different from his Irish counter-part. Collier, unlike Berkeley, gave a good deal of attention to the writings of Norris but little, if any, to those of Locke. It is not Locke but the scholastic Aristotelians whom Collier sees as his philosophical opponents over the existence of unperceived matter. Collier, moreover, is much more overtly theological and mystical than is Berkeley, tending towards an idealistic pantheism. He seems to have interpreted the "Platonic" passages of the Bible in the light of one another and took the early verses of John 1 to mean that God made all things by, through and in the Son (Collier, 1713, p. 104). He took the maxim that we "live and move and have our being in God" to support his unusual view that the whole creation exists not only by and through but in the Son of God. This is one of several respects in which Collier seems to be linked to the tradition of Christian Cabbalism, in this case with the doctrine of Adam Kadmon, according to which God first creates a middle being which is both the soul and the substance of the world. Collier, like the Cabbalists, regarded the Bible as a source of true philosophy and, particularly in his curious *Specimen of the True Philosophy*, he conflated Biblical exegesis and philosophical exposition. The similarity with the Cabbalists extends also to the idealistic pantheism which they commonly embraced and to which Collier's philosophy tends. These points of similarity are in some ways more striking than the similarities between Collier's idealism and that of Berkeley. They suggest that Collier was influenced by some of the Renaissance Neoplatonists in whom similar doctrines are to be found.

Though Collier did not always use strictly philosophical arguments in support of his denial of a world that existed entirely outside any mind, his *Clavis universalis* is full of such arguments. For instance, he argued that it is impossible that external unperceived matter should exist because we could only know this through the senses, through reason, or through revelation. (1) It cannot be known through the senses, since it would be contradictory to suppose that something that is *un*perceived is perceived. At this point, though his premisses would have been disputed by Locke, he is arguing within a Cartesian frame of reference. (2) The existence of unperceived matter cannot be known through reason, since reason can only demonstrate the existence of things whose existence is necessary. Here Collier assumes, wrongly, that a demonstration can only be of necessary truths. Demonstrations with premisses that are not necessary may have conclusions that are not necessary. Descartes' demonstration of the existence of matter in his *Meditations* uses premisses that are not necessary truths (God is no deceiver: we naturally tend to believe in an external world of material objects, etc.) to arrive at the conclusion that there are external material things, whose existence is not necessary. The argument may involve mistaken inferences; for instance that it follows from God being wholly good that he is no deceiver, which other philosophers have lighted upon. But Collier was being a little doctrinaire to reject such arguments on the basis that he did. (3) Finally, he argued that the existence of unperceived matter cannot be known by revelation, since Scripture makes no mention of unperceivable matter. On this point he was in disagreement with both Norris and Malebranche but failed to engage with the substance of their claim, namely, that Scripture presupposes belief in external matter.

Collier was pre-occupied with the dangers of materialism. He sought to resist the Aristotelian view of matter as eternal and wished to defend a view of the Creation as resulting from a Spirit on which everything depended. This led him to hold that particulars, as such, have no distinct substance of their own, but only "different forms or similitudes to the one true substance, which one substance is the common substratum to all particulars" (Benson, 1837, p. 192). If that is so, then there is no "independent," "absolute" matter. So far from matter supplanting God, as is partly threatened in the Aristotelian view, God supplants (absolute) matter. If Collier is able to avoid pantheism, it is through his distinction between God the Father and God the Son. But he made that distinction so strongly that he was suspected of Arianism, i.e. of representing God the Son as no more than a creature.

Collier's *Clavis universalis* was translated into German in 1756 and seems to have had more influence in Germany than in England, where it was a rarity. But eventual neglect was a fate Collier shared with the other English Malebrancheans. Malebranche's banner continued to be carried in France and Italy well into the eighteenth century, by those, like the Savoyard Giacinto Gerdil, who wished to resist the encouragement to materialism they thought they detected in Locke's philosophy. But, so far as English philosophers were concerned, Newton had triumphed over Descartes and Locke over Malebranche. The philosophical climate changed in such a way that little interest was shown in or credence attached to abstract metaphysical arguments for the existence of God, the immortality of the soul or laws of grace. Philosophers of the later Enlightenment, such as DAVID HUME (chapter 32) and his friends amongst the *philosophes* in France, dismissed systems of the kind Malebranche and his followers sought to produce. Hume claimed that "men are now cured of their passion for systems and hypotheses ... and will hearken to no arguments but those which are derived from experience."

References

Acworth, R., 1971, "Locke's First Reply to John Norris." *Locke Newsletter*, 2, 7–11.

—— 1979, *The Philosophy of John Norris of Bemerton (1657–1712)*. Hildesheim & New York: Olms.

Astell, M., 1705, *The Christian Religion, as profess'd by a Daughter of the Church of England*. London: Wilkin.

Benson, R., 1837, *Memoirs of the Life and Writings of the Rev. Arthur Collier*. London: Lumley. (Reprinted Bristol: Thoemmes, 1990.)

Brown, S., 1997, "Platonic Idealism in Modern Philosophy from Malebranche to Berkeley." In Rogers, G. A. J. and others (ed.) *The Cambridge Platonists in Philosophical Context*. Dordrecht: Kluwer.

Collier, A., 1713, *Clavis Universalis: or, a New inquiry after truth. Being a demonstration of the non-existence, or the impossibility of an external world*. London: Gosling.

Feingold, M., 1997, "Mathematical Sciences and New Philosophies." In Tyacke, N. (ed.). *The History of the University of Oxford*, vol. IV: *Seventeenth Century Oxford*. Oxford: Clarendon Press, pp. 359–448.

Hoyles, J., 1971, *The Waning of the Renaissance 1640–1740: Studies in the Thought of Henry More, John Norris and Isaac Watts*. The Hague: Nijhoff.

Locke, J. 1690, *An Essay concerning Human Understanding*. London: Awnham and John Churchil.

—— 1693, "An Examination of Père Malebranche's Opinion of Seeing all Things in God." In King, P. (ed.) (1706). *Posthumous Works of Mr John Locke*. London: Churchill.

McCracken, C. J., 1986, "Stages on a Cartesian Road to Immaterialism." *Journal of the History of Philosophy*, 24, 19–40.

Malebranche, N., 1674–5, *De la recherche de la vérité*... 2 vols. Paris: Pralard. In Robinet, A. (ed.), 1958–67, *Oeuvres complètes de Malebranche*. Paris: Vrin.

—— 1680, *Traité de la nature et de la grâce*. Amsterdam: Elsevier.

Masham, D., 1696, *A Discourse concerning the Love of God*. London: Churchill.

Norris, J., 1687, *A Collection of Miscellanies: consisting of poems, essays, etc.* Oxford: Crosley.

—— 1688, *The Theory and Regulation of Love*. Oxford: Clements.

—— 1689, *Reason and Religion: or the grounds and measures of devotion consider'd from the nature of God*. London: Manship.

—— 1690, "Cursory Reflections upon a Book call'd An Essay Concerning Human Understanding." Appended to *Christian Blessedness*... London: Manship.

—— 1691–8, *Practical Discourses on Several Divine Subjects*. London: Manship. 4 volumes.

—— 1695, *Letters concerning the Love of God, between the author of the* Proposal to the Ladies [Mary Astell], *and J. Norris; wherein his late discourse* [printed in vol. 3 of *Practical Discourses*], *shewing that it ought to be intire and exclusive of all other loves, is further cleared and justified*. London: Manship.

—— 1701–4, *An Essay Towards the Theory of the Ideal or Intelligible World*. 2 Parts. London: Manship.

—— 1708, *A Philosophical Discourse concerning the Natural Immortality of the Soul*. London: Manship.

Sault, J., 1693, *A Conference between a Modern Atheist and his Friend*. London: Dunton.

Taylor, T., 1697, *A Sermon Preach'd in the Parish Church of Burcester in the County of Oxford*. London: Bennet.

—— 1704, *Two Covenants of God with Mankind*... *in an Essay designed to shew the Use and Advantage of some of Mr. Malebranch's Principles in the Theories of Providence and Grace*. London: Bennet.

Further Reading

Acworth, R., 1977, "Malebranche and his Heirs." *Journal of the History of Ideas*, 38, 673–6.

Brown, S. (ed.), 1991, *Nicolas Malebranche. His Philosophical Critics and Successors*. Assen: Van Gorcum.

—— 2000, "The Critical Reception of Malebranche, from his Own Time till the End of the Eighteenth Century." In Nadler, S. (ed.). *The Cambridge Companion to Malebranche*. Cambridge: Cambridge University Press.

Jolley, N., 1990, *The Light of the Soul: Theories of Ideas in Leibniz, Malebranche, and Descartes*. Oxford: Oxford University Press.

McCracken, C. J., 1983, *Malebranche and British Philosophy*. Oxford: Clarendon Press.

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26

Isaac Newton

PETER KAIL

Introduction

Newton has emerged from the pages of recent and exemplary scholarship as a complicated, neurotic and secretive man, far different from the model of serene virtue the Victorian English were wont to conceive of him. The fabric of his character is sewn with theological, philosophical, scientific, magical, and alchemical threads, yielding a cloth far richer than the white cotton of the stereotypical laboratory coat. For this richer understanding of Newton, his thought, and his milieu, we have to thank, *inter alia*, Alexander Koryé, I. Bernard Cohen, Richard Westfall, A. R. Hall, D. T. Whiteside, J. E. McGuire and Betty Jo Teeter Dobbs. Our picture of Newton has also been enhanced by the study of a large body of unpublished materials which contains the kind of speculative thinking that seldom obtruded into Newton's published work without an official warning from Newton himself. This scholarship allows us confidently to reject E. A. Burtt's claim that as a "philosopher, he [Newton] was uncritical, sketchy, inconsistent, even second rate."

But scholarship inevitably brings with it controversy, which in part is testament to the fertile complexity of Newton's thinking; as is frequently said, Newton scholarship is now a minor industry. In what follows I have tried to abstract the key themes of Newton's philosophy, and although this sometimes involves the appearance of a blunt indifference to scholarly debates, it should be remembered that the purpose of this entry is to offer a starting point for understanding Newton, a task which should not be confused with categorical statement of doctrine. Here I try to articulate some of the aspects of Newton's thinking which are now categorized as distinctly "philosophical," but Newton himself would not see the distinction between philosophy and the rest of his thought in the stark terms that modern categories impose. Nevertheless, his contribution to the separation of natural philosophy into science and philosophy is one of his many legacies. Part of what makes Newton distinctive as a philosopher of the early modern period is his ambiguous relation to the mechanical philosophy, and his views on the practice and method of science. Instead of securing a metaphysical basis for physics on *a priori* grounds, Newton sought to separate substantive, philosophically driven, conceptions of nature from the empirical practice of its investigation. This approach has an inherent tendency

to limit the cognitive aspirations of our understanding of nature, and Newton's philosophy can be read as the beginning of the end of a certain picture of human's cognitive relation to the world, the end of an ideal of intelligibility and transparency. His philosophy instead laid greater emphasis on predicative power and the practical consequences of the investigation of nature. As HUME (chapter 32) was to write in his *History of England*, "Newton seemed to draw off the veil from some of the mysteries of nature, he showed at the same time the imperfections of the mechanical philosophy." Hume's self-image as a Newton of the mind is in some respects correct; the world itself remains unintelligible and the most we can do is glean knowledge of the phenomena and their relations from cautious experiment and observation.

Life and Works

Isaac Newton was born on Christmas Day 1642 in Woolsthorpe Lincolnshire, his father dead three months prior to Isaac's birth. His mother's remarriage, when he was three, precipitated their separation, with the young Isaac staying with his grandmother in the house of his birth, a fact which the majority of recent biographers see as the cause of his rather complicated personality. Though mother and son were reunited when he was ten, they were to remain together for only two years, with Isaac, at the age of 12, attending the Free Grammar School in Grantham. After a failed attempt at managing the family estate, both his school master, Henry Stokes and his uncle persuaded his mother Hannah that Cambridge would suit Isaac better than Grantham market, and in 1661 Newton went up to Trinity College Cambridge.

The curriculum at Cambridge was dominated by Aristotelianism, but Newton's notebooks testify to the fact that he set himself his own course of reading, which included HENRY MORE (chapter 21), ROBERT BOYLE (chapter 23), DESCARTES (chapter 5), HOBBES (chapter 22), KEPLER (chapter 4), GALILEO (chapter 4), and GASSENDI (chapter 6). In 1664 he was elected a scholar of Trinity, and around this time he started a set of notes he entitled "Quaestiones quaedam philosophicae" ("Certain Philosophical Questions"), which reflected his burgeoning interest in issues in natural philosophy and his fascination with certain key phenomena such as light and color, gravity, the relative merits of the plenum versus the void, the cohesion of bodies, capillary action, surface tension, and the pressure and expansion of air. All these critical phenomena were to be recurring centers of gravity in Newton's developing philosophy of nature.

He took his Bachelor of Arts in 1665, in the same year that Cambridge was stricken with the plague, an event which forced him to return to Lincolnshire. It was then that he formulated the binomial theorem and the fundamentals of calculus ("the method of fluxions") and in 1666, his *Annus Mirabilis*, he began to formulate his theory of color, and the inverse-square law. This marked the beginning of six intense years of hard experiment and intense creativity. Returning to Cambridge in 1667 he was elected to a Fellowship, and two years later acceded to the Lucasian Chair of Mathematics. His election to the Royal Society, in 1672, was on the basis

of his invention of the reflecting telescope. The same year saw the publication of his *New Theory about Light and Colours*, which sparked the kind of controversy that throughout his life he was to attract and detest, foreshadowing his quarrels with John Flamsteed and LEIBNIZ (chapter 18). In this particular case, it was the beginning of a dispute with Robert Hooke. The bulk of the decade was to see Newton become engrossed in intense alchemical and theological study, recoiling from the disputes his work on light had sparked.

In 1684 Edmond Halley visited Newton in an attempt to extract his opinion regarding the inverse square law; Christopher Wren, Hooke, and Halley had been debating whether the elliptical orbits of the planets were related to a force impressed upon them which varied with the inverse square of their distance from the Sun. Newton declared that he had already demonstrated this to be so, and spent the next three years on the composition of the *Philosophia Naturalis Principia Mathematica*, a work which Halley himself had to finance. In 1689 Newton became friendly with JOHN LOCKE (chapter 24) and Nicolas Fatio de Duillier, a Swiss mathematician and perhaps Newton's most intimate friend. In 1693 he underwent something of an emotional breakdown, shortly after relations between Fatio and Newton had soured. It is also very possible that his breakdown was connected to his exposure to mercury through his alchemical studies.

After 30-odd years in Cambridge, Newton left to take up the position of Warden of the Mint in London in 1696, a position which he pursued with relish. 1700 saw him appointed as Master of the Mint. In March 1703 Robert Hooke died, and with him went a source of irritation for Newton, paving the way for his election as President of the Royal Society in the same year. He was knighted by Queen Anne in 1704.

1700 marked the beginning of the notorious priority dispute with Leibniz over the invention of the calculus. In 1713 a second edition of the *Principia* was made available, under the editorship of Roger Cotes, which included two notable additions. First, Cotes added a preface which purported to explain Newton's account of gravity, and secondly Newton added the *General Scholium* which contains the best known statement of the notorious *hypotheses non fingo* – "I frame (or feign) no hypotheses."

In 1704 the first edition of Newton's *Opticks* was published, the culmination of his thinking on light and color. To this work Newton appended 16 "Queries" or metaphysical questions and speculations. But subsequent editions saw an expansion of these Queries to 31, and they contain some interesting and controversial speculations about God, causation and gravity. Newton died aged 84 on March the 20th, 1727.

The *New Theory About Light and Colours*, Method and the Mechanical Philosophy

We can begin to examine what was distinctive of Newton's approach by comparing it with Descartes', and there is no better place to start than Newton's 1672 *New Theory of Light and Colours*. Descartes was a key figure in the developing science of optics and Newton devoured his works from an early stage. For Descartes, white

light is basic and homogeneous and consisted in the pressure of aether. Color is the result of the rotational tendencies of the aether particles. So the surface of a body, in virtue of its textual properties, takes on its color by modifying the rotational tendencies of the white light. The action of a prism on a beam of light to reveal a spectrum was thought to be due to rotational differences the prism imparts on the homogenous light. This "modification theory" was well entrenched, but from very early on Newton questioned it, and his "Quaestiones quaedam philosophicae" contain numerous worries about its adequacy (for example if light is due to pressure, should not things become brighter when one is running as opposed to standing still?). The decisive advance however came in his *New Theory about Light and Colours*, which, as we have noted, elicited much opposition. As is well known, Newton rejected the view that light was homogenous white light and instead argued that white light comprised distinct colored components. At first blush it looks as if Newton's claim is merely a competing speculative hypothesis, but he was adamant that it is *not*. But upon what basis can he make this claim?

For Newton the difference lay in the fact that whilst Descartes' theory is inextricably linked to global mechanical pictures, and derives much of its force from that, Newton argues that his theory follows directly from experimental evidence. He does not base his account on a conjecture that is the result of an *a priori* conception of matter, but instead on experimental investigation into the relevant phenomena. Here we see one facet of Newton's genius, his brilliance as an experimental scientist. His account in the *New Theory*, though sketchy, includes a description of the experimental conditions and his keenness to eliminate any likely interference ("contingent irregularities") or experimental error. On the basis of this he could confidently show that some of the predicated consequences of the modification theory were falsified by experimental evidence. Secondly, though this was to become more pronounced in later work, emphasis was made on the mathematical precisification that his theory allowed. Furthermore, the theory resolved an anomaly that contradicted the previously accepted law of refraction. It is also in the *New Theory* that Newton introduces the notion of the *experimentium crucis* or "crucial experiment," a notion that can be traced back to Bacon's *instantiae crucis* or "crucial instance" in the *Novum organum* (1620). Newton commits himself to the idea that a single, carefully set up, experimental situation is sufficient to establish some favored theory – as opposed to hypothesis – once and for all (though scholars remain skeptical of the notion of an *experimentium crucis* to this day).

So in Newton's first published work we see in embryo three key features of Newton's methodology. First, his extrication of theoretical science from substantive global pictures; secondly, his emphasis on careful experimentation; and thirdly, his keenness to mathematize physical theory. These features were developed throughout his career and it was his emphasis on mathematics and the downgrading of substantive speculative philosophy which allowed him the freedom to author the system of the *Principia* unhampered by puzzles created by the intuition that bodies could only act upon each other by impact. This of course opened him up to the charge that he was reintroducing occult causes, as we shall see. In what follows we shall explore the development of these features in Newton's thought, and look at some of their philosophical ramifications.

Hypotheses Non Fingo, Gravity and the Mechanical Philosophy

Newton's break with the mechanical philosophy is his willingness to countenance forces which are not necessarily explicable in mechanical terms, and a concomitant willingness (though not unmarked by reluctance) to abandon the confidence in a fully intelligible explanation of the world. Experimental adequacy is the benchmark here, and not *a priori* insight. This marks a mutual influence between Newton and John Locke. Cote's Preface to the second edition of the *Principia* speaks of three principal philosophies: the peripatetic, the mechanists who "assume hypotheses as first principles" and the experimental philosophy of Newton. But what is distinctive of the method of experimental philosophy? And how does it square with the rejection of the presumptions of the mechanical philosophy? To answer these questions we need to look closer at Newton's method, the meaning of *hypotheses non fingo* and how it is consistent with his confidence in the existence of active forces.

As with the theory of light, Descartes' mechanics is both a great influence and a stalking horse. For Descartes, matter consisted solely in extension; indeed matter and extension are co-extensive, and so the void is excluded on *a priori* grounds. Motion was imparted on matter by God, and its quantity preserved. Descartes' First Law of motion, that bodies will persist in a state of motion or rest, unless acted upon by an external body, was to be the basis of Newton's own First Law. Newton's First Law also contains the rejection of circular motion as the most "natural motion" to be found in Descartes' Second Law. Thus Newton's First Law states that a body continues in its state of rest or of uniform motion in a right line, unless compelled to change its state by forces impressed upon it. Both Descartes and Newton were to reject the distinction between terrestrial and celestial mechanics; laws which apply to earth will apply everywhere. The planets, for Descartes, have the motion they do because they are impacted by innumerable swirls or vortices. In this respect Descartes could (a) explain the non-linear motion of the planets and render it consistent with his second law of motion and (b) attempt to explain their motion by what he thought was the only respectable account of the transference of motion viz., impact.

Newton, as we shall see, rejects the identification of matter with mere extension (matter has other properties, the attribution of which is justified on empirical grounds), and, though initially sympathetic to Cartesian vortices, Newton was later to produce powerful arguments and empirical data which argued strongly for their rejection (for example, the behavior of comets is at odds with the vortices hypothesis). But here is the key departure and the key worry; Newton rejects the Cartesian assumption that the transference of force must be by *impact*, and, indeed, rejects the mechanical philosophy's central tenet, viz. that a full, perspicuous, explanation of the world is in principle possible in solely mechanistic terms. But this rejection, especially in the area of mechanics, appears to commit him to the existence of action at a distance and the occult nature of gravity. The relative merits of Cartesian impulse mechanics and explanations invoking action at a distance had been a concern of Newton ever since he started his "Quaestiones quaedam philosophicae", and the ramifications of accepting action at a distance suffused his thinking throughout his

life. The rejection of impulse mechanics rejects Newton's break with the ideal of mechanical philosophy, under its rationalist guise, that we can offer perspicuous answers to explanatory questions which lay outside the reach of experiment and observation.

But what of gravity? Prior to Newton, gravity had been thought to be an accidental property of some matter, that in virtue of which it fell to earth. Some things – like smoke – possessed levity and naturally levitated heavenward; both these motive qualities were scholastic additions to the traditional primary sensible qualities of Aristotle. Furthermore, different kinds of things were mutually attracted in virtue of a "kinship" or "sympathy," so that the stuff of Earth would be attracted to Earth, but the stuff of Mercury to Mercury. All this of course appears to be the very epitome of the occult causes so despised by the mechanical philosophers. How could gravity and the mechanical philosophy live together in Newton's thought? And how can the author of *hypotheses non fingo* also be the author of the following passage from Query 31 to the *Opticks*?

> It seems to me that these particles [the particles of matter]... are also moved by certain active principles, such as gravity and that which causes the fermentation and the cohesion of bodies. These principles I consider, not as occult qualities supposed to result from the specific form of things, but as general laws of nature by which the things themselves are formed, their truth appearing to us by phenomena, though there causes be not yet discovered. For these are manifest qualities, and their causes only are occult. And the Aristotelians gave the name of "occult qualities," not to manifest qualities, but to such qualities only as they supposed to lie hid in bodies and to be the unknown causes of manifest effects...

We need to understand a little better the content of Newton's various claims, and the best way to approach this is by considering his method. We may well ask at this stage whether such forces are mere hypotheses, and hence run against Newton's favored *hypotheses non fingo*. But this would be in large measure to misunderstand the role of that dictum in Newton's thought. The most famous statement of *hypotheses non fingo* is in the General Scholium to the Principia.

> But hitherto I have not been able to discover the cause of those properties of gravity from phenomena, and I feign no hypotheses; for whatever is not deduced from phenomena is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult or mechanical, have no place in experimental philosophy. In this philosophy particular propositions are inferred from phenomena, and afterwards rendered general by induction. Thus it was that the impenetrability, the mobility, and the impulsive force of bodies, and the laws of motion and of gravitation were discovered. And to us it is enough that gravity does really exist, and act according to the laws which we have explained...

For Newton, the salient conception of hypothesis is of "a proposition as is not a phenomenon or deduced from any phenomenon but assumed or supposed without any experimental proof" (Letter to Cotes, March 1713). More pertinently, Newton objects to the role that such hypotheses play in mechanical philosophy, that as

starting points or "first principles," which occupy foundational roles for the rest of natural philosophy. Under this head, he includes the method of "confrontation of contrary suppositions," whereby different hypotheses compete until the best is left standing (see Newton's letter to Henry Oldenburg, July 1627). Rather proceeding from substantive metaphysical contents, we are to proceed by experiment and induction, and then, by synthesis, to general explanation. Thus he writes in the *Opticks*:

> To derive two or three general principles of motion from phenomena, and afterwards to tell us how the properties of all corporeal things follow from these manifest principles, would be a very great step in philosophy, though the causes of those principles were yet not discovered.

But these causes are not phenomena. So can they be deduced from other phenomena, or are they mere "suppositions"? Does his method sanction their postulation?

Newton's different statements of his famous *regulae philosophandi*, or Rules of Reasoning in Philosophy are to be found in the different edition of the *Principia*. Newton's *final* statement of these rules is in the third edition of the *Principia*, and they are the result of some serious thinking on Newton's part. In the first edition, there had been only three rules, and these had been buried, somewhat misleadingly, in a section called "Hypotheses" in Book III. In the second edition they were arranged and placed more perspicuously, and in the third edition their number grew from three to four – indeed, there is a draft of a fifth rule which never made it to publication. As Koryé has demonstrated, Newton's unpublished papers show that he was laboring intensively on the rules for a considerable period. The four extant rules are as follows:

> RULE I
> We are to admit no more causes of natural things than such as are both true and sufficient to explain their appearances.
>
> RULE II
> Therefore to the same natural effects we must, as far as possible, assign the same natural causes.
>
> RULE III
> The qualities of bodies, which admit neither intensification nor remission of degrees, and which are found to belong to all bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever.
>
> RULE IV
> In experimental philosophy we are to look upon propositions inferred by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypothesis that may be imagined, till such time as other phenomena occur by which they may either be made more accurate or liable to exceptions.

Each Rule is followed by a brief amplification of its content, except in the case of Rule III, where the discussion is longer. As Henry Guerlac has argued, it would be a

mistake to see the *regulae* as a statement of method *per se*; the first three rules in fact are better viewed as meta-methodological, presumptions of enquiry. Rule I is a statement of ontological parsimony, and explanatory simplicity, a presumption which is not entirely innocent of Newton's theological views, for he thought that explanatory simplicity rests on the idea that God would create a regular universe. Rule II licenses the kind of analogical reasoning with which Hume was to make great play in his *Dialogues Concerning Natural Religion*. Rule III, and its corresponding elucidation, is in some respects polemical; Descartes had excluded impenetrability as an essential property of matter on *a priori* grounds (its essence being merely extension), but empirical data argues for impenetrability as well as extension as one of its "universal qualities." We should not, writes Newton, "relinquish the evidence of experiments for the sake of dreams and vain fictions of our own devising." Descartes violates *hypotheses non fingo* by failing to start from an *empirical* basis. Secondly, it contains an implicit rejection (and here Newton agrees with Descartes) of any distinction in kind between terrestrial and celestial matter. Third, the elucidation to Rule III is a source of deep controversy, since it lists not only extension, hardness, mobility, impenetrability, and mobility as universal qualities, but it also appears, despite Newton's own disavowal, to sanction crediting bodies with gravity as an essential quality.

Rule IV looks more methodological, as if it had a smattering of Popperian philosophy of science; that is to say inductive generalizations are open to falsification, but in point of fact Newton seems to be saying here that the generalizations are open to *refinement*, rather than refutation. Rule IV is a late addition, and may reflect Newton's thinking on method to be found Query 31 of the *Opticks* (3rd ed., 1721). There Newton offers an account of the procedure of natural philosophy, "in the investigation of difficult things," invoking the method of "analysis" (*resolutio*) and "synthesis" (*compositio*), a method that Cotes praises in his preface. It is here that we see Newton's inductivism, through the influence of his teacher Isaac Barrow, entangled with an older, mathematical tradition. Thus he writes (again, in Query 31):

> As in mathematics, so in natural philosophy, the investigation of difficult things by the method of analysis ought ever to precede the method of composition. This analysis consists in making experiments and observations, and in drawing general conclusions from them by induction, and admitting no objections against the conclusions but such as are taken from experiment and observation... By this way of analysis we may proceed from compounds to ingredient and from motions to the forces producing them, and in general from effects to their causes and from particular causes to more general ones, till the argument end in the most general.

The method in the mathematics involved an analysis, or a breaking down, of an unproven proposition into its constituents, and from thence, by synthesis, to the consequences of those elements. For Newton in natural philosophy, analysis involves observation and experiment (which delivers the elements) and the drawing of provisional conclusions by induction. As such it offers a "dissection of nature," breaking down phenomena into discrete elements which may be investigated and established independently, offering "ingredients" which can figure in wider

explanatory contexts. From particular effects one derives particular causes and from thence to more general causes until we arrive at the most general laws that lie within the reach of human understanding, bringing us nearer to the First Cause – "every true step made in this philosophy brings us not immediately to the knowledge of the first cause, yet it brings us nearer to it, and on that account is to be highly valued" (Query 28). Synthesis consists in the assumption of those general causes, and their use in explanation of the phenomena. Two features of Newton's mathematical physics, or rational mechanics, separate it from pure mathematics. The first is a rejection of the purity of mathematics anyway – at least for geometry. Thus he writes in the Preface to the first edition of the *Principia* that geometry is "founded upon mechanical practice, and it is that part of universal mechanics which accurately proposes and demonstrates the art of measuring." Secondly, in the mathematical tradition, the elements isolated in analysis could then figure in necessary demonstrations, but for Newton inductive generalizations only ever attain the status of "moral certainty." Skepticism about induction, however, has no place in Newton's thinking: any hint of inductive skepticism would run against Newton's firm belief that God acts in simple and regular ways.

Most of the emphasis in Query 31 is on analysis, on experiment and observation and the induction of general phenomena, and little is said about synthesis. In general, then, Newton argues for inductivism, and the rejection of *a priorism*. The shape of Newton's thought is traceable to two main sources. The first source is unsurprising and requires little comment, viz. Bacon's advocation of inductivism as the method of science (though with more emphasis by Newton on experimentation as a basis for inductive generalization rather than Baconian natural histories). The second source is Newton's abiding interest in the tradition of *natural magic*. That tradition emphasized empirical enquiry into what active causes act on what passives, and on repeatable and reliable predictions. It counted as an *art* rather than a *science* since it was not knowledge of the active causes *per se* that was sought, but predictability and manipulation. The notion of active power in natural magic also contrasts sharply with that in the Aristotelian tradition. For in the Aristotelian tradition, the "occult qualities" were thought in principle not to be "manifest," whereas the active powers of natural magic were legitimately inferable by their manifestation.

Does this mean that Newton thought that gravity is an "essential" or "inherent" quality of bodies? And does he thereby believe in action at a distance? Although Rule III, as we noted, might seem to license the inference that gravity is an inherent or essential quality of bodies at a first reading, a second reading should dispel this impression. First, he is careful to state that it is only passive *vis insita* which is allowed to be a quality of matter, that is to say, that capacity to be *acted upon* rather than an active force itself (indeed, he says in the amplification of Rule III that he does not "affirm gravity to be essential to bodies"). Second, it would be invalid to infer from that fact that a quality is a "universal quality" – that each chunk of matter is related by forces – to the claim that that quality is essential, in the sense that failure to instantiate that property is failure to qualify as *matter*. Hence he could write to Richard Bentley in 1693 saying

> You sometimes speak of gravity as essential and inherent to matter. Pray, do not ascribe that notion to me; for the cause of gravity is what I do not pretend to know and would therefore take more time to consider of it.

Instead, Newton appears to endorse a voluntarist, as opposed to naturalist, position on causal power. That is to say, genuine causal power is God's causal power, and that natural world is set up according to God's laws. Unlike Leibniz, who allowed that each substance had its own active principle, matter for Newton is essentially inert, and in this respect the laws of nature are only hypothetically necessary (that is, necessary relative to God's choices). Thus in Query 31 he writes that it may be

> allowed that God is able to create particles of matter of several sizes and figures, and in several proportions in space, and perhaps of different densities and forces, and thereby to vary the laws of nature and make worlds of several sorts in several parts of the universe. At least, I see nothing of contradiction in all this.

But does this mean that Newton is content to say that there is action at a distance, and to leave its nature unexplicated? The first thing that needs to be borne in mind is that Newton would regard any objection to his work on these *metaphysical* grounds as unwarranted. In a letter to Oldenburg (July 11, 1672), Newton said that he will only countenance objections to the experimental evidence, or contrary evidence derived from other experiments. Nevertheless, we might still wonder whether Newton, beneath the positivist veneer, really thought that there was action at a distance. But, perhaps reflecting his ambivalence, the evidence is conflicting, though on the whole tending toward the rejection of action at a distance. In favor of action at a distance, we should note that his official pronouncements on the matter should leave him *agnostic* on whether gravity involves action at a distance or not. Secondly, both in his published and unpublished work he appears to allow the possibility; for example, in Query 1 he asks do not "bodies act upon light at a distance, and by their action bend its rays; and is not this action (*ceteris paribus*) strongest at the least distance?" But this has to be balanced against his explicit disavowals of action at a distance to be found, for example, in one of his letters to Richard Bentley (February 1692/3). In this letter he links action at a distance with the doctrine that gravity is an essential and inherent property of matter, implying that they stand or fall together

> It is inconceivable that inanimate brute matter should, without the mediation of something else which is not material, operate upon and affect other matter without mutual contact, as it must be, if gravitation . . . be essential and inherent in it. And this is one reason why I desired you would not ascribe innate gravity in me. That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a *vacuum*, without the mediation of anything else . . . is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it.

Finally, in his later life Newton seems to again countenance the existence of aether. One may be inclined to write this off as a mere sop to his mechanist critics, but it should be noted that the aether Newton discusses is *active*, and not merely the

passive, mechanical medium of impact physics. The postulation of an active aether however leaves Newton in an uncomfortable dilemma: either the aether itself is material, and so he would have to concede that at least some matter is inherently active or it is not material, and *a fortiori*, cannot fall within the purview of experimental philosophy.

God, Activity and Space

Newton was a devout, but not orthodox, Christian, an Arian in, of all places, Trinity College. In the 1670s he devoted the bulk of his time to intense theological and biblical study, and it was only a suspiciously well-timed dispensation that the holder of the Lucasian Chair need not be in Orders which prevented Newton having to test in public the integrity of his religious convictions. His Christianity was one that was skeptical of Platonist metaphysics, which have, Newton thought, a tendency to deflect believers away from the morality of the scriptures. His conception of God is that of sovereign or universal ruler, and not that of abstract "Perfection"; at the same time he is willing to take on board some platonic doctrines in his thinking about God. We have already glimpsed that Newton thinks that the method of natural philosophy takes us towards the First Cause (Query 28):

> And these things being rightly dispatched, does it not appear from Phenomena that there is a Being, incorporeal, living, intelligent, omnipresent, who in infinite space, as it were in his sensory, sees the things themselves intimately and thoroughly perceives them, and comprehends them wholly by their immediate to himself, of which things the images only carried through the organs of sense into our little sensoriums are there seen and beheld by that which in us perceives and thinks?

Newton states this as a conclusion of a brief argument from design, and, in a letter to Bentley, he says that he "had an eye upon such principles as might work with considering men for the belief of a Deity." But within the body of the passage just quoted lies a deeper thought about the nature of God and his relation to the created world, a thought which bears the mark (though not unmodified) of the Cambridge Platonist Henry More, and which has ramifications for Newton's view of space and time.

More was an early advocate for the philosophy of Descartes, but had pronounced disagreements with him over key issues. More accepted atomism, and distanced himself from Descartes over space and power. Since matter is passive or inert, there had to be a supervising, immaterial principle which was both active and ontologically distinct from matter. This was dubbed the "hylarchic spirit" or the "Spirit of Nature." Immaterial substance is extended as well as material substance, and it is this "Spirit of Nature" which is invoked to account for phenomena not readily reconcilable with the mechanical philosophy. Space too is an infinitely extended substance, and More tends to identify it with an attribute of God; indeed, real space shares some "twenty titles" with God. That is to say, real space is *inter alia* "One, Simple, Mobile, Eternal..." etc. Furthermore, to evade the objection that since space is extended, it must be divisible, and therefore not really a single entity, More argues that space is

indiscerpible: that is to say, whilst we may conceive or imagine splitting space into parts, this fact does not reveal a genuine metaphysical possibility.

One of his major objections to Cartesianism is that it could find no space (literally and metaphorically) for God's operation in the universe. First, although More rejects the plenum, he could not accept a void – *nothingness* More found unintelligible. Secondly, we can conceive of space and distance without the existence of matter, so there must be a space distinct from matter. Thirdly, since God acts through his substance, his substance must be where the effects are: Descartes leaves God outside the universe.

These themes are echoed in Newton's views of absolute space and time, but their influence is diffuse. The first thing to note is that Newton agrees with More that God must be extended an absolute space and time in the universe in order to act upon it. Thus he says in the General Scholium

> Since every particle of space is *always*, and every indivisible moment of duration is *everywhere*, certainly the Maker and the Lord of all things cannot be *never* and *nowhere*... God is the same God, always and everywhere. He is omnipresent not *virtually* only but also *substantially*; for virtue cannot subsist without substance.

"Virtually" here means having causal efficacy. For Descartes, God's omnipresence reduced to his causal sustenance of the created world; but Newton, like More, could not conceive of how He could do this without also being *substantially* present. In Query 28, Newton illustrates this substantial presence by drawing an analogy between the sensoriums of finite beings and God's sensorium. Whilst we know of things by their images being transmitted to our own sensorium, our thinking substances, God, whose substance is wholly present in all places and all times, directly perceives everything – a view that would find a very different expression in the philosophy of GEORGE BERKELEY (chapter 29).

Unlike More, however, Newton does not *identify* absolute space with an attribute of God; but nor is it a self-standing substance. In *De Gravitatione*, he rejects More's claim that something's being infinite implies identity with God, on the grounds that there may be infinite imperfections. Furthermore, Newton can allow that space and time can be *uncreated*, without it thereby being *uncaused*. Instead it is an *emanative* effect of God; that is to say, it is a causal, but co-temporal effect of God's existence, and therefore logically distinct from God, but *ontically* dependent on God; without God, there would be no space, but it does not follow from this that God is temporally *prior* to the existence of space. This, as we shall see, was to prove unsatisfactory to friends and critics of Newton alike.

Absolute Space and Time

We have already seen something of More's legacy in Newton's conception of space and time, but Newton is driven to conceive of space and time as absolute not solely on theological grounds. It is in the Scholium to the Definitions of the *Principia* where Newton's views are stated. There he says:

> Hitherto I have laid down the definitions . . . in which I would have them to be understood in the following discourse. I do not define time, space, place, and motion, as being well known at all. Only I must observe that the vulgar conceive those qualities under no other notions but from the relations they bear to sensible objects. And thence arise certain prejudices, for the removing of which, it will be convenient to distinguish them in to absolute and relative, the true and the apparent, mathematical and common.

Absolute time is an observer-independent "flow" against which the clocks can be assessed (from a God's eye point of view) for accuracy (a kind of transcendent conductor against which the tempo of the relative can be measured). Absolute space is the frame against which absolute motion can be determined (again from the God's eye view), and absolute place is a point which may be occupied by a body in absolute space – absolute motion is then the movement from one absolute place to another. Like More, Newton thought space cannot be "divided," and on metaphysical grounds. Absolute places are "parts" of space, but they cannot be arbitrarily split apart and be recombined, since the "place" of places in absolute space are part of their "very nature or essence."

Relative space, motion, and place are observer-dependent notions; some body may be apparently moving, where in fact it remains absolutely stationary, inasmuch as it occupies the same absolute place. But all motions imply absolute motion and place on pain of regress:

> . . . all motions, from places in motion, are no other than parts of the entire and absolute motions; and every entire motion is composed of the motion of the body out of its first places and the motion of this place out of its place; and so on, until we come to some immovable place.

We cannot perceive the absolutes; when we perceive motion, we only perceive relative motion. But we can nevertheless know them by their causes and their causal effects. The determination of absolute motion is dependent on *force*; deviation in absolute motion requires a force to act upon it, and absolute motion from rest requires the impress of a force; neither is required for relative motion. Secondly, a body in absolute motion has certain casual effects which are evident; the most famous example of this is Newton's spinning bucket. Circular motion imparts a force along the axis of the movement, causing the body to recede. When a bucket, full of water, is swung round in a circular motion, this force is evidenced in the water's rising movement up the sides of the bucket. When the water becomes concave, it is no longer moving relative to the bucket itself, but it must, nevertheless be moving relative to something else, viz. absolute space. In this way we can reveal "true circular motion."

Reactions to Newton

Despite Newton's near apotheosis in the eighteenth century and beyond, much of his writing contained the seeds of sometimes bitter controversy. Some thought that his advocacy of absolute space implied its identification with God, a view enthusias-

tically elaborated by Joseph Raphson, a Cambridge friend of Newton, in, *inter alia*, *De Spatio Reali* (1702). Berkeley's immaterialism was partly fueled by what he saw as the unintelligibility of absolute space, and he too believed that Newton had to face the dilemma of either identifying God with space or admitting the existence of an uncreated infinite being in *addition* to God (see *Principles of Human Knowledge*, §§110ff). The notion of matter, the inertness of which Newton insisted upon, was of course to be another of Berkeley's targets. Like Berkeley, Jonathan Edwards saw a route from Newton's absolute space and his *sensorium* to a philosophy of immaterialism.

The most sustained and bitter controversy however was between Newton and Leibniz, much of which was mediated by Dr Samuel Clarke. Part of the bitterness derived itself from the long-standing priority dispute over the invention of calculus, but that is not the whole story. In the *Theodicy* (1710), Leibniz accused Newton of re-introducing occult causes, and the accusation was rather tartly rebutted by Cotes in his preface to the second edition of the *Principia*. Writing to Princess Caroline in 1715, Leibniz attributed to Newton the idea that space is God's sense organ, and that He was an imperfect clockmaker, obliged to tinker with creation from time to time. Newton instigated a correspondence between Leibniz and Clarke, which continued until Leibniz's death, and in all probability, much of what Clarke wrote was either drawn from notes provided by Newton or dictated by him.

The correspondence, published in 1717, comprises five papers by Leibniz, and five replies from Clarke. The subjects discussed include the extent to which Newtonianism contributes to the decline of natural religion, whether space is the sense organ of God (much of this dispute seems merely verbal), the question of God's intervention in the universe, the occult or miraculous nature of gravity, the existence of a vacuum, space and time, the principles of sufficient reason and of the identity of indiscernibles. Much of the dispute expresses two fundamentally opposed approaches to philosophy; Leibniz's ideal of the intelligibility of the universe through reason and Newton's circumspect, empirical approach to the world. As to the question of God's intervention in the universe, although much of the dispute between Clarke and Leibniz turns on whether one system or the other can make sense of God's providence, Newton's own reasons for admitting God's intervention were driven by his physics, rather than his theology; for example, his physics predicts that irregularities would arise because of the mutual disturbance of planetary motion. Leibniz's reasons for rejecting this view of course lie deeply entrenched in the metaphysics of pre-established harmony, so at first pass, the debate cannot be settled on neutral grounds.

Leibniz argues that Clarke and Newton do not take the principle of sufficient reason seriously. In his second reply, Clarke grants that everything must have a reason, but he appeals to God's will as providing just such a sufficient reason. Leibniz seizes upon this, and both criticizes Clarke's view as not being a genuine conception of reason and, on his own preferred interpretation, uses the principle of sufficient reason to argue against absolute space and time. Leibniz repeats the oft-made claim that absolute space is likely to be seen as an attribute of God, and yet at the same time is divisible into parts and hence incompatible with God's nature. As we have seen, this is not a knock-down objection to Newton, since he resists the

identification of space with God and, on principled grounds, denies that space is genuinely divisible. However, Leibniz's key objection to absolute space is this: since space is absolutely uniform, one region of space does not really differ from another as far as their intrinsic properties go. Given that this is no such difference, God cannot have a reason for placing the set of bodies which comprise a given universe centered at point n rather than, say, one point to the (absolute) left or right (point $n+1$ or point $n-1$). But by the principle of sufficient reason, there must be a reason why the universe must be centred at n rather than $n+1$ or $n-1$. The supposition of absolute space is in conflict with the principle of sufficient reason. Clarke's simple appeal to God's will as providing the content of a sufficient reason will not do since a simple arbitrary exercise of God's will – mere "plumping" for option A over option B – is not the exercise of *reason*-based choice. *Mutatis mutandis*, the same considerations apply to absolute time. On Leibniz's favored conception of space and time as simply consisting in internal relations or the "order of co-existences" and the "order of successions" respectively, no such problem arises.

Newton's influence on subsequent British and American philosophy, and, after some resistance, philosophy on the continent, is difficult to overestimate. This influence however was more often than not to do with popular conceptions of his methodology and his mechanics than a careful understanding of his thought, and ironically, often led to philosophical positions that Newton would have rejected. Indeed, his greatest influence in a way is cultural and ideological. Hume, for example, took Newton's lesson to be a positivistic one, counselling that knowledge is to be found only in the appearances of objects, and that endeavoring to penetrate into the essence of bodies and discover their "secret powers" is illegitimate (which is not, it must be emphasized, to deny that there *are* secret powers). Thomas Reid was among the better readers of Newton's methodological injunctions, arguing that active power can only be known relative to its effects. By the 1740s Newton's voluntarism was largely ignored, and nature began to be conceived as containing inherently active principles.

References

Alexander, H. G. (ed.), 1956, *The Leibniz–Clarke Correspondence*. Manchester, Manchester University Press.

Cohen, I. B., & Westfall, R. S. (eds.), 1995, *Newton: Texts, Backgrounds and Commentaries*. New York: Norton.

Koryé, A., & Cohen, I. B. (eds.), 1972, *Isaac Newton's Philosophia Naturalis Principia Mathematica: the Third Edition with Variant Readings*. Cambridge, MA: Harvard University Press.

Shapiro, A. E. (ed.), 1984–, *Optical Papers of Isaac Newton*. Cambridge: Cambridge University Press.

Turnbull, H. W., Scott, J. R., Hall, A. R., & Tilling, L. (eds.), 1959–77, *The Correspondence of Isaac Newton*. (7 vols.). Cambridge: Cambridge University Press.

Whiteside, D. T. (ed.), 1967–81, *The Mathematical Papers of Isaac Newton*. (8 vols.). Cambridge: Cambridge University Press.

Further Reading

Cohen, I. B., 1956, *Franklin and Newton*. Philadelphia: American Philosophical Society.
—— 1971, *An Introduction to Newton's "Principia"*. Cambridge: Cambridge University Press.
—— 1980, *The Newtonian Revolution*. Cambridge: Cambridge University Press.
Dobbs, B. J. T., 1975, *The Foundations of Newton's Alchemy*. Cambridge: Cambridge University Press.
—— 1991, *The Janus Faces of Genius: the Role of Alchemy in Newton's Thought*. Cambridge: Cambridge University Press.
Dobbs, B. J. T. & Jacob, M. C., 1995, *Newton and the Culture of Newtonianism*. Atlantic Highlands: Humanities Press International.
Guerlac, H., 1981, *Newton on the Continent*. Ithaca: Cornell University Press.
Hall, A. R., 1980, *Philosophers at War*. Cambridge: Cambridge University Press.
Harman, P. M., 1993, *After Newton*. Aldershot: Ashgate.
Koryé, A., 1957, *From the Closed World to the Infinite Universe*. Baltimore: Johns Hopkins University Press.
—— 1965, *Newtonian Studies*. Cambridge MA: Harvard University Press.
McMullin, E., 1978, *Newton on Matter and Activity*. Notre Dame: University of Notre Dame Press.
Manuel, F. E., 1974, *The Religion of Isaac Newton*. Oxford: Oxford University Press.
Westfall, R. S., 1958, *Science and Religion in Seventeenth-century England*. New Haven: Yale University Press.
—— 1980, *Never at Rest: a Biography of Isaac Newton*. Cambridge: Cambridge University Press.

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Women Philosophers in Early Modern England

MARGARET ATHERTON

There can be no doubt that it was highly unusual for a woman to be a philosopher in Early Modern England. It was of course rather unusual for anyone to be a philosopher in Early Modern England, since relatively few people had either the standards of literacy or the leisure time to be a philosopher. But even of the educated and leisure class, hardly any women could have had the skills, the time, or the inclination to write and publish philosophy. So when we come across the very few women who did in fact write and publish philosophy, it is tempting to take these women to be quintessential "outsiders," looking at the productions of their male compatriots through what makes these women truly unique, their gendered eyes. It is tempting, that is to say, to take these women's writings to be a critique of male philosophy, written to express their particularly womanly outlook.

Such an approach overlooks, however, that what these women needed in order to do philosophy was an intellectual community. Just because their activity was unusual and because they lacked straightforward access to education, women needed the support of others, who took them seriously as thinkers, who could suggest books for them to read and with whom they could discuss their ideas as they developed them. And it seems to be indeed the case that the women who wrote philosophy in the early modern period did each have access to some such community. It seems more accurate, then, to think of these women not as outsiders, but as insiders, expressing the ideas of particular philosophical communities of their time. Read in this way, the women doing philosophy in the early modern period can serve to demonstrate for us a fact that is sometimes easy to lose sight of. Philosophy at this time was not just the production of the great and canonical thinkers we read today, but developed from much richer intellectual circles.

Margaret Cavendish (1623–73)

When we look for the support for Margaret Cavendish's career as a philosopher, it seems she was primarily lucky in her choice of a husband. She was educated as a typical young girl of her age and class, which is to say, not very well and not very systematically. When she married William Cavendish, eventually Duke of Newcas-

tle, she married into a family that was at the forefront of the intellectual life of the time. Newcastle's cousins, the Devonshires, were the patrons of THOMAS HOBBES (chapter 22), and Newcastle himself and his brother, Sir Charles Cavendish, maintained contact and were in correspondence with a number of leading thinkers, including MERSENNE (chapter 4), GASSENDI (chapter 6), and DESCARTES (chapter 5), as well as Hobbes. It is not clear how much of this wider circle was available to Margaret Cavendish. She herself reports that while she had met Descartes, she had not talked with him, and although she made frequent presents of her books to other philosophers, there is no evidence they made use of her ideas in their own writing. She did, however, have the benefit of conversation on philosophy with her husband and brother-in-law, and through them, gained access to books, scientific instruments, and extremely well-informed intellectual guidance.

Margaret Cavendish was a prolific author who published over a dozen books in a variety of forms, including poems, plays, a utopian novel, and epistolary treatises, as well as works of natural philosophy. Although her work has excited a good deal of contemporary critical attention, by and large this has been limited to her more literary productions. It is these, for example, that are being reprinted, while her works in natural philosophy still by and large languish in seventeenth-century editions. Of Margaret Cavendish's philosophical works, the last three that she published, *Philosophical Letters* (1664), *Observations upon Experimental Philosophy* (1666) and *Grounds of Natural Philosophy* (1668b) are probably the most interesting. Initially, as in her first book, *Poems and Fancies* (1653), she espoused a version of atomism, but ultimately rejected this view because of what she saw as an unsatisfactory randomness in the account of causality this position required. In her last books, she develops an account of nature which has been called variously vitalism, materialism, and organicism. The novelty of Cavendish's view has sometimes been exaggerated by those who take the scientific theorizing of the period to be encapsulated in some sort of experimentally based mechanism. In fact, as Steven Clucas makes clear, there were a wide variety of positions put forward among the thinkers surrounding the Cavendish brothers, as thinkers struggled with the many theoretical dilemmas endemic to the New Science. A vitalism, of the sort preferred by Margaret Cavendish, was by no means unusual.

In Cavendish's eyes, nature is demonstrably a self-moving body, which is to say, natural events and processes cannot be accounted for in terms of inert matter. Nature has both a passive and an active element. To account for the fact that nature is self-moving, we must attribute to it both sense and reason, although in a sense that is extended beyond the human example. Cavendish often refers to the operations of the sense and reason in nature in architectural terms: Reason is the designer and sense the workman that operates on passive matter. Because natural processes, the ways in which nature is self-moving, are based on self-knowledge, it can be said that nature operates as an organic whole. Nature as a whole as well as in its parts does what it does because it knows what it is doing. But, to Cavendish, nature is not a whole governed by natural necessity, instead, all of the parts of nature are free to move as they please, since each part is the source of its own motion. "Therefore," she writes, "when a man moves a string or tosses a ball, the string or the ball is no more sensible of the motion of the hand, then the hand is of

the motion of the string or the ball; but the hand is only an occasion that the string or the ball moves thus or thus. I will not say, but that it may have some perception of the hand, according to the nature of its own figure; but it does not move by the hand's motion, but by its own: for, there can be no Motion imparted, without Matter of Substance" (*Observations*, p. 163). In nature, all explanations are in terms of matter, directed by sense, but governed by reason, and as objects in nature, the same is true for human beings. It is an error to prefer sense over reason, and as she argues in *Observations upon Experimental Philosophy*, it is a double error to prefer what we see through microscopes to what we can learn through reason.

Cavendish's rejection of microscopes has been cited by some, in particular by Lisa Sarasohn and John Rogers, as the gesture of an outsider, trying to substitute a science that did not require access to rare instruments or to such male dominated bodies as the Royal Society (to which Margaret Cavendish paid a much remarked upon visit but was otherwise certainly not a participant). But Cavendish's doubts about the value of the microscope rest on considerations internal to debates then current about scientific practice. It is worth noting, in one piece of her prefatory material, she points out that her husband was the owner of several fine microscopes, suggesting she was trying to undercut the notion that she was denigrating the microscope because she had no access to them. It is useful to keep in mind in assessing Cavendish's claims that Robert Hooke was given to quite extravagent claims on behalf of the microscope, as for example, that "...we may perhaps be inabled to discern all the secret workings of Nature, almost in the same Manner as we do those that are the productions of Art, and are manag'd by wheels and Engines, and Strings, and that were devis'd by humane Wit" (*Micrographia*, Preface). It is claims of this sort Cavendish subjects to critical scrutiny and finds wanting. What she finds wanting, however, is the way in which claims like Hooke's privilege sense above reason. We are supposed to believe nature's secret workings are revealed when we see little corpuscles in action, rather than when we theorize about them. But seeing, she points out, is notoriously faulty, and when we look through a microscope, we are still dependent upon our reason to understand what we see. And, one thing we do not take ourselves to be seeing is the interior nature of things, since the microscope can do no more than reveal the exterior in a new way. Microscopic seeing is just seeing, and as such it is the end point of a causal process of seeing, not a way to get at the causes themselves. All the deficiencies of your optical system are going to be present as before, with the added complication that you are also using a further set of lenses. The conclusion Cavendish draws from these criticisms is not a skeptical one, but rather that you should not confuse the realm of observation with that of theory. Cavendish is taking up a position, not outside, but inside the New Science and its debates.

It is possible to see Cavendish's views on mechanism as similarly motivated by considerations that are intended to improve the New Science and not to reject it. Cavendish, in common with many others of her day, found the Cartesian account of motion as a state of what was essentially inert matter to be deeply unsatisfying. In her *Philosophical Letters*, commenting on Descartes' position, she writes there is no way of understanding how such motion can be transferred from one body to another. "For how can motion, being no substance, but onely a mode, quit one

body, and pass into another? One body may either occasion, or imitate anothers motion, but it can neither give nor take away what belongs to its own or another bodies substance, no more than matter can quit its nature from being matter" (*Philosophical Letters*, p. 98). Cavendish's own account is designed to explain the sense in which one body may be said to occasion motion in another. Her basic position is that inanimate matter is infused with animate rational and sensitive matter. Animate matter is its own source of motion and carries inanimate matter with it. Cavendish uses as image of a self-moving man carrying a stick. The stick, or the inanimate matter moves, but does not have motion transferred to it. We explain the presence or the path of motion in terms of the sense and reason that animate matter. Thus the billiard ball that moves when struck does so because the impact of the first ball provides the occasion for the second ball to get out of the way, upon sensing the presence of the first ball, but there is no motion from one to the other. Cavendish's notion is that understanding the motion of both balls as the action of self-moving, reasoning matter provides us with an intelligible account of why the second ball moves, whereas regarding motion as a state or property of inert matter does not. Many of those writing about Margaret Cavendish, from Virginia Woolf on, emphasize her various literary failings – her prolixity, her repetitiousness and her lack of clear organization – all of which can undoubtedly be understood as due to her status as an outsider in the world of letters. But she also provides a picture of someone participating thoughtfully but with gusto in the intellectual debates of her day.

Anne Conway (1631–79)

Although nothing is known of Anne Conway's early education, there is no reason to suppose it was out of the ordinary. What permitted her to develop as a thinker was a truly remarkable friendship formed with her by the Cambridge Platonist, HENRY MORE (chapter 21). More was the tutor at Cambridge of Conway's brother, John Finch, as well as of her future husband, Edward Conway, and was introduced to her by her brother. She and More entered into a lengthy correspondence, which has formed the heart of Marjorie Nicholson's collection, *The Conway Letters*. From these letters, it emerges that More commenced as a correspondence tutor to Anne Conway, instructing her in the mysteries of Cartesianism, an early interest of More's, from which they developed into intellectual colleagues. In addition to More, Anne Conway had one further intellectual mentor, Francis Mercury van Helmont, who was introduced to Conway by More, in the hopes that he could cure her severe headaches, and who lived as a member of her household for the last nine years of her life. Van Helmont may have enriched Conway's understanding of Cabbalistic thinking and is undoubtedly the inspiration for her conversion to Quakerism. More is probably responsible for Conway's interest in finding a way of opposing Cartesian mechanism. Conway's own theory, however, is quite different from that of More and Sarah Hutton has recently shown it actually has a good deal in common with the views of van Helmont. While the possibility exists that it is Conway who taught van Helmont, Hutton argues that the similarities between their common ideas and

those of van Helmont's father, Jan Baptista van Helmont, makes it more likely that the line of influence went from van Helmont to Conway (Hutton, 1996). Van Helmont apparently conveyed Conway's ideas to LEIBNIZ (chapter 18) and much has been made of Leibniz's expressed agreement with Conway in a letter to Thomas Burnet, although the notion that Conway had any significant influence on Leibniz has also been disputed.

The difficulties in sorting out the various intellectual influences of and on Anne Conway are exacerbated by the rather complicated history of what is the only book thought to have been written by her, *The Principles of the Most Ancient and Modern Philosophy*. After Conway's death, van Helmont took away with him a notebook of Conway's, written, we are told, in lead pencil. With More's help, he edited the notebook, had it translated into Latin, and had it published anonymously in Belgium in 1690. Conway's original manuscript had, by that time, disappeared, and the work was translated back into English and published in England in 1692. Because Anne Conway's original version has disappeared, and because it is clear that the published version was subjected to at least some editing, there is no longer any way to identify what in the text is original with Conway.

Like Cavendish's, Anne Conway's work is a product of and reflects the same intellectual milieu. Conway in her work, like Cavendish in her *Philosophical Letters*, comments on and distinguishes her views from those of Descartes and Hobbes. While Conway is in agreement with Cavendish in rejecting the explanatory possibilities of inert matter and in preferring a more vitalistic account of natural processes, her general intellectual approach, as well as some of her conclusions, is quite different from Cavendish's. Unlike Cavendish's rather scattered opinions, Conway presents a tightly constructed and theoretically systematic argument.

Conway's account begins with a discussion of God and the divine attributes; her project is to derive an account of nature from an understanding of the creator. She begins with a fairly unsurprising list of the divine attributes: God, she tells us, is wholly incorporeal spirit, light or wisdom, and life or activity. He is infinitely perfect and the creator of all. From this, she derives an again unsurprising claim, but one that is important to her subsequent conclusions. God is absolutely changeless, since his infinitely perfect nature rules out the possibility of change for the better or for the worse. As a changeless creator, God is, from the point of view of his own nature, always creating; the concept of an historical creation obtains only from the point of view of the creature. As a creator, God is both necessary and free. That he is a creator follows from the necessity of his nature, from which it also follows that creation is infinite and within every creature there is an infinite number of further creatures. In making this claim, Conway is going against More, who argued there had to be a lowest level of what he called indiscerpible, that is, indivisible creatures. Conway argues that the conviction that matter must be actually divisible into indivisible parts, trades on the conceptual confusion that results from running together a term describing a capacity, divisible, with an adjective, actually, implying that the capacity has been actualized.

Conway identifies three different kinds of beings in the world in terms of the characteristic of mutability. Since God is both essentially other than creation and essentially immutable, then creation is essentially mutable. Conway perceives a gap

here that needs filling by means of a third kind of entity, Christ or Adam Kadmon, who, unlike God, is changeable, but who, unlike creation, is changeable only for the better. From the claim that all creation belongs to a single kind whose nature it is to be mutable, Conway draws some interesting conclusions. She claims there is no way, consonant with the possibility of objective truth, for one individual to change into another individual, nor can a member of one species change into another. But there are no essential differences between one created entity and another and so any change of attributes is in principle possible. There is nothing that can rule out the possibility that, for example, a horse could change for the better until it had the attributes of a person. This possibility, of course, is not just limited to the material properties of a horse, which were widely understood to be essentially indistinguishable from the material properties of a person, but to the spiritual attributes as well.

Indeed, there are more far reaching consequences of the view that there are no essential differences between creatures, namely, there can be no essential differences between mind and body. Conway, that is to say, like Cavendish, but unlike More and Descartes, rejects dualism in favor of some kind of monism, but in what her monism consists has been somewhat controversial. Peter Loptson insists that Conway is putting forward some kind of materialism, in which matter can be understood to have spiritual attributes, while Sarah Hutton is equally positive that, for Conway, the sole substance is some kind of spirit. There certainly are passages that would render it plausible to ascribe to Conway a view rather like Cavendish's, that matter itself has vital properties, as where she says, "In every visible creature there is body and spirit, or a more active and a more passive principle" (Coudert and Corse ed., p. 38) or "every spirit has its own body and every body its own spirit" (p. 39). But there are other passages that more conclusively rule this out. The final sentences of Chapter VI, in which these matters are first raised reads: "Truly, every body is a spirit and nothing else, and it differs from a spirit only insofar as it is darker. Therefore, the crasser it becomes, the more it is removed from the condition of spirit. Consequently, the distinction between spirit and body is only modal and incremental, not essential and substantial" (p. 40). It seems to me more reasonable to attribute the view to Conway that there is a continuum, in which things can become more and more spiritual, but there is not in fact a lower corporeal limit, rather pure corporeality is a privation, like darkness. Thus, while Conway joins Cavendish in her monism, she, unlike Cavendish, is a spiritual monist.

Damaris Cudworth Masham (1659–1708)

Damaris Cudworth Masham grew up in the household of one philosopher, her father, the Cambridge Platonist, RALPH CUDWORTH (chapter 21), and, as an adult and married woman, turned her household into the home of another philosopher, JOHN LOCKE (chapter 24). As a young woman, Masham was deeply engaged in her father's philosophical views and one of the first letters she wrote to Locke concerned the disagreement between Locke and Cudworth over the issue of innate ideas. Her involvement with her father and his ideas did not flag. As a mature

woman she sent a present to Leibniz of some of her father's works and explained some of Cudworth's ideas to Leibniz. It seems very probable, however, that Leibniz's reason for initiating a correspondence with Masham was not so much based on an admiration for her father but had more to do with his desire to be in contact with her houseguest, Locke, for whom Masham was becoming something of a spokesperson. Masham's relationship with Locke is a fascinating one, and has been the subject of much speculation. They met, presumably at the home of mutual friends in 1682, when Masham was 23 years old and Locke was 53. They embarked upon a correspondence, which is largely personal in nature, which intensified during Locke's exile in Holland. During the time Locke was in Holland, Masham married a widower with eight children, some quite young, called Sir Francis Masham, by whom she had one son. This marriage did not put an end to her friendship with Locke, but instead, one might almost say, facilitated it. From the time of Locke's return in 1688, he was a frequent visitor to the Masham home, Oates, and in 1691 he became a permanent resident in the household, living there until his death 14 years later. During this time, Masham, who writes feelingly about the isolation of a "learned woman" living in the country, had the permanent company of one of the greatest philosophers of the age, together with that of the notable intellectuals who came to visit him there. The two philosophical treatises that Masham published, *A Discourse concerning the Love of God* (1696) and *Occasional Thoughts in Reference to a Virtuous or Christian Life* (1705) were both written during Locke's stay at Oates. Masham's notable output otherwise consists in her correspondence with Locke, her fascinating correspondence with Leibniz, in which she quizzes him closely about several of his important notions, and a life of Locke, which was published in Jean Le Clerc's journal, *La Bibliotheque universelle* in 1704.

Damaris Masham's goal in *A Discourse concerning the Love of God* is almost entirely negative: she aims to refute the claim JOHN NORRIS (chapter 25) had put forward in a number of works, that the only proper object of love for humans is God. The title of Masham's work seems to recall the title of the published correspondence between John Norris and Mary Astell, *Letters Concerning the Love of God*, published shortly before Masham's book, and it has been tempting for commentators to call Masham's book a reply to Astell's (see Hutton, 1993). The points Masham makes however are not obviously directed against this work and she mentions other titles of Norris's. Although Norris had held some such view throughout his career, he came to defend it by relying on occasionalist arguments derived from MALEBRANCHE (chapter 11), and this is the form of the argument Masham endeavors to refute. Norris, according to Masham, claims that God ought to be the sole object of human love, because any other object is not in itself lovable, but is merely the occasion for God to reveal His essence to us. A love for creation rather than the creator is sinful, as it is a love that confuses appearance with reality. Masham considers this view to be unnaturally theory-driven, to provide a very odd analysis of human emotional response. She fears religious skepticism is the obvious consequence of such an approach. Since Norris is obliged to acknowledge there is even scriptural support for the view that one ought to love one's neighbor, he makes a distinction between the desire for one's good that he holds constitutes the love of God, from the benevolence we owe our neighbors. Masham argues that there is no experiential

support for this distinction, that love is felt as a single univocal desire for what is pleasing, distinguishable only by its objects. She also argues that, so far from deriving the desirability of created objects from our desire for the creator, we can only learn of God's nature as desirable from our experience of the desirability of creation. For, she points out, "God is an invisible Being: And it is by His Works, that we are led both to know, and to love him. They lead us to their invisible Author. And if we lov'd not the Creatures, it is not conceivable how we should love God" (p. 62).

The thesis of occasionalism she regards as a hindrance rather than a support to Christianity. For whether we hold that objects are in their own nature the cause of our pleasure, or are merely the occasions for God to do so, it is incontrovertible that, before we have an adequate notion of God, we have these pleasing sensations, and consider the objects of the world their source. "Or must we think a beautiful Flower has not the same Appearance, whether it be believed that God has lodg'd a power in the Flower to excite the Idea of its Colour in us, or that he himself exhibits the Idea of its Colour at the presence of that Object? If the Flower is either way equally pleasing (as certainly it is) then it is also equally desirable" (pp. 31–2). The position of occasionalism for Masham is so far removed from our ordinary experience that it can only promote skepticism to rest the claims of religion on a base that the vast majority has never thought of and would find incomprehensible. But it seems that Masham takes the least desirable aspect of Norris's view, and one that she traces to the Catholic Malebranche, to be the implication that, since the love for anything other than God is sinful, then the most desirable life for humans must be that of the hermit. Masham roundly condemns this, on the grounds that "there is nothing more evident than that Mankind *is* design'd for a Sociable Life. To say that Religion unfits us for it, is to reproach the Wisdom of God as highly as is possible; And to represent Religion as the most mischievous thing in the World, dissolving Societies" (p. 123).

Masham's second book, *Occasional Thoughts in reference to a Vertuous or Christian Life* is longer and puts forward a positive thesis: that a virtuous life requires education, so that proper conduct will be based on rationally secured principles, and not be at the mercy of passions and appetites. Her work is presented as a new kind of advice book, to overcome the faults of the usual sort, one of which is discussed at the beginning of the book, providing its occasion. Such books, Masham argues, are deficient because they put forward precepts without giving reasons to secure them and because they neglect to provide their advice with a foundation in religion. Masham therefore instead of putting forward any particular set of advice, provides a sketch of what she regards as the appropriate epistemic attitudes on which to base good conduct.

Virtuous conduct can only be grounded, Masham maintains, on a firm foundation of natural religion. Since it is clear that God would not put what is necessary to our salvation out of our intellectual reach, to insist that religious beliefs should be accepted without allowing those beliefs to be questioned and subjected to scrutiny is a course of action that can only lead to skepticism and to unprincipled conduct. Our natural faculties, our capacity for sensation and for enlarging our knowledge through the comparison of ideas, are sufficient to demonstrate the existence of God.

And, while God has given us liberty of action, and the capacity to feel pleasure and pain as a guide to action, as rational agents, we are also capable of working out that a present pleasure sometimes occurs only at the cost of long term and greater pain. "What else then," she writes, "appears to be the Rule of Measure of Men's actions acting purely with respect to the pursuit of happiness as their chief End, but the determinations of that Faculty in them which is reference to the different properties and relations discernible in things, can alone be the Judge what will, in the whole, procure to them the most pleasure? And thus the very desire of happiness, or love of pleasure, rightly pursued, does oblige us to make the determinations or dictates of Reason, and not the suggestions of present Appetite, the Measure and Rule of our actions in our pursuit of happiness" (pp. 76–77). Having demonstrated the importance of a well regulated reason to secure to us long term happiness, Masham makes an extended argument for the importance of education, and particularly for extending it to women, who, by taking complete charge of the early education of their children, can prevent the inculcation of those bad habits, which, she maintains, often stand in the way of future virtue.

Mary Astell (1666–1731)

Teasing out the nature of Mary Astell's intellectual circle is tantalizingly difficult. She was born in Newcastle into a family of comfortable means, but merchants not gentry. Astell's life became considerably less comfortable following the deaths of first her father and then her mother. In 1684 at the age of twenty, soon after the death of her mother, Mary Astell moved to London. It would be fascinating to know what were the circumstances that transferred a single woman from a town where she had family to a city where she apparently did not, and apparently to live alone. Sadly, there is no information available to satisfy our curiosity. A letter to Archbishop Sancroft in 1688 finds Astell pleading for help, because she is quite without financial means, but by 1695, when her second book was published, she is established in Chelsea, enjoying the acquaintance of Lady Catharine Jones, daughter of the Earl of Ranelagh, to whom she had the book dedicated. By then, Astell seems to have acquired a circle of intellectually minded friends, including Lady Anne Coventry, Lady Elizabeth Hastings, and Elizabeth Elstob, the scholar of Anglo-Saxon. The subject of this book, an exchange of letters between Astell and John Norris, instigated by Astell and published at Norris's request, argues for a certain intellectual bravado on Astell's part. Her books show she was a wide and careful reader, but it is impossible to identify any particular persons who might have shaped her reading. There is talk of a clergyman uncle who might have taken an interest in her education, but since he died when she was thirteen, it is difficult to be sure of how much influence he would have had. It is also clear from her writing that Astell took a lively and confident interest in the intellectual issues of the day.

Astell, like Cavendish, was a prolific author, and, although not covering quite the same range of genres as Cavendish, she nevertheless took up quite a range of topics. Astell is one of the first women writing philosophy to have excited a good deal of contemporary interest because among her books are several of undeniable feminist

intent. These include *A Serious Proposal to the Ladies I* (1694) in which she argues that the undoubted possession of rationality in women demands, for the good of their souls, that they receive sufficient education to allow them to lead the sort of virtuous life that would lead to their salvation, and *Some Reflections on Marriage, Occasion'd by the Duke and Duchess of Marazine's Case, which is also consider'd* (1700), in which she again recommends the benefits of education for women, this time to enable them to deal better with the burdens of a bad marriage than did the duchess, who eloped with a "spruce cavalier." She was also the author of several political pamphlets, including *Moderation Truly Stated: or, A Review of a Late Pamphlet Entitl'd Moderation a Virtue. With Prefatory Discourse to Dr D'Aveanant, Concerning his late Essays on Peace and War* (1704a), *A Fair Way with the Dissentors and their Patrons: Not Writ by Mr L—y, or any other Furious Jacobite whether Clergyman or Layman; but by a very Moderate Person and a Dutiful Subject to the Queen* (1704b), *An Impartial Enquiry into the Causes of Rebellion and Civil War in this Kingdom: In an Examination of Dr Kennett's Sermon January 31 1703/4. And a Vindication of the Royal Martyr* (1704) and *Bart'lemy Fair: Or An Enquiry after Wit; in which Due Respect is had to a Letter concerning enthusiasm, To My Lord***. By Mr. Wooton* (1709). The titles of these works reveal the conservative nature of Astell's political views. The most interesting of Astell's works philosophically are her *Letters Concerning the Love of God, Between the Author of the Proposal to the Ladies and Mr. Norris* (1695) and *A Serious Proposal to the Ladies, Part II* (1697). There is also some interesting material in her substantial *The Christian Religion, As Profess'd by a Daughter of the Church of England* (1705). *The Christian Religion* is a lengthy work, of 418 pages, in which Astell, reacting against a book called *The Ladies Religion*, lays out an account of a religious faith and practice which she says is as appropriate to ladies as to gentlemen. In it she discusses the nature of religion in general and Christianity in particular, first laying out natural religion and then justifying and discussing revealed religion, before turning to Christian practice, covering our duty to God, to our neighbors and to ourselves. She does take issue with Locke's *Reasonableness of Christianity*, on the grounds that he gives insufficient justification to the divinity of Jesus, and with Masham's account of the nature of love in her *Discourse*, which Astell seems to have attributed to Locke. One of the most interesting passages philosophically concerns Stillingfleet's controversy with Locke over the possibility that God could make matter think, in which Astell sides with Stillingfleet against Locke.

Perhaps the most interesting and certainly the most tightly argued of Astell's philosophical writing is found in *Letters Concerning the Love of God*. The correspondence consists in a series of objections and queries by Astell to Norris's thesis that God is the only object of human love because he is the efficient cause of our pleasure, together with Norris's replies. The topic of this book is therefore the same as that of Masham's although it should be noted that Masham's objections are raised against Norris's replies, rather than Astell's questions, with which Masham is to some extent, although not entirely, in agreement. It is difficult from this volume to be sure exactly what position Astell herself would adopt. She grants various of Norris's points along the way, but is still, in her final letter, expressing resistance to some of his claims. Astell and Norris do not speak with one voice.

There are two issues that concern Astell throughout the letters. The first, which is the reason for the first letter, asks whether God, who is the sole object of our love, as the cause of pleasure, is not also, as the efficient cause of pain, the sole object of our aversion? While Astell is prepared to agree with Norris's claim, in his reply to her, that some instances of pain, particularly those that are corporeal, may have been given to us for our good, she is especially anxious to be able to identify a class of evils, which, as sinful, are to be the object of aversion, but which are due to the sinner and not to God. In the course of this discussion, Astell's acerbic nature, conspicuous in her feminist writings, occasionally surfaces. She attempts a distinction between pain felt by an inferior or corporeal part of our soul, which can be attributed to God's occasional causation and a higher or mental pain, which cannot, and when Norris rejects this attempt, on the grounds that the soul has no parts, remarks that she was not particularly taken with that idea either, but had found it in Norris's *Christian Blessedness*.

The other issue that runs through the letters is the same as that which troubled Masham. What is to become of human social relations if God is the only object of our love? "Now I am loath," Astell writes, "to abandon all thoughts of Friendship, both because it is one of the brightest Vertues, and because I have the noblest Designs in it" (p. 49). She finds Norris's distinction ingenious, "that we may love Creatures *for* our good, not love them *as* our good," but finds it "too nice for common Practice: . . . be pleased therefore to oblige me with a remedy for this disorder" (pp. 50–1). Norris's response is to distinguish between the appropriateness of a bodily approach to the occasional source of pleasure, as when we move to the fire, from the love we feel for God as our good. In a later letter, however, Astell is willing to accept and applaud the distinction between the benevolence owed to one's neighbor from the desire owed to God, which Masham found unconvincing, and in *The Christian Religion* Astell attempts a refutation of Masham's account of univocal love.

In the final set of letters, Astell raises against Norris the objection that, if bodies have no efficacy to cause sensations in us, then God may be said to have caused them in vain if "we might as well feel Cold at the presence of fire as of water" (p. 279). It is not necessary, she points out to the thesis that God is the only object of our love that He be the only Cause for "If a bountiful Person give me Money to provide my self Necessaries, my Gratitude surely is not due to the Money but to the kind Hand that bestowed it" (p. 282). Even if God had provided benefits to us through the causal instrumentality of bodies, still our love is owed to Him, and not to His humble tools.

Astell returns to some of these themes in *A Serious Proposal to the Ladies, Part II*, in 1697, and re-issued the same year in a single volume along with part I. By 1697, Astell had realized that she was to be disappointed in her hopes of raising money to fund the educational retreat for women she had argued for in Part I of her book. Part II has the same goal, to secure the value of such an institution, but it takes a different route, examining in much more detail the thesis that human action, governed as it is by rationality, requires both an informed understanding and a properly directed inclination, both of which can be improved through education. In developing her account of human understanding, Astell cites a debt both to

ARNAULD (chapter 9), for his *Art of Thinking* and to Descartes' *Principles*. Patricia Springborg in her extensive edition of *A Serious Proposal* takes Astell as well to be challenging Locke, but this view is not, to my mind, particularly well supported by the texts and relies on some misunderstandings of Locke's actual claims. Astell maintains that while as humans, we are capable of discerning the truth through reason, we are limited in this capacity by the ideas available to us. So our trains of reasoning can be brought short by the lack of a connecting idea. "Therefore," she says, "to be thoroughly sensible of the capacity of the Mind, to discern precisely its Bounds and Limits and to direct our Studies and Inquiries accordingly, to know what is to be known and to believe what is to be Believ'd is the property of a Wise Person. To be content with too little knowledge, or to aspire to over-much is equally a fault, to make that use of our Understandings with GOD has Fitted and Design'd them for is the Medium which we ought to take. For the difference between a Plowman and a doctor does not seem to me to consist in this, that the Business of the one is to search after Knowledge, and that the other has nothing to do with it" (Springborg ed. p. 105). Astell develops an account of the nature of right reasoning, in which she urges her readers to study their own case, and to observe those occasions in which they had drawn appropriate conclusions from their comparison of ideas. Thus, like many of her contemporaries, Astell puts forward an intuitionist account of reason, in which the rules of right reasoning are to be induced from correct practice, rather than following some formal structure.

In her account of the right management of human inclination, which she regards as equally essential to good conduct, Astell accepts the truth of the claim that she had discussed with Norris, that God is the only appropriate object of our love and that the search for happiness demands that we model our will on God's. She does not, however, here, accept his occasionalist support for the claim. Instead, she argues that, as humans, we must recognize our nature as minds united to bodies. "For if we disregard the Body wholly, we pretend to live like Angels whilst we are but Mortals; and if we prefer or equal it to the Mind we degenerate into Brutes" (p. 158). We must recognize that the passions carried to us from the animal spirits of the body are unavoidable and in many ways useful in the direction of the actions of the body. Our task therefore is to direct our passions to those objects that will allow us to realize the proper goals of human happiness, goals that are directed to the happiness of eternity and not to a human lifetime.

Catharine Trotter Cockburn (1679–1749)

Although Catharine Trotter, later Cockburn, first and very precociously wrote plays, in 1702, at the age of 23, she published a very able refutation of Thomas Burnet's criticisms of Locke, in a treatise called *A Defense of Mr. Locke's Essay of Human Understanding*. She subsequently published *A Discourse concerning a Guide in Controversies with a preface by Bishop Burnet* (this is Gilbert Burnet, Bishop of Salisbury) in 1707, and then, after a break in her intellectual activities, in which she married and raised a family under reduced circumstances, she returned to print in 1726 with *A Letter to Dr. Holdsworth: occasioned by his sermon preached before the University*

of Oxford, on Easter Monday, concerning the Resurrection of the Same Body. Towards the end of her life, she returned to print with two more volumes, *Remarks upon some Writers in the Controversy concerning the Foundation of Moral Virtue and Moral Obligation. With some thoughts concerning Necessary Existence; the Reality and Infinity of Space; the Extension and Place of Spirits; and on Dr. Watt's Notion of Substance* (1743) and *Remarks upon the Principles and Reasonings of Dr. Rutherforths's Essay on the Nature and Obligations of Virtue; in Vindication of the contrary Principles and Reasonings inforced in the Writings of the late Dr. Samuel Clarke* (1747). All these works were subsequently reprinted in a two volume *Collected Works*, brought out after Cockburn's death by Thomas Birch. These volumes also include, in addition to Birch's account of Cockburn's life, a further reply to Holdsworth, which Cockburn had been unable to publish in her lifetime, some short pieces, a controversy between Thomas Sharp, Archdeacon of Northumberland and an acquaintance of Cockburn's, and a collection of letters between Cockburn and her friends. These last provide a fascinating glimpse into the conditions in which Catharine Trotter Cockburn did philosophy. Although she was never the protégé of some other, better known philosopher, her letters, especially those written to George Burnet of Kemnay, a correspondence which took place between 1701 and 1708, and a later set of letters written to her niece, Ann Arbuthnot, between 1731 and 1748, reveal Cockburn as a member of a community of like-minded individuals. Together they exchanged personal and political news, and also recommended books to each other, including works of philosophy and theology, criticized their contents and engaged in spirited argumentation. Interestingly, the letters between Cockburn and Burnet show that Masham was a member of their circle. Cockburn calls on her, and Leibniz shows Burnet Masham's letter about Locke's death, about which Burnet writes to Cockburn. Catharine Trotter Cockburn, although for some periods of her life isolated, was not a lonely figure. From these letters we get a picture of philosophy, while not a professional activity, as forming a part of the on-going intellectual life of at least some groups surrounding Catharine Trotter Cockburn.

Cockburn's published works can be seen as outgrowths of the activity exemplified in her letters. Just as the letters comment in some detail on her reading, so the published work tends to be responses to particular books and loosely take the form of commentaries on these books. She does not set out to make a free standing argument, but comments successively on aspects of the works with which she wants to quarrel. In general she frames the motives for her quarrels as that of defending some other philosopher, Locke, or Clarke, against attack. This means, in some of her works at least, she moves briskly from topic to topic. In her defense of Locke's *Essay* against Burnet, for example, she covers three separate matters. She examines Burnet's charge that Locke's epistemological resources are inadequate to give us knowledge of moral concepts. She briefly takes up Burnet's worry that Locke is unable to provide an account of how we can know God's veracity. Finally, she looks at Burnet's concerns about the implications of Locke's account of immaterial substance for claims about the immortality of the soul. She dismisses as unfounded Burnet's conviction that unless we can be sure that the soul is always thinking, we will not have reason to suppose it to be immortal, and in the process, gives a very deft exposition and defense of Locke's problematic account of personal

identity. But, while the nature of Cockburn's discussion seems to be determined very largely by the books she chose to comment on, Martha Bolton, in her exemplary article on Cockburn, has shown that Cockburn was, to a large extent, motivated by an overarching concern. By and large, Cockburn chose to write about a book, when, by doing so, she could advance her own view of the nature of our knowledge of moral concepts and of the grounds for moral obligation.

While these are themes that, as Bolton has demonstrated, run through much of Cockburn's work, the style of her thinking can be clearly traced in her last work, a discussion of a book by Thomas Rutherforth, Regius Professor of Divinity at Cambridge, called *An Essay on the Nature and Obligation of Virtue* (For a discussion of some of Cockburn's other works, see Bolton 1996). Rutherforth provides an excellent foil for Cockburn's views. His primary concern was to guard against Deism, by arguing that our moral obligation rests entirely on the will of God. Hence morality requires revealed religion and is not available to the resources of reason alone. This position was anathema to Cockburn. Cockburn maintains that to hold we ought to perform an action simply because God wills it leaves moral obligation groundless and unmotivated. The position she defends is that, while our moral obligation is indubitably grounded in the nature of God, the foundation for our actions relies on our apprehension that, since God is good, he would not require us to do things contrary to our nature. Our moral obligation therefore is firmly grounded in our grasp of our nature as rational and social beings.

Rutherforth attempts to secure his voluntarism by arguing that we have only an egoistic basis for action, and in consequence, that humans have no natural tendency to right action. Therefore, humans perform right actions only because they are commanded to do so by God, and anticipate the rewards of heaven if they do so. Rutherforth maintains that we are designed by nature to seek our own happiness, while virtuous conduct amounts to seeking the happiness and diminishing the pain of others. Hence we can have no internally defined motive to virtuous conduct.

Against this position, Cockburn argues, first, that Rutherforth's definition of virtuous conduct as that designed to increase good is inadequate. A father, she argues, laboring to provide for his family does not regard himself as merely promoting good, for he could do that by providing for any family. Nor would we praise a miser who denied all aid to his relations so that he could found a hospital when he died. Our intuitions in these cases show that virtuous conduct is not simply a matter of increasing goodness in the world and that instead, the actions we actually praise are ones the agent in general also wants to do. Our actions we praise follow from an apprehension of the "fitness" of that conduct, she claims, using Clarke's terminology. Thus, there is no reason to suppose that our motives for acting are grounded solely on our own egoistic interests, but instead are based on an apprehension of other morally relevant facts and differences. Cockburn's view is that such egoistic arguments require a limited view of human nature, as chiefly driven by the sensible, but when our understanding of our nature is appropriately increased to include the rational and the social, then our grounds for acting increase also. Thus, when the reasons for identifying conduct as virtuous are broadened, when I apprehended that a certain action, an act of murder, for example, is not virtuous as being contrary to the natural fitness of things, I will also apprehend reasons for not doing

it. I can safely suppose, moreover, that God's prohibition against murder is likewise based on these reasons. Future rewards and punishments are not a necessary threat to get us to do what we otherwise would not want to do, but are rewards promised when we do what we do want to do. "The promises of a reward" she writes, "will make it our *interest* indeed, but interest and duty are very different things which out not to be confounded. The first is an *external* motive, that can only affect us as sensible beings, but duty becomes us as *moral agents*, and must arise from a consciousness either of the fitness and rectitude of an action, or of the obedience due to an authority commanding it" (p. 99).

Concluding Remarks

The various women whose thought I have briefly canvassed are very much a mixed bag. There is very little to be gained in trying to look for commonalities among their ideas. Nor do they seem to share a common situation as women doing philosophy. But we do find, as I have earlier suggested, that all provide examples of how philosophy was carried out by larger or smaller groups of thinkers working together and sharing some common problems or outlooks. Thus both the group around Margaret Cavendish and that around Anne Conway were interested in exploring ways of understanding how nature and natural processes could be conceptualized in the light of the new developments typified by the Cartesians. They each provide examples of the many different attempts at this time to build on the theoretical powers of Cartesianism while dealing with what seemed to be some serious stumbling blocks. Each, for example, tries different ways to account for processes of motion. In many areas, however, their accounts are quite different, reflecting the nature of the discussions in which they participated. Margaret Cavendish's natural philosophy, for example, is remarkably free from dependence on natural theology, while Anne Conway, more conventionally derives her account from a version of natural religion, but one which reflects her interest in Cabbalism. Damaris Masham, Mary Astell, and Catharine Trotter Cockburn, writing later than the first two women I have considered, reflect a shift in the focus of many thinkers, from natural to moral philosophy. They are concerned in one way or another to understand the implications for moral obligation of an understanding of human conduct as firmly based in rationality. The issues that capture their attention involve the need to relate an account of human behavior grounded in rational action to a religion that incorporates revealed as well as rational elements. The importance of these women for our understanding of this period lies not so much in the unique feature of their gender as in the way they contribute to our understanding of the rich nature of the various philosophical conversations of their time. It is undoubtedly an interesting feature of those conversations that women were drawn into them and in tracing this fact, we can learn a great deal about the nature of the philosophical conversations taking place in the early modern period and about the various means by which these conversations were carried out.

References

Astell, Mary, 1694, *A Serious Proposal to the Ladies, For the Advancement of their true and greatest Interest*. By a Lover of her Sex. London. Printed for R. Wilkin at the King's Head in St. Paul's Church-Yard.

——1695, *Letters Concerning the Love of God, Between the Author of the Proposal to the Ladies And Mr. John Norris, Wherein his late Discourse, shewing That it ought to be intire and exclusive of all other Loves, is further cleared and justified*. Published by J. Norris, M. A. Rector of Bemerton near Sarum. London, Printed for Samuel Manship at the Ship near the Royal Exchange in Cornhil, and Richard Wilkin at the King's Head in St. Paul's Church-Yard.

——1697, *A Serious Proposal to the Ladies, Part II. Wherein a Method is offer'd for the Improvement of the Minds*. London. Printed for Richard Wilkin at the King's Head in St. Pauls Church-Yard. (Modern edition: *A Serious Proposal to the Ladies, Parts I and II*, edited with and Introduction and Notes by Patricia Springborg. London. Pickering and Chatto, 1997.)

——1700, *Some Reflection Upon Marriage, Occasion'd by the Duke and Dutchess of Mazarine's Case; which is also consider'd*. London: Printed for John Nutt near Stationers-Hall. (Modern Edition in *The First English Feminist: Reflections on Marriage and other writings by Mary Astell*, edited and introducted by Bridget Hill, New York. St. Martin's Press, 1986, pp. 67–132.)

——1704a, *Moderation truly Stated: Or, A Review of a Late Pamphlet Entitul'd, Moderation a Vertue. With a Prefatory Discourse to Dr. D'Aveanant, Concerning His late Essays on Peace and War*. London. Printed by J. L. for Rich. Wilkin at the King's Head in St. Paul's Church-Yard.

——1704b, *A Fair Way With the Dissenters And Their Patrons. Not Writ by Mr. L—y, or any other Furious Jacobite whether Clergyman or Layman; but by a very Moderate Person and a Dutiful Subject to the Queen*. London. Printed by E. P. for R. Wilkin, at the King's-Head, in St. Paul's Church-Yard. (Modern Edition in Mary Astell, *Political Writings*, edited by Patrica Springborg. Cambridge: Cambridge University Press, 1996.)

——1704c, *An Impartial Enquiry Into the Causes of Rebellion and Civil War In This Kingdom: In an Examination of Dr. Kennett's Sermon, Jan. 31, 1703/4. And Vindication of the Royal Martyr*. London. Printed by E. P. for R. Wilkin at the King's Head in St. Paul's Church-Yard. (Modern edition in Mary Astell, *Political Writings*, edited by Patricia Springborg. Cambridge: Cambridge University Press, 1996.)

——1705, *The Christian Religion, As Profess'd by a Daughter of The Church of England*. London. Printed by S. H. for R. Wilkin at the King's Head in St. Paul's Church-Yard.

——1709, *Bart'lemy Fair: Or an Enquiry after Wit; In which due Respect is had to a Letter Concerning Enthusiasm, To My Lord***. By Mr. Wotton*. London. Printed for R. Wilkin, at the King's Head in St. Paul's Church-Yard.

Bolton, Martha Brandt, 1996, "Some Aspects of the Philosophical Work on Catharine Trotter" in *Hypatia's Daughters: Fifteen Hundred Years of Women Philosophers*, edited by Linda Lopez McAlister. Bloomington and Indianapolis: Indiana University Press, pp. 139–64.

Brown, Stuart, 1990, "Leibniz and More's Cabbalistic Circle" in *Henry More (1614–1687): Tercentenary Studies*. Dordrecht: Kluwer Academic Publishers, pp. 76–95.

Cavendish, Margaret, 1653, *Philosophical Fancies*. London. Printed by Tho Roycroft, for J. Martin, and J. Allestrye, at the Bell in St. Paul's Church-Yard.

——1655a, *The Worlds Olio*. London. Printed for J. Martin and J. Allestrye at the Bell in St. Paul's Church-Yard.

Cavendish, Margaret, 1655b, *The Philosophical and Physical Opinions*. London. Printed for J. Martin and J. Allestrye at the Bell in St. Paul's Church-Yard.

—— 1664, *Philosophical Letters: or Modest Reflections upon some opinions in Natural Philosophy, maintained by several famous and learned authors of this Age, expressed by way of letters*. London.

—— 1668a, *Observations upon Experimental Philosophy: to which is added, the Description of a New Blazing World. The second edition*. London, Printed by A. Maxwell. (Modern edition edited by Eileen O'Neill, Cambridge Texts in the History of Philosophy, Cambridge University Press, 2001.)

—— 1668b, *Grounds of Natural Philosophy: divided into Thirteen Parts: with an Appendix containing Five Parts. The Second edition, much altered from the* First, *which went under the name of Philosophical and Physical Opinions*. London. Printed by A. Maxwell.

Clucas, Stephen, 1994, "The Atomism of the Cavendish Circle: a Reappraisal," *The Seventeenth Century*, 9.2, pp. 247–73.

Cockburn, Catharine Trotter, 1751, *The Works of Mrs Catharine Cockburn, Theological, Moral, Dramatic, and Poetical. Several of them now first printed. Revised and published with an Account of the Author, by Thomas Birch, M.A., F.R.S., Rector of the United Parishes of St. Margaret Pattens and St. Gabriel Fenchurch. 2 vols*. London. J. and P. Knapton in Ludgate-street.

Conway, Anne, 1690, *The Principles of the Most Ancient and Modern Philosophy concerning God, Christ and Creation, that is, concerning the Nature of Spirit and Matter, thanks to which all the Problems can be resolved which should not be resolved by Scholastic Philosophy nor by Modern Philosophy in general, whether Cartesian, Hobbesian, or Spinozian. A Short Posthumous Work translated from English into Latin, with Annotations taken from the ancient philosophy of the Hebrews*. Amsterdam. (Modern Editions: edited and introduced by Peter Loptson, The Hague: Martinus Nijhoff, 1982; second edition, Scholars Facsimiles and Reprints, volume 509, 1998; translated and edited by Allison P. Coudert and Taylor Corse, Cambridge: Cambridge University Press, 1996.)

Hooke, Robert, 1961, *Micrographia; or Some Physiological Descriptions of Minute Bodies Made by Magnifying Glasses with Observations and Inquiries thereupon, 1665*, reprint edition with a Preface by R. T. Gunther, New York: Dover Books.

Hutton, Sarah, 1993, "Damaris Cudworth, Lady Masham: Between Platonism and Enlightement," in *British Journal for the History of Philosophy*, 1.1., pp. 29–54.

—— 1996, "Of Physic and Philosophy: Anne Conway, F. M. van Helmont and Seventeenth-Century Medicine" in *Religio Medici: Medicine and Religion in Seventeenth-Century England*, edited by Ole Peter Grell and Andrew Cunningham. Aldershot: Scholar Press.

—— 1997a, "Anne Conway, Margaret Cavendish and Seventeenth-Century Thought" in *Women, Science and Medicine 1500–1700*, edited by Lynette Hunter and Sarah Hutton. Stroud: Sutton Publishing.

—— 1997b, "In Dialogue with Thomas Hobbes: Margaret Cavendish's Natural Philosophy," *Women's Writing* 4, pp. 421–32.

James, Susan, 1999, "The Philosophical Innovations of Margaret Cavendish," *The British Journal for the History of Philosophy* 7.2, pp. 219–44.

Masham, Damaris, 1696, *A Discourse Concerning the Love of God*. London. For A. and J. Churchill at the Black-Swan in Paternoster-Row.

—— 1705, *Occasional Thoughts in reference to a Vertuous or Christian Life*. London. For A. and J. Churchill at the Black-Swan in Paternoster-Row.

—— 1960, Letter-exchange between Leibniz and Lady Masham 1703–1705, *Die Philosophischen Schriften von Gottfried Wilhelm Leibniz. Vol. III* Edited by C. J. Gerhardt. Hildesheim. Georg Olms Verlagsbuchhandlung.

Merchant, Carolyn, 1979, "The Vitalism of Anne Conway: its Impact on Leibniz's Concept of the Monad," *Journal of the History of Philosophy*, 7, pp. 255–69.

Moreman, Sarah E., 1997, "Learning Their Language: Cavendish's Construction of an Empowering Vitalistic Atomism," *Explorations in Renaissance Culture* 23, pp. 129–44.

Nicolson, Marjorie Hope (ed), 1992, *The Conway Letters: The Correspondence of Anne, Viscountess Conway, Henry More, and the Friends 1642–1684*, revised edition with an introduction and new material edited by Sarah Hutton. Oxford: Clarendon Press.

O'Donnell, Sheryl, 1984, "'My Idea in Your Mind': John Locke and Damaris Cudworth Masham" in *Mothering the Mind: Twelve Studies of Writers and Their Silent Partners*, edited by Ruth Perry and Martine Watson Brownley. New York: Holmes and Meier, pp. 26–46.

Rogers, John, 1996, "Margaret Cavendish and the Gendering of the Vitalist Utopia" in *The Matter of Revolution: Science, Poetry and Politics in the Age of Milton*. Ithaca: Cornell University Press.

Rutherforth, Thomas, 1744, *An Essay on the Nature and Obligation of Virtue*. London. Printed for J. Bentham for William Thruilburn (Cambridge) and sold by W. Innys, C. Balthurdt, and J. Brieoft.

Sarasohn, Lisa T., 1984, "A Science Turned Upside Down: Feminism and the Natural Philosophy of Margaret Cavendish," *Huntington Library Quarterly*, 47, pp. 289–307.

Woolf, Virginia, 1926, *The Common Reader*. London: Hogarth Press.

Further Reading

Margaret Cavendish

Battigelli, Anna, 1998, *Margaret Cavendish and the Exiles of the Mind*, Lexington: The University Press of Kentucky.

Blaydes, Sophia B., 1988, "Nature is a Woman: The Duchess of Newcastle and Seventeenth-Century Philosophy," *Man, God, and Nature in the Enlightenment*, edited by Donald C. Mell, Jr et. al. East Lansing: Colleagues Press, pp. 51–64.

Keller, Eve, 1997, "Producing Petty Gods: Margaret Cavendish's Critique of Experimental Science," *English Literary History*, 64.2, pp. 447–71.

Merrens, Rebecca, 1996, "A Nature of 'Infinite Sense and Reason': Margaret Cavendish's Natural Philosophy and the 'Noise' of a Feminized Nature," *Women's Studies* 25, pp. 421–38.

Schiebinger, Londa, 1991, "Margaret Cavendish, Duchess of Newcastle" in *A History of Women Philosophers, Vol. III Modern Women Philosophers 1600–1900*, edited by Mary Ellen Waithe. Dordrecht: Kluwer Academic Publishers, pp. 1–20.

Strauss, Elisabeth Wilhelmine, 1999, *Die Arithmetik der Leidenschaften: Margaret Cavendishs Naturphilosophie*. Stuttgart: Verlag J. B. Metzler.

Anne Conway

Benfey, O. Theodor, 1986, "Ann Conway's Interaction with Science, Politics, Medicine and Quakerism," *Guilford Review* 23, pp. 14–23.

Duran, Jane, 1996, "Anne Viscountess Conway: A Seventeenth Century Rationalist" in *Hypatia's Daughters*, edited by Linda Lopez McAlister. Bloomington: Indiana University Press, pp. 92–107.

Frankel, Lois, 1991, "Anne Finch, Viscountess Conway" in *A History of Women Philosophers Vol. III Modern Women Philosophers, 1600–1900*, edited by Mary Ellen Waithe. Dordrecht: Kluwer Academic Publishers, pp. 41–58.

Kraus, Robert, 1986, "A Brief History of the Cabala and its Influence on the Renaissance Philosophy of Anne Conway," *Guilford Review* 23, pp. 36–41.

Loptson, Peter, 1995, "Anne Conway, Henry More and Their World," *Dialogue* 24.1, pp. 139–46.

Popkin, Richard H., 1990, "The Spiritualistic Cosmologies of Henry More and Anne Conway" in *Henry More (1614–1687)* edited by Sarah Hutton. Dordrecht: Kluwer Academic Publishers, pp. 97–114.

Stoneburner, John H., 1986, "Henry More and Conway," *Guilford Review* 23, pp. 24–35.

Damaris Cudworth Masham

Frankel, Lois, 1991, "Damaris Cudworth Masham" in *A History of Women Philosophers Vol. III: Modern Women Philosophers 1600–1900*, edited by Mary Ellen Waithe. Dordrecht: Kluwer Academic Publishers Inc., pp. 73–85.

Weinberg, Sue, 1998, "Damaris Cudworth Masham: A Learned Lady of the Seventeenth Century" in *Norms and Values: Essays on the Work of Virginia Held*, edited by Joram G. Haber and Mark S. Halfon. Lanham: Rowman & Littlefield Publishers, Inc., pp. 233–50.

Mary Astel

Kinnaird, Joan K. Fall, 1979, "Mary Astell and the Conservative Contribution to English Feminism," *Journal of British Studies*, 19.1, pp. 53–75.

Perry, Ruth, Summer 1985, "Radical Doubt and the Liberation of Women" in *Eighteenth Century Studies*, 18, pp. 472–93.

——1986, *The Celebrated Mary Astell: An Early English Feminist*. Chicago: University of Chicago Press.

——Summer 1990, "Mary Astell and the Feminist Critique of Possessive Individualism," *Eighteenth Century Studies* 23.4, pp. 44–57.

Smith, Florence M., 1916, *Mary Astell*. New York: Columbia University Press.

Springborg, Patricia, Sept. 1995, "Mary Astell (1666–1731), Critic of Locke," *American Political Science Review* 89.3, pp. 621–33.

——1998, "Astell, Masham, and Locke: religion and politics" in *Women Writers and the Early Modern British Political Tradition*, edited by Hilda Smith. Cambridge: Cambridge University Press, pp. 105–25.

Squadito, Kathleen M., 1991, "Mary Astell" in *A History of Women Philosophers Vol. III Modern Women Philosophers 1600–1900*, edited by Mary Ellen Waithe. Dordrecht: Kluwer Academic Publishers.

Catharine Trotter Cockburn

Waithe, Mary Ellen, 1991, "Catharine Trotter Cockburn," in *A History of Women Philosophers Vol. III Modern Women Philosophers, 1600–1900*, edited by Mary Ellen Waithe. Dordrecht: Kluwer Academic Publishers.

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Part III

THE EIGHTEENTH CENTURY: GREAT BRITAIN

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Earl of Shaftesbury

GIDEON YAFFE

Anthony Ashley Cooper (1671–1713) became the Third Earl of Shaftesbury on his father's death in 1699. He is best known for his collection of intertwined treatises entitled *Characteristicks of Men, Manners, Opinions, Times*, which had tremendous influence on the development of British moral philosophy in the eighteenth century, influenced British tastes in literature and the arts, and played a role in the development of the Continental Enlightenment, especially in its influence on Immanuel Kant's moral philosophy.

The *Characteristicks* is a broad and organically organized work written in a variety of different philosophical genres. A number of the essays are rhetorical in style; others are written in a more traditionally detached philosophical manner; one of the essays, "The Moralists: A Philosophical Rhapsody," is written as a narrated dialogue; all of the essays include substantial asides reflecting on the culture and philosophy of the time, and, in fact, the entire third volume, entitled "Miscellany," consists of loosely organized reflections on what went before. In addition, the *Characteristicks* moves fluidly among a wide range of topics. It includes consideration of what it is to be free and to be the author of one's own actions, of the way in which a state ought to regulate artistic expression, of the role religious contemplation plays in a virtuous life, and of the relationship between morality and self-interest, among a variety of other topics. Yet, despite the appearance of discontinuity, the work ultimately offers something close to a unified vision of the relationship between value, virtue, religion, and artistic and political self-expression.

Shaftesbury was raised more by his grandfather than by his parents. His grandfather, the First Earl, had been the councillor of state under Oliver Cromwell, and later a prominent Whig supporter of the power of the parliament over that of the King. The First Earl entrusted Shaftesbury's education to JOHN LOCKE (chapter 24), who aimed to educate him in accordance with the principles that Locke would later express in his *Some Thoughts Concerning Education*. Shaftesbury travelled in Europe in the late 1680s, including a visit to Locke, who was exiled in Holland at the time and hard at work on his *Essay Concerning Human Understanding* and *Two Treatises of Government*. Despite his once referring to Locke as his "foster father," Shaftesbury had a somewhat ambivalent relationship with Locke, and many of his most important philosophical contributions were aimed at overthrowing views that he took Locke to hold.

Shaftesbury returned to England following the Glorious Revolution where he took to writing the essays that he would eventually revise to form the *Characteristicks*. Although much of the material included in the *Characteristicks* was first published separately, the entire collection was published as a three volume set in 1711. Shortly before his death, Shaftesbury drafted a collection of essays entitled *Second Characters or The Language of Forms*, which he intended as a companion to *Characteristicks*. These essays, and fragments of essays, which are mostly concerned with political and aesthetic issues of the day, were published posthumously. Included in *Second Characters* is an essay in which Shaftesbury bitterly criticizes Christopher Wren's design of St. Paul's cathedral on the grounds that its Gothicism represented a rejection of a distinctively British architectural aesthetic in favor of a pandering homage to the tastes of the Continent, and particularly of France. Shaftesbury's early death in 1713 was brought on by respiratory illness resulting from the chronic asthma from which he suffered his entire life.

Rejecting Hedonism and the Reduction of Morality to Self-Interest

Shaftesbury's moral philosophy begins with the rejection of two philosophical theses that he takes to be offered in some form or another by THOMAS HOBBES (chapter 22) and Locke. First, he rejects hedonism, or the claim that the only things that are of value and disvalue are, respectively, pleasures and pains and those things that promise to produce them. And, second, he rejects the claim that virtue is achieved through the pursuit of enlightened self-interest. Both of these claims appear in Locke's moral philosophy, which Shaftesbury sees as a mere extension of the views of Hobbes. Locke was a hedonist and held that all right action is action in conformity with the law of nature, established by God. Since God will reward only those actions that he takes to be in conformity to the laws he establishes, and punish only those he takes to be in violation of the laws, right action is action aimed at producing one's own long term pleasure, taking into consideration not just the pleasures and pains that one will suffer in this life, but also those to be enjoyed and suffered in the next. Morality, for Locke, is just enlightened self-interest.

Shaftesbury's argument against hedonism is quite sophisticated. First, he argued that the claim that pleasure is good is either trivially true, or else false. He wrote:

> ['T]is trifling to say, "*Pleasure is our Good.*" For this has as little meaning as to say, "*We chuse what we think eligible:*" and, "*We are pleased with what delights or pleases us.*" The Question is, "Whether we are *rightly pleas'd*, and chuse as we *shou'd* do?" For as highly *pleas'd* as Children are with Baubles, or with whatever affects their tender Senses; we cannot in our Hearts sincerely admire their *Enjoyment*, or imagine 'em Possessors of any extraordinary *Good*. (*Characteristicks*, v. 2, treatise 2, "The Moralists: A Philosophical Rhapsody," part 2, section 1, pp. 24–5)

The claim that pleasure is good is "trifling," or trivial and uninformative, when the terms "pleasure" and "good" are just taken to be words meaning "what we choose to pursue." The question of what is good, Shaftesbury thinks, is not a descriptive

question, but a normative one. It is a question not about what we do, in fact, pursue but a question about what it is appropriate or correct to pursue. But, when we pose the normative question, "Are we right to pursue pleasure?", he thinks it obvious that the answer is decidedly not "always," but is, at best, "sometimes," since there are forms of pleasure, such as the pleasure that children take in their "baubles," that are not genuinely worth pursuing.

Shaftesbury then turns his attention to a modified hedonism which says not that all pleasure (or that which conduces to it) is good, but only some pleasure: a hedonist might suggest, for instance, that it is only the "higher," intellectual, pleasures that are of value. But Shaftesbury rejects even this more sophisticated hedonism. If only some pleasures are of value, then, he says,

> ... we are to seek, *what Kind*; and discover, if we can, what it is which distinguishes between one Pleasure and another; and makes *one* indifferent, sorry, mean; *another* valuable, and worthy. And by this *Stamp*, this *Character*, if there be any such, we must define Good; and not by *Pleasure* it-self. (*Characteristicks*, v. 2, treatise 2, "The Moralists: A Philosophical Rhapsody," part 2, section 1, p. 26)

The idea here is that a view that sees only some subset of all pleasures to be valuable takes the good to be delineated not in contrast to pain, as pleasure is, but, instead, in contrast to whatever it is that distinguishes the privileged subset of pleasures from the rest. Thus, a view that associates the good with, for instance, the "higher" pleasures, really associates the good not with pleasure, *per se*, but, instead with whatever it is that makes some pleasures "higher" than others. Such a view, then, loses the attraction of hedonism which is its promise to explain the mysterious, the good, in terms of the familiar, pleasure. In fact, Shaftesbury thought that the hedonist is no better off if she provides a substantive account of which pleasures are valuable by associating the good with, say, the pleasures derived from reason, or the exercise of the intellect. The problem is that such a hedonist is committed to the implausible claim that anything that interferes equally with intellectual pleasure is equally evil. This claim is implausible since,

> 'Tis certain that in respect of the Mind and its Enjoyments, the Eagerness and Irritation of *mere Pleasure*, is as disturbing as the Importunity and Vexation of *Pain*. If *either* throws the Mind off its Biass, and deprives it of the Satisfaction it takes in its natural Exercise and Employment; the Mind must be Sufferer as well by one as by the other. (*Characteristicks*, v. 2, treatise 2, "The Moralists: A Philosophical Rhapsody," part 2, section 1, p. 28)

Since it is obvious, Shaftesbury thought, that it is worse to be distracted from one's intellectual pleasures by pain than by idle pleasures ("mere pleasures") such as those associated with food or sex, the hedonist who equates the good with the intellectual pleasures is unable to draw the needed evaluative distinction between non-intellectual pleasure and pain. Surely it is worse to be distracted from one's pleasurable contemplation of poetry by a pain in one's back than by a soothing massage.

Shaftesbury rested his rejection of the claim that virtue is, ultimately, just enlightened self-interest, on two claims: that the value of an action derives from the value of the motive for the action, and that a good motive is one that *could not possibly* give rise to an evil action. He wrote:

> [T]he Affection towards Self-Good, may be a good Affection, or an ill-one. For if this private Affection be too strong (as when *the excessive Love of Life* unfits a Creature for any generous Act) then is it undoubtedly vicious; and if vicious, the Creature who is mov'd by it, is viciously mov'd, and can never be otherwise than vicious in some degree, when mov'd by that Affection. Therefore if thro such an earnest and passionate *Love of Life*, a Creature be accidentally induc'd to do good (as he might be upon the same terms induc'd to do Ill) he is no more a good Creature for this Good he executes, than a Man is the more an honest or good Man either for pleading a just Cause, or fighting in a good one, for the sake merely of his Fee or Stipend. (*Characteristicks*, v. 2, treatise 1, "An Inquiry Concerning Virtue and Merit," book 1, part 2, section 2, pp. 200–1)

Since self-interested motives can motivate vicious actions, they are not, considered in themselves virtuous motives. A virtuous motive, Shaftesbury assumed, gives rise *necessarily* to virtuous action; it is simply not possible for such a motive to give rise to a vicious action. What follows is that selfish motives are not virtuous motives, and so they can never give rise to genuinely virtuous action even when they motivate right action, action that would be virtuous were it properly motivated.

Shaftesbury takes the confusion of virtuous action, or action springing from virtuous motives, on the one hand, and action that happens to accord with what is right, but is selfishly motivated, on the other, to underlie some fundamental mistakes in the philosophy of religion, and particularly in the acceptance of Pascal's Wager. Pascal argued that we ought to believe in God since whether or not God exists, we are better off if we believe. If we do not believe and he does exist, we will suffer for our lack of belief, but, on the other hand, if we do believe, and he does not exist, there is no harm done by believing. Shaftesbury considered this to be an entirely unsatisfactory justification for the belief in God, describing it as a "beggarly Refuge" founded on an "injurious" conception of God (*Characteristicks*, v. 1, treatise 1, "A Letter Concerning Enthusiasm," section 4, p. 23). But what is this "injurious" conception? Shaftesbury wrote:

> 'Tis natural for us to wish our Merit shou'd be known; particularly, if it be our Fortune . . . to have render'd happy a considerable Part of Mankind under our Care. But if it happen'd, that of this Number there shou'd be some so ignorantly bred . . . as to have lain out of the hearing of our Name and Actions . . . Shou'd we not, in good truth, be ridiculous to take offence at this? And shou'd we not pass for extravagantly morose and ill-humour'd if instead of treating the matter *in Raillery*, we shou'd think in earnest of *revenging our-selves* on the offending Partys, who . . . had detracted from our Renown?
>
> . . . Is the doing of Good for *Glory's* sake, so divine a thing? or, it is diviner, to do Good even where it may be thought inglorious, even to the Ingrateful, and to those who are wholly insensible of the Good they receive? How comes it then that what is so *divine* in us, shou'd lose its character in the *Divine Being*? (*Characteristicks*, v. 1, treatise 1, "A Letter Concerning Enthusiasm," section 4, p. 24)

Pascal's Wager depends on the claim that God will punish non-believers, and hence we have prudential reasons to believe, on the offchance that God exists. But, in Shaftesbury's view, to suggest that God would punish non-believers is to suggest that God acts out of a desire for his own glory or renown. He does good for human beings, on this view of God, so that they will reward him with fame, and he punishes those who do not do so. But this is surely nothing like a divine nature. To do good merely out of a selfish motive, a desire for fame, cannot be a perfection, and so cannot be a trait of God. It is from failing to recognize the difference between doing good for selfish reasons and doing good virtuously that Pascal's wager derives its force.

Shaftesbury's overthrow of hedonism and the conception of virtue as enlightened self-interest paves the way for his positive conceptions of value, our means of grasping it, and the nature of virtue.

The Moral Sense, Harmony and Virtue

Shaftesbury is often credited with proposing the first "moral sense" theory. Moral sense theories state that moral properties are discovered through the exercise of a special faculty over and above the five senses, and over and above our capacity for reason, a faculty known as the moral sense. Moral sense theorists generally deny value properties the same status as ordinary properties that we discern through the five senses and reason working by themselves or in concert. Such theorists usually hold that moral properties are such peculiar properties that not only can they be grasped through the exercise of the moral sense, but they can *only* be grasped that way. Such properties are thought to be inaccessible to us through the usual means through which we come to know about other, ordinary, properties of things. Some moral sense theorists espouse an irrealism about value properties, claiming that, ultimately, value properties are not to be found in actions and character traits considered independently of the sentimental reactions that people have towards them, but are founded in part in the responses that we have when exercising the moral sense. Moral value, on this sort of view, is, at least in part, in the eye of the beholder.

Shaftesbury did grant that human beings are invested with a capacity for recognizing value that is not entirely reducible to the five senses and reason; however, he also believed, in contrast to most moral sense theorists, that value properties are mind independent features of the world that we can come to grasp, to some degree, through using the five senses together with our capacity for reason.

That he thought there is no doubting that we are invested with a special faculty for grasping value, over and above reason and the senses, can be seen in the following passage:

> The Mind, which is spectator or Auditor of *other minds*, cannot be without its *Eye* and *Ear*, so as to discern Proportion, distinguish Sound, and scan each Sentiment or Thought which comes before it. It can let nothing escape its Censure. It feels the Soft, and Harsh, the Agreeable, and Disagreeable, in the Affections; and finds a *Foul* and *Fair*, a *Harmonious*, and a *Dissonant*, as readily and truly here, as in any musical

> Numbers, or in the outward Forms and Representations of sensible Things. Nor can it withhold its *Admiration* and *Extasy*, its *Aversion* and *Scorn*, any more in what relates to one than to the other of these Subjects. So that to deny the *common* and *natural Sense* of a Sublime and Beautiful in things, will appear an Affectation merely, to any-one who considers duly of this Affair. (*Characteristicks*, v. 2, treatise 1, "An Inquiry Concerning Virtue and Merit," book 1, part 2, section 3, p. 203)

Shaftesbury drew a connection here between moral value – or the value that we recognize in the sentiments or thoughts of the minds of others – and value that musical compositions possess because of the harmony of their parts. He claimed that we have a capacity for sensing harmony in the minds of others. However, he also claimed that the harmony that we sense is similar to that found in music and "in the outward Forms and Representations of sensible Things." That is, the harmony that we find in the minds of others is also to be found, through the exercise of the five senses and through the use of reason, in music, and in the natural world.

In fact, Shaftesbury espoused a form of Platonism about value inherited from Cambridge Platonists such as RALPH CUDWORTH and BENJAMIN WHICHCOTE (chapter 21). He held that objects, persons and actions are valuable to the degree to which their parts are harmoniously related. However, he also held that the harmony that such things can instantiate always emanates from some principle, or form, shared by all things beautiful or intrinsically valuable. Shaftesbury believed that a thing that seems to possess order is not actually, but only accidentally ordered if its order does not derive from something which gives it order and sustains the harmony that it seems to have. Further, the entity from which harmony, or order, is derived must be, itself, a mind that aims at producing the order that the thing possesses. He wrote:

> *[T]he Beautiful, the Fair, the Comely*, were never in the *Matter*, but in the *Art* and *Design*; never in *Body* it-self, but in the *Form* or *Forming Power*. Does not the beautiful *Form* confess this, and speak the Beauty of *the Design*, whene'er it strikes you? What is it but *the Design* which strikes? What is it you admire but Mind, or the Effects of *Mind*? 'Tis *Mind* alone which forms. All which is void of *Mind* is horrid: and Matter formless is *Deformity it-self*. (*Characteristicks*, v. 2, treatise 2, "The Moralists: A Philosophical Rhapsody," part 3, section 2, pp. 106–7)

In some places Shaftesbury argued for this claim by suggesting that since value properties are ultimately relations of harmony between the parts of a thing, value properties are properties of the whole, or "system." Value properties are properties of the parts only when those parts are considered as, themselves, systems of parts harmoniously related. What follows is that there can be no value properties if there is no whole, or "system." Therefore, there must be something that unites the parts to create the whole. And what could have the power to unite parts except some mind that places the parts in their relations to one another and sustains the resulting order of parts? What this implies, Shaftesbury thought, is that grasping or appreciating value must involve grasping the principle or nature of the mind from which observed harmony derives. In the case of an aesthetic object such as a symphony, we grasp the relations of the notes to one another through our sense of

hearing, but we come to recognize how that configuration of notes represents harmonious, or valuable, relations through grasping the principle that united them into a symphony. We come to recognize what makes the order of the notes *valuable*, that is, by coming to understand the principles that guided the composer in writing the symphony.

We can go quite far in determining the value of an ordered collection of parts through using our senses and reason. We are able to determine the patterns of notes (what Shaftesbury called the first order of forms) and the rules that govern the pattern (what Shaftesbury called the second order of forms, or the "forms that form") by listening and thinking about what we hear – this is analogous to uncovering the laws of nature through experiment, observation and, then, the formation of hypothesis. However, there is a source of order or harmony that remains inaccessible to us through the use of the senses and reason. Shaftesbury described this as the

> ... *third* Order of Beauty, which forms not only such as we call mere Forms, but even *the Forms which form*. For we our-selves are notable Architects in Matter, and can shew lifeless Bodys brought into Form, and fashion'd by our own hands: but that which fashions even Minds themselves, contains in it-self all the Beautys fashion'd by those Minds; and is consequently the Principle, Source, and Fountain of all *Beauty*. (*Characteristicks*, v. 2, treatise 2, "The Moralists: A Philosophical Rhapsody," part 3, section 2, p. 108)

It is not entirely clear what Shaftesbury meant by this "third order of beauty." However, one possibility is this: Just as an observed pattern can be seen to flow from a law or rule that specifies the pattern, laws or rules themselves are established by something that considers the order that they give rise to as superior to the order produced by other laws or rules that might have been established. A composer, for instance, doesn't just slavishly follow certain rules established by others, but, instead, establishes certain rules as those which are going to guide her in composing her music. What guides her choice of rules? Only her sense of beauty and her conviction that the symphony that will spring from the rules she establishes will be beautiful. To grasp the reason for the composer's choice of musical principles is to grasp something that lies beyond the purview of the five senses, or even of our power of reason. To grasp this, we must exercise our special faculty for sensing value, the moral sense.

To grasp the "third order of beauty," then, is to grasp that which guides a mind's choice of principles to endorse; it is to grasp the grounds on which a rule is endorsable or worthwhile to enact. Therefore, it is to grasp the real source of the value instantiated by an ordered whole whose parts are in harmony with one another. And our capacity for grasping such a thing is just the moral sense, or the faculty through which we recognize value. The proper object of the moral sense, then, is always a mind capable of establishing laws that serve to unify the parts of a "system" or whole. What the moral sense does is to give a verdict about the value of the grounds on which a particular mind has established such rules. What the moral sense does, that is, is to judge of the value of acts of legislation. (Shaftesbury

develops this picture out of Cudworth's concept of the "hegemonicon," and the picture had a profound influence on Kant's moral philosophy.)

Shaftesbury saw the moral sense as inextricably intertwined with sentiment. To exercise the moral sense is not just to recognize what is good, but to care about it:

> When we say ... of a Creature "That he has wholly lost the Sense of Right and Wrong;" we suppose that being able to discern the *Good* and *Ill* of his Species, he has at the same time no Concern for either, nor any Sense of Excellency or Baseness in any moral Action, relating to one or the other. So that except merely with respect to a private and narrowly confin'd Self-Good, 'tis suppos'd there is in such a creature no *Liking* or *Dislike* of Manners; no Admiration, or Love of any thing as morally Good; nor Hatred of anything as morally ill; be it ever so unnatural or deform'd. (*Characteristicks*, v. 2, treatise 1, "An Inquiry Concerning Virtue and Merit," part 3, section 1, p. 209)

A person could be perfectly capable of reliably and correctly pronouncing the value of particular actions, by recognizing the contribution of those actions to the harmony of humanity, considered as one inter-related thing, without having any positive feeling, or sentiment, towards good, or aversion towards evil. However, to discern the value of particular actions only amounts to an exercise of the moral sense if it is accompanied with an emotive feeling of love for the good and hatred of that which is evil. (This aspect of Shaftesbury's view influenced the moral sentimentalism of FRANCIS HUTCHESON, chapter 30, and DAVID HUME, chapter 32)

This does not imply that, for Shaftesbury, moral good and evil are in any way constituted by our sentiments – what is good or evil is a matter of the harmonious or discordant relations that the parts of some whole bear to one another, and has nothing directly to do with the sentiments of observers of the "system." Sentiments of approval for harmony and disapproval for discordance are important to Shaftesbury not because they are essential for recognizing value in things external to oneself, but because they are essential for being, oneself, a harmonious system of parts. When a person is considered not as an observer of some other whole, but is considered, instead, as a system in its own right, then the possession of appropriate sentiments is essential to instantiating harmony. That is, a person, considered as a system of attitudes, beliefs, emotions, and abilities, can possess or fail to possess harmony within her psyche, and an essential element of the kind of internal harmony needed for value is appropriate sentiment and, particularly, the love of humanity as such. Shaftesbury terms the harmonious relation of parts of an agent's psyche to each other "virtue" and contrasts it with "vice," understood as the internal discordance of the parts of the mind.

However, just as any genuine harmony must stem from a mind that establishes and maintains the laws or rules that produce the ordered whole, so it is with virtue. True virtue, for Shaftesbury, is found in a harmonious mind, a mind that has the right relationship between its various parts, some emotive, some volitional. But, and most importantly, virtue is found only in an ordered mind the order of which derives from rules or laws governing it that are, themselves, established by the mind they govern. We are virtuous, Shaftesbury thought, only to the extent that

we are governed by the right laws – those approvable by the moral sense – that we give to ourselves through the recognition of their value.

There are various ways in which our minds might be ordered. A person might, for instance, be an unconflicted and devoted racist or bigot. Further, a racist might be a consistent and unconflicted racist because she endorsed or committed herself to racist principles as the guides of her mental life. Would mental order of that sort count, for Shaftesbury, as virtue? The answer is, as it should be, "no." Shaftesbury sees the moral sense as being a direct result of our capacity to reflect on ourselves, and thinks that only some affections, or sentiments are reflectively endorsable:

> Let us suppose a Creature, who wanting Reason, and being unable to reflect, has, notwithstanding, many good Qualitys and Affections; as Love to his Kind, Courage, Gratitude, or Pity. 'Tis certain that if you give to this Creature a reflecting Faculty, it will at the same instant approve of the social Passion, and think nothing more amiable than this, or more odious than the contrary. And this is *to be capable of Virtue* and *to have a Sense of Right and Wrong*. (*Characteristicks*, v. 2, treatise 1, "An Inquiry Concerning Virtue and Merit," part 3, section 3, p. 215)

Here he is saying that approval of the "social passion" – or the love of humanity – is an automatic result of reflecting upon that sentiment. Any creature who reflects will approve of that sentiment. But what is it about the "social passion" that makes it such as to always be reflectively approved? Why don't, for instance, devoted racists disapprove of the "social passion," on reflection, in so far as it extends to those races that they consider to be inferior?

Shaftesbury's answer to this question is intertwined with a thesis that runs through all the essays of *Characteristicks*: entities are perfect to the degree to which they act from their own nature, and imperfect to the degree to which they act contrary to their nature. In "Sensus Communis: An Essay on the Freedom of Wit and Humor," for instance, Shaftesbury extolled the value of "raillery" and suggested that objects or persons that cannot withstand efforts to treat them with ridicule are, ultimately, *worthy* of ridicule. If an object or person defeats efforts to consider it as an absurdity, to laugh at it, then, and only then, is it worth considering seriously. The propensity for recognizing the absurd and laughing at it is what Shaftesbury termed "the common sense" which means, at once, both the sense that we all have in common and the collection of tenets that we all naturally and effortlessly believe. (Shaftesbury reinforces this dual meaning through using the Latin term "sensus communis," since word order is irrelevant to meaning in Latin.) However, he thought that the only objects that spurn efforts to ridicule them are those that have no features that are contrary to their own nature:

> Nothing affects the Heart like that which is purely *from it-self*, and *of its own nature*; such as *the Beauty of Sentiments; the Grace of Actions; the Turn of Characters*; and *the Proportions and Features of a human Mind*. (*Characteristicks*, v. 1, treatise 2, "Sensus Communis: An Essay on the Freedom of Wit and Humor," part 4, section 2, p. 74)

But how are we to know which features of a person or object are expressions of its true nature, and which unnatural? How are we to know that the love of humanity,

and not, say, the passion of self-love or the hatred of those of a particular race, is a natural passion? Shaftesbury took the mark of a natural affection to be its ability to withstand reflective scrutiny. Only a natural affection is able to "*freely bear its own Inspection and Review*" (*Characteristicks*, v. 2, essay 4, "An Inquiry Concerning Virtue and Merit," book 2, part 2, section 1, pp. 244–5). Elaborating on this idea, he wrote:

> The more he [an immoralist] engages in the Love and Admiration of any Action or Practice, as great and glorious, which is in it-self morally ill and vicious; the more Contradiction and Self-disapprobation he must incur. For there being nothing more certain than this, "That no natural Affection can be contradicted, nor no unnatural one advanc'd, without a prejudice in some degree to all natural Affection in general": it must follow, "That inward Deformity growing greater, by the Incouragement of unnatural Affection; there must be so much the more Subject for dissatisfactory Reflection, the more any false Principle of Honour, and false Religion, or Superstition prevails." (*Characteristicks*, v. 2, essay 4, "An Inquiry Concerning Virtue and Merit," book 2, part 2, section 2, p. 249)

One's nature cannot be the source, Shaftesbury thought, of a sentiment of disapproval of itself or its products. If it were, then it would be a nature in conflict with itself, providing the source for reflective sentiments that are opposed to, war with, their own source. So, it simply isn't possible to have sentiments that are products of one's own nature and at the same time disapprove of those sentiments as a result of one's own nature. Could the sentiment of hatred for humanity, or some part of it, be a product of human nature? If it were, then we would approve of it on reflection. But that reflective approval would be approval of human nature as the source of the sentiment of which we approve. Therefore, to approve of such a sentiment would be, at once, to feel hatred of and approval of human nature. If both sentiments were the product of human nature, then human nature would produce contrary sentiments and would be in conflict with itself. The result is that only a sentiment of love for humanity as such can be a natural sentiment. Thus, we act from our natures only when we both love humanity and reflectively approve of our own sentiments of love for humanity. The possession of this set of consistent, natural sentiments is what Shaftesbury considered to be virtue.

Virtue, then, is a harmonious ordering of those sentiments that can survive reflective scrutiny without generating internal mental conflict. Further, the harmony of such sentiments must be produced by the mind itself. How? Shaftesbury's answer is: through reflection. So, the act of reflecting on ourselves and determining which of our sentiments we can approve of and which we must reject is not just the passive registration of the worthiness or unworthiness of one's sentiments. Rather, when it is effective, it is an act of bringing the parts of our mind into harmony with one another. It is through such reflection that we are capable of not just having an ordered mind, but of being the source of our own mind's order. Shaftesbury calls this reflective act through which we order our own minds "soliloquy." It is, almost literally, by talking to ourselves that we bring the parts of our minds into harmony and thereby become the authors of our own inner tranquillity, our own virtue.

Shaftesbury's title for the essay in which he discussed the reflective act through which we can become the source of harmony in our own minds is "Soliloquy: Or Advice to an Author." As in many places in Shaftesbury's writing, the term "author" here has a dual meaning. On the one hand he means those who author poems, stories, paintings, and other works of art; on the other, he means those who are genuine actors, the authors of their own life; those, that is, who are not simply pushed around by external forces, but are capable of being fundamental sources of change in the world. Shaftesbury believed that great works of art are those in which the parts are harmoniously related; therefore, to be a great artist is to produce harmony in one's creation. Similarly, he thought to be a genuine, autonomous actor, is to produce harmony in one's own mind and to act in a way consonant with the mental harmony one has produced.

"Soliloquy" is peppered with medical metaphors. Shaftesbury thought of the process through which we impose order on our minds as being something like medical treatment in which we act as both patient and doctor, establishing mental order and thereby curing our mental ailments. (This idea goes hand in hand with the conception of insanity as mental disorder.) Shaftesbury articulated the virtues of this self-disciplining act through which we establish principles and bring our minds in line with them in the following passage:

> We hope... this *Regimen* or *Discipline of the Fancys* may not in the end prove so severe or mortifying as is imagin'd. We hope also that our *Patient* (for such we naturally suppose our *Reader*) will consider duly with himself, that what he endures in this Operation is for no inconsiderable end: since 'tis to gain him *a Will*, and insure him a *certain Resolution*; by which he shall know where to find himself; be sure of his own Meaning and Design; and as to all his Desires, Opinions, and Inclinations, be warranted *one and the same* Person to day as yesterday, and to morrow as to day. (*Characteristicks*, v. 1, treatise 3, "Soliloquy: Or Advice to an Author," part 1, section 2, p. 101)

Just as Shaftesbury felt that a "system" or whole possessed unity only by virtue of the fact that some mind imposes order on the parts that make up the whole, he believed that the disparate "fancys" and sentiments that make up our minds are only parts of a single, temporally persistent, mind when order is imposed on them by a mind. Shaftesbury thought that through reflective legislation our minds constitute themselves by placing order on themselves without which they wouldn't be genuine unities in the first place. We become persistent things, things that exist through time and through change, by imposing an order on the fleeting "fancys" with which we are possessed. Without such a persistent existence, Shaftesbury thought, we would not be possessed of a will; we would not be creatures who can set long term ends, purposes or "designs" for ourselves that guide our activities over time.

Shaftesbury, then, develops a close tie among virtue, autonomy, our capacities for recognizing and caring about value, and the special sense in which we are cross-temporal, enduring creatures. He sees this organically integrated view of moral agency as a significant advance over the hedonist naturalism of Hobbes and Locke, and many later eighteenth-century thinkers saw it that way as well.

Writings

Cooper, A. A., 1714, *Several Letters Written by a Noble Lord to a Young Man at the University*. London.

—— 1750, *Letters of the Earl of Shaftesbury, Collected into One Volume*. London.

—— 1900, *The Life, Unpublished Letters, and Philosophical Regimen of Anthony, Earl of Shaftesbury*, ed. B. Rand. London: Swan Sonnenschein.

—— 1914, *Second Characters or The Language of Forms*, ed. B. Rand. Cambridge: Cambridge University Press.

—— third Earl of Shaftesbury, 1999, *Characteristicks of Men, Manners, Opinions, Times*, 2 vols., ed. P. Ayres. Oxford: Clarendon Press.

Further Reading

Darwall, S., 1995, *The British Moralists and the Internal "Ought"*, ch. 7. Cambridge: Cambridge University Press.

Grean, S., 1967, *Shaftesbury's Philosophy of Religion and Ethics: A Study in Enthusiasm*. Athens, OH: Ohio University Press.

Voitle, R., 1984, *The Third Earl of Shaftesbury 1671–1713*. Baton Rouge, LA: Louisiana State University Press.

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George Berkeley

CHARLES MCCRACKEN

Life and Works

George Berkeley, Ireland's greatest philosopher, was born in County Kilkenny in 1685, and educated at Kilkenny College, then at Trinity College, Dublin, where he received his BA (1704) and MA (1707), and was elected a fellow. He was ordained a priest of the Anglican Church in 1710. Between 1707 and 1713 Berkeley was remarkably prolific, writing the notebooks in which he worked out his philosophy (*circa* 1707–8, first published in 1871, and given the title *Philosophical Commentaries* by A. A. Luce in his 1944 edition); three works on mathematics, *Arithmetica* and *Miscellanea Mathematica* (published in 1707), and *Of Infinites* (1707, first published in 1901); *An Essay towards a New Theory of Vision* (1709; hereafter called *A New Theory of Vision*); *A Treatise concerning the Principles of Human Knowledge, Part I* (1710; hereafter called *The Principles*); a short ethico-political work, *Passive Obedience* (1712), in which he defended what would today be called "Rule Utilitarianism," from which he attempted to prove that rebellion against government is never justified; *Three Dialogues between Hylas and Philonous* (1713; hereafter called *Three Dialogues*); and several essays on religion that appeared in Richard Steele's periodical, the *Guardian*.

Berkeley's reputation rests almost wholly on three of these works published while he was still in his twenties – *A New Theory of Vision*, *The Principles*, and *Three Dialogues*. The first has long been counted one of the classic works in the psychology of vision, while the other two set out Berkeley's chief doctrines in epistemology and metaphysics. But also of interest from this period are his notebooks, in which we see Berkeley working out his philosophy, debating issues with himself, sometimes abandoning his earlier views. From them, too, we get an idea of what works influenced his philosophical development. The most important of these was Locke's *Essay concerning Human Understanding*, but the notebooks also show that Berkeley had studied Malebranche's *Search after Truth*, and some of Malebranche's doctrines (for example, that God is the immediate cause of our sensations, that bodies can never be real causes of anything, and that we cannot prove that matter exists) almost certainly influenced Berkeley's thinking. PIERRE BAYLE (chapter 17) is also mentioned in the notebooks, albeit fleetingly, and it is likely

that Berkeley owed a debt to Bayle who, in his *Historical and Critical Dictionary* (in the article "Zeno of Elea"), argued that the notion of extended substance is so fraught with contradictions that extension must be supposed to exist only "ideally" in the mind.

Between 1713 and 1720, Berkeley divided his time between London, where Swift presented him at Court, and the Continent, where he traveled first as chaplain to Lord Peterborough, then as tutor to the son of the Bishop of Clogher. In Paris, Berkeley seems to have met the aged MALEBRANCHE (chapter 11) (though the story that their conversation grew so heated that Malebranche succumbed in consequence is apocryphal). In Italy, Berkeley lost the unfinished manuscript of *Part Two* of *The Principles* and, as he never rewrote it, only the *Introduction* and *Part one* exist. While in France, he wrote *De Motu* and submitted it to the *Académie des Sciences de Paris*, which had offered a prize for the best essay on motion. Berkeley didn't win the prize, but he published *De Motu* in 1721, the year he returned to Ireland and received the degree Doctor of Divinity.

Berkeley was appointed Dean of Derry in 1724, but he was already gripped by the idea of leaving Ireland for the New World, where he hoped to found a college in Bermuda, to educate "the Youth of our *English* Plantations" and "the Children of savage *Americans*." He promoted this idea throughout the 1720s and, having received a promise of £20,000 from the Prime Minister, Robert Walpole, he arrived in Rhode Island early in 1729, with his wife, Anne, whom he had married shortly before sailing for America. Berkeley lived in Rhode Island for over two years (while there he wrote his chief work of religious apologetics, *Alciphron: or the Minute Philosopher*), but the promised money was never bestowed and, forced to abandon his project, he returned to London in 1731.

In the years immediately following his return to Britain, Berkeley published, besides *Alciphron* (1732), three other notable works: *The Theory of Vision, Vindicated and Explained* (1733), responding to criticisms of *A New Theory of Vision*; *The Analyst* (1734), a philosophical critique of the calculus; and *A Defence of Free-thinking in Mathematics* (1735), which further defended claims made in *The Analyst*. In 1734 he was created Bishop of Cloyne in southern Ireland. He carried out his episcopal duties with diligence, and showed a genuine desire to relieve the poverty and disease that were widespread in his diocese. His literary output during his years at Cloyne was not great, though he did produce *The Querist* (1735–7), about economic problems in Ireland, and *Siris: a Chain of Philosophical Reflexions and Inquiries* (1744). After almost two decades as Bishop of Cloyne, he retired to Oxford, where one of his sons was a student. Berkeley died there in 1753 and his remains are interred in Christ Church Cathedral.

Theory of Vision

In his first major work, *A New Theory of Vision*, Berkeley made no mention of what was to be his most celebrated claim – that matter does not exist – although we know from his notebooks that he was already firmly convinced of its truth. In *A New Theory of Vision* he wrote as if he supposed that our sense of *touch* puts us in

contact with material objects, and he there limited himself to trying to show that the "visible objects" we perceive by *sight* do not exist outside the mind.

He began by addressing the issue of how, by sight, we can perceive a body's distance, magnitude, and situation. A number of earlier writers on vision, DESCARTES (chapter 5) and Malebranche among them, had argued that we do not *see* a thing's distance directly. Berkeley agreed with this. By *touch* we can actually perceive an object's distance (when we feel, for example, how many steps we take to reach it), but we cannot actually *see* the object's distance because the line extending, as it were, from the object to the eye will be turned "end-wise to the eye," and so will always appear as a mere point no matter how near or far the object. Descartes and others thought that (at least in the case of objects not at a great distance from the eye) we make, by a sort of "innate natural geometry," *a priori* judgements of distance based on the size of the angle formed by the intersecting lines that run from each eye to the object – the bigger the angle, the nearer the object. Berkeley rejected this explanation, for such lines and angles are never actually seen by us – indeed are merely imaginary things.

Instead, we learn from *experience*, Berkeley held, beginning in infancy, that certain visual cues are correlated with an object's distance from the eye – for example, we learn that certain characteristic sensations accompany the turn of the eyes as the object moves towards or away from us; that if the object comes very close to the eye we must strain to keep it in focus; that how clear or confused, vivid or faint it looks depends on its distance. Such cues had been noted by earlier writers on optics, even when their emphasis was on the supposed "innate natural geometry" mentioned above; Berkeley, however, held that we are able to "see" an object's distance *only* because *experience* has taught us that a thing's distance (which we perceive directly by touch) is regularly correlated with such visual cues. We do not literally *see* distance but, because we learn very early in life the correlation of these cues with those tactile sensations by which we actually perceive distance, the cues come to suggest distance to us so invariably and instantaneously that we take ourselves actually to *see* how far away a thing is. The situation, he holds, is analogous to learning language. We learn so early that certain words are correlated with certain ideas, that the sound of the words instantly suggests to us their meanings, without our having to judge or infer that this or that sound stands for this or that idea. In the same way, the visual cues of distance immediately suggest to us that the object is at a certain distance from us, though in reality that *visible* object, Berkeley concludes, is not at any distance from the perceiver and so is not really external to the mind.

He defended similar theses about the size and shape of a body and its situation (above or below, to the right or left of other bodies): we directly perceive these by touch, not sight. But again certain visual signs are so invariably associated with our perception, by touch, of a thing's size, shape, and situation, that the former at once suggest the latter to the mind. Berkeley concluded that the size, shape, and situation of the *visible* object (what we actually *see*) have nothing in common with the size, shape, and situation of the object we perceive by touch; but because "tangible qualities" and "visible qualities" are invariably associated in our experience, we call them by the same names (*square, small,* etc.) and never notice that

these names really pick out quite different things, depending on whether we use them of tangible or of visible qualities.

This doctrine of the "heteronomy of sight and touch" gave Berkeley an answer to a problem posed by William Molyneux. Suppose a man were born blind, so had learned the shape of objects from touch alone. If he could suddenly see, could he, by looking at two objects, without touching them, tell which was a cube and which a sphere? Berkeley answered that, since experience alone teaches us which visual shapes are correlated with which tactile sensations, such a person would not be able to tell the cube from the sphere simply by looking at them: he would need to touch them, and thus begin to learn which visual sensations are correlated with which tactile sensations.

Berkeley's chief object in writing *A New Theory of Vision* was to show that *visible* objects do not exist "outside" the mind: they are at no distance from the mind that perceives them, and their size, shape, and situation are not those of external things. While Berkeley here spoke as if he thought that the objects of touch *are* external to the mind, he in fact already believed that they too exist only in the mind. To restate his theory of vision in light of his fully articulated views, we must say that *visible objects* are signs of the *tangible objects* we will feel if "we excite this or that motion in our own body," but even those tangible objects are not external to the mind. Indeed, *no* objects exist "outside" minds; rather, all objects, except minds themselves, exist only because they are perceived by some mind or other. It was this doctrine Berkeley soon proclaimed in *The Principles*, then in *Three Dialogues*. Before turning to it, however, we must examine another important thesis of Berkeley's, one set forth in the *Introduction* to *The Principles*: that there are no abstract ideas.

Abstract Ideas

Philosophy, Berkeley believed, has made little progress chiefly because philosophers often use terms that have no clear or definite meaning. Why had even the deepest thinkers failed to recognize this? Because, answered Berkeley, they believed that such terms denote not particular, definite ideas, but *abstract ideas*. To clear philosophy of obscure or meaningless terms, and thereby set it on a secure road to knowledge, Berkeley undertook, in the *Introduction* to *The Principles*, to show that there *are no* abstract ideas.

Although Berkeley thought that virtually all previous philosophers supposed us to have abstract ideas, he focused on Locke's version (as he construed it) of the doctrine. LOCKE (chapter 24) held that, as our experience is always of particular things, the ideas we form in early childhood are only ideas of particulars. An infant has the particular idea of its mother, but not the abstract idea of *woman*. As we mature, however, we begin to form abstract ideas – moving from our particular idea of *this* woman (mother) to the abstract idea of *woman*, thence to the more abstract idea of *human being*, then of *living being*, and so forth. How precisely we do this, Locke did not make as clear as one might like. In the case of "compound ideas" (ideas that have other ideas as their constituents), he usually spoke as if this were done by *omitting* some constituents of an idea – thus by leaving out of our idea of *mother*

particular characteristics such as her height and weight, and keeping only those common to her and other women, we form the idea of *woman*; then omitting those characteristics women do not share with men, and keeping only those they do, we form the idea of *human being*, and so forth. But sometimes, notably in a passage Berkeley was to focus on, Locke spoke as if we form an abstract compound idea by *combining* ideas of many different and even incompatible particulars: "the *general Idea* of a *Triangle*... must be neither Oblique, nor Rectangle, neither Equilateral, Equicrural, nor Scalenon; but all and none of these at once" (Locke, 1974, p. 596).

Early in his notebooks, Berkeley accepted Locke's view that we form abstract ideas. But he soon came to reject it. All ideas that come to us by the senses are particular; equally the ideas we reproduce, in memory or imagination, are particular, though the mind can arrange them in new ways, as when we imagine a gold mountain or an animal that is part horse, part human. But try to form an abstract idea of a *triangle* by *omitting* the length of the sides and the degree of the angles of a particular triangle. Berkeley thinks it impossible. We can no more form in the mind an idea of a triangle that has sides and angles of no determinate length and degree than we can draw such a figure on paper. It is equally impossible to form an abstract idea by somehow *combining* in one idea the properties of many different triangles, making it at the same time scalene, isosceles, and equilateral, yet none of these. Again we can no more form an idea of such a figure than can we draw it. It is, Berkeley concludes, impossible to form an abstract compound idea.

Locke also thought that when we consider a compound idea we can separate its simple constituents out from it and consider these singly, in abstraction from the compound idea's other constituents. For example, in considering an apple we can form an idea of its color in abstraction from its shape, its extension in abstraction from its color, and so forth. We thereby come to have abstract *simple ideas* of such things as color, extension, figure, and motion. But again Berkeley thinks experience shows this impossible. Try to form an idea of a color that includes no idea of extension; of a figure that has neither color nor any tangible qualities such as hardness; of motion abstracted from the idea of a thing in motion. Berkeley thinks that when we try to do so, we always fail. He concludes that it is no more possible to form an idea of a *single* quality, abstracted from other qualities it must coexist with in nature, than it is to form an abstract general idea of *woman* or *triangle*.

Locke thought that abstract ideas are what make human *language* possible. Words, according to Locke, are signs that represent ideas (as ideas are signs that represent things). Some words ("Socrates," "Plato") are signs of particulars. But it would be impossible for human beings to learn a language that had a distinct word for *every* particular we experience. Instead, most of the words we use ("triangle," "woman") stand for innumerable particulars. Now it is equally impossible for us to hold ideas of all these particulars in our minds; so instead we form *abstract ideas*, and the words "triangle," "woman," are signs of those ideas. Abstract ideas thus make human language possible.

Berkeley replies that instead of forming an abstract idea, which we cannot do, we let a particular idea stand as a representative of all other particulars that resemble it. Thus the word "triangle" signifies not an abstract idea, but an idea of a particular triangle that is a representative of the class of triangles, and that word

("triangle") is *general* because it indifferently denotes any member of that class. If we want to call attention to a characteristic of only *some* members of that class, we can use another term, for example "equilateral triangle," and again the idea in our minds will be of some particular *equilateral* triangle that will represent the subclass of equilateral triangles, any member of which will equally be denoted by "equilateral triangle." Thus language does not require us to have abstract ideas.

Locke also thought that abstract ideas play an indispensable role in human *knowledge*. Scientific laws, mathematical theorems, and so forth, are not about this or that particular – they are about all bodies in motion, all right-angled triangles, all animals with vertebrae, etc. When geometers prove that the sum of the angles of a triangle is 180 degrees, the proof is not about one particular triangle, nor do they make a separate proof for each particular triangle. The proof must, therefore, be about the abstract idea of triangle. Berkeley replies: we *can* give the proof about a particular triangle, with sides of a determinate length and angles of a determinate degree, for, since *no mention* is made in the proof of the length of the sides or the degree of the angles of that triangle, the proof clearly holds of *every* other triangle. The same will be true of any other law or theorem in the sciences. Berkeley thus thinks he has shown that both human language and human knowledge, the things most often held to require abstract ideas for their possibility, can be explained without having recourse to any sort of abstract idea. (Berkeley did allow one sense in which we can "abstract": when we consider our idea of a particular triangle, we can focus our *attention* on one of its features – for example, that one of its angles is a right angle – while ignoring the others; but it is still, he holds, a particular idea that we are here considering.)

Berkeley's rejection of abstract ideas plays a role in some of his arguments against the existence of matter in *The Principles* and *Three Dialogues*. In these works, Berkeley defends the two central theses of his metaphysics: the negative thesis that matter does not exist, and the positive thesis that *spirits* and *ideas* are the only things that *do* exist. We shall consider first the negative thesis, then the positive one.

Matter Does Not Exist

Berkeley advanced various arguments in support of this surprising thesis. He agreed with Locke that all our knowledge of bodies comes from our senses. What precisely do our senses make known to us when we perceive a body – say, an apple? By sight we perceive a reddish color; by touch, a hard, cool, smooth surface of a certain size and shape; by taste and smell, a certain flavor and odor; by hearing, the sound emitted if, say, we bite into the apple. To this collection of perceivable qualities we give the name "apple." More generally, the bodies our senses perceive *are* collections of perceivable qualities.

Locke had distinguished our *ideas* or *sensations* of qualities from the *qualities* themselves, but Berkeley denies that such a distinction can be made. Try to separate the color seen from our visual sensation of redness, the hardness felt from our tactile sensation of hardness, the sound heard from our auditory sensation of loud-

ness. Berkeley thinks we can no more do this than can we separate a *pain* felt from a *feeling* of pain. Take away the sensation and you take away the quality. The supposition that we can distinguish our idea of the *existence* of a quality from our *perception* of that quality arises from the mistaken belief in abstract ideas. A body, then, is a collection of qualities, and those qualities are sensations or ideas. Hence a body *is* a collection of sensations or ideas. Now clearly sensations or ideas exist only when they are perceived by some mind. A body therefore exists only when it is perceived: its *esse* is *percipi*.

Might one not reply that, even if our *idea* of an apple is just a collection of sensations, what that idea *represents* is an apple – a *material* object? But how shall we conceive the material object that the idea is supposed to represent? Is it something *just like* the idea that represents it? Berkeley replies that "an idea can be like nothing but an idea" – for how could color *resemble* what is not visible, sound what is not audible, hardness what is not tangible? More generally, how could an *idea* – a sensible thing – resemble an insensible thing? Berkeley thinks it obvious that it cannot; therefore that collection of ideas we call "apple" cannot be a copy of something that is not an idea.

Can we not modify our claim and say that, although our idea of an apple is not an *exact copy* of an apple, it is *in some respects* like an apple? That is what the "new philosophers" like Descartes, Malebranche, and Locke held. The "primary qualities" of the apple – its extension, size, shape, solidity, location, motion or rest – resemble our ideas of those qualities; but nothing in the apple actually resembles our ideas of its "secondary qualities" – color, warmth or coolness, hardness or softness, roughness or smoothness, sound, smell, and taste (though our sensations of *these* qualities are *caused* by the action on our sense organs of the size, solidity, motion etc. of the apple or, at least, of its minute parts). Since our idea of the apple includes ideas of its primary qualities, it does *partially* resemble the apple, though it is not an *exact* mental replica of it. This, too, Berkeley rejects. For one thing, he thinks it true of *any* idea that it can resemble only another *idea*, whether that idea is of a "primary" or a "secondary" quality. Further, he argues, we cannot form an idea of a thing that has only the primary qualities. To form such an idea, we would have to *abstract* the primary from the secondary qualities – form ideas of extension, size, shape, motion, etc. that include no visible qualities like color and no tangible qualities like hardness, smoothness, or warmth. But, as we have seen, Berkeley denies we can do this; so we cannot form an idea of a thing that has *only* the primary qualities. Consequently our idea of an apple cannot be supposed either an *exact* or a *partial* copy of a material thing.

But even if we have neither an exact nor a partial idea of what a material substance is, can we not at least say that it is the unperceived (and unperceiving) *substratum* that perceived qualities inhere in? Berkeley has two responses. First, what idea do we have of this *substratum*? We have excluded from our idea of it all the qualities our senses perceive. We are left with only the abstract idea of *something* that underlies those qualities – Locke himself had said that our idea of that substratum "is but a supposed I know not what" that supports qualities. Here again Berkeley's critique of abstraction comes into play. If we cannot form an abstract idea of a triangle, we surely cannot form one of a mere *something*. But further,

Berkeley thinks he has already shown that perceivable qualities are just ideas or sensations; clearly, then, the only *substance* they can exist in is a *perceiving* substance – that is, a mind or spirit. For ideas or sensations cannot exist "in themselves," and it would be a contradiction to say they exist in an unperceiving thing. Minds are, therefore, the only substances that perceivable qualities can exist in.

If finally, in desperation, we say, "I just use the word *matter* for *whatever* it is that causes or occasions my sensations, though I have no idea or notion of what that is," Berkeley replies that we now have merely kept the *word* "matter," but it no longer *signifies* anything at all, for we no more have an abstract idea of "cause" or "occasion" than of anything else.

Berkeley gave other arguments against matter that can be noted briefly. Some "new philosophers" had concluded that such qualities as color, sound, smell, taste, warmth, and hardness, must exist only in the mind, for how they appear depends on the condition or position of the perceiver. Berkeley, like Bayle before him, pointed out that the same is true of the primary qualities: the size, shape, location, distance, and speed of a thing also appear different to perceivers in different positions or conditions. If the variability of the secondary qualities is grounds for taking *them* to exist only in the mind, the same is true of the primary. Another argument he urges is that, even if matter existed, neither the senses nor reason could prove its existence: the senses could not, for they perceive nothing but ideas; and reason could not, for it would have to infer matter's existence from the ideas we perceive by sense – but "the very patrons of matter themselves do not pretend there is any necessary connexion betwixt [matter] and our ideas." Some might argue that the hypothesis that matter exists provides the simplest explanation of what causes our ideas, so should be adopted as the most probable hypothesis. But, replies Berkeley, even the materialists have never been able to explain *how* matter is supposed to cause ideas. Berkeley recognized that the arguments sketched in this paragraph show, at best, not that matter does not exist, but that we cannot *know* whether it exists or what it is. Thus they lead only to *skepticism* about matter's existence, whereas the arguments Berkeley lays stress on lead, he thinks, to the outright denial that matter exists.

What Berkeley takes to be central to his case against matter turns on the *meaning* of "to exist" when applied to bodies. What do we mean when we say, "There is a table in the room"? Berkeley thinks it clear we mean that if we are now in the room, we will perceive that configuration of size, shape, color, texture, and so forth, that we call "a table." Thus, when we say, "There is a table," we mean we are perceiving certain sensible qualities. Or, if we are *not* now in the room, we mean that if we *were* there now, we *would* perceive a certain configuration of size, shape, color, texture, and so forth. He concludes that "to be," said of bodies, *means* "to be perceived." While his argument seems at best to justify only the weaker conclusion that "to be" means "to be perceiv*able*," Berkeley holds that the only things perceiv*able* are sensations or ideas – and those exist only in minds.

Given this analysis, Berkeley now confronts those who make the claim: "Matter exists." He has shown, he thinks, what "exists" means when said of bodies, so the status of this claim will depend on what is meant by "matter." If by *matter* we mean – as Berkeley thinks nonphilosophers usually do – the objects we perceive by

our senses, then it will indeed be true that matter exists: but in that case we must not suppose, as people unreflectingly do, that "matter" exists unperceived, for what we perceive by our senses are sensations or ideas, which exist only when perceived. But if by *matter* we mean, as philosophers usually do, bodies that exist even if *nobody* is perceiving them, then, says Berkeley, the claim "matter exists" is contradictory: for (since "exists," said of a body, means "is perceived") it amounts to the claim "some thing that is perceived (by someone) is not perceived (by anyone at all)." While if by *matter* philosophers mean merely an indefinite "something" that is supposed to *underlie* qualities or to cause our sensations, then, the word "matter" stands for no notion at all, and "matter exists" is a meaningless expression, like "niffles exist" (where no one has any notion of what "niffles" are supposed to be). So when philosophers say *matter exists*, "it is evident those words mark out either a direct contradiction, or else nothing at all."

Berkeley concludes his case against the existence of matter with a challenge: he will concede that matter exists if one can so much as *think* of something as existing "without the mind or unperceived." Berkeley thinks that when we try to do this, we inevitably fail, for what we are trying to do is to think of something as it would be "in itself," when no one is aware of it; but when we think of a thing, we can only think of it as it would appear to us (or someone else) if we (or they) *were* aware of it. "When we do our utmost to conceive the existence of external bodies, we are all the while only contemplating our own ideas. But the mind taking no notice of itself, is deluded to think it can and doth conceive bodies existing unthought of or without the mind; though at the same time they are apprehended by or exist in itself" (Berkeley, 1948–57, v. 2, p. 50). Put otherwise, we cannot think of something existing unthought of, for as soon as we think of it, it *is* thought of, so *is* in the mind.

The claim that bodies do not exist "without the mind," Berkeley recognized, might well lead his readers to suppose that his position stands in sharp opposition to common sense. Did he not turn the whole world into a dream, or blur any distinction between real things and illusions? Was it not his view that mountains, rivers, the sun, moon and stars – all the furniture of heaven and earth – exist only in his mind and stop existing when he stops perceiving them? Berkeley was at pains to deny that he held such absurd views. Unlike "things we see in dreams," he maintains, the things our senses perceive are as solid and stable on his view as on the view of the materialist. The things perceived by our senses do not suddenly pass into or out of existence, or turn abruptly into other things, as do things we dream about. Fire, snow, honey – far from being illusions – are as hot, as white, as sweet on his view as on the view of believers in matter. Indeed, he holds, his view is *closer* to the ordinary view than that of Descartes, Malebranche, and Locke, for they denied that anything in fire or snow or honey resembles our ideas of heat or whiteness or sweetness, whereas on his view it is just such qualities that, collectively, *make up* fire, snow, honey. The distinction between the *real* and the *illusory*, thus, remains as firm on his view as any other: a real elephant is one we all see when we look in a certain direction, whereas an illusory elephant is one seen only by one person and under special circumstances (when drunk, say, or feverish).

And far from supposing that things exist only in *his* mind and for so long as *he* perceives them, Berkeley insisted that when he leaves the room, you and I may still be there, perceiving the tables and chairs; and even if we and *every* other finite perceiver leave the room, it is still being perceived by God, the infinite spirit, who holds the universe in being by perceiving it and who gives us our ideas. To thinkers like Descartes, Malebranche, and Locke, the terms "material substance" and "body" were synonymous. Not so for Berkeley. Bodies are the very things we perceive and they exist so long as they are perceived, whether by you or me or by God alone. Berkeley therefore denies the existence of *material substances* but claims to be so far from denying the existence of *bodies* that he thinks we *cannot* doubt that they exist, for we see them, feel them, hear, taste, and smell them. Hence, although Berkeley was sometimes accused of being a skeptic, he held that his doctrine did away "with all that scepticism, all those ridiculous philosophical doubts" that philosophers had invented, including doubts about the existence of bodies. Thus in his ontology "material substances" do not exist, but tables, chairs, the earth, sun, and stars do.

It is, therefore, a mistake to think that Berkeley *denies* that bodies exist. Instead, he proposes an analysis of what a body *is* that is different from that given by a believer in matter: a body, on his analysis, is a vast collection – a "congeries" – of ideas (of size, shape, color, texture, and so forth) to which we give a name ("apple," "table," "sun"). The members of that collection are not to be identified *only* with those you, I, or even all finite perceivers *actually* perceive, but include all those ideas finite perceivers *would* perceive if they were suitably placed – *possible* ideas, as it were, which have, however, their foundation in the *actual* ideas perceived by the infinite spirit.

Berkeley does not, then, deny that there are bodies or that they continue to exist when he stops perceiving them; but his belief in their continued existence clearly depends on his belief that *other* perceivers exist, and especially on his belief that there is an infinite spirit who perceives all the bodies – the idea-things – that compose the universe. We must, therefore, turn from his negative thesis – that matter does not exist – to his positive thesis that there are spirits and ideas.

Spirits and Ideas Exist

Spirits and ideas are the only kinds of existent recognized in Berkeley's ontology. By "spirit" – a word Berkeley uses interchangeably with "mind" and "soul" (and I shall follow him in this) – Berkeley understands an *active* being that *perceives* and *wills*; by "idea," a *passive* being that *is perceived*. Although spirits perceive, they are not themselves *perceived*, for we cannot by any of our senses perceive a mind (the *brain* can be perceived, but we must not, on Berkeley's view, confuse the brain with the mind); nor can there be an *idea* of a mind, for an idea, being a passive thing, cannot represent a spirit or active being. Ideas, on the other hand, although perceived, do not *perceive* – a sensation of red or an idea of roundness is not the kind of thing that itself *has* perceptions. Thus while *to be* means *to be perceived* when said of bodies, it means *to perceive* when said of spirits.

Spirits are the *only* substances, according to Berkeley. Ideas *exist in* spirits – they are *in* spirits, however, not as "modes or attributes" of spirits, but only in the sense that they are perceived *by* spirits. Berkeley thus views ideas as distinct from, albeit dependent on, spirits. Indeed, ideas and spirits differ radically from each other, being "two kinds entirely distinct and heterogeneous, and which have nothing common." Yet they complement each other: spirits are the perceivers of objects, ideas the objects spirits perceive; spirits are active beings capable of willing something, ideas passive beings that can, in some measure, be acted on by spirits. It is because spirits and ideas differ radically that Berkeley insists that ideas are not modes or attributes of spirit. There seems, however, to be an unresolved tension in his view at this point, for he also insists that ideas are "passions or sensations in the soul." This seems to suggest that they are passive states of the soul, making obscure how they can then be "entirely distinct" from it.

The *existence* of neither ideas nor spirits can be doubted, according to Berkeley. That ideas exist is evident, he thinks, for they are what we are immediately aware of when we see, touch, hear, taste, or smell something, or when we remember or imagine something (ideas perceived by sense are *sensations*, for Berkeley; ideas we remember are images of sensations; ideas we imagine are new combinations made from ideas we remember). Furthermore, ideas are perfectly known, for nothing in them is hidden from view. As for spirits, I know by reflection that *I* am a spirit – that is, a thing that perceives, thinks, and wills. Introspection thus assures me of the existence of one spirit (me). And though I cannot have an *idea* of what a spirit is, my introspective awareness of myself gives me a *notion* of what a spirit is, for by introspection I know what it is to be a being that perceives and wills.

I can also know, according to Berkeley, that other spirits exist. I cannot know that you are a spirit in the *direct* way I know that I am a spirit; yet when, by my senses, I observe your body in certain states, I can conclude that you are having perceptions and volitions much like those I have when my body is in a similar state. I know that when I touch fire and cry out, I also feel a painful sensation and actively will the withdrawal of my hand from the fire; thus, when I see your hand touch fire, hear you cry out, and see your hand drawn quickly away from the fire, I conclude that you are a conscious being – a spirit – who, like me, experiences pain, wills that the pain cease, and therefore moves your hand. I can know, thus, that I am a spirit because I am immediately aware of myself as one who perceives and wills, and I can infer that there are other finite spirits from my observation of their bodily behavior. I can also know, he thinks, that there is an *infinite* spirit – God.

Berkeley's chief argument for God's existence is a causal one. Before turning to it, therefore, something must be said of his views about *causality*. We often suppose that our senses perceive causal transactions. When we see a moving ball strike a ball at rest, then see the second ball begin to move, we suppose we have *seen* the first ball *cause* the second ball's motion. Malebranche had already argued that all we actually *see* are two balls, one in motion, one at rest, then we see the first ball become spatially contiguous with the second and the second begin to move, but we never, Malebranche claimed, see a *power* in the first ball to cause motion in the second, nor indeed a power in any body to produce an effect in another body.

Berkeley made the same claim, but expressed in his characteristic vocabulary of ideas. "All our ideas, sensations, or the things which we perceive, by whatsoever names they may be distinguished, are visibly inactive, there is nothing of power or agency included in them. So that one idea or object of thought cannot produce, or make any alteration in another" (Berkeley, 1948–57, v. 2, p. 51). We cannot, therefore, get our notion of causal power from our *senses*. We get it instead, Berkeley held, from our introspective awareness of ourselves as spirits capable of freely and actively willing things. Hence, our notion of a causal power is reducible to our notion of a spirit that can perform voluntary actions. Spirits are, therefore, the only things we can conceive to be causal agents. In our ordinary way of speaking, we say that one physical event *causes* another – the fire warms our hands. But, urges Berkeley, these events should be viewed not as *cause* and *effect*, but as *sign* and *thing signified* – the flame we see is a sign of the warmth we will feel if we put our hands near the fire.

By introspection, said Berkeley, we know that we cause certain effects – for example, we may produce ideas of imaginary persons and places when thinking up a story. But introspection also shows us that many ideas we experience – those we get from our senses – are not caused by us. When we open and focus our eyes, we passively perceive certain things – we may not even want to perceive them, but as long as we keep our eyes open and focused we keep on perceiving them. We are not, thus, the cause of the ideas we get from the senses (ideas far more vivid, forceful, and durable than those we may call up in our imagination). Yet something must cause those ideas; and, we have seen, only spirits can be causes. So there must be a *spirit* who causes the ideas we perceive by our senses. More generally, Berkeley concludes, the whole sensible world must depend, for its existence, on an infinite spirit.

Causal inferences that seek to go from finite effects to an infinite being who causes those effects are fraught with difficulties, and Berkeley's argument is no exception. Indeed, he moves almost perfunctorily from the claim that the cause of the sensible world must be a spirit to the conclusion that that spirit must be "one, eternal, infinitely wise, good, and perfect," arguing that this can be inferred from "the constant regularity, order, and concatenation of natural things, the surprising magnificence, beauty, and perfection of the larger, and the exquisite contrivance of the smaller parts of the creation, together with the exact harmony and correspondence of the whole" (Berkeley, 1948–57, v. 2, p. 108). To critics of "cosmological arguments" – not just Berkeley's but those of other philosophers, too – it has seemed that even if the inference from finite effects to a creator were allowed, it would not be possible to show that that creator *must* be one (rather than several acting in concert), eternal (rather than of limited – even if great – temporal duration), or infinite (rather than merely very powerful, wise, etc.).

Berkeley gives another argument for God's existence: experience shows us that sensible things are independent of our minds; so there must be "some other Mind wherein they exist, during the intervals between the times of my perceiving them." Berkeley's commentators disagree on how to interpret this argument. Some take the argument to be this: sensible things exist when we finite minds are not perceiving them; so there must be an infinite mind in which they continue to exist when

unperceived by us. Others think the argument is this: the fact that we do not cause the ideas we get from our senses shows that those ideas are independent of our minds; they must therefore exist in some other Mind even when we are not perceiving them. Still others have suggested that this argument and the preceding causal argument are really two stages of a single argument. Under any interpretation, there are puzzles. If the argument proceeds from the premise that sensible things continue to exist when we are not perceiving them, how can Berkeley know that premise to be true? If instead the argument relies on the premise that we do not cause our sensible ideas, how does that imply that those ideas must continue to exist in an infinite mind when we are not perceiving them? The answer to the last question may seem to be that God, being omniscient, has the ideas of all things eternally in his mind. But that in turn raises other questions that Berkeley never answers about the relation of our fleeting temporal ideas to God's eternal ideas.

To summarize Berkeley's ontology: spirits and ideas exist, but matter does not; nonetheless, bodies are real and distinct from finite perceivers, but bodies are collections of ideas, which exist only if perceived – though they are always perceived by an infinite spirit, whether we perceive them or not. To this ontology Berkeley gave the name "immaterialism."

Physics

Just as Berkeley was eager to show immaterialism compatible with our commonsense belief that the things we perceive by our senses continue to exist when we are not perceiving them, so too was he eager to show immaterialism compatible with science, which above all, in his time, meant Newtonian physics. He rejected, it is true, some features of Newton's cosmology, denying – like LEIBNIZ (chapter 18) before him and HUME (chapter 32) after – that we can make sense of Newton's notions of absolute space, time, and motion. There is space, he held, only because bodies (that is, idea–things) or their parts stand in certain relations to each other; there is time only because ideas succeed each other in our minds; there is motion only because bodies (or their parts) over time change their spatial relations to each other. The notion that there could be space, time, and motion in the absence of things that stand in these relations to each other is, Berkeley argues in *The Principles* §§97–117, another example of the fallacious belief in abstract ideas.

But if he rejected these features of Newtonian cosmology, he accepted Newton's physics, that great system of laws of motion and what is deducible from them. Just as he reinterpreted, however, what *bodies* are (not material substances, but congeries of ideas), so some reinterpretation of Newtonian physics was necessary. Berkeley could not admit, consistently with his system, the existence of unperceivable *forces*. But in his view the laws of motion that ground Newton's physics – and more generally any laws of nature – do not require us to suppose that such forces exist. It is sufficient for a scientific law to state an *invariable regularity or succession* in physical events, whereby from an antecedent event or set of events we can, in

principle, predict what event or events will follow. Take the law of gravity: two bodies attract each other with a force that obeys the inverse-square formula. But this law does not oblige us to believe that in nature there is an unperceivable "force of attraction." The universality of the law, and the predictions it allows us to make, will be unaltered if we formulate the law in terms of the motion and other perceivable properties of bodies. So formulated, the law says two bodies always move toward each in accordance with the inverse-square formula.

Newton's other laws of motion, Berkeley thinks, can equally be understood as stating what motion or rest will *invariably* occur in bodies, given certain antecedent states of motion or rest in them and other bodies. In formulating these mechanical laws, he grants, it may be useful to speak of "attraction," "action," "reaction," and so forth, but these should be regarded only as "mathematical hypotheses" – in effect, as useful fictions that correspond to no real entities. Viewed in this way, he thinks, Newton's physics is compatible with immaterialism. Bodies are collections of ideas, and motion is a certain order in which those ideas succeed one another; the laws of physics state what order those successions of ideas will regularly occur in. (The regularity of these successions is due, of course, on Berkeley's view, to the consistent operations of God.) Physics thereby loses nothing essential to it: its laws cover the same range of phenomena and allow the same predictions to be made as if we suppose them to describe "forces" of inertia, gravitation, action and reaction, and so forth. What *is* lost is talk of unperceivable forces that no one can form any notion of. But that loss is not to be regretted, Berkeley holds, because it clears from science the last "occult qualities." Berkeley set this view out most fully in *De Motu*, and it has rightly been regarded as the prototype of the way scientific laws have been viewed by various subsequent thinkers, among them Hume, Mill, Mach, and the positivists (all of whom, however, would reject Berkeley's belief that God and spirits are the "real efficient causes" of motion).

Contemporary physics agrees with Berkeley in rejecting Newton's notions of absolute space, time, and motion. But what would Berkeley say about the complex picture of subatomic particles that is central to physics today? One thing to note, in thinking about this question, is that Berkeley did not deny that there may be things too small for human beings to perceive – he granted that something we can hardly see may look as big as a mountain to a mite. What is always crucial for him is that even the most minute objects be perceived by *someone*, if only by God. He might, then, grant the existence of subatomic particles if it were allowed that God perceives them. Or, like some "anti-realists" among recent philosophers of science (who think of what is described in particle physics not as real entities but as fictitious theoretical entities useful for predicting observable events), Berkeley might view subatomic particles in the way he viewed the forces of Newtonian mechanics, as useful but fictitious "mathematical hypotheses."

Mathematics

It is mathematics above all other branches of science that has seemed most strongly to support belief in abstract ideas, for the objects met with in mathematics do not

seem to be particulars. It is not surprising, therefore, that Berkeley turns his attention to mathematical objects (in *The Principles* §§118–34). *Numbers* have been supposed a prime example of abstract entities, and arithmetic a science that discovers the properties and relations of those entities. Berkeley, however, argues that arithmetic has its source in the practice, important in human history, of *counting* particular things and learning how to compute their sums, remainders, etc. To do this, people invented the numerals (Roman, Arabic, etc.), and their names ("one," "two," etc.), and used them as signs of any arbitrarily chosen collections of particulars – *1* is a sign for *anything* we choose to view as a unit (one brick, one wall, one house); *2* a sign for that unit when taken with another (two bricks, two walls, two houses), and so forth. Human ingenuity then devised computational rules whereby these numerals can be used to compute any quantities we want to deal with. Thus the numerals are not signs of abstract entities ("the numbers") but of denumerable quantities of particular things. (Given the rules for constructing numerals, it becomes possible to construct signs for numbers like googolplex that may be larger than any *actually* existing collections of particulars, and our computational rules will, of course, still apply to them.)

Geometry, too, has provided great putative examples of abstract entities, for among the particulars that make up the world there are no perfect circles, squares, triangles, no perfect spheres, cubes, or pyramids of the sort geometers prove the properties of. We have already seen that in *The Principles* Berkeley argues that the proofs given in geometry are not about abstract figures but are about this or that particular figure that stands as a representative of all other figures resembling it in the relevant regard. Earlier, in *A New Theory of Vision*, he took up the nature of the figures geometry deals with. The possibilities, he thought, are that those figures are either abstract ideas or the figures perceived by sight or those perceived by touch. Abstract ideas have been ruled out, so only the last two possibilities remain. He claims to have shown that by sight we do not actually perceive determinate size and shape, so things visible cannot be the two-dimensional objects of *plane* geometry; and he claims to have shown that by sight we do not actually perceive distance, so things visible equally cannot be the three-dimensional objects of *solid* geometry. He concludes that it is the plane surfaces and solid figures we perceive by *touch* that are the objects of geometry. The familiar visible diagrams that geometers draw on paper are just *signs* of those tangible figures, in much the way words are the signs of things, and it is as much a mistake to confuse the visible sign with the tangible object as it is to confuse the word with the thing it signifies. Later, in the *Analyst*, Berkeley was prepared to view visible diagrams as signs "of all sensible and imaginable extensions or magnitudes of the same kind." Presumably among those "imaginable extensions" are the perfect circles and squares, spheres and cubes, of classical geometry.

Not surprisingly, Berkeley denied that extension is infinitely divisible or is composed of infinitesimal magnitudes (any portion of extension is composed of a finite number of *minimum sensibles*, he held). This led him, in *The Analyst*, to make some perceptive criticisms of Newton's method of fluxions in the calculus – criticisms that led some eighteenth-century British mathematicians to try to give a more rigorous formulation of method in the calculus.

Language

Locke held that words are signs of ideas and that words (except for "particles" like "and" and "but" that are used merely to join words together) that signify *no* ideas are literally insignificant, meaningless. Early in his notebooks Berkeley subscribed to this view, but he soon came to reject it, just as he came to reject Locke's view that general words are signs of abstract ideas. He agreed with Locke, to be sure, that our knowledge of bodies depends on the ideas we get from our senses, and that words that purport to refer to bodies must stand for such ideas if they are to be meaningful. Thus his claim that *matter* is a meaningless term turns on his contention that, although philosophers have relied on the senses to justify belief in matter, we in fact get no idea of matter from our senses or from what we can infer from our sense perceptions.

As we have seen, however, he held that words that stand for *spirits* and our mental operations are *not* signs of ideas, and yet are meaningful because from our introspective awareness of ourselves we get *notions* of what a spirit is and of its states. Words like "mind," "perceiving," "thinking," "willing" are meaningful because they are signs of such notions. Thus not all meaningful words are signs of ideas. There is another reason, he thinks, why "the communicating of ideas marked by words" is not "the chief and only end of language." A speaker's aim is sometimes not the communication of an idea to a hearer but rather "the raising of some passion, the exciting to or deterring from an action, the putting the mind in some particular disposition" – all legitimate and important uses of language. These themes are most fully developed in *Alciphron* (Seventh Dialogue) where they are applied in particular to religious language. Berkeley in effect recognized a variety of "language games," to use Wittgenstein's expression, only some of which have as their goal the communication of ideas.

But while not all words are signs of *ideas*, Berkeley holds that language *is*, at bottom, a complex system of *signs* that are correlated in regular, although arbitrary, ways with what they signify. Only intelligent beings can use so complex a system to communicate with others. He concludes that the use of language by other human beings is one of the things that proves to us that they too are intelligent, rational spirits. This led him in *Alciphron* and *The Theory of Vision Vindicated* to expand on a suggestion first made in *A New Theory of Vision*. In that work, we have seen, he argued that *visual sensations* are *signs* of tactile sensations; for example, a visible object that is small and faint is a sign that the tangible object it signifies is far from us – an arbitrary sign, according to Berkeley, for he denies there is any necessary connection between the smallness and faintness of the visible object and the distance of the tangible one, much as there is no necessary connection between the word "lion" and the animal it signifies. Our visual sensations, therefore, constitute a vast, complex system of signs whereby information is communicated to us about the tactile sensations we will have if we perform or avoid certain *actions* – actions our survival often depends on our performing or avoiding. This led Berkeley to conclude that visual sensations constitute a *language*, a claim that he expands, in *Alciphron* (Fourth Dialogue) and *The Theory of Vision Vindicated*, into another argument for God's existence. Just as the use of language by other human beings shows

us that they are rational, intelligent spirits, so this *visual language* shows us that there is an intelligent, powerful, beneficent Spirit who uses visual sensations as signs to communicate to us information indispensable for our survival.

Berkeley's Later Philosophy

Thirty-five years after the young Berkeley published his first important philosophical book, *A New Theory of Vision*, the aging Bishop of Cloyne published his last, *Siris* – a curious work that begins with a recipe for tar-water, proceeds to a catalog of the many ailments he claims tar-water cures, then on through some sweeping cosmological speculations to end with reflections on the Trinity. One still meets in *Siris* some familiar themes – that natural phenomena are "appearances in the soul" and that there is an Infinite Mind "that governs and actuates this mundane system, as the proper agent and real cause." But much here differs from his earlier works. God, he now holds, does not move or animate bodies directly but does so by means of an "instrumental cause," invisible fire or pure aether, which is the "Vital Spirit of the World." And there is a clear strain of Platonism in *Siris*, with its talk of an "intellectual world" superior to the "sensible world," and its corresponding stress on the importance of moving beyond the senses (they acquaint us only with "fleeting shadows") to "intellect and reason [which] are alone the sure guides to truth." Berkeley is quite aware of the affinity of these views with those of Platonists and neo-Platonists, as also with those of ancient philosophers who thought the universe an organism actuated by an *anima mundi*. Indeed in contrast to the works of his youth, which were full of argument and rarely cited other writers, Berkeley offers little by way of argument in *Siris* but often refers approvingly to ancient writers. Berkeley scholars have not agreed about whether, or how much, his new doctrines *conflict* with those of his earlier works. But in any case, *Siris*, though very popular in Berkeley's day, is hardly read today, his reputation resting firmly on the three great works of his youth.

Philosophical Legacy

There have not been many "Berkeleians," if by that is meant thinkers who have embraced Berkeley's immaterialism – though there have been a few, from Samuel Johnson of Connecticut (first president of Columbia University and author of *Elementa Philosophica*, the first philosophy textbook written in colonial America) in the eighteenth century to A. A. Luce and T. E. Jessop (editors of the definitive edition of Berkeley's works) in the twentieth. But if few have accepted Berkeley's philosophy as a whole, *parts* of it have prefigured, and sometimes influenced, some important later developments in philosophy, especially among the empiricists, of whom Berkeley is rightly counted a major representative. A number of later theorists of vision adopted his views about distance perception and about the heteronomy of sight and touch, and even those who did not adopt them often paid attention to his arguments. Many admired his attack on abstract ideas, especially later nominalists.

Hume called it "one of the greatest and most valuable discoveries that has been made of late years in the republic of letters," and John Stuart Mill thought that Berkeley's claim that generality is possible because a particular idea can stand as representative of a class of resembling particulars provided the key to ending the ancient controversy over "universals." Phenomenalists have seen in Berkeley's analysis of *body* the first clear formulation of their view that bodies are collections of actual and possible sense-data, while Positivists have viewed Berkeley as anticipating their view that scientific laws are statements about regularities in nature, rather than statements about unobservable causal powers. Pragmatists too have seen in Berkeley a predecessor. Charles Sanders Peirce – usually counted the founder of pragmatism – declared that "Berkeley on the whole has more right to be considered the introducer of pragmatism into philosophy than any other one man, though I was more explicit in enunciating it." And William James called Berkeley's analysis of body "absolutely pragmatistic." "Matter is known," said James, "as our sensations of colour, figure, hardness and the like. They are the cash-value of the term." And even those with no sympathy for his doctrines have often praised the beauty of Berkeley's style and the clarity of his arguments.

Many philosophers, however, who have seen themselves as standing close to Berkeley about some of the aforementioned matters have, like Hume and Mill, had no sympathy with the theological side of his philosophy. While not many would agree with Mill that Berkeley was "the greatest philosophic genius" (surpassing, Mill said, even Plato, Descartes, Spinoza, Leibniz, Locke, Hume, and Kant), Mill was surely right when he said the theological side of Berkeley's philosophy was that "to which [Berkeley] himself attached the greatest value; and he would have been much grieved if he had foreseen the utter neglect of his favourite argument for Theism." In one of history's ironies, it was in *other* parts of his philosophy that many notable thinkers who came after him thought Berkeley was right.

Author's Note

Ian Tipton and Katherine McCracken made many helpful suggestions for improvements in this chapter.

References

Bayle, P., 1991, *Historical and critical dictionary: selections*. (R. H. Popkin, trans.). Indianapolis: Hackett Publishing Company (Original work published 1697).

Berkeley, G., 1948–57, *The Works of George Berkeley, Bishop of Cloyne* (9 vols.). (A. A. Luce, & T. E. Jessop, eds.). Edinburgh: Thomas Nelson.

Locke, J., 1974, *Essay concerning human understanding*. (P. H. Nidditch, ed.). Oxford: Clarendon Press (original work published in 1689).

Malebranche, N., 1980, *The Search after truth*. (T. M. Lennon & P. J. Olscamp, trans.). Columbus: Ohio State University Press (original work published 1674–78).

Further Reading

Armstrong, D. M., 1961, *Berkeley's theory of vision*. Melbourne: Melbourne University Press.
Atherton, M., 1987, *Berkeley's revolution in vision*. Ithaca: Cornell University Press.
Bennett, J., 1971, *Locke, Berkeley, Hume: Central Themes*. Oxford: Oxford University Press.
Berman, D., 1994, *George Berkeley: Idealism and the man*. Oxford: Clarendon Press.
Bracken, H. M., 1974, *Berkeley*. New York: St. Martin's.
Brook, R. J., 1973, *Berkeley's philosophy of science*. The Hague: Martinus Nijhoff.
Dancy, J., 1987, *Berkeley: An introduction*. Oxford: Blackwell.
Grayling, A. C., 1986, *Berkeley: The central arguments*. London: Duckworth.
Jesseph, D. M., 1993, *Berkeley's philosophy of mathematics*. Chicago: The University of Chicago Press.
Johnson, G. A., 1923, *The development of Berkeley's philosophy*. London: Macmillan.
Luce, A. A., 1963, *The dialectic of immaterialism*. London: Hodder & Stoughton.
—— 1967, *Berkeley and Malebranche* (2nd edition). Oxford: Clarendon Press.
McCracken, C. J., & Tipton, I. C. (eds.), 2000, *Berkeley's Principles and Dialogues: Background source materials*. New York: Cambridge University Press.
Muehlmann, R. G., 1992, *Berkeley's ontology*. Indianapolis: Hackett Publishing Company.
Pappas, G. S., 2000, *Berkeley's thought*. Ithaca: Cornell University Press.
Pitcher, G., 1977, *Berkeley*. London: Routledge & Kegan Paul.
Tipton, I. C., 1974, *Berkeley: The philosophy of immaterialism*. London: Methuen.
Urmson, J. O., 1982, *Berkeley*. Oxford: Clarendon Press.
Warnock, G. J., 1953, *Berkeley*. London: Penguin.
Winkler, K. P., 1989, *Berkeley: An interpretation*. Oxford: Clarendon Press.

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Francis Hutcheson

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Francis Hutcheson, Irish Presbyterian minister and Professor of Moral Philosophy at the University of Glasgow in the 1730s, is noted for his ethical and aesthetic theories and for his views in moral psychology. Hutcheson, beginning with his first published book in 1725, proposed that people denominate virtue and vice according to affections provoked by their conceptions of character traits or motivations. In Hutcheson's theory, benevolently motivated action is virtuous, since benevolence is the motivation of which human beings generally approve. Hutcheson is famous for denying, contrary to many prominent predecessors, that human nature is fundamentally self-interested. He is also known for popularizing the moral sense school in the eighteenth century, arguing that the moral sentiments are the products of a special sense, analogous to the five physical senses. The moral sense is, Hutcheson contends, an "internal" sense, one which reacts to the ideas of objects (characters), rather than to objects' directly impacting it, and has no particular physical organ by which it functions. The sense of beauty works similarly when we reflect upon forms and configurations of objects.

Hutcheson's Life and the Intellectual Climate of his Time

Francis Hutcheson was born on August 8, 1694, near Armagh, in Northern Ireland. Both his father, John, and grandfather, Alexander, were Scottish Presbyterian ministers. Francis received a classical education in "dissenting" schools, schools established as alternatives to the institutions overseen by the Church of England. At age 17, Hutcheson entered the University of Glasgow, where he studied mathematics and natural philosophy. After receiving his MA degree, Francis studied theology there for four more years. At age 25, he became a probationary minister, entering the Irish Presbyterian ministry during a period of church upheaval. Certain factions, with whom Hutcheson sympathized, threatened revolt against the traditional Calvinist lines of Presbyterianism.

Central to the strict Calvinist theology dominant in the Church of Scotland at Hutcheson's time was the notion that, due to Adam's original sin, human nature is corrupt or depraved. Human beings are helpless to save themselves, but God has

decided to save His chosen by sending his son as a sacrifice for only them. Only these elect receive salvation, and any good deeds done without faith or God's grace, purportedly motivated solely on moral grounds, are sinful. Perhaps the reason for such condemnation was the belief that, absent a relationship with God, all human motivation must be self-interested. Hutcheson's own philosophical perspectives were taking shape in reaction to these views, and he was harshly criticized for preaching heterodoxy – that God was benevolent and would bring to heaven even the heathen who followed their consciences. Some years later, Hutcheson would be defending in Sunday sermons the views of the so-called "Moderate" party, as formulated in the writings of HUGO GROTIUS (chapter 15). Grotius was condemned and imprisoned for rejecting the doctrines of predestination and justification of good works by faith alone. (He eventually escaped his imprisonment in Loewestein castle, by hiding in a truck of books.)

Despite his liberal views, Hutcheson had established a reputation while at the University of Glasgow that apparently led to an invitation in 1719 from the clergy in Dublin to open a dissenting academy there. Hutcheson accepted, and his academy, which he ran for eight or nine years, was a great success. During the early years of the academy, he met and married Mary Wilson, and wrote his first major work, *Inquiry into the Original of our Ideas of Beauty and Virtue*, published in 1725. Also early on in his stay at Dublin, Hutcheson became acquainted with Robert Viscount Molesworth, a prominent merchant. Although Molesworth himself wrote no philosophy, he seemed to have a great impact upon the ideas of the people with whom he conversed. He corresponded with LOCKE (chapter 24) and the Third EARL OF SHAFTESBURY (Anthony Ashley Cooper, chapter 28) and is responsible for introducing Hutcheson to the views of these philosophers, both of whom exercised a considerable influence on Hutcheson's thought.

Hutcheson initially billed his *Inquiry* a defense of the principles of Shaftesbury's philosophy. Shaftesbury's *Characteristics of Men, Manners, Opinions, Times* was first published in 1711. In it, he attempted to show that, for virtuous individuals, their "private" good was compatible with the "public" good; he also argued that human beings have the capacity to perceive virtue through their feelings and acquire it through their actions. One other Shaftesbury admirer involved with the Molesworth circle was James Arbuckle, a well-known literary figure in Dublin. With Molesworth exerting his influence on the owner of the *Dublin Journal*, Arbuckle and Hutcheson published a series of "letters" in the newspaper, which were actually philosophical essays criticizing the egoistic theories of human nature and advancing their own interpretations of Shaftesbury's views.

Some commentators have argued that the real targets of Hutcheson's anti-egoistic attacks were not the secular moralists, but rather certain Christian moralists of the day. Nonetheless, the egoists best known to eighteenth-century British, Irish and Scottish society were THOMAS HOBBES (chapter 22) and BERNARD MANDEVILLE (chapter 31). Hobbes's *Leviathan* (1651) was a monumental work that defended the view that political and moral systems are the products of self-interested human nature. Mandeville's *Fable of the Bees* (1714) consisted of a poem and a commentary. The poem depicted a hive of bees who prospered because of their self-interested vices, rather than in spite of them. When their avarice and greed were

removed by an act of their god, the society collapsed; there was no demand for the luxury goods, the alcoholic drink, the lawyers, the jails, and so forth, that had kept everyone employed. Mandeville's "fable" caused a public stir and was declared a public nuisance by a grand jury in 1723.

Hutcheson's second major work, *An Essay on the Nature and Conduct of the Passions and Affections, with Illustrations on the Moral Sense*, was published in 1728. It continued to develop the major themes of his first book and sharpened his attacks on the egoists. Two years later, Hutcheson left the academy in Dublin to assume the Chair of Moral Philosophy at the University of Glasgow, where he took the unprecedented step of teaching his classes in English, rather than in the traditional Latin. He was a beloved teacher and a spellbinding lecturer, and was said in matters of morals to make his students "pant" after virtue. In 1739, he took up a correspondence with DAVID HUME (chapter 32), whose own theories of motivation, aesthetics and morality were affected by Hutcheson's ideas. Among Hutcheson's students during his years in Glasgow was ADAM SMITH (chapter 33), who later occupied the Chair of Moral Philosophy there. While at Glasgow, Hutcheson wrote *A Short Introduction to Moral Philosophy* (published in Latin in 1742), *A System of Moral Philosophy*, and the *Logicae Compendium* (both published posthumously). Hutcheson died, after developing a fever, on his birthday, in 1746.

Hutcheson's Philosophy

Hutcheson was occupied with two questions about human nature: how we make value judgments, both aesthetic and moral, and what motivates people to act. In his preface to *An Inquiry Into the Original of our Ideas of Beauty and Virtue* (hereafter, *Inquiry*), Hutcheson says that he is investigating the various pleasures of which human beings are capable and lists among our sources of pleasure: a piece of architecture, a painting, a composition of notes, and a theorem, on the one hand; and a person's action, motive, or character, on the other. Hutcheson in fact emphasizes that virtue is beautiful and sometimes refers to the "moral sense of beauty in actions and affections" (*Inquiry*, Preface, xiv). His chief aim in this book, he says, is to show that human nature is not indifferent to virtue, but rather that it is attracted by its beauty; human nature is suited to virtue (*Inquiry*, Preface, xiii–xiv).

The *Inquiry* is divided into two treatises, *Concerning Beauty, Order, Harmony, Design* (hereafter, "*Beauty*"), and *Concerning Moral Good and Evil* (hereafter, "*Moral Good*"). Hutcheson's discussion of the aesthetic and moral senses in these two treatises borrows from John Locke's empiricist theory of ideas. Locke held that all meaningful ideas, anything with which the mind is occupied, must begin with experience, which includes both sense experience and reflection on the operations of the mind. "Complex" ideas, like the idea of an apple, are composed of "simples," like the ideas of redness, sweetness, roundness, and smoothness. Ideas of sensation are produced, Locke contends, by powers in the objects we perceive, which he calls "qualities." He divides these qualities into primary and secondary, a distinction which Hutcheson explicitly notes and appropriates (with due credit) for his philosophy.

When we sense a primary quality, such as solidity, figure, bulk, extension, or mobility, we have some notion of what physical features of the object produce the quality and our idea of it. However, our experience of a secondary quality, such as color, taste, sound, odor, and hotness or coldness, is produced by something in the object quite unlike the idea itself and of which we have only have a vague notion. Locke says that the ideas of secondary qualities do not "resemble" their causes in the objects; for instance, the phenomenal experience of redness does not look like the configured particles in the object that cause the perception. Hutcheson implies that moral and aesthetic ideas are like ideas of Lockean secondary qualities – dependent on the perceiver, and although caused by something in their objects, dissimilar to their causes.

Theory of Beauty

In the *Inquiry Concerning Beauty*, Hutcheson notes that many perceptions are immediately pleasurable or painful, without any knowledge of the cause of the pleasure or pain on the part of the perceiver. He argues for a uniformity in humans' reactions to their ideas in order to set the stage for positing a natural sense of beauty: When there is a diversity of reactions to an object, such as different responses to wine or food, the diversity is most likely due to differences in the ideas experienced. These differences are brought about, Hutcheson suggests, by changes in our bodies as we age or idiosyncratic associations certain individuals have formed between a taste or a food and an unpleasant experience such as an upset stomach. Different reactions to complex ideas like clothing or fashion are likewise due to inappropriate associations between the idea and something else, as when certain clothing is worn by those in disagreeable professions or with disagreeable personalities.

A sun rising among settled clouds is a thing of beauty to us; a certain properly complex musical composition we call "harmonious." Consequently, Hutcheson writes in Section I of the *Inquiry Concerning Beauty*,

> LET it be observ'd, that in the following Papers, the Word *Beauty* is taken for *the Idea rais'd in us*, and a *Sense* of Beauty for *our Power of receiving this Idea*. *Harmony* also denotes *our pleasant Ideas arising from Composition of Sounds*, and a *good Ear* (as it is generally taken) a *Power of perceiving this Pleasure*. In the following Sections, an Attempt is made to discover "what is the *immediate Occasion* of these pleasant Ideas, or what real Quality in the Objects ordinarily excites them." (*Beauty*, 7)

Unlike the external senses, the sense of beauty and harmony requires a reflective reaction to complex ideas, as evidenced by the following. While most people might perceive the colors and lines of a painting, some may not take the pleasure in the painting others do. Those with a larger capacity for taking pleasure in painting, architecture, music, etc., have a fine taste or a good ear, we say. Likewise, animals have external perceptions of colors, sounds, smells, and so forth, but lack the ability to be pleased at the arrangement and complexity of their sensations. And mature human beings are able to discern a kind of beauty in theorems or in rational principles. But, given its reliance on the intellect, is this capacity Hutcheson

describes genuinely a sense? Hutcheson argues that it is, because the pleasure conveyed is immediate and is not augmented by knowledge of the object – of, say, its usefulness or origin or even of the prospect of the perceiver's receiving her own advantage or disadvantage from it. While the perception of beauty depends on the observer's capacity to conceptualize certain features of an object, the reaction to that conceptualization is itself not mediated by or dependent on further ideas from which the beauty can be deduced: "HAD we no such *Sense* of Beauty and Harmony, Houses, Gardens, Dress, Equipage, might have been recommended to us as convenient, fruitful, warm, easy; but never as *beautiful*..." (*Beauty*, 13)

Hutcheson divides beauty of physical objects into original or absolute beauty, on the one hand, and comparative or relative beauty, on the other. The former is the beauty perceived in objects without comparison to anything of which it is supposed to be an imitation or copy, such as the beauty of nature or of abstract art forms. The latter is the beauty of an object that is intended as a copy of something else, such as a painting of a landscape at sunrise. Hutcheson emphasizes that original beauty is not to be thought of as analogous to a Lockean primary quality, existing independent of perception; rather, he says, "beauty" always denotes the perception of a mind just *as* "*Cold, Hot, Sweet, Bitter*, denote the Sensations in our Minds, to which perhaps there is no Resemblance in the Objects, which excite these Ideas in us,..." (*Beauty*, 14). At the same time, he adds that, since the ideas of beauty and harmony are excited upon our perceptions of the primary qualities of figure or duration, then these ideas – of beauty and harmony – probably more nearly resemble the objects which provoke these perceptions than the ideas of cold, hot, sweet and bitter resemble the objects which cause those perceptions. Whatever Hutcheson means by this comparison, we can at least take it that he thinks we have a clearer notion of the causes of the ideas of beauty and harmony than we do of the causes of our ideas of secondary qualities.

After examining many cases, Hutcheson concludes that the feature "uniformity amidst variety" is the quality in an object that occasions the ideas of beauty and harmony for human beings. In cases of geometric figures, variety increases beauty when there is equal uniformity: A hexagon is more beautiful than a pentagon; a pentagon more than a square. In nature, the same principle holds, as exemplified by the regular orbits of the various planets and by the situation of plants, vegetables, and animals, among which there is great variety in species, but uniformity in the structure of parts. "In the almost infinite Multitude of *Leaves, Fruit, Seed, Flowers* of any one Species, we often see a very great *Uniformity* in the Structure and Situation of the smallest Fibres. This is the *Beauty* which charms an ingenious *Botanist*" (*Beauty*, 22). The pleasure of harmony is also produced by a regularity with variety, when the vibrations of various notes produce a pleasing chord by their natural proportions to each other. And in the case of relative beauty, we admire paintings, poetry, literature, etc., that also exemplify uniformity with variation; for instance, we are more deeply touched by and enjoy the characters in a play who are portrayed as a mixture of virtue and vice than we are by characters presented as faultless people. Nonetheless, Hutcheson makes it clear that knowledge of this foundation is not requisite to having the sense of beauty, just as it is not necessary to know anything about the particles causing tastes in order to taste sweet or bitter.

Hutcheson uses his discussion of the sense of beauty to argue for the existence of an intentional design in the universe. He doesn't simply argue that the uniformity and regularity we find must be the product of a rational mind; rather, he notices that there seems to be no necessary connection between the pleasure indicative of beauty and the uniformity and regularity of objects. If this connection is contingent, shall we also suppose it is arbitrary? This, Hutcheson argues, is extremely unlikely, considering the facts about the world and our sensibility. There are an infinite number of possible tastes in beauty and an infinite number of situations in which an animal might find itself, so that the chances that an animal might find itself in a situation agreeing to its taste "must be improbable as *infinite* to *one* at least: And much more unreasonable is it to expect from Chance, that a Multitude of Animals agreeing in their Sense of *Beauty* should obtain *agreeable Places*" (*Beauty*, 47–8). Consequently, the fact that there is a great deal of regularity around us, coupled with the fact that our species takes pleasure in that regularity, makes for an argument for rational design over chance.

Given that our sensibility is the result of God's choice, what reason might Deity have to connect our pleasure with regular forms and to make a world full of the uniformity that pleases us? God's benevolence is the explanation: If we took pleasure instead in irregular objects and particular truths, rather than uniform and universal ones, Hutcheson says, we would be involved in "endless toil" and be perpetually dissatisfied with ourselves, "since *Reason* and *Interest* would lead us to simple *general Causes*, while a *contrary Sense* of *Beauty* would make us disapprove them" (*Beauty*, 101). Whether Hutcheson actually holds that God *chooses* this arrangement is unclear, however; for he also writes, "there is a great *moral Necessity*, from his [God's] *Goodness*, that the *internal Sense* of Men should be constituted as it is at present" (*Beauty*, 100–1). Furthermore, Hutcheson seems to overlook that his argument for intentional design actually contains the suppressed premise that God is benevolent, since it is the pleasant human condition a kind God would produce that constitutes the evidence for design. If we found ourselves instead dissatisfied by the forms surrounding us, that condition could also be an intentional result, but of a malicious designer. Hutcheson does, however, offer many independent arguments for the existence of an intelligent creator in his later work, *A System of Moral Philosophy*.

Given that there are instances of individuals who fail to be pleased by some configurations others find beautiful, on what grounds can Hutcheson maintain the universality of this sense? He argues that, just as a test of the presence of rationality is the ability to understand simple arguments rather than complex ones, which require sophistication, so the proper test of one's capacity for appreciating uniformity amidst variety are simple cases. He asks not whether everyone appreciates the works of a da Vinci, but whether anyone has ever preferred irregular figures for the shape of one's house, or a companion with unequal arms or legs or eyes or cheeks. (Harmonies, he argues, are necessarily complicated and so an unfair test from the beginning.) Education and training can enlarge the human capacity for appreciating forms, but only because we possess this sense naturally; had we not been disposed to take pleasure in, say, the universality of a theorem, education would only serve to quicken our comprehension of its truth, but not to augment our pleasure in grasping its truth.

Theory of the Passions and Affections

Hutcheson generally defines the affections in *An Essay on the Nature and Conduct of the Passions and Affections* (hereafter, "*Passions*") as reactions raised in us by reflecting on present or future existence of natural good or evil. Objects or events are considered naturally good or evil according to whether they are occasions of pleasure or pain, either directly or upon reflection on other ideas, as in the senses of beauty and morality. One feels joy at the prospect of visiting a long lost friend and sorrow at the prospect of losing an art treasure to fire (*Passions* 28, 60–1). Understanding types of good and evil depends on comprehending different sorts of sense perception. On the description of a sense as "*every Determination of our Minds to receive Ideas independently on our Will, and to have Perceptions of Pleasure and Pain*" (*Passions*, 4), Hutcheson derives the following types of senses: (1) the external senses; (2) the internal sense, or the sense of beauty; (3) the public sense, or the capacity to be pleased with the happiness of others and to be distressed at their misery; (4) the moral sense, the capacity by which we perceive virtue and vice in ourselves or others, depending on how we react to our and others' affections, sentiments and actions; (5) the sense of honor, or the determination to be pleased at others' gratitude toward us and to be displeased or shamed at their condemnation. Desires arise in order to obtain the agreeable sensations and to avoid the disagreeable, for oneself or for others, so they can be classified according to these five types of senses (*Passions*, 7–8). Desire and aversion are the only "pure" affections, and the others, like joy and sorrow, are affections rather than sensations, because they include desire or aversion (*Passions*, 60). It is notable that, later, in his *Short Introduction to Moral Philosophy* and *A System of Moral Philosophy*, Hutcheson drops his hedonism and decides that desires can arise directly from inherent faculties.

Hutcheson argues that desires in these five classes can also be selfish or benevolent, according to whose advantage they pursue – the agent's or others'. Hutcheson defends his contentious view that not all desires are self-interested against those who claim that desire for the happiness of others arises only upon the prospect of personal advantage or reward. Hutcheson's basic line of argument is that if we have benevolence at all, it is natural; nothing can make us *acquire* the desire for another's happiness. His claims are the following. On the assumption that another's happy state is a means to our own (for instance, through sympathy with their condition or from the pleasure of our public sense), we would subordinately desire the good of others as a means to ours; but such a desire is not actually a desire for another's happiness. On a different assumption, that the *desire* for another's happiness is a means to our happiness (for instance, through self-approval or the prospect of honor for our unselfish feelings), our self-love could not produce a desire for others' happiness, either. In these circumstances, it is not others' advantage that is a means to ours, but our desiring their advantage. Self-love then would merely elicit the desire to desire others' happiness, but we can't simply bring on a desire by wanting to have it (*Passions*, 13–22).

Passions, strictly speaking, differ from affections and include a "strong brutal impulse of the will" attended with confused sensations or prolonged by bodily

motions; passions can arise without any notion of private or public good and can preoccupy us and obstruct our reasoning about our behavior (*Passions*, 28–9, 61). Passions include propensities, natural non-rational inclinations to objects or actions. Anger, for instance, includes, in addition to the intention to remove the pain of injury and the desire for reparation of harm, a natural impulse to violence toward the offender, even when there is no good to obtain from it (*Passions*, 64). Particular selfish passions, such as ambition, hunger, lust, revenge, and anger are distinct from the general calm desire of private good, a reflective affection. Particular passions of love, congratulation, compassion, and natural affection are distinct from the general calm desire of others' happiness and aversion to their misery. Calm desire of another's happiness can take the form of particular calm benevolence (toward an individual) and universal calm benevolence. The particular passions can be at odds with the calm and overcome them, and vice versa; for instance, the desire for revenge can overcome the calm desire for one's genuine good (*Passions*, 29–30).

On Hutcheson's theory of the formation and strength of desires and affections, our senses make objects, actions, or events good to us, and "we have Power to *reason*, reflect and compare the several Goods, and to find out the proper and effectual Means of obtaining the greatest for ourselves or others, so as not to be led aside by every Appearance of *relative* or *particular* Good" (*Passions*, 43). So, for instance, when the intensity and duration of two pleasures and the number of enjoyers of them are equal, our desire for one over the other is in proportion to the strength of our ties to the persons involved. This is not to say, however, that we are never overcome by strong passions that prompt behavior contrary to our or others' interests. Hutcheson says that we can control the particular passions by making the calm ones habitual – and, so, stronger – by engaging in frequent reflection (*Passions*, 30, 106–7).

Theory of Morality

With the apparatus of the internal sense in place, Hutcheson defines moral goodness, in his *Inquiry Concerning Moral Good and Evil*, analogously to beauty, as our idea of the quality in actions that procures our approbation, and, in this case, also prompts us to love the agent, even when the action is not to our advantage. Moral evil is our idea of the contrary quality. The power of receiving these perceptions is, of course, a sense, fitting, as it does, Hutcheson's earlier description (*Moral Good*, 113).

Hutcheson argues at some length that the foundation of the moral sense, that is, the quality of which it consistently approves, is benevolence in the agent of an action. He cites several considerations in favor of the claim that our approval is not correlated with how actions serve our interest. We feel differently when someone serves us out of love compared to self-interest; motive, not just result, matters. When an action appears to be motivated out of a concern for the good of others, even if in a distant country or another age, we feel admiration, but we have no reason to think our own interest is somehow bound up with others' good or the

good of mankind: "...whence this *secret Chain* between *each Person* and *Mankind?*" (*Moral Good*, 115). When someone recommends to us an action that is in our interest but harms an innocent person, we can no more force ourselves to approve it than we can get ourselves to like the taste of a "nauseous" potion good for our health (*Moral Good*, 116–21). All of these considerations also underline the fact that the moral sense is not a product of education or custom, since, according to Hutcheson, training and practice only promote our reasoning skills, which help us to understand, when we otherwise would not, how an object may be advantageous. The moral sense, like the sense of beauty, is a natural, God-constituted faculty (*Moral Good*, 128).

In Hutcheson's view, the moral sense approves all particular kind affections and passions, as well as calm particular benevolence; it also approves the restraint of particular passions by calm universal benevolence (*Passions*, 29–32). When we approve of someone as good, we also desire their happiness, and this is calm love; moral disapprobation of another accompanied by malice is indicative of hatred (*Passions*, 65–6).

Some moralists of Hutcheson's era, such as Samuel Clarke and William Wollaston (and some recent theorists as well), proposed that morality is defined by and known by reason, and that virtue is a matter of exhibiting rationality in action. While these philosophers had varying conceptions of the standard reason delivers, Hutcheson was concerned, especially in his *Illustrations on the Moral Sense* (hereafter, "*Illustrations*"), to combat moral rationalism of any kind, in which emotions of approval and disapproval are inessential to the identity of morality. On Hutcheson's characterization of reason as the power of finding out true propositions, reasonableness must be the conformity of a thing to the truth. But while we can state all sorts of truths about any action, not just any action is one we would regard as virtuous. Consequently, virtue and reasonableness cannot be the same thing (*Illustrations*, 215–16).

One common view about the moral emotions that Hutcheson considers is that we *first* develop standards of morality through reason, and the affections of the moral sense conform themselves to those standards. In this case, the affections are not decisive in morality, but are instead conditioned by reason, which defines morality. On this view, we offer "justifying" reasons, reasons why certain qualities of character are good and others not. For instance, the reason temperance is a virtue, and indulgence in luxuries is not, is that the latter is typically evidence of a mean and corrupt temperament. We also suppose that we can explain the actions people choose by citing the reasons that motivated them – their "exciting" reasons. Why did this man risk his life in a just war? The reason is that the goal of a just war, which the agent shares, is to preserve our honest fellow citizens. But Hutcheson argues that the practice of offering justifying and exciting reasons ultimately requires *his* theory: All justifying reasons presuppose the existence of a moral sense, while all exciting reasons presuppose that we have affections (*Illustrations*, 217–18). How?

Exciting reasons require affections because they explain the actions we undertake by reference to some goal or end we desire. That goal in turn might be explained by reference to another desired end it serves, and so on, but we can give no reasons

like this for the ultimate ends to which all the others are subordinate. What reason explains why someone is moved to save his honest countrymen? Some suggest that there is one ultimate end – the public good – given for all human beings in pursuit of which every particular object is desired (*Illustrations*, 220). But what truths about the public good can excite actions? One proposal is that the public good is the end proposed by God. But why should we carry out God's proposal? That God will make us happy if we do so is a reason for us because of self-love; that God is our benefactor is a reason for us if we care about compensating benefactors. Both possibilities suppose certain affections. Another proposed reason is that it is best that all be happy; but, again, this is only a reason for pursuing the public good if one has a kind affection for the good of the others. The ultimate ends that allow us to give exciting reasons in the first place must, therefore, be determined by our affections. Reason by itself can never explain what produces actions (*Illustrations*, 222–6).

Can reason fully explain the justification of our actions and motives? Hutcheson notes that justifying truths can't be truths showing an action fit to attain an end, for the worst actions can be conducive to their ends and reasonable in that sense. Justification must be about the ultimate ends themselves. He writes,

> 'Does a *Conformity to any Truth* make us *approve* an *ultimate End*, previously to any *moral Sense?*' For example, we approve *pursuing the publick Good*. For what *Reason?* Or what is the *Truth* for Conformity to which we call it a *reasonable End?* I fancy we can find none in these Cases, more than we could give for our liking any *pleasant Fruit*. (*Illustrations*, 230)

A crucial objection to Hutcheson's view is that if there is no standard of morality based on reason prior to a moral sense, then there is no way to tell whether one sense is better than another, either morally better or more reasonable, and Deity might have given us any (*Illustrations*, 237). Furthermore, just as a deficient color vision can represent things wrongly to the perceiver, our moral sense might wrongly represent vice as virtuous; but without a separate standard, we could never know this (*Illustrations*, 286).

Hutcheson argues that, while we wouldn't call the sense of morality moral or immoral (or the sense of color red or blue), we could find a reason to think one sensibility better than another. Our present sense, in which observers approve of actions useful to others, is more conducive to the happiness of the person, than a sense in which the observer is displeased by actions useful to others (*Illustrations*, 238–9). Moreover, Hutcheson notes, we correct our perceptions of colors, sounds, and tastes when we think they are distorted by a disorder in the sense organs or by circumstances in the environment (distance, lighting, etc.); yet, we don't conclude that reason rather than sense discovers these ideas (*Illustrations*, 287). However, Hutcheson wonders, what, beyond our conception of the motivations of an agent or the tendencies of her actions, might reason correct in the case of moral perception? He writes,

> ... whether our *moral Sense* be subject to such a Disorder, as to have *different Perceptions*, from the same apprehended *Affections* in an agent, at *different times*, as the *Eye*

> may have of the Colours of an unaltered Object, it is not easy to determine. . . . What *Reason* could correct, if it fell into such a *Disorder*, I know not; except suggesting to its *Remembrance* its *former Approbations*, and representing the *general Sense* of Mankind. (*Illustrations*, 288–9)

Elsewhere, however, Hutcheson suggests that perversions in moral and aesthetic perceptions and in desires generally are causes by so-called "fantastick" associations, which are the result of conditioning and education. Only our original and uncorrupted constitution is a reliable source of the pleasures upon which our values are based and of the motivations proper to us. So, for instance, if someone forms a hasty and fallacious opinion about the cruelty of a certain sect, thus falsely associating misery with the character of the people, that observer will have faulty feelings of disapproval and hatred toward the members of that group (*Passions*, 100). Somewhat paradoxically, Hutcheson also suggests, that to live the best life, we must regulate and moderate some of our intense passions by reflection and mental discipline. For instance, he writes, "*. . . Jealousy*, or *Envy*, might be restrained in a great measure, by a constant *Resolution* of bearing always in our Minds the *lovely Side* of every Character" (*Passions*, 192). So, apparently not *every* modification of our natural affections is detrimental; to live well, Hutcheson recommends cultivation of the pleasures of the moral sense and of the desire of virtue by studying the natural tendencies of human actions (*Passions*, 193).

Contemporary Discussions of Hutcheson's Philosophy

A good share of discussion in the contemporary literature on Hutcheson surrounds the metaethical question of objectivity in his moral theory. Hutcheson's thesis that virtue is an idea produced in human beings by their affective responses, along with his denial of moral rationalism, leads quite easily to a non-cognitivist reading of Hutcheson on moral judgments, advocated by Bernard Peach, D. D. Raphael and Norman Kemp Smith. On their interpretation, Hutcheson's view is that our expressions of our feelings as judgments do not describe features in the world (in characters we contemplate) and are not matters of rational evaluation. On the other hand, Hutcheson's taking care to distinguish the quality in a character that we judge virtuous – namely, benevolence – from the feeling of pleasure in the admirer, plus his calling the former "the foundation of the moral sense," supports a contrary interpretation. David Fate Norton has recently argued that Hutcheson is a moral objectivist who argued for the reality of virtue in a way opposed to the egoists of his day, who failed to recognize a difference between pleasure and morality. To support his reading, Norton analyzes the analogy upon which Hutcheson draws between the physical senses, which involve cognition, and the moral sense. But critics have noted that, depending on how details of Hutcheson's account of external perception are taken, a subjectivist view, in which morality is essentially dependent on human reactions, might emerge. Crucial here is understanding to what extent Hutcheson really thinks ideas of virtue and vice are like secondary-quality ideas and how he regards the latter and their causes, a topic that has generated considerable discussion.

Another interpretative issue is the relation, in Hutcheson's view, between the affections of the moral sense and moral motivation. Throughout his writings, Hutcheson indicates that the moral sense also motivates benevolent action, but just how it does is a puzzle, even to Hutcheson. The pleasure of the moral sense is not itself a motive, since sensations do not motivate: Only the expectation that something is a source of pleasure produces desire. One possibility is that we develop the desire to be benevolent in order to enjoy the pleasure of reflecting on ourselves, but it is an embarrassment to Hutcheson that he offers a self-interested explanation of moral sense motivation. One other possibility is that the love accompanying our approval of an agent motivates us to pursue that person's good, but presumably love is a separate feeling from the moral approval itself. John Bishop and Stephen Darwall have argued that Hutcheson was led by this quandary to change his views in his later works and maintain that some faculties, like the moral sense, are naturally authoritative in human beings and guide conduct directly.

Other topics in the current literature include Hutcheson's views on God's relation to morality and on reflection about ends in practical reasoning.

References

Bishop, John D., 1996, "Moral Motivation and the Development of Francis Hutcheson's Moral Philosophy," *Journal of the History of Ideas* 57: 277–95.

Darwall, Stephen, 1995, *The British Moralists and the Internal "Ought": 1640–1740*. New York: Cambridge University Press.

Hutcheson, Francis, 1738, *An Inquiry Into the Original of our Ideas of Beauty and Virtue, in Two Treatises. I. Concerning Beauty, Order, Harmony, Design. II. Concerning Moral Good and Evil.* London, 4th ed. Facsimile republished, Westmead: Gregg International Publishers Ltd., 1969.

—— 1742, *An Essay on the Nature and Conduct of the Passions and Affections, with Illustrations on the Moral Sense*. 3rd ed. Facsimile reproduction with introduction by Paul McRenyolds, Gainesville, Florida: Scholars' Facsimiles & Reprints, 1969.

—— 1755, *A System of Moral Philosophy*. Glasgow & London. Reprinted, New York: Augustus M. Kelly Publishers, 1968.

Locke, John, 1690, *Essay Concerning Human Understanding*. London. Ed. by P. H. Nidditch. Oxford: Oxford University Press, 1975.

Mandeville, Bernard, 1725, *The Fable of the Bees*. 4th ed. Selections in Jerome Schneewind, *Moral Philosophy from Montaigne to Kant*, vol. II. New York: Cambridge University Press, 1990.

Mautner, Thomas, 1993, "Introduction." *On Human Nature*, containing the essays, "Reflections on the Common Systems of Morality" and "Inaugural Lecture on the Social Nature of Man," by Francis Hutcheson. Cambridge: Cambridge University Press.

Norton, David Fate, 1982, *David Hume: Common-Sense Moralist, Sceptical Metaphysician*. Princeton: Princeton University Press.

Peach, Bernard, 1971, "Editor's Introduction." *Illustrations on the Moral Sense*, by Francis Hutcheson. Cambridge, MA: Harvard University Press.

Raphael, D. D., 1947, *The Moral Sense*. London: Oxford University Press.

Scott, William Robert, 1900, *Francis Hutcheson: His Life, Teaching and Position in the History of Philosophy*. Cambridge. Reprinted, New York: Augustus M. Kelly Publishers, 1966.

Smith, Norman Kemp, 1941, *The Philosophy of David Hume: A Critical Study of its Origins and Central Doctrines*. London and New York: Macmillan. Reprinted 1964.

Wood, Paul, 1997, "'The Fittest Man in the Kingdom': Thomas Reid and the Glasgow Chair of Moral Philosophy," Hume Studies 23 (Nov. 1997): 277–313.

Further Reading

Blackstone, William T., 1965, *Francis Hutcheson and Contemporary Ethical Theory*. Athens: University of Georgia Press.

Carey, Daniel, 1997, "Method, Moral Sense, and the Problem of Diversity: Francis Hutcheson and the Scottish Enlightenment," *British Journal for the History of Philosophy* 5: 275–96.

Darwall, Stephen, 1997, "Hutcheson on Practical Reason," *Hume Studies* 23: 73–89.

Gill, Michael B., 1995, "Nature and Association in the Moral Theory of Francis Hutcheson," *History of Philosophy Quarterly* 12: 281–301.

——1996, "Fantastick Associations and Addictive General Rules: A Fundamental Difference between Hutcheson and Hume," *Hume Studies* 22: 23–48.

Hope, V., 1989, *Virtue by Consensus: The Moral Philosphy of Hutcheson, Hume and Adam Smith*. Oxford: Clarendon Press.

Jensen, Henning, 1971, *Motivation and the Moral Sense in Francis Hutcheson's Ethical Theory*. The Hague: Nijhoff.

Kail, P. E., forthcoming, "Hutcheson's Moral Sense: Scepticism, Realism and Secondary Qualities," *History of Philosophy Quarterly*.

Kivy, Peter, 1995, "The 'Sense' of Beauty and the Sense of 'Art': Hutcheson's Place in the History and Practice of Aesthetics," *Journal of Aesthetics and Art Criticism* 53: 349–57.

Korsmeyer, Carolyn, 1979, "The Two Beauties: A Perspective on Hutcheson's Aesthetics," *Journal of Aesthetics and Art Criticism* 38: 145–51.

Moore, James, 1995, "Hume and Hutcheson," in *Hume and Hume's Connexions*. Ed. by M. A. Stewart, University Park: Penn State University Press.

Norton, David Fate, 1985, "Hutcheson's Moral Realism," *Journal of the History of Philosophy* 23: 397–418.

Radcliffe, Elizabeth, 1986, "Hutcheson's Perceptual and Moral Subjectivism," *History of Philosophy Quarterly* 3: 407–21.

Strasser, Mark, 1990, *Francis Hutcheson's Moral Theory: Its Form and Utility*. Wakefield: Longwood Academic Press.

Winkler, Kenneth P., 1985, "Hutcheson's Alledged Realism, *Journal of the History of Philosophy* 23: 179–94.

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Bernard Mandeville

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Bernard Mandeville deeply upset the assumptions of English polite society in early eighteenth-century London. From his point of view, wealth and power grew from the ways in which the passions directed human behavior. Like HOBBES (chapter 22), he held a materialist view of the human constitution; and like Hobbes, he believed that the natural state of human affairs was one of intense competition as people pursued their own self-interests. Unlike Hobbes, however, he also believed that the overweening passion – pride – provided a mechanism for sociability without a powerful sovereign. Human societies had flourished when clever politicians used flattery to encourage personal behavior that benefited the general good. As the famous subtitle to his *Fable of the Bees* put it: "private vices, public benefits." In the prose exposition of that work, he explained that "Moral Virtues are the Political Offspring which Flattery begot upon Pride." Or, as he expanded this slogan in one of his self-defenses, "private Vices by the dextrous Management of a skilful Politician, may be turn'd into publick Benefits." All this attacked frontally the common opinion of English polite society that humankind was naturally generous and sociable, that if unchecked the passions led to corruption, crime, and social disorder, and that reasoning was the means by which people dominated their passions in order to allow their natural goodness to flourish. All this Mandeville saw as hypocrisy, merely allowing those who preached virtue to benefit from and exercise power over the powerful and wealthy realm of England.

Mandeville therefore represented the serious and threatening inner world of the urban wits ensconced in their coffee-houses and taverns. To many defenders of virtue, he seemed the latest incarnation of a "man-devil," a new Machiavelli, SPINOZA (chapter 16), and Hobbes rolled into one, spewing an antireligious and inhumane doctrine of setting the passions loose against rationality and goodness. From the English perspective, Mandeville seemed outlandish. Indeed he was: his views were founded on ideas common among Dutch republicans, including a favorable opinion of Descartes' last work, his book on the passions, in which he declared them all to be good. The outlook expressed by Dr. Mandeville was so unusual in England, however, that it caused great controversy in the early 1720s. Perhaps, then, the infamy that he gained drew the attention of people like DAVID HUME (chapter 32) and ADAM SMITH (chapter 33), whose modifications of Mandeville's

position made it much more acceptable later in the century. In any case, one can hear echoes of Dutch republicanism in the English-speaking world in Mandeville's defense of life, liberty, and happiness.

Upbringing

Bernard Mandeville was born in Rotterdam in 1670, named after his maternal grandfather, who served as a naval captain on the Admirality board of that city. His father, a physician, came from farther up the river Maas, from Nijmegen, where his family also had a tradition of holding public office as well as practicing medicine. Bernard's father served Rotterdam as city physician, board member of the municipal hospital, and lieutenant in the militia, while also holding the office of alderman in the adjoining jurisdiction of Schieland. As was common for a boy of his rank, Bernard was given an excellent education. Shortly before he entered the local Latin school, it had been transformed into an Illustrious School (or Atheneum), partly because in 1681 the city recruited two French Protestant intellectuals to it after Louis XIV destroyed the Protestant academy in Sedan: Pierre Jurieu and PIERRE BAYLE (chapter 17). Jurieu became a vigorous advocate for a military crusade against Louis XIV. He was also a firm proponent of Calvinist orthodoxy, making it plain that salvation could not be obtained through human reason or will, and therefore that true virtue is something only a few can aspire to, the rest being hypocrisy. For his part, in a notorious letter on the comet of 1680, pseudonymously published, Bayle had entered upon a course attacking superstition, intolerance, and poor scholarship. During Mandeville's last year at the school, in 1684, he began to edit the *Nouvelles de la république des lettres* for which he became well known even before starting work on the *Dictionnaire Historique et Critique*. Because French was becoming the polite language of discourse for the urban elite, the young Mandeville might also easily have encountered La Rochefoucauld's *Maxims* and Pascal's *Pensees*, and perhaps even Jansenist works – possible influences on Mandeville that many commentators have noted – although there is little reason to look beyond Jurieu and Bayle for influences on him from the French world.

Mandeville was sent to study at the university in Leiden, in October 1685, the same month as the Revocation of the Edict of Nantes, which ended what was left of religious toleration in France and increased the stream of Huguenot refugees to a flood. He would ever after clearly identify Louis XIV as the greatest threat to humanity. A year later, in September 1686, he matriculated in the faculty of philosophy. There he became imbued with Cartesianism. His graduating disputation of 1689, *De brutorum operationibus*, held that animals do not have sensibility. Following in his ancestor's footsteps, he then matriculated into the medical faculty. At the time, the new professor of medicine and anatomy, Antonius Nuck, was launching an impressive range of anatomical demonstrations, especially on the lymphatic system. The renowned professor of botany, Paulus Hermann, also taught clinical medicine in the city's Caecilia Hospital. Carel Dematius, a proponent of physical experimentalism, offered the courses on chemistry, while Jacobus le

Mort, best known as a chemist, taught practical medicine. The medical outlook conveyed by these professors stressed the utility of detailed investigations into corporeal nature. After two years' study, Mandeville defended a thesis on corrupt chylification (an aspect of digestion), *De chylosi vitiata*. The roots of Mandeville's physiology can be traced to both Paracelsianism and learned anatomy, to his teacher Nuck's work on the lymphatic system, to Van Helmont's interest in the subject of digestion and fermentation, to Cartesian corpuscularianism, to Sylvius's acids and alkali theories, and to the general view of fluids and solids that Mandeville's classmate Hermann Boerhaave later codified. In the hands of Mandeville's generation, these doctrines generally amounted to a materialist view of the body and mind.

In the midst of his studies, Bernard Mandeville stayed in close touch with events in Rotterdam. Thanks to the work of Rudolf Dekker, it is now known that both Bernard and his father were deeply involved in one of the most significant displays of anti-Orangist feeling in Rotterdam, the so-called Costerman Riot of 1690. Resentments focused on the bailiff (*baljuw*), Jacob van Zuijlen van Nievelt, who acquired a reputation among his opponents as a particularly corrupt and domineering official. When a young militiaman named Costerman was – after a sham trial, according to his supporters – executed for killing one of Van Zuijlen's henchmen in a brawl, the republicans counter-attacked (Dekker, 1992, pp. esp. 483–4). Perhaps Bernard himself authored one of the satirical broadsides stirring up public anger toward the bailiff. On October 5 1690 a crowd violently broke into Van Zuijlen's house and systematically ransacked it, although its inhabitants escaped. The city government dismissed Van Zuijlen the next day and brought suit against him for crimes in office. In the end, however, William III obtained an acquittal for his servant and then forced the Rotterdam city council to pay a huge fine as punishment, installed his own clients in the government, and reinstated Van Zuijlen, who took revenge on his opponents. At the beginning of 1693, the elder Mandeville was among those banished from the city. At the same time, Bayle was forced to give up his professorship at the Erasmus school.

Given the turn of events in Rotterdam, Bernard Mandeville apparently moved to London. He arrived sometime before November 17 1693, when he was named at a meeting of the College of Physicians as one of seven practitioners to be summoned to explain themselves for practicing in London without the College's permission. This entry in the Annals of the College of Physicians provides us with the first firm date for his presence in England. Many other Dutch practitioners came to London during the later seventeenth century. That he came to try his fortune as a doctor far from his home town seems much more likely than his later comment in passing that he came "to learn the Language" (*Treatise of the Hypochondriack and Hysterick Passions*, 1730, xiii). He did not, however, join the Dutch Reformed Church at Austin Friars, as many Dutch immigrants did. Nor, despite the warning from the College of Physicians, did he join that body. Little else is known of his life. He married Elizabeth Laurence at St. Giles-in-the-Fields on February 1 1698. When young Benjamin Franklin lived in London in the mid-1720s, he met Mandeville presiding over a club of libertines at a pale-ale house off Cheapside, probably the Horn Tavern. Mandeville died in January 1734 at Hackney.

English Works, Dutch Sources

As an author, Mandeville made his first appearance in the Costerman Riots. Ten years later he published in London where, as in Rotterdam, he aimed his satire at those who preached virtue while practicing power. His first words, in 1703, were provoked by a medical conflict in which the officers of the College of Physicians made an example of Joannes Groenevelt, a Dutch physician and surgeon who had been long established in London, whom they accused of malpractice. Mandeville added a Latin poem to the second edition of Groenevelt's defense of his practice, attacking the Censors as "a weak-brained Host" while describing Groenevelt as "a Name that all Learn'd Tongues must Chant" for the invention of a new therapy (Ward, 1931). Mandeville also produced *The Pamphleteers: a Satyr* (1703), which defended the policies of William III, and soon thereafter, *Some Fables after... la Fontaine* (1703). His version made the conclusions to La Fontaine's fables more pointed. In the following year he published an imitation of Paul Scarron's *Typhon*, which had been an epic burlesque on Mazarin; in Mandeville's hands, it was aimed at the English societies for the reformation of manners.

His satires continued with a poem first published in 1705, *The Grumbling Hive: or, Knaves Turn'd Honest*, which eventually became the foundation for his famous *Fable of the Bees*. A series of writings attacking the English view of women flowed from his pen at the end of the decade: first *The Virgin Unmask'd* (1709) in the form of an amusing conversation between an elderly unmarried aunt and her blossoming niece, and then, from November of that year, contributions to *The Female Tatler*, aiming his darts at Steele and his character Bickerstaff. His medical work, *A Treatise of Hypochondriack and Hysterick Passions*, first appeared in 1711, again in the form of a dialogue. The poem *The Grumbling Hive* had a reprint in 1714 with a prose exposition of it titled "An enquiry into the origin of moral virtue"; the two together comprised the first edition of *The Fable of the Bees*. It was printed again in 1723 with an additional appendix, "An Essay on Charity and Charity-Schools," which caused a great public outcry. *The Fable* of 1714 may well have been meant as a defense of the Whigs, who were accused of corruption, for he also published in the same year *The Mischiefs that ought justly to be apprehended from a Whig-Government*. He followed up with *A Modest Defense of Publick Stews* (1724) (although that work was published anonymously and is also attributed to George Ogle) and the scathing *Enquiry into the Causes of the Frequent Executions at Tyburn* (1725), and shortly before his death in 1733 published *An Enquiry into the Origin of Honour, and the Usefulness of Christianity in War* (1732).

Many of his works included swipes at Louis XIV and France; all blasted the hypocrisy of English polite society, which had all the advantages of wealth and power while pretending to want virtue. At one level, Mandeville's works can be read for pleasure, with their witty observations and fluid style having fun with the human comedy. At another level, however, Mandeville consistently advanced a darker view of human nature quite at odds with the more optimistic prevailing English sentiment, which makes his work discomforting. Indeed, the second edition of the *Fable*, with its explicit attack on charity and charity schools, brought him

great notoriety when a host of worthies felt compelled to do all they could to suppress his viewpoint. It was this serious undercurrent to his works that made him a kind of English version of the notorious materialist La Mettrie (also educated in medicine at Leiden) and caused his many critics to lump him with Machiavelli, Hobbes, Spinoza, Bayle, and other dangerous minds.

The sources for his outlook lie in his upbringing among Dutch republicans. His first original prose work suggests as much. *The Virgin Unmask'd* put the case for the intelligence and even superiority of women despite the English social system which kept them in servitude. An "elderly maiden lady" named Lucinda begins by explaining the dangers of marriage and other matters to her young niece, Antonia. Married English women are depicted as totally dependent on their husbands for their material welfare and personal reputation, so that the unmarried life is the only one available in which women can exercise some control over their own welfare. After convincing her niece of the truth of this, the aunt goes on to explain the ways of the world more generally. The dangers of the powerful French monarchy and aristocracy are contrasted with the peaceful industry of the Dutch, placing English society between the two and ascribing its failures – like the failure of English marriages – to the aristocracy. For instance, whereas in England women are kept ignorant of financial affairs under the outward show of tenderness and respect for their sex, in Holland "Women sit in their Counting-houses, and do Business, or at least are acquainted with every thing that their Husbands do" (1709 ed., p. 128). Given their more democratic ways, the people of the Netherlands, even the poor, are materially better off than they are in England or France, despite having far fewer natural resources; what made them wealthy in contrast to the English was freedom, which stimulated personal industry. Lucinda even explained the international situation and why Louis XIV had to be stopped. In defending the aptitude of women for the world of work and business, and even for politics, Mandeville followed through on arguments that had been advanced by many in the Netherlands.

Not only Mandeville's views on women had taken root on Dutch soil. His theory of human nature and defense of liberty also drew on Dutch republicanism. The party of True Liberty, as the States party sometimes styled itself, defended a system of small republics (the cities) organized into larger republics (the provinces), which were in turn organized into the United Provinces. In their view, it was not necessary to have a head of state in the form of a prince; rather, it was only necessary to have clear rules (especially a system of contract) in which various competing interests could further themselves, benefiting the whole. Although from the individual's point of view the competitive nature of society might do personal harm, at the collective level the system produced wealth, power, and social cohesion.

These views were clearly expressed by the chief representative of the Republic from 1652 until his brutal murder in 1672 (when the Organists seized power), Johann de Witt. De Witt's principles are evident in his "Deduction" of 1654 defending the exclusion of the House of Orange from public office, in which he set out the principle that "the welfare of the inhabitants of the country must be the supreme law."

> But do not the present seven United Provinces have the same single interest in their own preservation? A same single fear of all Foreign Powers? Are they not so bound to each other by mutual alliances and marriages among both regents and inhabitants, by common bodies, companies and partnerships in trade and other interests, by intercourse, possession of property in each other's lands, common customs and otherwise, are they not indeed so bound and interwoven together that it is almost impossible to split them from each other without extraordinary violence, which will not occur unless there are eminent Heads [i.e., princes]? (Rowen, 1978, pp. 384, 388–9)

If power was properly shared among the inhabitants, the abuses and misgovernment of aristocratic and monarchical governments would be eliminated and the collective state would flourish.

The outlook of such Dutch republicans was elaborated in works by the brothers Johan and Pieter De la Court, encouraged by De Witt himself. De Witt probably first encountered Pieter de la Court's *The Prosperity of Leiden* soon after its publication in 1659. He seems to have encouraged its expansion into *The Interest of Holland* (1662); he may have edited the work, and he certainly ghost-wrote chapters 29 and 30 in it. The book explained how a place not favored by natural resources could become so wealthy and powerful. Not able to rely on agriculture for their livings, they turned to fishing and trade. It was primarily freedom, however, that explained why Amsterdam was a richer city and Holland a richer country than had ever been seen before in the world: freedom of worship, freedom of immigration, and freedom to work without the constraints of gilds or monopoly companies.

Beneath the economic and political analysis of the republicans lay a particular view of human nature: self-interest and passion took the place of reason and virtue as the basis of human conduct, with a democratic life allowing for the canceling out of contrary interests, which resulted in social harmony and material betterment. The De la Courts explained – just as Mandeville later would – that their ideas derived from a clear-eyed view of real experience rather than concepts of how humanity should be. But behind their views was also a new analysis of the passions, that of Descartes' *Passions de l'Ame* (1649).

In this his last work, Descartes concluded that the passions were good. The pleasures common to both soul and body, such as love, "depend entirely on the passions" (Cottingham, Stoothoff & Murdoch, 1985–1991, p. I:403). The passions show us how to remain alive and how to live well, and are therefore good: "we see that they are all by nature good." Moreover, people who can be moved deeply by the passions are "capable of enjoying the sweetest pleasures of this life" (Cottingham, et al., 1985–1991, pp. I:347, 348, 403, 404). Descartes' general conclusion was that "we have much less reason for anxiety about them than we had before." One need not fear them, only avoid "their misuse or their excess." Virtue lay not in conquering them through an inner war, but in living "in such a way that his conscience cannot reproach him for ever failing to do something he judges to be the best." That way, he will have a tranquil soul, which "the most violent assaults of the passions will never have sufficient power to disturb." If one pursues this

course toward a virtuous life, then the rational faculty will remain free from being a slave to the passions. One can therefore enjoy the pleasures they bring while turning the ills they cause into "a source of joy" (Cottingham, et al., 1985–1991, pp. I:382, 403, 403, 404). In short, to try to subdue and then remain in control of the passions cut one off from their guidance about life and pleasure. Descartes himself had discovered his position through discussions with the Princess Elisabeth and it had attracted the interest of Queen Christina; perhaps because it made little of the gulf between men abiding by reason and women controlled by passion as so many other philosophies did, the Cartesian philosophy continued to be of interest to women.

The political economy of the Dutch republicans concurred with the positive view of the passions expressed by Descartes, and substituted his theory of real human nature for one based on how it ought to be. The power of this viewpoint can even be seen in the work of the Third EARL OF SHAFTESBURY (chapter 28), who is well-known for his arguments about an innate knowledge of the good in each person. Even Shaftesbury, however, began to change his views after he withdrew to Rotterdam in 1698 and was introduced to Bayle and Jean LeClerc. There he began to doubt the naturalness of the affections that had been so critical to his earlier defense of virtue.

Mandeville was, then, using a woman's point of view to argue as a Dutch republican about society, economy, and politics. He continued to find the position of women an excellent place from which to launch continued critiques of English politeness. In November of 1709 he began his contributions to *The Female Tatler*. Steele's *Tatler* forwarded the view that people are naturally good and naturally sociable, so that a virtuous society is natural; public vice stemmed from unthinking self-interest. In response, Mandeville argued that people are not naturally virtuous nor sociable, but can organize themselves into large groups to pursue in common their personal desires. Civilization is, in other words, the product of self-interest, not natural goodness.

Mandeville's next work, his *Treatise of Hypochondriack and Hysterick Passions* (1711, second ed. 1715) elaborated his views about the power of the passions and the weakness of reason to control them. Classical teaching emphasized that health, like virtue, depended on controlling the passions by reason, which would show how best to establish a healthful regimen: Mandeville argued that health depends on learning from the experience of the passions rather than trying to control them according to others' teachings. Again written as an entertaining and instructive dialogue, a doctor named Philopirio ("a Lover of Experience, which I shall always profess to be," p. xi) cures by learning based on experience. He is vehemently opposed to all *a priori* reasoning. The hypochondriac is named Misomedon, "a Man of Learning, that had made Physick his particular Study" (p. ix). Philopirio mixes his own drugs for his patients, insuring their purity and saving his patients the money an apothecary would have charged, while also attacking the reliance of the patient's wife, Polytheca, and her daughter, on medicines. While the doctor interpreted medical texts in light of his experience, the sickly gentleman interpreted his experiences in light of his reading and Polytheca merely tried everything, both of which made disease worse.

Read in light of the disputes within medicine then common, Mandeville clearly believed that the rationalists and druggists were in league with one another, a criticism that went back at least to Paracelsus. In a 1709 contribution to *The Female Tatler*, for instance, Mandeville had declared that "Those who study Latin and Greek for their use in theology, law and medicine are despised as drudges by the true '*Litterati*'," while "university learning is irrelevant to curing patients" (Goldsmith, 1985, pp. 42, 44). But he also believed that simple medical empirics destroyed their patients with drugs: in *The Virgin Unmask'd*, he had sarcastically written that "the *French* King is a refin'd Chymist, who with small Pill and a few Drops, that are hardly felt in going down, and yet of a wonderful Operation in the Body, cures the most dangerous, as well as the most inveterate Distempers. What strange Alterations has he made in all the Courts of *Europe*, with only two Medicines, his *Aurum potabile*, and his Tincture of *Opium!*" When Antonia asks what she means by this metaphor, her aunt Lucinda replies: "I mean Bribery and lulling asleep" (pp. 161–2). Instead of being either a rationalist or an empiric, Mandeville placed himself on the side of the experimentalists, cultivating knowledge of the material world through experience and then sharing their experience for the benefit of humankind. They used book-learning and theory, but only to interpret their clinical experiences further, giving them expertise. Mandeville held that such physicians were better than others not because they were more virtuous than the rest of fallen humankind, but because they had gained more knowledge of the body and the passions, so that they could work material benefits for his patients while flourishing in so doing. He therefore began his *Treatise* by writing that when practitioners who were skilled in a particular disease made themselves known to the public, patients benefited as well as practitioners. "If a Regular Physician writing of a Distemper, the Cure of which he particularly professes, after a manner never yet attempted yet, be a *Quack*, because besides his Design of being instructive and doing Good to others, he has likewise an aim of making himself more known by it than he was before, then I am one" (p. xiii).

Therefore, in Mandeville's dialogue Philopirio had expertise rooted in long experience in dealing with Misomedon's particular kind of illness, while Misomedon's intellectual pride set him on a course of false reasoning about his illness that makes him ever worse. Here the patient rather than the doctor was the pedant. After many long and witty conversations, however, Philopirio cajoles Misomedon into health by following a regimen of diet and exercise, baths, vomits, and strengthening medicines, but only by playing to Misomedon's passions through the art of flattery. Eventually, then, a cure is effected via the passions of the patient rather than his reason, and the doctor accomplishes this not by being straightforward but through dissimulation. In his medicine, Mandeville had little confidence that people could live a healthy life if left to their own devices, especially if they tried to follow reason alone. The medical expert, however, might combine his clinical experience with limited reasoning, and together with the art of turning their patients' pride to good ends, they would be properly pursuing their own fame and wealth by curing disease – their proper profession. The physician is already behaving like the "clever politician" who would soon surface in *The Fable of the Bees*.

The Fable

The Fable of the Bees: Or, Private Vices, Publick Benefits, was published in the summer of 1714, and had a second printing that same year. It consisted of "An enquiry into the origin of moral virtue" together with his earlier poem, *The Grumbling Hive*. The poem told a straight forward story. It began by describing "A Spacious Hive well stockt with Bees, / That liv'd in Luxury and Ease," and went on to praise the law and military might, the science and industry, the system of government, and all the other glories of the hive that was, clearly, England. Naturally, a large number of the bees were "knaves," who "With downright Working, cunningly / Convert to their own Use the Labour / Of their good-natur'd heedless Neighbour." In fact, "All Trades and Places knew some Cheat, / No Calling was without Deceit," be it law, medicine, the church, the army, the ministers of government and all. Justice had dropped her scales more than once in favor of the rich and powerful in order to punish the poor. Nevertheless, while "every Part was full of Vice, / Yet [was] the whole Mass a Paradise; /...Such were the Blessings of that State; / Their Crimes conspir'd to make them Great." While the individual might be vicious, the good of the hive as a whole lay in how vice served the generality, so that "The worst of all the Multitude / Did something for the Common Good." Avarice, prodigality, luxury, pride, envy, vanity, folly, fickleness, and inconstancy employed millions, encouraging ingenuity and industry and creating pleasures and comforts "To such a Height, the very Poor / Liv'd better than the Rich before." Nevertheless, despite their thriving, the bees complained about the state of their hive, shouting for honesty and virtue. Jove was finally moved by indignation to "rid / The bawling Hive of Fraud," which caused prices to collapse, and the law courts to fall silent; all the judges and officers of the courts found that they were no longer needed; all the quacks disappeared, the lazy clergy resigned, and government ministers began to live on their salaries instead of the bribes and perquisites of office; fine clothes, horses, carriages and houses were sold off, the army was brought back from foreign posts, and so on. This led to an economic collapse, with the consequent end of arts and sciences as well; population declined, the hive's territory decreased, and the remaining bees toiled long and hard for necessities alone. The moral: "Fools only strive / To make a Great an Honest Hive" (Kaye, 1957/1924, pp. 17–37).

That the poem had serious purpose in addition to its value as a coffee-house amusement is made plain by the prose essay on the origins of moral virtue appended to it. Mandeville there presented a history of humanity arising from the state of nature because people are endowed with hands and fingers, speech and reason. These abilities allow them to form societies in which their wants and desires can be furthered by collective action. It is the "clever politician," however, who finds the trick of getting people to do what they would not otherwise do – acting for the common good – by playing on their primary passion: pride. By the dextrous management of a skillful politician, human passions for personal betterment (the "private vices" of the subtitle) might be turned into public benefits. For instance, "What carried so many [Romans] to the utmost Pitch of Self-denial, was nothing but their Policy in making use of the most effectual Means that human Pride could

be flatter'd with." Warriors who put themselves at risk for the state were heralded with parades, riches, and public praise, which encouraged emulation in others. Hence, Mandeville concludes, "Moral Virtues are the Political Offspring which Flattery begot upon Pride" (Kaye, 1957/1924, p. I:51).

Mandeville's social criticisms grew sharper with his publication of *Free Thoughts on Religion, the Church, and National Happiness* (1720). Then, in 1723, he published the "second" edition of the *Fable*, which caused an immediate public controversy. The edition included an expansion of the prose remarks and two new essays, "An Essay on Charity and Charity-Schools" and "A Search into the Nature of Society." It was this edition which drew fire from the forces of public order, mainly because of the attack on charity schools. The publisher of the Fable was brought before the Middlesex Grand Jury which also looked into attacks on the clergy and charity schools that had been published under the rubric of "Cato's" letters; in late July, the *London Journal* also printed an open letter to "Lord C" (perhaps Secretary of State Lord Cartaret) attacking them both. Among the specific charges of the presentment were that Mandeville was a determinist, "affirm[ing] an absolute *Fate*," which denied the "Government of the Almighty in the World"; that he had attacked the church and its clergy, the universities and schools; and that he had "recommend[ed] Luxury, Avarice, Pride, and all kind of Vices" (Kaye, 1957/1924, pp. 384–5). The letter to Lord C was even more specific: "Arguments are urged, with the utmost Vehemence, against the Education of poor Children in the *Charity-Schools*." Mandeville replied in the same newspaper, printed and circulated this defense among the public, and in early 1724 he took advantage of the public interest by bringing out still another edition of the *Fable*, appending the presentment, the letter to Lord C, and his defense. "These violent Accusations and the great Clamour [were] every where raised against the Book, by Governors, Masters, and other Champions of Charity-Schools," he declared (Kaye, 1957/1924, p. 401).

The "Essay on Charity and Charity-Schools" began with a consideration of charity itself. Mandeville defined it rigorously, as "that sincere Love we have for our selves . . . transferr'd pure and unmix'd to others, not tied to us by Bonds of Friendship or Consanguinity." (Modern discussions of "altruism" and disinterestedness often echo this view.) According to such a definition, acts on behalf of friends and family or which resulted in honor and public respect were not truly charitable. "Pride and Vanity have built more Hospitals than all the Virtues together," he declared, since the passions of pity or compassion made us feel better when indulged, which made actions consequent upon them selfish rather than charitable. Moreover, actions commonly called charitable brought about perverse results: "Charity, where it is too extensive, seldom fails of promoting Sloth and Idleness, and is good for little in the Commonwealth but to breed Drones and destroy Industry." The helpless needed relief, but most of those seeking charity rather needed to be put to work (Kaye, 1957/1924, pp. 253, 260–8).

When it came to the charity schools themselves, Mandeville argued that virtue could not be taught. In fact, the worst criminals were the most cunning and knowing: "Craft has a greater Hand in making Rogues than Stupidity, and Vice in general is no where more predominant than where Arts and Sciences flourish,"

while "Ignorance is . . . counted to be the Mother of Devotion, and it is certain that we shall find Innocence and Honesty no where more general than among the most illiterate, the poor Country People" (Kaye, 1957/1924, pp. 269, 272). The pride, insolence, quarrels and dissensions, and irreconcilable hatreds of universities suggested that education provided no models of quiet virtue. The same passions of pride, emulation, and love of glory motivated both the rogue and the honest soldier. What made the difference was not education but social circumstance. "In short," Mandeville concluded, "Russia has too few Knowing Men, Great Britain too many" (Kaye, 1957/1924, p. 322).

Mandeville's arguments against public charity and attempts to teach virtue received heightened emphasis in his defense of the 1723 edition of the *Fable.* He stressed "a severe and exalted Morality, that contains a strict Test of Virtue, an infallible Touchstone to distinguish the real from the counterfeited, and shews many Actions to be faulty that are palmed upon the World for good ones: It describes the Nature and Symptoms of human Passions, detects their Forces and Disguises; and traces Self-love in its darkest Recesses; I might safely add, beyond any other System of Ethics." He was "search[ing] into the real Causes of Things." In the course of it, he found that almost all actions originated in the passions. A great danger therefore lay in deferring to those who preached virtue. "The People who continually find Fault with others" ought to "be taught to look at home, and by examining their own Consciences, be made asham'd of always railing at what they are more or less guilty of themselves." "Inconveniences, which no Government upon Earth can remedy," came along with the benefits of living in a great and luxurious nation. Nevertheless, "private Vices by the dextrous Management of a skilful Politician, may be turn'd into publick Benefits" (Kaye, 1957/1924, pp. 405, 408, 409, 411–12).

As many commentators have noted, the target for many of Mandeville's sharpest barbs was the so-called Movement for the Reformation of Manners. It had been much encouraged by William and Mary, William III after the death of Mary, and Queen Anne, all of whom issued proclamations requiring moral reform (Bahlman, 1957; Shoemaker, 1992). The organized Societies for the Reformation of Manners sprang up to help the justices carry out laws against immoral behavior after Mary issued a letter in July 1691 requiring judges to execute the laws against immorality. "Non-enforcement of the existing laws had allowed the carnal side of man's nature to emerge" (Curtis & Speck, 1976, p. 49), the members of the societies believed. "What shall we say to common Vices now, / When Magistrates the worst of Crimes allow?" wondered Daniel Defoe (Defoe, "Reformation of Manners," 1702, lines 278–9, in Ellis, 1975, p. 411). The movement also held that enforcement of the laws should be accompanied by proper education, which would teach people how to use their reason to control their passions. Clergymen needed to teach from the pulpit, to teach by being examples of virtue, and to promote church schools for the common people; hence the SPCK (Society for the Promotion of Christian Knowledge) emerged from the same movement. Reason could and should check the passions and the vices that flowed from them when uncontrolled, leading to individual virtue and salvation, public order, and the blessings of God on England.

When commentators argued against Mandeville's views, they therefore strove to counter his position that virtue could not be taught. One critic attributed the origin of Mandeville's views to the ancient Theodorus the Atheist, his follower Bion Borysthenites, and Pyrrho, Carneades, and the Stoics. Instead of their position, he claimed that "Nature or Reason is that Rule, which . . . makes a Difference between Right and Wrong . . ." (*An Enquiry Whether A general Practice of Virtue tends to the Wealth or Poverty, Benefit or Disadvantage of a People?*, 1725, p. 89). The noted dissenting author William Law also took exception to Mandeville's views by writing that "You consider Man, merely as an Animal, like other Animals, nothing to do but to follow his Appetites." But "That Reach of Thought, and strong Penetration which has carried Sir Isaac Newton through such Regions of Science, must truly be owing to some higher Principle. Or will you say, that all his Demonstrations, are only so many blind Sallies of Passion?" Therefore, reason is grounded in nature itself: "It is thus in all Sciences; the rationality of our Nature contains the first Rules, or Principle, and it is the Speculation of Man that builds and enlarges upon them." The labors of moral philosophers were built "upon those common Principles of Morality, which were . . . connatural to the Reason of Man." Moral virtue was therefore "the Rule or Law of intelligent Beings," and Man's "rational Nature, as much implies a fitness to perceive a Difference in Actions, as to Right and Wrong, as it implies a fitness to perceive a Difference in things as to great and small, pleasing or painful" (Law, 1724, pp. II:4, 6, 23, 23, 26). To Mandeville's critics, then, reason could find the rules of nature, and in doing so it could discover right and wrong as well as true and false. When people exercised their reason (which education could develop) they would therefore see the good, and be better able to act upon it. They would, in short, become more virtuous.

Last Work and Legacy

In addition to defending his position on charity and charity schools, Mandeville expanded his arguments. In *A Modest Defense of Publick Stews* (1724) he again relies on Dutch precedents, since the magistrates of Amsterdam had famously tolerated a regulated system of brothels to keep sailors and other ruffians from preying on their wives and daughters. The work sets out a rigorously utilitarian argument: what brings public benefit is good. He goes on to argue "that no genuinely beneficial social act can ever be considered contrary to religion or morality." The *Enquiry into the Causes of the Frequent Executions at Tyburn* (1725) pursued his earlier arguments about crime and virtue so rigorously that it is sometimes read as a parody, seeming to defend crime, ignorance, and injustice. But Mandeville maintained throughout the critique of English hypocrisy, which maintained that the goal of human life was virtue while really pursuing wealth and power. The resulting confusions and contradictions led to turmoil rather than social harmony. By this time he was well known enough to have several of his works reissued: *Virgin Unmask'd* had a second edition in 1724 and was reprinted several times again in the eighteenth century; the *Fable of the Bees* entered its fourth edition in 1725 and had frequent reprints afterwards; an enlarged "second edition" of his medical *Treatise* appeared in 1730.

He maintained his free-thinking credentials with *An Enquiry into the Origin of Honour, and the Usefulness of Christianity in War* (1732).

Mandeville's works may have been one of the major sources for the development of certain forms of Scottish philosophy. Hume famously argued in his *Ethics* that reason is only the slave of the passions. Moreover, if the clever politician turning private vices into public benefits through flattering human pride is a cypher for nature rather than human cleverness, then one ends with a view quite close to Adam Smith's argument for the hidden hand of material progress. The question is perhaps the most fundamental to interpretations of what Mandeville meant: did he really mean to argue for the intervention of politicians or for a self-regulating system in which the clever politician is a metaphor for providence? Given his Dutch republican background, it is likely that Mandeville meant the skillful politician to be real. In either case, as Maurice Goldsmith has concluded, for Mandeville "the pursuit of happiness replaced the pursuit of virtue" (Goldsmith 1987, p. 251).

Because it undermined the assumption of English polite society that virtue as it was commonly understood could be maintained and even strengthened in a fiercely competitive society, Mandeville's views created unease. The struggle for material advantage seemed to be at odds with personal goodness. Mandeville took the view that the quest for virtue was an illusion, and that its advocates were seeking power for themselves rather than the personal good of the people to whom they preached. His was an explicitly utilitarian philosophy in which material betterment told the tale of human progress. Because it exploded the cult of politeness and attacked monarchy and aristocracy, his considered view threatened the English church and state. His advocacy of expertise also undermined the complaisant satisfaction of classical education sought by the well-to-do. He might be attacked as a "mandevil," blasting the best parts of human nature. On the other hand, his democratic republicanism and materialism set the pursuit of happiness alongside the pursuit of life and liberty. Not only in the views of Hume or Smith, but in the words of the American Declaration of Independence, the echoes of Mandeville's Dutch republicanism can still be heard.

References

Bahlman, D. W., 1957, *The Moral Revolution of 1688*. The Wallace Notestein Essays. New Haven: Yale University Press.

Cottingham, J., Stoothoff, R., & Murdoch, D. M. (ed. and trans), 1985–1991, *The Philosophical Writings of Descartes*. Cambridge: Cambridge University Press.

Curtis, T. C., and W. A. Speck., 1976, "The Societies for the Reformation of Manners: A Case Study of the Theory and Practice of Moral Reform." *Literature and History*, no. 3 (March 1976): 45–64.

Dekker, R., 1992, "'Private Vices, Public Virtues' Revisited: The Dutch Background of Bernard Mandeville" (G. T. Moran, trans.). *History of European Ideas, 14*, 481–98.

Ellis, F. H. (ed.), 1975, *Poems on Affairs of State: Augustan Satirical Verse, 1660–1714, Vol. VII: 1704–1714*. New Haven: Yale University Press.

Goldsmith, M., 1985, *Private Vices, Public Benefits: Bernard Mandeville's Social and Political Thought*. Cambridge: Cambridge University Press.

—— 1987, "Liberty, Luxury and the Pursuit of Happiness." In A. Pagden (ed.), *The Languages of Political Theory in Early-modern Europe* (pp. 225–51). Cambridge: Cambridge University Press.

Kaye, F., 1957, *Bernard Mandeville, The Fable of the Bees: Or, Private Vices, Publick Benefits*. Oxford: Clarendon Press. (Original work published 1924)

Law, W., 1724, *Remarks Upon a Late Book, Entituled, The Fable of the Bees*. London: Printed for Will. and John Innys at the Prince's Arms at the West-end of St. Paul's Church-yard.

Rowen, H. H., 1978, *John de Witt, Grand Pensionary of Holland, 1625–1672*. Princeton: Princeton University Press.

Shoemaker, R. B., 1992, "Reforming the City: The Reformation of Manners Campaign in London, 1690–1738." *In Stilling the Grumbling Hive*, eds. Lee Davison, Tim Hitchcock, Tim Keirn, and Robert B. Shoemaker, 99–120. Stroud: Alan Sutton.

Ward, H. G. W., 1931, An unnoted poem by Mandeville. *Review of English Studies, 7*, 73–6.

Further Reading

Burtt, S., 1992, *Virtue Transformed: Political Argument in England, 1688–1740*. Cambridge: Cambridge University Press.

Cook, H. J., 1999, "Bernard Mandeville and the Therapy of the 'clever politician' ", *Journal of the History of Ideas, 60*, 101–24.

Cook, R. I., 1974, *Bernard Mandeville*. New York: Twayne Publishers.

Hundert, E., 1995a, Bernard Mandeville and the Enlightenment's Maxims of Modernity. *Journal of the History of Ideas, 56*, 577–93.

—— 1995b, *The Enlightenment's Fable: Bernard Mandeville and the Discovery of Society*. Cambridge: Cambridge University Press.

Klein, L. E., 1994, *Shaftesbury and the Culture of Politeness: Moral Discourse and Cultural Politics in Early Eighteenth-century England*. Cambridge: Cambridge University Press.

Monro, H., 1975, *The Ambivalence of Bernard Mandeville*. Oxford: Clarendon Press.

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32

David Hume

MARINA FRASCA-SPADA

Hume's Legacy

When in April 1776 David Hume, aware of his impending demise, took a retrospective look at his life, he could confidently write in *My Own Life* that he had been a reasonably successful man. But even in the valedictory balance and stoicism of his brief autobiography he still recalled with a tinge of regret, if not of bitterness, the fate of his first published work, the *Treatise of Human Nature*: citing Alexander Pope's *Epilogue to the Satires*, he wrote that it had fallen "*dead-born from the press.*" For a long time this assessment of the reception of the *Treatise* must have seemed right. It had first been published in three volumes in 1739 and 1740, and many of its not very numerous early readers and reviewers were uncomprehending and hostile. After this disappointment, Hume started publishing shorter and more readable works, essays on political and critical matters which, after being published in 1741–2, went through many recensions. He also recast in essay form what he felt could be salvaged from the *Treatise* in the *Enquiry Concerning Human Understanding* (1748) and then the *Enquiry Concerning the Principles of Morals* (1751) – and by the mid-1750s he was open in acknowledging that he found his unlucky first literary production positively irritating for the evident youthful eagerness inspiring it. The essays "The natural history of religion," "Of the passions," "Of tragedy" and "Of the standard of taste" were published in 1757 as *Four Dissertations* (the more provocative ones "Of suicide" and "Of the immortality of the soul," also at some point meant to appear in this collection, were first published much later, in French translation in 1770, and in English in 1777). The six volumes of his *History of England* (1754–62) gave him both a good income, and the literary fame he admits he had much wished for as a young man. His last major philosophical work, the *Dialogues Concerning Natural Religion*, was to be published posthumously in 1779. By the time he was writing *My Own Life* Hume was known as the author of original and witty essays, as an important and elegant history writer, as a dangerous skeptic and possibly an atheist, and as a very nice man. Contemporary anecdotes about his amiability and kindness abound: as his friend James Caulfield wrote, "of all the philosophers of his sect, none . . . ever joined more real benevolence to its mischievous principles"; he was nicknamed the Socrates of Edinburgh; provided the model of

the compassionate and humane skeptical philosopher in the sentimental novel-writer Henry MacKenzie's "Story of La Roche"; indeed, his reputation for a virtuous character was only challenged by those who did not know him personally. In spite of Dr. Johnson's strongly expressed disapproval, his friend, admirer and biographer James Boswell knew and admired Hume too, and contemplated writing his biography. His portraits show that he was a big man, and there are stories about the deceitfully rustic and stupid look of his fat face. In the catalogue of the British Library he is "Hume, David, the Historian."

Contemporary responses to Hume and his philosophical work were, as I said, mostly unsympathetic; but their most striking overall feature is that they were very diverse, and very much at odds with each other. So Thomas Reid thought that Hume had reduced Locke's empiricism and the whole "way of ideas" to absurdity, while Kant claimed that Hume's thought had woken him up from his dogmatic slumber. James Beattie and several others among his Scottish contemporaries found that Hume's skepticism involved an intolerably irreligious, indeed atheistic stance, while Heinrich Hamann argued that it was in fact conducive to faith. The Hegelian Thomas Green regarded Hume's philosophy as the Pyrrhonian outcome of Locke's and Berkeley's empiricism; among the agnostics, Leslie Stephen thought of him as a "systematic sceptic" and Thomas Huxley made him, together with Kant, into a founding father of agnosticism. And so on. Today Hume's *Treatise* is one of the great classics of Western philosophy, and Hume has become, in turn, one of the major figures in the canon. The diversity in the more recent responses to his philosophy is still impressive. Hume was one of the few recognized as ancestors by positivists, for what they regarded as his consistent empiricism and his antimetaphysical stance (Zabeeh, 1960); he was read as a founding father by the phenomenologists (Reinach, 1976; Salmon, 1929); and similarities have been found between the postmodern approach and his antifoundationalism and irony (Parusnikova, 1993). Hume's thought appears in the writings of Hans Reichenbach and Edmund Husserl, and there are books on Hume written by Alfred Ayer and Gilles Deleuze (Ayer, 1980; Deleuze, 1991). There is even a tradition comparing aspects of Humean philosophy with aspects of Buddhism (Stafford Betty, 1971). Hume's presence in the genealogies of such disparate philosophical traditions must depend on some quality of ambiguity, or of richness, in his philosophical writings themselves: like all "classics," they are endlessly stimulating and open to many different, even contrasting readings. Accordingly, in the scholarly literature there is, to date, hardly any issue in Hume's writing on the interpretation of which one can find reasonably general agreement. It is evidently neither within the scope, nor among the aims, of this essay to provide an assessment of the numerous interpretative and philosophical debates about Hume's writings and thought. So in what follows I try to offer a balanced overview of some of the controversial points, but my attempt is also, inevitably, guided by my own bias in reading Hume's work.

In the *Treatise* and in the *Enquiries* Hume called his investigations a "science of human nature." Indeed human nature may be taken as providing the unifying theme of his whole written work, from the abstruse analyses of the *Treatise* to the elegantly written *Enquiries*, from his political essays to his pieces of religious critique to his massive *History*. In his more explicitly philosophical writings, Hume begins

with the treatment of traditional metaphysical and epistemological issues – the origin, nature and limits of our knowledge, cause and effect, the nature of our beliefs, the existence of external objects – and only moves on to the passions, to morals and to critical and political matters at a later stage. Given his emphasis on human nature, this means that he starts by treating the workings of the understanding. So the foundation of all discussion of human nature is an account of the operations of the mind. In this essay I follow his lead in this. After Norman Kemp Smith's classic *The Philosophy of David Hume* (1941), many have agreed that Hume's main interest is not metaphysical or epistemological, but moral. I share this conviction; indeed it is my belief that Hume's philosophy is, first and foremost, a style of life. This does not necessarily mean that it is in his moral philosophy that we are to look for his most interesting or thought-provoking contributions. I therefore start with Hume's account of perception, and proceed with his discussions of the idea of cause and effect and of the inference from the past to the future, his skepticism and his views on the nature of philosophy. I then discuss his contributions to moral and political philosophy, and conclude with his critique of religion.

Sense Impressions, Passions and Ideas

Our experience, according to Hume, begins with what he calls "impressions": sense impressions and passions (or, in his terms, "impressions of reflexion"). I see the black marks on the white page of a book, and wish to read it. These impressions are subsequently duplicated in our mind. That is, they are copied into ideas: in this case, roughly speaking, the ideas of certain colors, shapes, textures etc. which compose the complex idea of the page of the book, and the idea of my wish to read it. All our basic experiences are, according to Hume, of this sort: sense impressions and passions come before thinking, are followed by it, and are duplicated in it (*Treatise*, p. 1). This is Hume's so-called "copy principle," which he presents as his "general maxim" and the "first principle" in his science of human nature (pp. 6, 7). Application of it will, in his view, rapidly expose all obscure and confused notions and pseudo-ideas.

Ideas are copies of impressions; they are not quite so vivid and compelling – "lively" and "strong" – as impressions, but apart from this they are accurate duplications of impressions. The distinction between impressions and ideas is reflected in their different force and liveliness. This difference is crucial because when we are faced with obscure and confused ideas we can, on the basis of the copy principle, trace them back to their more vivid and clearer originals, thus easily sorting out all difficulties and, when necessary, exposing fictions which, due to our natural inclination to relish paradoxical and far-fetched notions, we had taken for genuine ideas (p. 33). As many readers have noticed, however, difference in strength and liveliness is neither an unambiguous, nor an entirely clear criterion for the distinction between impressions and ideas (Stroud, 1977, pp. 27–33). For a start, it is evident that these terms are not synonyms – what is Hume trying to convey by them? When using them to define belief, he realizes that they are not satisfactory (*Treatise*, p. 105); but all he does about it is to acknowledge the problem and to introduce a

whole new list of terms, "*firmness, or solidity, or force, or vivacity*" (p. 106, see also p. 629). Also, it is not difficult to imagine counterexamples, cases in which an idea may turn out to be more "lively" than the impression from which it is copied. And while it is true that, as Hume points out, we all "readily perceive the difference betwixt feeling and thinking" (p. 2), does this mean that one is therefore exonerated from accounting for it? These difficulties appear less serious if we keep in mind that the fundamental difference between these two kinds of perceptions is that impressions are the originals of which ideas are the copies. With this, however, problems are by no means at an end.

Of course, in the case of more complicated or "complex" ideas, things are less straightforward: for example, I cannot honestly say that my idea of Paris is an accurate copy of any particular impression or set of impressions (p. 3). But the basic principle remains: all "simple" ideas are copies of "simple" impressions (pp. 3–4). The only exception Hume is prepared to acknowledge is that of a continuous gradation of a quality – his example is the color blue – which is only missing one particular grade: in his view, in this case our mind would be able to fill the gap, and produce an idea without copying it from a former impression (p. 6). The case of this "missing shade of blue" is a notorious brain-teaser for students of Hume (Fogelin, 1992, pp. 70–80). Is Hume trying to suggest that all exceptions to the copy principle are similarly far-fetched? Is it really all that far-fetched? And in any case, does it not mean that the copy principle is to be regarded as an empirical generalization, rather than an *a priori* principle? But if so, how is Hume entitled to use the copy principle to vet, so to speak, our ideas, as he seems enthusiastically and often rather aggressively inclined to do? (see for example the opening of the section "Of modes and substances," *Treatise*, p. 15; also pp. 72–3).

To answer the last question we should now turn to consider what use Hume makes of this principle. It then becomes apparent that all the ideas Hume sets out to investigate through the copy principle turn out to be, for a variety of reasons, recalcitrant to it. There is a whole range of these unobvious and difficult ideas: for example, there are the ideas of space and time and the ideas of empty space and changeless time, the idea of substance, the idea of our own self, the idea of virtue and the idea of the necessary connexion between cause and effect. The use of the copy principle produces a taxonomy of these odd ideas. Some of them create serious problems, giving rise to philosophical puzzles which Hume openly admits he does not know how to solve, while others are indeed found to copy some impression, but not of the sort one would have expected. A few – in fact surprisingly few, given his stated intentions – are simply rejected as pseudo-ideas. Let us consider some examples.

The investigation into the origin of the ideas of space and time is one of the first applications of the copy principle to be found in the *Treatise*. Objects of widespread metaphysical and natural-philosophical dispute in the age of Newtonianism, these ideas seem to be an ideal case for the application of the copy principle. And this is the way Hume presents the matter: he starts his discussion by saying that nothing could be more fortunate than to have such a tool as the copy principle to further our investigation into their nature (p. 33). The sight of the purple surface of my table, he goes on to say, is enough to give me the idea of space. Once we try to follow him and unpack the complex impression of the table's surface to single out

the individual impression at the origin of the idea of space, however, we run into a difficulty which he does not explicitly acknowledge: there is no impression of space separate from the individual impression of the colored points; all we can find is the impressions of colored points "disposed in a certain order" or "manner." The idea of space is, Hume says, copied from the overall "order" or "manner of appearance" of the impressions of the points (p. 34). Similarly, the idea of time is copied from the overall "manner of appearance" of, say, five notes played on a flute, rather than from a distinct sixth impression (p. 36). In other words, there are no distinct impressions of space and time corresponding to the ideas. (Something similar also applies to the idea of existence, p. 66–8.)

Hume does not, however, conclude that since they apparently fail to satisfy the copy principle the ideas of space and time are only pseudo-ideas. Rather, he seems to claim that they are reflections in thought of features of our complex impressions. By contrast, after explaining that there is no impression, either of the senses or of reflexion, at the origin of our putative ideas of empty space and changeless time, he shows that it is the way we talk of matter and motion which misleads us into thinking that we do have such ideas. In this, as in so many cases, we mistake words for ideas. Together with the idea of substance, the ideas of empty space and changeless time are among the very few putative ideas which Hume suggests philosophers should be prepared to regard as mere fictions or pseudo-ideas. He does not, however, maintain that the corresponding vocabulary is to be discarded: we may well follow NEWTON (chapter 26) and use the word "vacuum" in accounting for the motion of bodies, if we are so inclined, provided we are aware of its lack of any psychological or epistemological, let alone metaphysical, underpinning, just as we may well decide to follow the Cartesians in avoiding it, and be aware of the consequent difficulties in accounting for motion (pp. 61–2 and 638–9).

The idea of self is similar to the ideas of space and time: there are neither sense impressions nor impressions of reflexion which are good candidates for the impression corresponding to the idea of self. For we cannot pin down any impression which is distinct and self-contained, and yet is common to every single one of our perceptions and identifies each and all of them as ours. Our mind is like a theatrical performance of our perceptions (p. 253); it is "a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement" (p. 252). The identity of our self is therefore similar to the identity of a river (p. 258) or of a republic (p. 261), that is, an identity enduring through a constant change of component elements. And yet it is obvious that we do have a particularly vivid idea of our own self – so much so that later in the *Treatise*, in the discussion of passions in Book 2, Hume suggests this idea is rather like an impression (p. 17).

The Idea of Cause and Effect

So in the case of the ideas of space and time and of the self Hume's application of the copy principle has given rise to a genuine philosophical puzzle: there is no doubt that we do possess such ideas, and they do seem to have some empirical basis; yet they

cannot be regarded as copies of any distinct impression. We know that at least in the case of the idea of self Hume openly acknowledged that there was indeed an unsolved puzzle in his theory: he says so in the appendix published at the end of Book 3 of the *Treatise* (pp. 633–6). Ideas such as those of virtue and vice, and of "necessary connexion" between cause and effect present yet another sort of anomaly. These ideas are indeed copies of corresponding impressions but, contrary to our expectations, these turn out to be not sense impressions, but impressions of reflexion.

Consider the ideas of virtue and vice. These ideas, Hume maintains, are not copied from specific distinct qualities in a virtuous or vicious person or action, as one would imagine. Parricide is, Hume says, the worst of crimes; and yet we do not disapprove of a sapling which, by its steady growth, ends up destroying the parent tree, even though it reproduces parricide in every detail. Incest is a criminal action among humans, but we regard it as completely innocent among animals. The difference between these cases cannot have to do with humans being rational and hence in a position to know better. For reason can only uncover what is already there, without giving rise to anything new (p. 466–8). There is neither virtue nor vice in the objects themselves: vice and virtue are, like colors, tastes, and the other secondary qualities, "not qualities in objects, but perceptions in the mind" (p. 469). The ideas of virtue and vice are copies of our own feelings of approval or disapproval – in other words, it is our approval or disapproval that give rise to moral distinctions, and not vice versa. So when we imagine that the origin of the ideas of virtue and vice is something out there, in a quality of the virtuous or vicious person or action, we mistakenly project an internal impression onto the objects.

The case of the ideas of virtue and vice is based on a more general feature of the mind, its "great propensity to spread itself on external objects" (p. 167). Some interpreters have noticed that the idea of the necessary connexion between cause and effect is similar, in this respect, to the idea of virtue (Stroud, 1977, pp. 177–8, and Garrett, 1997, pp. 107 and 202–3; but cf. Kail, 2002). What is it that we call a causal sequence? When I see a cause followed by its effect, all I actually see is, Hume points out, an A followed by a B. There is nothing in what I see to give rise to the idea of an interaction between the two. Nor is there any impression of reflexion of this sort – there is no impression of reflexion even in a causal sequence involving my voluntary bodily motions. Yet if I keep observing more and more cases of the same causal sequence, after a certain number of repetitions I find that I have acquired the idea of a necessary connexion between this cause and this effect. This new idea comes from the habitual association of perceptions, which has given rise to an expectation, when I have the sense impression of the cause, to conceive the idea of the effect and to transfer to this idea part of the strength and liveliness of the present sense impression of the cause. In this way I find that I am compelled to conceive the effect in a particularly strong and lively manner – in other words, I believe that it is going to occur. The feeling of expectation is an impression of reflexion which only arises as a consequence of repetition and habit and which, in turn, gives rise to the idea of necessary connexion. In short, the idea of necessary connexion derives from an habitual inference, rather than giving rise to it (*Treatise*, p. 88). We do perceive a "necessary connexion" of sorts, after all; but it is a connexion between our sense impression of the cause and our strong and lively

idea of the effect, and we mistake it for a connexion between the cause and the effect out there in the world.

Hume's discussion of the idea of cause and effect is one of the best known and most celebrated parts of his philosophy. It is important to remember that in his discussion he is not considering causation, but simply the ideas of cause and effect. He is not discussing the metaphysics of causation, but rather is offering a science-of-human-nature – that is, roughly speaking, partly epistemological, and partly psychological – account of the process which makes us conceive and expertly use causal notions and language. But it is also a matter of historical fact that his treatment of the ideas of cause and effect has given rise to an entirely new way of regarding the metaphysical problem of causation. This is hardly surprising. Before Hume, cause and effect were normally supposed to be somehow homogeneous with each other, with the cause being more "powerful" or more "perfect" than the effect. Now Hume is saying that, for all we know, "anything may produce anything" (p. 173): the idea of cause and effect is not *a priori*, so we can stare at something as long as we like, but we will never be able to tell what sort of effect that particular something is going to have if we have no previous experience of anything like it. Now, if according to Hume there is no perceivable necessary connexion between cause and effect, it may well be that all there is to causation is a mere sequence of things taking place one after the other. But is it right that we have no grounds for referring to some causal "cement" connecting things to each other? And if so, how are we to define causation so as to account for the ways in which we successfully employ rather complex and sophisticated causal notions? These and other related questions still constitute hot topics for philosophical discussion. Hume himself tried to answer by offering not one, but two definitions; with his discussion of our belief that, when we see the cause, the effect will follow; and by bringing to our attention a set of rules which guide causal judgments.

Hume's first definition of cause and effect is in terms of pairs of constantly conjoined objects or perceptions such that without the "cause" the "effect" would not take place; while the second definition says that cause and effect pairs are such that the present impression of the cause determines our mind to form a lively idea of the effect, that is, the expectation and the belief that it will occur (p. 170). Much has been written to show that these two definitions are not very satisfactory, either individually or as a pair. For example, neither of them accounts for what actually binds an individual cause-and-effect pair, hence neither of them can account for a cause operating once only. Also, it is easy to imagine pairs of events which would count as causal according to the first, but not according to the second definition, and vice versa. Certainly Hume's two definitions do not provide a useful basis for a metaphysics of causation. On the other hand it is also true that, as has been recently pointed out, they provide a consistent, indeed a very good science-of-human-nature account of the idea of cause and effect, if we take the first definition in the subjective sense – the constant conjunction is from the point of view of an observer – and the second in the absolute sense – the beliefs described are those of an ideal observer (Garrett, 1997, pp. 112–14).

The two definitions are an expression of Hume's conviction that our ideas of cause and effect do not involve any ontological assumptions about causation. In his

view, they can be fully accounted for by a combination of feeling and practical rules. To start with feeling: as is clear from the second definition, our expectation that a cause will be followed by the effect usually accompanying it is a crucial component of our idea of cause and effect. Belief is indeed a major character of Hume's discussion of the whole issue. The way he talks about belief is deliberately reminiscent of his discussion of the distinction between impressions and ideas: a believed idea is stronger and more lively than a merely entertained one, just as an impression is stronger and more lively than the corresponding idea. So when we are in the presence of the sense impression of the cause, this impression lends part of its strength and liveliness to the idea of what is habitually associated with it, that is, to the idea of the effect (*Treatise*, p. 98). In this sense our guide in our causal judgments, that is, in all our judgments concerning matters of fact, a feeling: it is a propensity of our mind – its propensity to associate ideas, to acquire habits, to give ideas an emotional color, so to speak – that produces our recognition of some sequences as causal, and of some others as casual. Commenting on Hume's role in the history of aesthetics, Terry Eagleton has attributed to him the "alarming claim" that both cognition and morality are, in this sense, "aesthetic" (Eagleton, 1990, p. 45): as Hume himself put it, "'tis not solely in poetry and music, we must follow our taste and sentiment, but likewise in philosophy" (*Treatise*, p. 103).

So our causal judgments turn out, in the end, to be based on a faculty which is far less steady and reliable than reason or the understanding in its operations: the imagination. This is where the rules help us out – our reasonings about causes and effects do not result simply from feeling and the imagination. For the imagination itself not only controls the associations of ideas guiding us to project from the past to the future, from the observed to the unobserved, and so on; it is also the faculty responsible for the most unwarranted flights of our fancy and for our tendency to be gullible when faced with exciting and entertaining fictions. But feelings and the imagination constitute only one side of causal judgments. The other side is a "logic" constituted by a set of "rules by which to judge of causes and effects." These include the spatial and temporal contiguity of cause and effect, the priority of the cause, and their constant conjunction; that the same cause always produces the same effect, and vice versa; that different causes produce similar effects in virtue of their similar features, and vice versa; and so on (pp. 173–4). Hume's cavalier conclusion is that no other logic, no other presupposition is necessary for us to reason correctly: these rules are more than enough (p. 175). Hume really is very laid back here; but, as Baier pointed out, the presence of the scanty three pages devoted to this "logic" seems to suggest that he is not only trying to demolish old prejudices about cause and effect, but also to suggest an alternative account (Baier, 1991, pp. 56–7).

Probability and the Inference from Past to Future

Hume is clear that we can hardly overestimate the importance of the relation of cause and effect to our experience and to knowledge. For, he points out, by enabling the mind to pass from the impression of the cause to the idea of the effect, it allows

us to associate something present to us to something absent. In this way it provides the foundation for our inferences from past to future, and more generally from what we are directly acquainted with to other matters – it is the basis of our inductive inferences (*Treatise*, pp. 73–4).

Posing the problem of induction is widely regarded as another of Hume's crucial and original contributions to philosophy. This is how he put it. Our reason can only ever produce either demonstrative arguments about relations of ideas, as in mathematics and in all deductive forms of reasoning, or probable arguments about matters of fact. Now, it is clear that there cannot be a demonstrative argument to the effect that the course of nature must be uniform: a change being conceivable, and hence possible, uniformity cannot be established *a priori*. On the other hand, all probable arguments are based on the presupposition that the course of nature is indeed uniform, therefore there can be no non-circular argument for uniformity. But as all arguments available to us are either demonstrative or probable, no argument can prove the uniformity of nature (*Treatise*, pp. 89–90; *Enquiries*, p. 30). Or in other words, inductive arguments cannot by definition be justified deductively, while any attempt at an inductive justification begs the question. So, since deduction and induction are the only modes of inference available to us, a justification of induction is impossible. What grounds then do we have to believe that the future will resemble the past, for example, that because the sun has risen daily in the past it will rise again tomorrow? Hume's answer is naturalistic: repetition naturally gives rise to a habit, and equally naturally the habit brings about belief. So the belief results from the way the human mind works (*Treatise*, pp. 104–6; *Enquiries*, p. 36); human reason itself is not, after all, all that different from the instinct of animals – it "is nothing but a wonderful and unintelligible instinct in our souls" (*Treatise*, p. 179).

Curiously, Hume never used the word "induction" in what we commonly consider the typical Humean sense. His discussion of the (Humean) problem of induction belongs to a much wider discussion of what he calls "probability." In the *Treatise* this discussion includes probabilities amounting to proofs (there is really no doubt that the sun will rise tomorrow, or that all men must die, p. 124), the balancing of probability in the presence of different degrees of uncertainty (as in throwing differently biased dice, p. 127), and various forms of "unphilosophical probability" (as, for example, in the cases of prejudice, pp. 146–7), as well as some very interesting, if scattered remarks on the assessment of testimony (pp. 145–6, also pp. 83–4). Issues concerning probability and probable inference were very popular among contemporary readers. So it is no surprise that the lengthy discussions of this part of the *Treatise*, now on the whole neglected by philosophers, are the ones which were discussed reasonably favorably in some of the contemporary reviews (such as the one published in the *Nouvelle Bibliothèque* in July and September 1740).

Hume had intended to devote the culminating section of this treatise-within-the-*Treatise* on probable arguments to the assessment of the probability of reported miracles. His view of the matter, as it is presented in the essay "On miracles" in the *Enquiry concerning Human Understanding*, is as follows: no human testimony can be strong enough to establish a miracle, except in cases where the falsity of the

testimony would have to be regarded as the greater miracle (*Enquiries*, p. 91); no testimony for a miraculous event has, as a matter of fact, ever been in this position (p. 98). As he put it in the dead-pan conclusion to the essay, "the *Christian Religion* not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one": for a believer must be aware of a true miracle in his own person, allowing faith to subvert all the principles of his understanding and determining him "to believe what is most contrary to custom and experience" (p. 101). Here Hume was intervening in an important and widespread contemporary debate. He was aware that his approach to the matter was likely to give offense – this is why he cut out all discussion of miracles from the *Treatise*. When his views were published in the first *Enquiry*, as he had anticipated, they did not fail to attract plenty of attention: "On miracles" is one of the most notorious pieces of Humean philosophy, and among the responses it aroused there is even one, Richard Whately's *Historic doubts relative to Napoleon Bonaparte* (1849), which tried to show, on the basis of Hume's criteria of assessment of evidence and testimony, that the French emperor had never existed.

(Moderate) Skepticism

The study of the understanding undertaken in Book 1 of the *Treatise of Human Nature* is concluded with a Part 4 entitled "Of the sceptical and other systems of philosophy." Here Hume discusses a variety of issues, from the certainty of demonstrative knowledge and the mathematical sciences, to the distinct and continuous existence we attribute to external objects; from the ancient philosophers' occult qualities, to the distinction proposed by modern philosophers between primary and secondary qualities; from the doctrine of the immateriality of the soul to the theory of the substantial self. In these discussions Hume's writing presents major interpretative problems: in some parts oddly personal, in other cases bitingly sarcastic, always very "literary"; sometimes in perfect ironic balance, but more often ambiguous between mockery and candor, between spoof and serious philosophical argument, it is impossible to bracket off matters of style and rhetoric to attempt a purely philosophical reading of these pages. Unsurprisingly, for some of Hume's readers the *Enquiry concerning Human Understanding* is a clear improvement on the *Treatise* on account, among other things, of his having all but abandoned most of these discussions. According to others, however, in spite of its interpretative difficulties Part 4 is to be regarded as one of Hume's most important pieces of philosophy: for this is where we have a chance to uncover the crucial moral significance of his investigations of human nature and the understanding (Baier, 1991, ch. 1; Livingston, 1998).

It is useful to begin with Hume's discussion of our belief in the existence of external objects, in one of the most notoriously difficult sections of Part 4, the one "On the scepticism with regard to the senses." Yet again, it is important to remember that Hume is not asking a metaphysical question. Our belief in the existence of external world is such an unbreacheable fact of our nature, that questioning it would not even make proper sense (*Treatise*, p. 187). But it makes very good sense

to investigate human nature: where does this unshakeable belief come from? Hume first describes the naïve or absent-minded attitude of the "vulgar," those who are not thinking of metaphysical matters at all – all of us, Hume says, including the deepest philosophers, belong to this group most of the time (pp. 205, 206). When we are getting on with the ordinary business of life, or when we are thinking, however deeply, about something else, we take it for granted that our perceptions and external objects are one and the same. Hume then follows this naïve consciousness through the doubts instilled by the first opening of metaphysical questions: reason tells me that my perceptions are fleeting and volatile, and yet I do not imagine the world to be annihilated and brought into being again at my every eyeblink. Objects must be stable. But then, how can perceptions and objects be one and the same? According to Hume, this contradiction is created by the conflict of two faculties of the mind: reason, which discovers the brokenness of perceptions, and the imagination, which, on the basis of the constancy and coherence of our fleeting impressions – the world looks very much the same after an eyeblink, after all, and it only changes, when it does, according to regular and familiar patterns – constructs the notion of continuous objects. The natural outcome of this stage is the formation of the false philosophical consciousness which Hume calls "the opinion of a double existence" (p. 211). Perceptions and objects are divorced from each other: so that at the same time reason is granted, in the sphere of perceptions, the interruptions it has discovered, and the imagination, in the sphere of the so-called external objects, the continuity that it has itself constructed. In other words, this duplication of the world only arises out of the irresoluble contrast between the two equally strong suggestions of reason and the imagination, which combine rather than neutralizing each other. The theory of the double existence is, in this sense, parasitic on our pre-philosophical conviction that our perceptions are the only objects and, at the same time, that objects still exist when we are not perceiving them: but then, far from dissolving the contradiction, it is no more than an expression of it (pp. 212–13). The resolution of this conflict can only take place at a new level, that of "true philosophy," with the acknowledgment that the nature of our mind itself both makes the whole dialectic inevitable and provides the remedy: our inability to maintain the intellectual tension necessary for philosophical reflection means that, in spite of such intense arguing and counterarguing, once we return from our closet to the ordinary business of life we rapidly snap back into the absent-minded naivety, or, as Hume calls it, into the "carelessness and in-attention" of the vulgar and of the true philosopher alike (p. 218).

The dialectical pattern of false starts, errors and failed attempts in evidence in this discussion is also to be found in the overall structure of Part 4, where, it has been suggested, Hume seems to be offering a genealogy of philosophical consciousness, or a "cavalcade" of philosophical errors (Livingston, 1998). Insofar as it is to be grasped by limited and fallible human minds, even the certainty of deductive reason is open to Pyrrhonian doubts (section 1); as we have seen, the same applies to our senses, which, in spite of the compelling immediacy with which they present their data, cannot in fact give us access to the world (section 2). Ancient and modern philosophers alike are defeated in their attempts to make sense of the qualities of bodies (section 3 and 4); and neither theologians nor philosophers are able to

account for the unity of body and mind or for the nature of our self (sections 5 and 6). After such debacles, what are we to think of our own philosophizing, of our own reason, indeed of ourselves?

The (temporary) triumph of radical skepticism Hume voices at the start of the final section of Book 1 is due not to the impact of an argument or set of arguments, but to the melancholy, despair and solitude brought about by so much intense and apparently fruitless philosophical reflection. Hume represents this state of mind in such vivid terms as to suggest close comparison with the autobiographical testimony he left, in the form of a letter written in 1734 to a physician, of a crisis he suffered in his twenties (see for example Sitter, 1982, pp. 26–33). The answer to melancholy lies, yet again, in doing philosophy "in a careless manner": a true philosopher is able to doubt his philosophical doubts as well as his philosophical convictions. This approach has suggested to some that Hume was not a "true philosopher": that he was very clever, but superficial and not serious (Taylor, 1934, p. 365; Pritchard, 1950, p. 174). I think that the opposite is the case. When philosophizing, Hume follows his passion for truth with the utmost keenness and concentration – and he certainly is good at that; his "careless manner" means, in my view, that Hume takes philosophy seriously enough to realize that there is a time for a philosopher to abandon his abstruse speculations, to return to more ordinary, habitual ways of thinking, and to rejoin human society and polite conversation (*Treatise*, p. 273). This is how the true philosopher goes about doing philosophy, and this is the essential feature of Hume's "moderate" or "mitigated" skepticism: a combination of problem-solving eagerness in the first-order philosophizing exercise and, at the metaphilosophical level, the wisdom of alternating the practice of philosophy with that of sociability and conversation (Baier, 1991, ch. 1; Livingston, 1998). Thus these investigations and their outcomes show that the main focus of Hume's philosophy, even when he is investigating the operations of the understanding, is not metaphysical and epistemological, but moral.

Moral Feelings

So far I have discussed aspects of Hume's study of human understanding. The investigations that we have considered are introspective and solitary; and it has been observed that Book 1 of the *Treatise* is dominated by the impression of the lonely philosopher thinking hard in the silence of his chamber (Sitter, 1982, pp. 23–4). As we have just seen, Book 1 concludes with a surprisingly personal representation of the dangers of philosophical solitude and the recommendation that we harmonize philosophical solitude and conversable sociability. Hume's moral philosophy complements this recommendation with a study of human nature in common life and conversation.

When he wrote that in philosophy, as in poetry and music, we must rely on sentiment, Hume did not have in mind only the study of the operations of the understanding: of course, he was also thinking of moral philosophy. In presenting the uses of the copy principle I have already mentioned that, just like the idea of necessary connexion between cause and effect, the ideas of virtue and vice are also

copies of impressions of reflexion, namely, in this case, of our feeling of approval (or disapproval) for actions which are agreeable or useful (or the opposite) to the agent or to others. This reconstruction of the origin of the ideas of virtue and vice is typical of Hume's approach to morality, as well as embodying several characteristic tenets of his moral philosophy. Let us try to unpack them.

For a start, in this case as in the rest of his moral philosophy, the focus of Hume's discussion seems to be the spectator of action rather than the moral agent: as has been noticed by some interpreters, Hume seems deliberately to leave out any assertion of duties or obligations and to avoid putting forward any general normative doctrine. He describes human nature without actively engaging with issues of right or wrong (see Mackie, 1980, pp. 5–6). Such moral rationalists as Samuel Clarke had maintained that moral duties and obligations have nothing to do with the consequences of actions, and derive from nature prior to, and independently of, the authority of either god or man. In their view right and wrong are completely objective, eternal and necessary, and directly available for rational knowledge. Hume's descriptive approach is an expression of his more general opposition to this rationalism in favor of a naturalistic approach. "Reason is and ought only to be the slave of the passions" (*Treatise*, p. 415) is one of his most famous slogans: the conflict between reason and the passions and the notion that virtue is the triumph of reason over the passions are, in his view, mere philosophical mistakes. A passion can only be in conflict with and contrasted by another passion, and so only passions can motivate us to act or to refrain from acting.

So it is clear that Hume agrees with FRANCIS HUTCHESON (chapter 30) that morality is based on a "moral sense" – it is "more properly felt than judg'd of" (p. 470). Virtue is by definition amiable, and vice odious: moral assessments proceed from sentiment. Reason has nothing to offer to explain the origin of moral distinctions, for there is nothing in virtuous or vicious actions corresponding to our idea of virtue or vice. In a similar vein Hume also observes that the shift from "is" and "is not" to "ought" and "ought not" expresses a new relation which is neither observed nor explained (p. 469).

It is also clear from Hume's discussion of the origin of the ideas of virtue and vice that at the foundation of our moral assessments is our ability to value something which is advantageous to someone other than ourselves: we develop our feelings of approval or disapproval because we can feel for and with others. In other words, morality is underpinned by our capacity for sympathy. Sympathy, our natural tendency to be cheerful with the happy and to mourn with the miserable, was vividly described in the colorful variety of its social manifestations by Hume's contemporary and friend ADAM SMITH (chapter 33) in his *Theory of moral sentiments* (1759). It is also of paramount importance within Hume's moral philosophy, where it is the root of all virtue. We find other people very similar to ourselves, Hume says, and part of the extraordinary liveliness with which we always perceive our own self is transferred to the conception of the feelings and passions of others. Due to sympathy, feelings and passions tend to be infectious: the idea of another's passion can easily be so enlivened by sympathy as to turn into that very passion (*Treatise*, p. 319). What we observe in others is, of course, no more than the behavioral side of passions. But this is enough to set us off: "as in strings equally wound up, the

motion of one communicates itself to the rest" (p. 576). When we observe in another's demeanor the effects of a passion, our mind naturally moves to conceiving the cause – the passion itself – with such strength and liveliness as to give rise to the same passion in ourselves. Finally, sympathy is also naturally responsible for our approval of virtues which promote the general good of mankind (pp. 578–9).

As in the case of belief, however, there is something erratic and arbitrary in the operation of sympathy. In particular, the transference of liveliness is made easier, the closer the relation between our own self and another person. This is why we sympathize more easily with those whose manners or personality more closely resemble ours, or with those who are more closely associated with us through blood or through acquaintance (pp. 317–18). So, as in the case of causal judgments, sentiment is not all there is to moral judgments; here too experience intervenes with a balancing act. It is true that the virtues of Marcus Brutus, about whom we know only from history books, may not inspire such lively feeling of affection as those of someone, however less impressive, with whom we are personally acquainted (Hume's example here is that of a faithful servant). And yet we would not say that our esteem for the two must, or indeed that it does, vary in exactly the same manner as the liveliness of our feeling, for "reflexion" and "general rules" help us to correct the vagaries of our feeling and to steady our judgment (pp. 581–2, 631).

I have noted above that Hume's moral theory, like his theory of the understanding, is informed by his naturalistic approach. This naturalism does not entail that all dictates of our moral sense are to be regarded as entirely natural. There are important cases in which our moral sense gives rise to feelings of approval or disapproval as a consequence of an "artifice or contrivance, which arises from the circumstances and necessities of mankind" (p. 477). This is the case with women's chastity and modesty and with men's courage, which, Hume maintains, it is easy to show have no natural foundation, even though this does not at all mean that we could do without them (pp. 570–3). This is also the case with justice, which arises from the combination of our natural selfishness, or "confin'd generosity," with the scarcity of resources, and is articulated through the three laws of the "stability of possessions," of their "transference by consent," and of the obligation to respect promises. Hume shows the artificiality of justice by arguing first that the merit of a virtuous action is in the virtuous motive, not in the outcome (p. 478), and then that no such virtuous motive independent of the regard for justice itself is to be found for just actions (p. 480). The effects of time on issues of justice and property also serves to show the artificiality of their foundation: a title which is clear and certain now will be obscure and doubtful fifty years hence, even though no other circumstances have changed; and long possession of something will give the possessor a title to it. Time alone cannot give rise to anything real; it can only affect sentiments and the imagination – so, like virtue and necessary connexion, property itself is not "any thing real in the objects, but is the offspring of the sentiments" (p. 509). Yet another sign of the artificiality of justice is that while every single instance of a natural virtue promotes some good and is the object of a spectator's natural feeling of approval, it is easy to imagine single instances of justice which might not result in any particular advantage to anyone, or which might even be of

positive disadvantage to someone. The great advantage of justice and artificial virtues derives from the "concurrence of mankind, in a general scheme or system of action" (p. 579).

But, in spite of their artificiality, justice and its rules are essential for human society, and hence for the well-being of humans. The "state of nature" is, Hume says, a mere philosophical fiction: the artificial but by no means arbitrary rules of justice must have been invented by mankind at the very beginning of social life. For such rules were surely necessary in order to compensate as promptly as possible for our natural but fatally anti-social selfishness and tendency to favor our kin in the face of the scarcity of material goods and the instability of their possession (pp. 487–8). The convention of abstaining from appropriating others' possessions established society, itself so crucial for our well-being and subsistence; and the conclusion of this brief piece of conjectural history is that the idea of justice must have immediately followed suit, together with the notions of property, right and obligation (pp. 490–1) (see Phillipson, 1989, on Hume as a historian).

The situation is, of course, simpler in the case of what Hume regards as the natural virtues. As we have seen earlier, the qualities that we naturally regard as virtues are those which are useful or agreeable to the person himself or to others. As a young man, Hume used to measure his own behavior and character according to the strict, unforgiving standards of John Bunyan's *The Whole Duty of Man*: he said so himself, years later, commenting on the demoralizing effect of such practice and adding that, apart from murder and theft, he used to find himself guilty of practically all possible vices. By the time he was writing his philosophical works, it is evident that he had moved to a very different, entirely secular frame of reference: in his catalog, which he declared he had derived from his beloved Cicero ("one of the finest gentlemen of his age," Hume calls him in the *Enquiries*, p. 128), there are such useful qualities as benevolence, discretion, caution and enterprise, industry and frugality, presence of mind, quickness of conception and facility of expression, as well as such agreeable ones as cheerfulness, a generous pride, serenity, and wit, politeness, and modesty. Similarly, his examples of natural virtue come, for the most part, from his extensive readings of classical historians, and include Sallust's characters of Caesar and Cato: the first's amiability produces love, he writes, and we would like to find his virtues in a friend, while the second's sterner character is "awful," and such as "we wou'd be ambitious of in ourselves" (*Treatise*, p. 607).

Human Nature and Religious Beliefs

On July 7 1776 James Boswell, knowing that Hume was close to death, went to see him, and was shocked at how diminished he looked. Inevitably their conversation turned to death, the immortality of the soul, and religion. As Boswell reports, Hume expressed himself as serenely and cheerfully as ever on the subject: "when he heard a man was religious, he concluded he was a rascal, though he had known some instances of very good men being religious" (*Dialogues*, p. 76). Hume's attitude to religion is well summarized in this episode – and what he said to Boswell on that occasion about the possibility of an afterlife is indeed perfectly consistent with the

views he expressed in the dissertation "Of the immortality of the soul." Hume had quite a reputation among his contemporaries for his irreligious attitudes: apart from the well known bookish reactions mentioned above, such as Beattie's, there are plenty of anecdotes about this. He wrote about religious matters more than about any other topic, and devoted some of his finest philosophical writing to religious critique. We have seen something of his approach to Christianity in talking about "On miracles": that essay is a good illustration of Hume's attitude to revelation, and it is not surprising that it gave rise to varied, and usually strong, reactions. For natural religion and rational theology the situation is even more complex.

In the dissertation on "The natural history of religion" Hume investigates the principles and causes of religious belief. Contrary to the views common at the time, Hume maintains that "'tis a matter of fact uncontestable, that about 1700 years ago all mankind were idolaters." On the basis of unanimous historical testimony we must conclude that the primary religion of mankind cannot have been monotheistic (*Four Dissertations*, p. 3). He identifies the origin of religious beliefs not in a rational contemplation, in the Newtonian style, of the order of nature – for the curiosity and attention of such "barbarous, necessitous animals" as primitive men would be aroused by monstrosity rather than regularity (p. 7) – but in "the incessant hopes and fears, which actuate the human life," in the "various and contrary events" of it (pp. 13–15), and in the dread of what future may hold (p. 94). Polytheistic religions do often promote one of their gods above the others (p. 45); and men tend to praise their gods in more and more exalted terms (think of the progressive glorification of the Virgin Mary before the Reformation and of St. Nicholas in Russia, pp. 47–8), till they gradually reach the notion of an all-powerful being (p. 51). The rise of an omnipotent god is not, however, irreversible; rather, there is "a flux and reflux in the human mind" from idolatry to monotheism and back again (p. 54). Nor is it clear that moving from polytheism to monotheism is a progress. Hume openly suggests that, on the contrary, a polytheistic popular religion has all sorts of advantages over monotheism: it is inherently more tolerant (pp. 58–64); since it does not appeal to reason, it does not first incorporate, and then inevitably end up destroying philosophy (pp. 69–71); and the stories on which traditional mythological religions are based, however groundless, do not imply blatant absurdities and contradictions, as well as being well suited to impress men by affecting their imagination (pp. 92–3). The dissertation ends with a demolition of any argument to support the naturalness of religious belief on the basis of the universal consent of mankind. The belief in a perfect being creator of the world must be a natural one. And yet the religions with which we are acquainted are full of contradictions: between the sublimity and the capriciousness at once attributed to god, between the verbal protestations and the actual conduct of men, between their zeal and their hypocrisy, between the highest hopes in talk and the most dismal terrors in fact (pp. 114–15). And while it seems true that, as the proverb goes, ignorance is the mother of devotion, we must also acknowledge that only the most brutish of peoples are entirely devoid of religion (p. 116). Thus the whole natural history of religion seems to reveal an insoluble riddle, faced with which the only sensible strategy is, Hume suggests, suspension of judgment – or it would be, were it not too difficult for the frail reason of humans to sustain the effort to escape the "irresistible contagion of opinion":

Hume's final suggestion is therefore that we "enlarge our view, and opposing one species of superstition to another, set them a quarrelling; while we ourselves, during their fury and contention, happily make their escape into the calm, tho' obscure, regions of philosophy" (p. 117).

Hume's natural-historical investigation starts with the acknowledgment of the foundation of religion in reason as non-problematic – "the whole frame of nature bespeaks an intelligent author" (p. 1) – an acknowledgment repeated over and over again and contrasted with the ways religious beliefs arise in the primitive and in the vulgar (for example pp. 6, 10–11, 35, 42, 112, 114, 115). By contrast in the *Dialogues concerning Natural Religion*, where he tackles the attempted arguments *a priori* and *a posteriori* to demonstrate the existence of God, Hume concludes that religious belief does not have any foundation in reason either.

The *Dialogues* are devoted, for the most part, to an argument from experience, the so-called design argument, very popular and endlessly discussed in the eighteenth and nineteenth centuries. On the basis of the appearance of order and finality in nature, this argument establishes an analogy between nature and human artefacts; then, from our knowledge of the human mind as the cause of artefacts, it infers a similar, but proportionally more powerful and perfect mind as the cause of the world. Modeled on Cicero's dialogue "Of the nature of the gods" (Mossner, 1977; Battersby, 1979), Hume's *Dialogues* are staged as a series of conversations between three characters: Demea, who supports a form of *a priori* argument; Cleanthes, who defends the argument from design; and Philo, who attacks both kinds of arguments until the very end, where he appears to recant. This conversation is reported years later, from memory, by Cleanthes' ward and pupil Pamphilus, who introduces his former master by comparing his "accurate philosophical turn" to Demea's "rigid inflexible orthodoxy" and to Philo's "careless scepticism" (*Dialogues*, p. 128). It is again Pamphilus who, in conclusion, adjudicates the dispute by maintaining that, in his view, "Philo's principles are more probable than Demea's; but that those of Cleanthes approach still nearer to the truth" (p. 228). Philo's "careless scepticism" allows him to argue *ad hominem* without qualms, thus defending at different times inconsistent positions, and freely joining forces now with Demea against Cleanthes, now with Cleanthes against Demea. The resulting interaction among the three characters is lively and complex; and the attack thus orchestrated against the design argument is regarded by many as fatal.

Hume proceeds by undermining the inference from the similarity of the effects to the similarity of the cause by exposing the arbitrariness and feebleness of its basis. From a house we infer an architect or a builder because we know from experience that architects and builders are the means through which houses come into being; but we cannot have any such empirical knowledge about the universe, which is a case without parallel in our experience (p. 144). Also, if we suppose a spiritual cause of the material order, are we not bound to look for a cause of that cause, thus opening up an infinite regress (pp. 160–2)? Anyway, all we can know of the god as designer of the universe is that, given the similarity between the universe and human artefacts, his power, wisdom and goodness must be proportionately greater than ours, so as enable him to produce the world as we know it – but this does not mean that we have any real reason to regard the designer as infinite and

perfect (p. 166, p. 203). For all we can tease out of the similarities between the world and a human artefact, say a house or a clock, when god created the world he might well have been juvenile, or incompetent, or practising, or he may have been senile, and be now dead, or indeed he may have been working in a team (pp. 167–8). Moreover, the world may be regarded as more similar to an animal or to a plant than to a house or a clock, with the consequence that its cause would then turn out to be not an infinitely or immensely intelligent, powerful and benevolent architect or clockmaker, but a blind process of generation or vegetation (p. 178). Again, for all we know matter itself may well contain a principle of order (p. 146, pp. 174–5); indeed, we cannot rule out even the old Epicurean hypothesis of an appearance of art and contrivance emerging from the motion of matter (p. 183). In any case, if we try to strengthen the analogy between god and man we border on anthropomorphism and are at risk of making god finite (p. 166, p. 203), and also of making him responsible for the shortcomings and ills of the world. If, to avoid anthropomorphism and to appease the problem of evil, one follows Demea and loosens the analogy, highlighting the impenetrability of god's intentions and actions to our feeble understanding, one does not really explain evil away, while being left with a notion of god so vague and abstract as to be almost vacuous (p. 203). In the course of the discussion Cleanthes and Philo gang up to dispose of all *a priori* arguments (they specifically consider the necessity of a first cause, proposed by Demea, p. 189) by repeating that matters of fact and existence are simply not demonstrable by *a priori* argument, so that the very expression "necessary existence" must be meaningless (p. 190). The only point against which Philo again and again fails to argue is the appeal of the design argument to the imagination, put forward by Cleanthes on several occasions (p. 154, p. 163), an appeal whose acknowledgment marks the beginning of Philo's peroration (p. 202). After reviewing the main conclusions of "The natural history of religion" on the pernicious effects of false religions (*Dialogues*, pp. 219–22) and on the origin of religious beliefs in fear of the future (pp. 224–6), Philo's famous conclusion is that we should certainly agree that "the cause or causes of order in the universe probably bear some remote analogy to human intelligence" (p. 227) – a conclusion which is, however, sufficiently feeble to be easily conceded even by an atheist.

Among Hume's philosophical writings the *Dialogues* is probably the most difficult to interpret and the most controversial. As Hume himself wrote in a letter to Adam Smith, while revising the text he found that it could hardly be "more cautiously and artfully written." What exactly did he mean by this? Philo is the dominant figure in the text. His talk occupies more space than either Demea's or Cleanthes', he is provocative and fun, and he has the edge on either of them, and by far, in cleverness, inventiveness and wit. Pamphilus' final verdict is against him; but the way Hume presents him – a ward and a pupil of Cleanthes', and reporting from memory alone conversations long past – is clearly meant to suggest that he is not absolutely reliable. Also, it is true that Cleanthes and Demea on several occasions do express typical Humean views – such as the distinction between relations of ideas and matters of fact (Cleanthes, in p. 190), and the notion that the self is a bundle of perceptions and faculties (Demea, in p. 159). But in general Demea's approach and often his words can be traced to Samuel Clarke's *Demonstration of the*

being and attributes of god, and Cleanthes' to such works as George Cheyne's *Philosophical principles of religion: natural and revealed* (1715), Samuel Butler's *Analogy of Religion* (1736), and Colin MacLaurin's *An Account of Sir Isaac Newton's philosophical discoveries* (1748). By contrast, not only is Philo the most "Humean" of the three in approach and doctrine, but also it is difficult to trace his position (and his words) to anyone else. So it is no surprise that he has often been regarded as Hume's mouthpiece (for example by Mossner, 1977).

Yet, there is enough ambiguity in the *Dialogues* to make many readers wonder. If Hume was to express his point of view directly via Philo, why did he choose to write a dialogue at all, rather than an essay or a treatise? Also, what are we to make of Philo's several apparent inconsistencies, and especially of his notorious final recantation? Perhaps Hume was trying to hide his point of view in order to make the book more acceptable to his readers? We know for a fact that Hume did try to be as discreet as possible; but many readers feel that this cannot be the whole story. So for example Livingston identifies the connexion between philosophy and conversation as one of the crucial issues in the whole of Hume's work, and observe that all Hume's philosophical writings – including the *Treatise*, in spite of its systematic appearance – are, in fact, dialectical. In this sense, in the *Dialogues* Hume finally found the literary genre most suited to his philosophy (Livingston, 1984, p. 19). A reading of this kind makes it plausible that Philo is, after all, Hume's mouthpiece. For his recantation would express the extent of what he and Cleanthes can genuinely share, and provide the idea of a "philosophical" religion, a true religion so different from the corrupt and distorted ones described in Philo's rant at the end of the *Dialogues* and in "The natural history of religion," that Hume himself would not, perhaps, be reluctant to accept it (Livingston, 1998, pp. 76–9). According to others, the *Dialogues* are entirely informed by irony; the religion which Philo and Hume are prepared to admit is an entirely naturalistic and humanistic one, without a god, and in the end coinciding with moderate skepticism itself. In this reading, Philo is Hume, but in a way so are Cleanthes and Demea too: for a skeptic is inevitably unstable, or, if he is to be honest and true to himself, even inconsistent in his thinking (Mossner, 1977, p. 5; Battersby, 1979, p. 250–1). Yet again, this suggestion does cast some light on the issue. But for many it is a fact that the main overall impression of the *Dialogues* is of ambiguity; and, given Hume's usual command of his stylistic means, some find it difficult not to think that this is a deliberate effect of a literary strategy aimed at manipulating his readers (Christensen, 1987, p. 4). If so, what effect was Hume trying to achieve? To answer this question, it has been suggested that in the case of the *Dialogues* there are special links between the dialogue form and the message. Before Hume, dialogues about religion staged the movement from an initial multiplicity of views to the eventual consent and order. But in the *Dialogues* the harmonious agreement reached by Cleanthes and Philo at the end seems at least dubious; and, more importantly, Demea leaves in a huff well before the conclusion. In other words, Hume subverts the genre of the religious dialogue, appropriating it to stage the failure of Cleanthes, Philo and Demea to compose their disagreements and reach a final consent (Prince, 1996, ch. 5). Similarly, it has also been suggested that the author's "artfulness" consists in his deliberate disappearance from his text. The uncertainty thus induced in the readers as to

the design and intentions of the author of the *Dialogues* reproduces and reinforces the indecision communicated to them by the meandering discussions of the three characters about the design and intentions of the author of the universe. The reason of this deliberate uninterpretability is that Hume is not interested in simply producing rational and consistent, if perhaps unpersuasive, arguments: he intends to affect the readers' imagination and to arouse their feelings, to counteract the natural appeal of the argument from design (Dancy, 1995).

Be this as it may, while reading the text it is difficult not to find the affinities between Philo and Hume striking. Equally striking is, on the other hand, the rough treatment Philo frequently receives at the hands of Hume – the numerous times he is made to shut up, or to look embarrassed and silly, even when he would have perfectly good ways of standing his ground. Perhaps Pamphilus' presentation of Philo's attitude as a "careless scepticism" is a clue to his true identity. As we have seen, "carelessness," "inattention" and "scepticism" are the virtues of the true philosopher as Hume had described him, so many years before, in his first book; and we know that the mature Hume came to find the "positive air" of the *Treatise* and the "ardour of youth" inspiring it an embarrassment and an irritation. Philo may well be, seen through the eyes of the mature author of the *Dialogues*, the young and ardent author of the *Treatise*.

References

Ayer, A., 1980, *Hume*. Oxford: Oxford University Press.

Baier, A. C., 1991, *A Progress of sentiments. Reflections on Hume's Treatise*. Cambridge, MA and London: Harvard University Press (the best work to date on Hume and moral philosophy).

Battersby, C., 1979, "The *Dialogues* as original imitation. Cicero and the nature of Hume's skepticism," in D. F. Norton, N. Capaldi and W. L. Robinson (eds.). *McGill Hume studies* (pp. 239–52). San Diego: Austin Hill Press.

Christensen, J., 1987, *Practicing enlightenment. Hume and the formation of a literary career*. Madison and London: University of Wisconsin Press.

Dancy, J., 1995, "'From here the author is annihilated': Reflections on philosophical aspects of the use of the dialogue form in Hume's *Dialogues concerning natural religion.*" In T. Smiley (ed.). *Philosophical Dialogues: Plato, Hume, Wittgenstein* (pp. 29–60). Oxford: Oxford University Press.

Deleuze, G., 1991, *Empiricism and subjectivity. An essay on Hume's theory of human nature*. (C. D. Boundas, trans.) New York and Oxford: Columbia University Press (Original work published 1953).

Eagleton, T., 1990, *The Ideology of aesthetics*. London: Blackwell.

Fogelin, R. J., 1992, *Philosophical Interpretations*. Oxford: Oxford University Press.

Garrett, D., 1997, *Cognition and commitment in Hume's philosophy*. Oxford: Oxford University Press.

Gaskin, J. C. A., 1978, *Hume's philosophy of religion*. London: Macmillan.

Hume, D., 1995, *Four Dissertations*. Bristol: Thoemmes Press. Cited in text as *Four Dissertations*.

Kail, P. J. E., 2002, *Projection and realism in Hume*. Oxford: Oxford University Press.

Kemp Smith, N., 1941, *The Philosophy of David Hume*. London: Macmillan and Co.

——(ed.), 1947, *Hume's Dialogues concerning natural religion*, 2nd ed. with supplement. Edinburgh and London: Thomas Nelson and Sons (1st ed. Oxford 1935). Cited in the text as *Dialogues*.

Livingston, D. W., 1984, *Hume's philosophy of common life*. Chicago and London: University of Chicago Press.

——1998, *Philosophical melancholy and delirium. Hume's pathology of philosophy*. Chicago and London: University of Chicago Press.

Mackie, J. L., 1980, *Hume's moral theory*. London and New York: Routledge and Kegan Paul.

Mossner, E. C., 1977, "Hume and the legacy of the *Dialogues*." In G. P. Morice (ed.). *David Hume. Bicentenary papers* (pp. 1–22). Edinburgh: Edinburgh University Press.

Parusnikova, Z., 1993, "Against the Spirit of foundations: postmodernism and David Hume." *Hume Studies*, 19, 1–18.

Phillipson, N., 1989, *Hume*. London: Weidenfeld and Nicholson.

Prichard, H. A., 1950, *Knowledge and perception*. Oxford: Clarendon Press.

Prince, M., 1996, *Philosophical dialogue in the British enlightenment. Theology, aethestics and the novel*. Cambridge: Cambridge University Press.

Reinach, A., 1976, "Kant's interpretation of Hume's problem" (J. N. Mohanty, trans.). In K. R. Merrill and R. W. Shahan (eds.). *David Hume many-sided genius* (pp. 161–88). Norman: University of Oklahoma Press. (Original article published 1908. *Zeitschrift für Philosophie und philosophische Kritik*, 141, 176–209).

Salmon, C. V., 1929, "The central problem of David Hume's philosophy. An essay toward a phenomenological interpretation of the first book of the *Treatise of human nature*". *Jahrbuch für Philosophie und phänomenologische Forschung*, 10, 299–449.

Selby-Bigge, L. A., 1975, *Hume's Enquiries concerning the human understanding and concerning the principles of morals*. Ed. with introduction, comparative table of contents, and analytical index by L. A. Selby-Bigge, 3rd edition, with text revised and notes by P. H. Nidditch. Oxford: Clarendon Press. Cited in the text as *Enquiries*.

——(ed.), 1978, *Hume's Treatise of human nature*, ed. with analytical index by L. A. Selby-Bigge, 2nd edition with text revised and variant readings by P. H. Nidditch. Oxford: Clarendon Press. Cited in the text as *Treatise*.

Sitter, J. E., 1982, *Literary loneliness in mid-eighteenth century England*. Ithaca and London: Cornell University Press.

Stafford Betty, L., 1971, "The Buddhist-Humean parallels: postmortem." *Philosophy East and West*, 21, 237–53.

Stroud, B., 1977, *Hume*. London: Routledge and Kegan Paul.

Taylor, A. E., 1934, "David Hume and the miraculous." In *Philosophical Studies* (pp. 330–65). London: Macmillan.

Zabeeh, F., 1960, *Hume precursor of modern empiricism. An analysis of his opinions on meaning, metaphysics, logic and mathematics*. The Hague: Martin Nijhoff.

Further Reading

Beauchamp, T. L. and Rosenberg, A., 1981, *Hume and the problem of causation*. New York and Oxford: Oxford University Press.

Beck, L. W., 1978, *Essays on Kant and Hume*. New Haven: Yale University Press.

Burns, R. M., 1981, *The great debate on miracles from Joseph Glanville to David Hume*. Lewisburg: Bucknell University Press.

Church, R. W., 1968, *Hume's theory of the understanding*. London: George Allen and Unwin Ltd (1st ed. 1935).

Fogelin, R. J., 1985, *Hume's skepticism in the "Treatise of human nature."* London: Routledge and Kegan Paul.

Frasca-Spada, M., 1998, *Space and the self in Hume's "Treatise."* Cambridge: Cambridge University Press.

Hall, R., 1978, *Fifty years of Hume scholarship. A bibliographical guide*. Edinburgh: The University Press (yearly up-dates in *Hume Studies*).

Harrison, J., 1976, *Hume's moral epistemology*. Oxford: Clarendon Press.

——1981, *Hume's theory of justice*. Oxford: Clarendon Press.

Hurlbutt, R. H., 1965, *Hume, Newton and the design argument*. Lincoln: University of Nebraska Press.

Jessop, T. E., 1966, *A bibliography of David Hume and of Scottish philosophy from Francis Hutcheson to Lord Balfour*. New York: Russell and Russell.

Jones, P., 1982, *Hume's sentiments. Their Ciceronian and French context*. Edinburgh: Edinburgh University Press.

Keynes, J. M. and Sraffa, P. (eds.), 1938, *An Abstract of a treatise of human nature, 1740. A pamphlet hitherto unknown of David Hume*, reprinted with an introduction. Cambridge: Cambridge University Press.

Maund, C., 1937, *Hume's theory of knowledge*. London: Macmillan and Co.

Miller, E. F. (ed.), 1987, *David Hume, Essays moral, political, and literary*, revised edition. Indianapolis: The Liberty Classics.

Mossner, E. C., 1954, *The Life of David Hume*. Edinburgh: Thomas Nelson and Sons.

Passmore, J., 1980, *Hume's intentions*. London: Duckworth (Original work published 1952).

Penelhum, T., 2000, *Themes in Hume. The self, the will, religion*. Oxford: Clarendon Press.

Read, R. and Richman, K. A. (eds.), 2000, *The new Hume debate*. London: Routledge.

Richetti, J. J., 1983, *Philosophical writing. Locke, Berkeley, Hume*. Cambridge, MA: Harvard University Press.

Yolton, J. W., 1984, *Perceptual acquaintance from Descartes to Reid*. Oxford: Blackwell.

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Adam Smith

SAMUEL FLEISCHACKER

Introduction

Adam Smith is best known as "the father of political economy," but he made his reputation in his own day as a moral philosopher, and even his political economy is informed by a moral vision. Smith was born into a modest family in Kirkcaldy, Scotland in 1723. He attended Glasgow University, where he studied under FRANCIS HUTCHESON (chapter 30), then went to Oxford on a fellowship designed to train students for the Episcopal clergy. Smith hated Oxford, however, and, at least by the time he left, had no interest in the clergy. In 1748 he returned to Scotland, to teach at Edinburgh University. Here he gave lectures on language and literature; he has been called the first professor of English. In 1751, he moved to Glasgow, where he was soon elected to his teacher Hutcheson's chair in moral philosophy. From the lectures he gave in this position came his first book, the *Theory of Moral Sentiments* (Smith 1759; henceforth TMS), and the early versions of many of the ideas that went into the *Wealth of Nations*. In 1764, he left his position in Glasgow to serve as a tutor to the stepsons of Charles Townshend, then President of the Board of Trade. In this capacity, he traveled to France and Switzerland, where he met VOLTAIRE (chapter 39), his literary idol, and many of the Physiocrats. He returned to Britain upon the death of one of his pupils, spending almost a decade quietly at home in Scotland, in the preparation and writing of the *Inquiry into the Nature and Causes of the Wealth of Nations* (Smith 1776; henceforth WN). Throughout his life, he participated actively in Scotland's lively intellectual circles. A particularly close friend of DAVID HUME (chapter 32), he was also well acquainted with most of the other major figures in the Scottish Enlightenment, including James Boswell (his student), the chemist Joseph Priestley, the historian William Robertson, and the social and political thinker Adam Ferguson. After WN's publication in 1776, Smith took up a position as Commissioner of Customs – somewhat surprisingly, given his famous opposition to tariffs – which he retained, apparently enjoying his work, until his death in 1790. He wrote to La Rochefoucauld in his later years that he still had "two... great works upon the anvil" – a system of jurisprudence and "a sort of philosophical history" of the arts and sciences – but he never published a book after TMS and WN, and he asked that most of his

unpublished notes be burned upon his death. These instructions apparently did not apply to several early writings on literature and the history and philosophy of science, which were published in a small volume after his death (Smith, 1795). In the nineteenth and twentieth centuries, student notes on both his lectures on jurisprudence and his lectures on belles-lettres were discovered and published as well (Smith, 1978 and 1983).

Who was Adam Smith? A moral philosopher dabbling in political economy? A pioneering social scientist with a background in moral philosophy? An Enlightenment belle lettrist, whose writings about both moral philosophy and political economy are just parts of a much larger body of work? Smith has never been accepted as a canonical figure in philosophy, while economists, although they find many bits in WN to admire, tend to regard most of its doctrines as unoriginal and Ricardo as more important to the development of rigorous methodology in their field. Smith was admired in his lifetime at least as much for TMS as for WN, influencing both aesthetic and moral theory in France and Germany, but WN, used for various, even conflicting political purposes, soon came to eclipse TMS in his posthumous reputation.

Smith's curiously eccentric relationship to the more technical aspects of both philosophy and economics may be at least partially explained by what I take to be the central thread running through all his work: an unusually strong commitment to the soundness of the ordinary human being's judgments, and a concern to fend off attempts, by philosophers and policy-makers, to replace those judgments with the supposedly better "systems" invented by intellectuals. In one of Smith's earliest writings, he is concerned to refute the notion that the ordinary person objectifies secondary qualities (Smith, 1795, 141–2); in the "History of Astronomy," he characterizes philosophy as a discipline that attempts to connect and regularize the data of everyday experience (Smith, 1795, 44–7); in TMS, he tries to develop moral theory out of ordinary moral judgments, rather than beginning from a philosophical vantage point "above" or "beyond" those judgments; and a central polemic of WN is directed against the notion that governments need to guide the economic decisions of ordinary people. Perhaps taking a cue from Hume's skepticism about the capacity of philosophy to replace the judgments of "common life," Smith represents one of the first modern philosophers to be suspicious of philosophy itself – at least of philosophy as conducted from a foundationalist standpoint, a position "outside" the modes of thought and practice it examines. He brings out the rationality already inherent in common life, mapping it from within and correcting it, where necessary, with its own tools, rather than trying either to justify or to criticize it from an external standpoint. It is consistent with this attitude that he hoped to bring philosophy, literature, and the social and natural sciences into one large whole, treating each of these disciplines as equally an outgrowth of ordinary human thought and interests. Smith's corpus aims in good part to break down distinctions between different types of theorizing, and between "theoretical" and "ordinary" thought. This intellectual aim is not unconnected with, and no less important than, his political interest in guaranteeing to ordinary individuals the "natural liberty" of thought and action he believes they rightly possess.

Smith's Contributions to Moral Philosophy in TMS

In part I of TMS, Smith defines "sympathy" as an emotional projection we make into the situations of others, and claims that human beings are strongly driven by a desire to achieve mutual sympathy with one another. Pointing out the tension between the feelings of the "person principally concerned" in any situation and the weaker feelings of a spectator to that situation, he argues that we are all keenly interested, *qua* "people principally concerned," in having sentiments with which a spectator can go along, and are willing to modify our feelings in order to achieve this harmony. He then defines moral approval as consisting in the spectator's feeling of concord with the feelings of the person principally concerned. Virtuous feelings are just those with which an impartial spectator would accord. This definition allows Smith to broaden the range of virtuous motivations beyond Hutcheson's "benevolence" – an impartial spectator can in some cases sympathize with self-love, and even resentment, as well as benevolence – and to suggest that no feeling simply as is, not even benevolence, counts as a virtue. Rather, all our feelings must be refracted through the eyes of the impartial spectator, such that we feel them only when, and to the degree, that that spectator would feel them.

Part II turns from the motives for action to the consequences of action, denying that consequences can be of moral importance in themselves, and drawing our belief in reward and punishment out of our sympathy with the gratitude and resentment that we impute to those who experience, respectively, benevolence or cruelty. Our judgments that acts deserve reward or punishment are thus direct expressions of our sentiments towards agents and patients, and only indirectly reflect the benefits or harms conferred by the relevant acts. In this context, Smith introduces his important notion of justice, as a virtue directly concerned with preventing harm to individuals, but indirectly of such utility to societies that they must enforce it if they are to survive at all. (On Smith's account of justice, see Haakonssen, 1981 and 1996).

Smith considers in part III how we move from the assessment of other people's conduct to the assessment of our own actions. The full development of the view adumbrated in part I occurs here. Smith explains the notion of the "impartial spectator," which he has invoked without comment earlier, and suggests that it can enable us to overcome our strong natural tendency to deceive ourselves, and to favor ourselves above other people. We desire above all, Smith now says, praise*worthiness* rather than mere praise. But since the spectators around us, out of bias or ignorance or insensitivity, often misjudge our situations, we learn to seek the approval not so much of actual spectators as of an idealized "impartial spectator" – a spectator who is adequately informed and who feels equally with each person in a given situation. In part, this spectator is made available to us by general moral rules, which compensate for the self-deceit to which we are prone in the heat of action. The spectator cannot be fully replaced by such rules, however, because it needs to make nuanced judgments that vary with the details of particular situations. Moreover, it consists fundamentally in a set of sentiments rather than a set of principles; we aspire ethically to have certain sentiments, not merely to act in

certain ways. In the ideal case, we build the impartial spectator within ourselves, re-making our sentiments accordingly. The virtuous person, says Smith, "does not merely affect the sentiments of the impartial spectator. He really adopts them. He almost identifies himself with, he almost becomes himself that impartial spectator, and scarce even feels but as that great arbiter of his conduct directs him to feel" (TMS 147). Virtue thus involves a process of self-transformation, for Smith – a notion nowhere to be found in Hutcheson, Hume or any of his other modern predecessors.

Parts IV and V of TMS consider the influence of, respectively, utilitarian considerations and custom on our moral sentiments, and the degree to which these influences distort the proper assessment of sentiment. In the course of part IV, Smith briefly considers aesthetic sentiments, arguing against the reduction of beauty to utility. Part VI, added in the last edition, presents a view of prudence and altruism, of self-command, and of pride and vanity, by way of a series of elegant character portraits, and part VII offers a short history of moral philosophy, pointing out along the way the degree to which Smith agrees and disagrees with his predecessors.

What in this work is distinctive? One answer to that, already mentioned, is that none of Smith's modern predecessors had taken virtue to require self-transformation (the notion is of course central to many ancient views), and, relatedly, none had so fully examined the many ways that perceiving other people's feelings, and building into ourselves their perspectives on our own feelings, is essential to proper moral judgment. In addition, none of Smith's predecessors had developed such an essentially social conception of the self. Hutcheson and Hume both see human beings as having a natural disposition to *care* about the good of their society, but for Smith, all of our feelings, self-interested and benevolent, are *constituted by* a process of socialization. Smith conceives of humanity as less capable of solipsism than Hume does, less capable of the thoroughgoing egoism that Hume, in his famous discussion of the "sensible knave," finds it so difficult to refute (Hume, 1777, p. 282). At the same time, Smith reconciles his social conception of the self with a deep respect for the absolute importance of each individual self, and the capacity of each self for independent choice. Ethical self-transformation, for Smith, is inspired and guided by social pressures but ultimately carried out by the individual for him or herself; the "impartial spectator" begins as a product and expression of society, but becomes, once internalized, a source of moral evaluation by which the individual can stand apart from, and indeed criticize, his or her society. Individually free action and the social construction of the self are compatible, for Smith, even dependent on one another.

We can more fully appreciate what is distinctive in Smith by comparing him closely with Hume. Smith's thought circles around Hume's: there is virtually nothing in either TMS or WN without some sort of source or anticipation in Hume, although there is also almost no respect in which Smith agrees entirely with Hume. In the case of TMS, the seed in Hume is the notion of sympathy, which provides both Hume and Smith with the underlying mechanism allowing for moral judgment. But whereas for Hume sympathy arises from a direct impact upon us of other people's feelings, for Smith sympathy is a matter of our imaginations bringing us emotionally into the situations of other people. Smith opens TMS with this impli-

cit correction of Hume, announcing in the second paragraph that the imagination can enable us to experience another person's sensations only "by representing to us what would be our own [sensations], if we were in his case" (TMS 9). When Hume describes the workings of sympathy, he says that emotions "readily pass from one person to another," like the motion of a string, equally wound up with other strings, "communicat[ing] itself to the rest" (Hume, 1739–40, p. 576; see also pp. 317, 605), and then explains that we obtain our idea of the other person's feelings by inference, either from the effects of those feelings (the person's smiles and frowns) or from their causes (the feelings we assume the person *will* have when, for example, we watch a painful operation being set up). In both cases, the other's feelings, once inferred, communicate themselves directly to us, and our imaginations only intensify our idea of those feelings so as to raise it to the level of an impression (Hume, 1739–40, pp. 576, 319–20). For Smith, by contrast, we place ourselves in the other's situation and imagine what we would feel if we were there. Imagination is essential to the production even of the "idea" that constitutes sympathy, and sympathetic feelings are no longer feelings that the other person need actually have. (Smith points out that this explains how we sympathize with some people, like gravely ill infants or the insane, who do not actually experience the suffering we feel on their behalf [TMS 12–13]). This account allows for us to judge other people's actual feelings against the background of our sympathetic feelings. Sympathy is thus not just a way of *sharing* feelings with others – it also opens a *gap* between their feelings and ours. And by way of that gap we can get a grip on the notion – crucial to Smith's theory – that certain feelings are appropriate to a situation, while others are not.

These seemingly slight shifts from Hume – understanding sympathy as 1) produced by the imagination and 2) a response to situations rather than something passed on, causally, from one person to another – have immense implications for the shape of Smith's thought. The first of these shifts leads him to give a central place to works of the imagination, to literature, in moral development. He frequently brings in examples from poetry and drama to explain or give evidence for his points (e.g., TMS 30, 32–3, 34, 177, 227), twice recommends writers like Voltaire as great "instructors" in certain virtues (TMS 143, 177), and seems to see moral philosophy itself as something of a work of the imagination, a project that needs to draw on imaginative resources and that properly aims at extending and enriching the moral imaginations of its readers (compare Griswold, 1999, ch. 1). It is therefore for him a project to which clarity, vivacity and elegance are as important as good argument, and Smith was in fact very concerned with finding the appropriate rhetoric – the appropriate appeal to the imagination – for his works (see Griswold, 1999, Muller, 1993, pp. 54–6, 65–8, 92–4, and Brown, 1994). Both of his books are beautifully written, and filled with vivid, memorable examples.

The second of the shifts enables Smith to be more of a moral realist than Hume. For Smith, the emotions have appropriate objects; they are directed towards situations, to which they are supposed to respond in one way rather than another. That gives them something to go wrong about; they can be well or badly "fitted" to their objects. It therefore makes much more sense for Smith than for Hume that one ought to assess one's own sentiments critically. Hume grants that we need to

correct our sympathy for partiality by adopting in imagination a "steady and general point of view" (Hume, 1739–40, p. 581), but for Smith, this concession comes too late. Smith sees sympathy as building an aspiration to make one's sentiments harmonize with the sentiments of others *into those sentiments themselves*. If they did not already have such an aspiration, we would have neither motivation nor reason to take up the "steady and general point of view." It makes little sense to treat our sentiments as naturally given surds, impervious to reason, and then add that they may, however, need "correction" to fit in with the demands of an impartial perspective. If sentiments are essentially surds, they can be neither correct nor incorrect; if they are impervious to reason, then we can have reason, at most, to *appear* to have sentiments other than the ones we happen to have, not, what is impossible, truly to *change* those sentiments. For Smith, the aspiration to be approved of by a "steady and general" point of view belongs to our sentiments from the beginning, and we have, accordingly, both motivation and reason to change our sentiments insofar as they fail to meet the standards of such a view.

Relatedly, for Smith but not for Hume there is a lot to learn about what sentiments we should have. In neither the *Treatise* nor the second *Enquiry* does Hume spend any significant time on how we might learn to acquire new moral sentiments or alter the ones we have. By contrast, the first five parts of TMS – almost two-thirds of the text – are devoted to a careful delineation of the various ways in which we learn to assess our sentiments, and in which learning to assess them enables us both to express them in a properly moral way, and, in part, to change them.

Finally, Smith is further from utilitarianism than Hume. Both the notion of sentiments as having or lacking an intrinsic "propriety" independently of their effects, and the arguments, in Books II and IV, against reducing our interest in justice and beauty to our interest in their useful effects, display a critique of Hume, and especially of the utilitarian tendencies in Hume's thought. Smith's particularist conception of moral judgment, and his playing down of the effects of actions in favor of the emotions that motivate actions, keep him far from consequentialism. He believes that our faculties of moral evaluation are always directed towards the motivations and well-being of particular individuals in particular situations, not to the abstract good that might be attributed to groups, and he emphatically denies that our assessments or decisions should aim at the greatest happiness for the greatest number of people (TMS 237). In addition, he sees happiness as so essentially shaped by the possession of good dispositions that it cannot serve as a nonmoral goal that might help us define "good" dispositions. It is essential to the hedonic calculus, which Bentham invented after reading Hume, that "happiness" be defined separately from morality, so that it can bestow content on moral claims. That is impossible, for Smith. Smith sees meeting the demands of the impartial spectator as intrinsic to happiness, which disallows the possibility that happiness might be defined prior to morality.

This conception of the intimate relationship between good character and happiness places Smith in the camp of what is today called "virtue ethics," rather than either the "consequentialist" or the "deontological" camps. Indeed, Smith may well be the first modern, secular Aristotelian: the first person to adopt an Aristotelian approach to ethics without either Aristotle's own metaphysics or a religious frame-

work, like Joseph Butler's, to replace Aristotle's metaphysics. Smith's theory of the mutual shaping of sentiments between agent and spectator substitutes for Aristotle's teleological biology, and thereby enables us to understand sociability and virtue as essential to human nature in a way that can fit in with a modern, nonteleological, understanding of what "nature" means. He thus offers a prototype for the kind of position that contemporary moral philosophers like Rosalind Hursthouse, Martha Nussbaum, and John McDowell have been seeking to occupy.

Common Objections to TMS

Smith's moral theory has been accused of three major failings. First, it offers us no clear procedure for deciding precisely which actions we should take in specific circumstances, no guidelines for how we can tell, in specific cases, what the "impartial spectator" within us has to say. Second, the impartial spectator seems too enmeshed in the attitudes and interests of the society in which it develops to enable us to care impartially for all human beings. And third, even if Smith's *analysis* of moral claims is correct, even if it is true that moral judgments in ordinary life consist in attempts to express how an impartial spectator would feel about our conduct, it remains unclear what *justifies* these judgments. Why should we heed the demands of the impartial spectator? It is often said that Smith, unlike HOBBES (chapter 22), Hume, Kant, or Mill, has no answer to this question, and it is probably in large part for that reason that Smith tends to be side-lined in philosophy, to be treated as a second-rate philosopher or not a philosopher at all.

Smith would probably dismiss the first of these objections, as based on an erroneous notion of what moral philosophy ought to do. Moral philosophy can deepen our love for virtue, refine our understanding of the virtues, and enrich our understanding of ourselves, all of which can conduce to a firmer moral disposition and to the making of wiser, more careful moral decisions, but it cannot and should not replace the processes of ordinary life by which, in specific cases, we actually make those decisions. Philosophy is an abstract, highly intellectual, and solitary activity, while moral decision-making is and should be concrete, driven by emotion as much as by the intellect, and shaped by our interactions with the people who will be affected by our actions.

The second and third objections constitute what we might call a tribalist and a skeptical challenge. The tribalist sees no reason to extend moral sentiments or modes of judgment to people outside his or her society, and thereby seems to miss a basic feature of moral demands. But where is the room for this universalist feature of morality in Smith's account? Since we construct the impartial spectator within us out of attitudes in the society around us, how can that spectator reach above or beyond our society sufficiently to achieve a sensitive, and truly impartial, concern for members of other societies? The skeptic represents a yet deeper problem. Smith says that when we issue a moral judgment, of others or of ourselves, we express the relationship of one set of sentiments – the cooler, more reflective sentiments characteristic of a spectator – to another. This seems a plausible account of what we actually do, when judging morally. It captures nicely the "feel" of moral judgments

in ordinary life, the phenomenology of moral judgment. But how does it give us *reason to heed* such judgments? How does it explain the normativity of moral judgments, their apparent hold over us, the sense we have that we ought to listen to them?

Smith himself clearly rejects any tribal limits to the reach of moral demands. He adopts the Stoic view that each person is "first and principally recommended [by nature] to his own care" (TMS 219), and that we similarly care more about members of our own society than about people far away from us (139–40, 227–8), but, also like the Stoics, he conjoins this with the view that our moral feelings extend, if to a lesser degree, to all rational and sensible beings: "our good-will is circumscribed by no boundary, but may embrace the immensity of the universe" (235). Indeed, he regards resignation to the loss of both one's own interests and the interests of one's local community, if that is necessary for the good of the universe, as a mark of the highest wisdom and virtue (235–6). He merely adds that it is not appropriate for us to take the good of the universe as the object of our own actions: "The administration of the great system of the universe, ... the care of the universal happiness of all rational and sensible beings, is the business of God and not of man" (237). We can have, and sometimes do have, concerns for the well-being of any rational or sensible creature, but "our effectual good offices" rarely extend beyond the creatures we encounter in our own country (235). We therefore should not generally design action on the basis of our cosmopolitan sentiments, putting large amounts of our attention into projects for the well-being of distant others, or of humanity considered as a global whole, lest we sacrifice the good offices we can effectually and sensitively carry out in favor of ineffectual projects or insensitive attempts to help people whose needs and interests we know poorly. Smith insists on the particularist nature of moral judgment. Justice and beneficence are modes of concern for particular people in particular circumstances, not for some abstract notion of a human being, nor, except derivatively from our concerns for particular people, for society "as a whole" (89–91). It is clearly implied by this position that if we find ourselves in circumstances in which we *can* affect, and do get to know, particular people from distant societies – in war, say, or foreign trade – we should treat them with the same concern and respect we normally show our friends and neighbors.

This is a humane and thoughtful position, but unfortunately Smith gives us little justification for it, little explanation of how his "impartial spectator" might have any capacity at all for cosmopolitan feelings. It is an advantage of Smith's views that they account for the ordinary intuition, much stressed in recent moral philosophy (see, e.g., Williams, 1978), that it is morally acceptable, even incumbent upon us, to care more for our friends and loved ones than for anonymous strangers. Smith's "impartial spectator" is less distanced from our ordinary feelings, less impersonal, than Roderick Firth's otherwise similar construct, the "ideal observer" (Firth, 1952, pp. 337–41), and that makes the impartial spectator initially a more plausible source of ordinary moral beliefs. But what is an advantage in one respect is a disadvantage in another. For Smith, unlike Firth, gives us inadequate resources for *criticizing* ordinary moral beliefs, especially insofar as those beliefs are excessively partial to the interests of the society in which they are held. We build the impartial

spectator into ourselves in response to the biased or poorly informed judgments made by actual spectators: "In order to defend ourselves from such partial judgments, we soon learn to set up in our own minds a judge between ourselves and those we live with" (TMS 129; see also 135). The impartial, internal spectator thus avoids errors due to misinformation and passion. But otherwise it is simply an extension of external, actual spectators, and it uses the same *standards* for evaluation as those actual ones do. If the moral standards, the basic moral sentiments, of our society are themselves fundamentally corrupt – if, say, a feeling of repugnance for Africans or Jews has become confused with a moral feeling, and a society's judgments of these people have been comprehensively skewed as a result – the impartial spectator within each individual will presumably take over, rather than correcting for, such corruption. Sometimes Smith drops proto-Kantian hints that a concern for the equal worth of each and every human being lies at the basis of all moral sentiments (TMS 90, 107, 137 and Darwall, 1999, pp. 153–4), and this point, if it could be justified, might point the way towards an account of how the impartial spectator can correct for local biases and maintain cosmopolitan aspirations. But Smith says very little to justify the point, and it must be admitted that the tribalist challenge brings out a great weakness in his theory.

He does better with the skeptical challenge. To the person who asks, "why be moral?" Smith essentially gives what Christine Korsgaard calls a "reflective endorsement" argument (Korsgaard, 1996, pp. 19, 49–89). Reflective endorsement theorists – Korsgaard gives Hume and Joseph Butler as examples – substitute the question, "are the claims of our moral nature good for human life?" for the question, "are moral claims true?" They identify a certain faculty for approval or disapproval as defining and giving a certain apparent force to moral claims, and then ask whether, on reflection, we can approve of that faculty of approval itself. This test requires, in the first instance, that the faculty of moral approval approve of its own workings, and then looks to whether our other faculties of approval can approve of the moral one: we seek a comprehensive endorsement, by all our modes of approval, of moral approval in particular. The second part of the test asks above all whether the faculty for prudential approval – the faculty by which we applaud or condemn things in accordance with self-interest – can applaud the moral faculty, since the latter often requires us to override our self-interest.

We should not assume that the first part of the test is trivial. Korsgaard quotes Hume's declaration that our sense for morals "must certainly acquire new force, when reflecting on itself, it approves of those principles, from whence it is deriv'd, and finds nothing but what is great and good in its rise and origin" (Hume, 1739–40, pp. 267–8), and contrasts this with Hume's earlier demonstration that the understanding, when reflecting on its own procedures, undermines itself (Korsgaard, p. 62). So a faculty can fail a purely reflexive test: it can fail to live up to its own standards for evaluation. But the moral sense, for Hume, and the impartial spectator, for Smith, pass their own tests. Indeed, an excellent way to read TMS is to see Smith as demonstrating, to an impartial spectator in a moment of reflection, that the impartial spectator we use in the course of action operates in a reasonable and noble way – that, in particular, it is not just a tool of our self-interest, that it trumps and tames self-interested inclinations rather than merely serving them.

At the same time, to meet the full reflective endorsement test, Smith needs to show that heeding the impartial spectator does not, overall, *conflict* with our self-interest. In order to show this he tries, like many ancient ethicists, to get us to rethink what our self-interest properly is. If we think through our real interests, Smith maintains, we will see that the very question, "why should I be moral?" with its implicit supposition that being moral is something I might want to avoid, tends to be based on a misconception of self-interest. "The chief part of human happiness arises from the consciousness of being beloved" (TMS 41), Smith says, and being "beloved" normally requires acting in accordance with the demands of the impartial spectator. Violating those demands will also normally bring on great internal unease – fear of discovery, pangs of conscience, and other disturbances – making it difficult to achieve the "tranquillity" that Smith takes to be the prime emotional component of happiness (TMS 149). Finally, if one fully incorporates the impartial spectator into oneself, one will discover that moral self-approbation is itself a great source of happiness. But if happiness consists so centrally in the approbation of others, and, at least in some cases, in moral self-approbation, there can be no reasonable conflict between pursuing happiness and pursuing morality. So the demands of our moral sentiments are justified, capable both of endorsing themselves and of being endorsed by our nonmoral sentiments.

It should be clear that this argument does not involve any reduction of morality to self-interest. For Smith, the agent who supposes that self-interest can be defined independently of morality, and morality then reduced to it, misunderstands the nature of self-interest. Such an agent lacks a well-developed impartial spectator within herself, and therefore fails to realize that acting in accordance with moral demands is essential to her own happiness. She will gain a better understanding of happiness only once she starts to engage in the pursuit of virtue. Smith explicitly says that the virtuous agent sees things that others do not (TMS 115–7, 146–8). Like the contemporary philosopher John McDowell, he thus suggests that the virtuous agent can properly "see" the point of virtue, and how virtue helps constitute happiness, only from a perspective within the actual practice of virtue. But, as McDowell says, there is no reason to think one can find better arguments, or indeed any arguments, for seeking virtue from a perspective entirely outside of such practice (McDowell, 1998 a and b). There may therefore indeed be a certain circularity to Smith's defense of morality, as some of Smith's critics have argued, but the circularity is not a vicious one, and an entirely nonmoral defense of morality, which the critics seem to want, may be impossible.

Smith himself does not clearly spell out the responses I have proposed to the philosophical problems that his theory raises. His weakness in this regard is too easily taken, however, as a sign that he is not really doing philosophy at all. It need not be the sole function of moral philosophers to provide a groundwork for the metaphysics of morality. Displaying, clarifying, and showing the internal connections in a way of thinking is also a philosophical task, even if one sets aside the question of whether the way of thinking is justified. There are indeed philosophers both before and after Smith who reject the idea of philosophy as peculiarly suited to offer justifications. Smith's work fits in, we might say, with the view of Iris Murdoch,

who understands moral philosophy as consisting in the attempt "to fill in a systematic explanatory background to our ordinary moral life" (Murdoch, 1970, p. 45). His astute and nuanced analysis of what goes into moral approval – of what sorts of factors the impartial spectator considers, of how it can deceive itself or otherwise go wrong, of how it develops and how it judges different virtues in different ways – is accomplishment enough for one philosopher, regardless of whether he adequately justifies the fact that we engage in such approval at all. And it is a properly philosophical accomplishment, at least if philosophy can consist in tracing out and linking up the kinds of claims we are inclined to make, while bracketing the question of whether those claims are, at bottom or overall, justified. Smith was a moral phenomenologist, and at that he was as good as any philosopher before him or since.

From TMS to WN: Smith's Contribution to Political Philosophy

It is clear from the end of TMS that Smith intended to complement it with a system of political philosophy, and it is clear from the Advertisement to the last edition of TMS that WN represents the partial, but not the complete, fulfillment of that plan. Now there are three main reasons why moral philosophers write political theories. First, like Aristotle, the philosopher might see morality as the fostering of virtuous character and believe that the state can help people achieve virtuous character. Second, like Bentham, the philosopher might see morality as maximizing human pleasure and believe that legal and political reform can contribute significantly toward that end. Finally, like Hegel, the philosopher might see morality as the expression of freedom and believe that states can embody the highest expression of freedom. But Smith believes none of these propositions. His conception of morality is quite Aristotelian, but for him the state can do little to help anyone achieve virtuous character. He shares neither Bentham's reduction of the good life to the pleasurable life, nor Bentham's optimism about the likely effectiveness, for moral or hedonic purposes, of even much-reformed governments. And he never describes either morality or the state as an expression of freedom.

So why did Smith write WN? One response to that question is that he considered simply writing clear works of social science to be a moral and political task of the first order – that he considered the job of clearing up superstitions and confusions about the economy to be both a means to and a constituent part of "Enlightenment" (see Gay, 1969, pp. 359–68). Like other eighteenth-century thinkers, Smith regarded enlightenment as worthwhile in itself, and he may also have seen it as a tool for reconciling oneself to the very limited degree of control that, he believed, human beings can have over their environment. There is a Stoic tone to TMS, with its emphasis on self-command, and we might say, in very Stoic vein: once we learn the great degree to which social institutions and policies have unintended consequences, once we learn, in particular, the central role of unforeseeable factors in the workings of the market, and once we realize, also, that uncontrolled markets on the whole do well by all their participants, we will become reconciled to allowing markets to run unfettered, to giving up the attempt to control them. Smith, we may

say, thus provides a sort of "econodicy": an apologia for the market that enables us to see it as an expression of uncontrollable, natural forces, and thereby to accept it despite its imperfections.

I don't think this very Stoic reading of WN, and of Smith's notion of enlightenment, is entirely right, but there is a large kernel of truth to it. Smith is more of an Enlightenment progressive than the reading suggests, more of a believer that an enlightened understanding of their circumstances can help people change those circumstances for the better, but he had less faith in this notion than most of his contemporaries. There are deep roots in his thought for a skeptical attitude towards progressivism. Progressivism makes sense only if human beings can be clear about what they are aiming for, and then work on improving the means for attaining those goals. In TMS, Smith provides a number of reasons for doubting that people are clear about their own goals. For most enlightenment thinkers, including Smith's predecessors Hutcheson and Hume, what things human beings fundamentally desire, and why they have such desires, seemed fairly obvious. For Smith, this is not so obvious. Smith believes that it is very difficult for us to know our true intentions in many cases (TMS 156–9), and that our desires are in all cases heavily shaped by social interaction. He also casts doubt on the degree to which we seek things that are truly useful to our ends. In a famous passage, he says that we are more interested in the apparent *conduciveness to utility* of things than in their actual usefulness (179–80). This concern for conduciveness to utility over actual utility serves as the jumping-off point for an important foray into economics. The "poor man's son, whom heaven in its anger has visited with ambition" pursues wealth without knowing what it is really like, because it *seems* – falsely – to be useful (181–3). In several ways, then, Smith pictures human desires and aims as much more opaque than do other Enlightenment thinkers. This picture deeply informs his distinctive account of society and history, moreover, according to which the unintended consequences of a pattern of actions tend to be more important than the intended ones and the detailed course of history is correspondingly unknowable except in retrospect. On such a view, it is futile for politicians to try to determine the future development of their societies. They do better restricting their activities to protecting individual liberty against violence – to the defense of their societies against military threats, and to the administration of justice.

We might call this the libertarian reading of Smith, and it certainly captures an important element of his political philosophy. Smith gives justice a certain priority over the other virtues in TMS (86), he begins his lectures on jurisprudence by saying that the maintenance of justice is "the first and chief design of every system of government" (Smith, 1978, p. 5), and he brings in justice as a constraint on economic activity many times in WN (e.g., WN 157, 539, 687). But the importance of this theme to Smith can also be exaggerated. The third of the tasks he gives to government in WN consists in "maintaining and erecting" a large range of "publick works and... publick institutions" for the good of the whole society (WN 687–8). In TMS, the chapter that is often quoted as claiming that justice alone, among the virtues, may be enforced actually maintains only that "kindness or beneficence,... cannot, *among equals*, be extorted by force" (TMS 81). In a state "antecedent to the institution of civil government," Smith says, no impartial specta-

tor would approve of one person's using force to make another act beneficently. But once civil government has been established, people may quite legitimately be forced to carry out at least the greatest and most obvious duties of beneficence. Smith says that

> [t]he civil magistrate is entrusted with the power *not only of... restraining injustice, but of promoting the prosperity of the commonwealth*, by establishing good discipline, and by discouraging every sort of vice and impropriety; he may prescribe rules, therefore, which not only prohibit mutual injuries among fellow-citizens, but command mutual good offices to a certain degree. (81, my emphasis)

Smith warns against taking this license for a more general promotion of virtue too far – that, he says, would be "destructive of all liberty, security, and justice" – but he also says that neglecting it will lead "to many gross disorders and shocking enormities" (loc. cit.). In principle, these enormities could include the great misery of the poor. Smith had no principled objections to government power being used, if necessary, to help the poor; he merely believed, as a matter of empirical fact, that the poor will normally best be helped by keeping governments out of the business of managing economies. It should be remembered here that the idea of a governmental obligation to redistribute wealth out of fairness to the poor was not on the table in Smith's time. Only in the decade after his death did Jeremy Bentham and Tom Paine offer their groundbreaking poverty programs; the socialism of Robert Owen and Charles Fourier lay another generation in the future. Until the late eighteenth century, most writers on the role of government *vis-à-vis* the poor maintained that governments need to keep wages *low* so that the poor will show proper respect to their superiors and not waste money on drink. Smith had more influence than anyone else in changing this attitude – he was one of the earliest and most fervent champions of the rights and virtues of the poor, arguing furiously against wage caps and other constraints that kept the poor from rising socially and economically (see Baugh, 1983).

The differences in principle between Smith and contemporary libertarians arise in part from the fact that Smith had a much more restricted conception of the "sacred rights of the individual" than do his contemporary admirers. Taxation does not count as any sort of violation of the right to property, for him, nor does the government's mere support for certain ideas and values count as an infringement of the right to conscience. Although it may be inefficient and otherwise unwise, it is not *unjust* for the government to intervene in the economy on behalf of one or another commercial interest, to spread propaganda for one or another conception of virtue, or even to establish a religion. Smith of course opposes economic intervention of this kind and thinks it better if governments do not establish religions, but his views on these issues stem from concerns other than justice. Moreover, he favors militia training to instill courage in people, the establishment of public schools, state incentives urging people to study "science and philosophy," and state encouragement for secular amusements – the latter two as an "antidote to the poison of [sectarian religious] enthusiasm and superstition" (WN 796). So Smith's state is not a "neutral" one, in the modern sense, and it is not uninterested in the promotion of virtue.

Why, then, does Smith recommend such a minimal state? The interventions I have listed are practically the only ones he recommends in WN, and even in those cases, Smith calls for only limited state action. Why allow governments to go so far, and no farther?

The first answer to that is that Smith did not think government officials were competent to handle much beside the needs of defense and the administration of justice. Smith's writings are permeated by a deep lack of respect for the sorts of people who go into politics: for the vanity that leads them to seek fame and power, for the presumption by which they regard themselves as morally superior to others, and for the arrogance with which they think they know the people's interests and needs better than the people do themselves. He also believes that politicians tend to be manipulated by the preaching of commercial interests who do not have the good of the nation as a whole at heart (WN 266–7), and that they can almost never know enough to offer wise guidance to large numbers of people. Correlatively, Smith has a great respect for both the competence and the virtue of the common person. He is a more consistent and thoroughgoing egalitarian than practically any other Enlightenment thinker, defending the virtues of Africans and Native Americans (TMS 205–6), unlike both Hume and Kant, and showing no trace of the thought, common at the time and strongly held by Hutcheson, that a class of especially wise and virtuous people ought to rule over the common "herd." (For the prevalence of elitist conceptions of government in the Enlightenment, see Wood, 1991, part i, chs. 1 and 2).

In addition, Smith holds that social sanctions can do a better job at many tasks that other thinkers expected only political sanctions could accomplish. His rich account in TMS of the way the spectators around us subtly and unconsciously lead us to develop moral virtues enables him to hold that governments need not teach virtue. Society, independent of governmental power, will do that on its own. Thus sumptuary laws are unnecessary because the desire to maintain or increase one's social status will keep most people prudent and frugal (WN 341–6). Thus religious groups that spontaneously arise without government assistance do a better job of inculcating virtues than their government-supported counterparts (WN 792–6). And thus – implicitly – the civic republican obsession with a citizen militia is overwrought because the habits of self-command inculcated by military service can also be achieved, for most people, by the social interactions of the market itself (see Fleischacker, 1999, pp. 153–6, 169–72).

Finally, Smith limits the activities of governments because he considers it crucial to the full development of virtue that people have plenty of room to act, and shape their feelings, on their own. Social sanctions help us become good human beings better than political sanctions do, but ultimately becoming a good human being is a task that each individual must take up for him or herself. Power is inimical to moral development, and governments should therefore use their power just to minimize the degree to which power gets exercised elsewhere. It is for this reason that Smith urges governments to use the means of violence entrusted to them primarily to combat violence: to prevent military invasions and prevent and punish breaches of justice.

Indeed, for Smith, governments can best encourage virtue precisely by *refraining* from encouraging virtue. In TMS, the person who merely tries to appear virtuous,

whether out of fear of the law or out of fear of social disapproval, is not really virtuous, or at least is not nearly as virtuous as she could be. But there is a sliding scale here: one who acts virtuously out of concern for the praise and blame of her neighbors is not as virtuous as one who is only concerned to be praise-*worthy* in the eyes of an impartial spectator, but one who acts virtuously out of concern for legal sanctions is worse than either of the other two. As long as neighbors know each other reasonably well, their approval and disapproval will normally take into account the particular circumstances, the peculiar history and psychology, of the individuals they judge – their judgments will reflect, say, the difference in gratitude due to a loudly self-pitying parent, as opposed to a truly long-suffering one. Legal sanctions are blunt instruments that cannot attend to such subtleties. So social approval is more likely than legal approval to pick out the right sort of actions to mark for moral worth. Furthermore, since social sanctions are milder than legal sanctions – it is much easier to ignore one's neighbor's disapproval than to ignore a threat of imprisonment – a person who cares about social sanctions displays a better character than one who can be motivated to good action only by the force of the law. The pressure of social sanctions is more like, and more likely to draw one towards, the pressure of conscience, of the forces within oneself that are truly appropriate motivations for virtuous conduct. Even if concern for social approval is not the ideal motivation for moral action, therefore, at least it is some sign of good character, and a step along the way to the motivations of the fully virtuous person. But legal sanctions affect our physical well-being and social standing so severely that they drive out all thought of the significance both of social sanctions and of the sanctions of conscience. So it is better for the development of virtue if legal sanctions make way wherever possible for social sanctions – and, ideally, for the internal pressures of conscience. A government concerned to foster virtue in its citizens should therefore aim as much as possible *to remove its own sanctions from the pursuit of virtue*. Governments foster virtue best where they refuse, directly, to foster virtue at all: just as they protect economic development best where they refuse, directly, to protect development. This ironic conception of government power runs through all of Smith's political thinking. Accordingly, his main political object in writing WN was to instill a great modesty in policy-makers, to urge them to take on only very limited, well-defined tasks, and to recognize that the flourishing of their society does not, on the whole, much depend on them.

In sum, if Smith's political philosophy looks like "libertarianism," it is a libertarianism aimed at quite different ends, and grounded in very different moral views, than that of most contemporary libertarians. Contemporary libertarians tend to be motivated by a hostility to the notion that individuals ought to develop any set of virtues expected of them by others, and Smith does not share this attitude at all. Smith is far from an agnostic about what virtue consists in, let alone an enthusiast for a conception of the good life that dispenses with virtue in favor of preference–satisfaction. He is not a positivist skeptical of the possibility of moral discussion, like Milton Friedman, nor a hedonist, like Bentham and his followers, nor an antisocial individualist, like the followers of Ayn Rand. Any decent conception of a good human life, he believes, requires people to seek certain virtues – of benevolence, of justice, of self-command. If he encourages governments, nevertheless, to refrain

from promoting virtue, that is because he thinks that social forces can effectively achieve that end without government help, and that legal sanctions are in any case useless or counter-productive for the promotion of virtue. So he may arrive at some libertarian conclusions, but not at all in the way that most libertarians do. And this difference in principle has consequences for practice: it is, above all, no part of Smith's political philosophy that it somehow violates the rights of the rich if they are taxed to support institutions that help the poor (see, for instance, WN 725).

Common Misunderstandings of WN (I): The Invisible Hand

WN is filled with explanations of social institutions in which a result beneficial to all parties is reached without any of the parties directly intending that result. In Book IV, this mode of explanation is used to argue that merchants will naturally tend to direct their investments towards domestic industry, even without any governmental regulations to that effect, and even though they are all, individually, interested in their own gain rather than the good of their societies. In this context, Smith says that each merchant is "in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention" (WN 456). The vivid phrase he uses here – "an invisible hand" – has been lifted from the passage to characterize Smith's view of economic activity in general. Whenever people are left alone to pursue their own interests, Smith is said to believe, they will benefit society as a whole, even if they have no intention of doing so. The question then arises, does Smith have some sort of empirical or mathematical proof to show that this must be the case, or is he tacitly relying, as the metaphor of an "invisible hand" might imply, on a Stoic or Christian notion of Providence, benignly guiding all human activity behind the scenes?

The first thing to say about this question, and the interpretation of Smith that prompts it, is that insofar as it relies on the famous sentence in WN, it draws far too much out of Smith's own words. The phrase "in this, *as in many other* cases" has been overlooked, for one thing: Smith is by no means pronouncing a universal rule here. The context would, moreover, make the appearance of such a rule in this discussion very odd. Smith is trying to make a relatively small point (that merchants will tend to base even their "carrying trade" in their home ports), and has adduced a few plausible but weak generalizations about merchant behavior in support of that point. If he wanted to proclaim that some sort of invisible hand *always* guides individual economic decisions towards the good of society, we would expect that proclamation at the opening of the book, as part of a grounding theory of how economic activity works. Smith does give us such a theory in the first ten chapters or so of WN, and the theory does support the claim that individuals generally promote the social good in their economic behavior without intending to do so, but there is no hint that this holds in all cases, much less that it is guaranteed to hold by either empirical or metaphysical laws.

What sort of warrant *is* the claim supposed to have? One recent scholar suggests that Stoic optimism ultimately provides that warrant, that the claim relies on a belief in a benevolent deity who governs nature for our benefit (Fitzgibbons, 1995,

pp. 89, 193–4). If so, of course, Smith's views on economic policy would be far less interesting to us today than they have seemed to his many non-Stoic readers. Fortunately, the Stoic reading of WN's invisible hand is demonstrably wrong. It is true that the two other occurrences of the phrase "invisible hand" in Smith's work have providential overtones. In the early "History of Astronomy," Smith says that ancient religions attributed certain sorts of events, but not all events, to "the invisible hand of Jupiter" (Smith, 1795, p. 49). In TMS, Smith maintains that the rich, in paying servants or buying "baubles and trinkets," are "led by an invisible hand" to share most of their wealth with the poor, following up this claim by saying that "[w]hen Providence divided the earth among a few lordly masters," it did not forget the poor (TMS 184–5). He concludes his explanation of how Providence thus cares for the poor with the extremely Stoic remark, "In ease of body and peace of mind, all the different ranks of life are nearly upon a level, and the beggar, who suns himself by the side of the highway, possesses that security which kings are fighting for." So it is not unreasonable to suppose that WN, too, is grounded in a Stoic faith that all people can be happy regardless of their economic situation. But, reasonable or not, this supposition is wrong.

In the first place, in WN the mention of an invisible hand is not conjoined with any reference to Providence, and there is no invocation of either that term or any related notion in the entire book. Second, even in TMS Smith criticizes the Stoics for excessive optimism, for overlooking the importance of external circumstances to human happiness, and in WN he refers to certain socio-economic situations as capable of obliterating "all the nobler parts of the human character" (787–8). Third, the Stoic view would render pointless Smith's efforts to demonstrate that free markets promote a great expansion of material wealth. If people are happy regardless of their economic condition, then whether their society has a greater or smaller stock of material goods, and whether they themselves are employed or not, should be irrelevant to them. Smith's views on economic policy should then be that a mercantilist or Physiocratic or indeed a feudal economy is just as good as a free trading economy, since Providence will take care of everyone under any sort of economy.

Finally, many of the details of the passage in TMS are repudiated in WN. Beggars do not happily sun themselves by the side of the highway in WN, and Providence is no longer complimented for making poor people servants in the homes of the rich. On the contrary, WN condemns menial labor as conducive to dependency and habits of idleness, such that opportunities for this kind of work can in the long run reduce people's economic standing rather than enhancing it: "The inhabitants of a large village, it has sometimes been observed, after having made considerable progress in manufactures, have become idle and poor, in consequence of a great lord's having taken up his residence in their neighbourhood" (WN 336). Smith re-writes the TMS passage about the rich having to distribute their wealth to the poor at one point in WN (180–1), but here the economic advantages offered to the poor by the fact that some people "have the command of more food than they themselves can consume" consist exclusively in opportunities to *make and sell* objects of "building, dress, equipage, or houshold furniture" – to work, that is, productively and independently, not as servants in a wealthy person's home. And these truly useful opportunities, WN makes clear, will exist more readily in a commercial than in a

feudal economy, and yet more readily in a free commercial economy than in one dominated by mercantilist restrictions. So the "invisible hand" account of WN, the argument for the greater beneficent tendencies of unguided rather than mercantilist or Physiocratic economies, cannot by any stretch of the imagination be construed to depend on a general, metaphysical optimism according to which Providence will make sure that everything "turns out all right" in all economies.

What does the argument depend on? Simply, I think, on the empirical premise that *where people act freely rather than under threats of violence, long-term opportunities for any one individual to better herself are made possible by the needs and wants of her society*. Like ants or bees and unlike bears, human beings acquire material goods only in society, which means that an opportunity for one person to gain will normally so much as *exist* only if the needs or desires of other people make it possible. In general, people will pay you for something only in accordance with how much they need or want that something. This may seem obvious, but it is not really all that obvious. In the first place, as the first clause of our premise makes clear, it is true only on the condition that people are not threatened by violence. That is where the advantage of commercial economies over feudal economies, and free commercial economies over mercantilist or Physiocratic ones, comes in. In a feudal economy, the lords hold threats of violence over their serfs, and in protectionist commercial economies, governments use their powers to prevent certain kinds of trades from taking place. It is crucial, for Smith, that mutually beneficial trade can take place only where governments protect individuals against all threats of force by other individuals, and refrain from using their own force to interfere with exchanges unless absolutely necessary.

In the second place, there are a good number of empirical, eminently defeasible assumptions built into the claim that people unconstrained by violence will trade for mutual benefit. One might deny that claim by saying that people don't generally know what they need or want, and can therefore be fooled by clever merchants – and there is a long-standing tradition, beginning at least with medieval "just price" theories and running through the language of some consumer advocates today, that criticizes free market economies in just this way. Or one might consider differentials in wealth to constitute something like a threat of violence, such that wealthy merchants can force poorer people to buy things at prices much higher than they want to buy – and this too is a claim that has been put forward by a long line of critics of the free market. Smith rejects the first of these claims, insisting repeatedly in WN that even ordinary people know very well what they need to know to make their economic choices. His response to the second claim is that any sort of "force" a particular merchant might have over a particular market at a particular time will normally be dissipated by competition from other merchants who hope to gain by undercutting the first merchant. Here competition thrives on the needs of the people oppressed by the would-be monopolist: once again, social needs structure the opportunities for gain, and gain entails the satisfaction of otherwise unmet needs.

Despite these possibilities for controversy over Smith's assumptions, they are generally accepted. What matters for our purposes, however, is not their truth but their empirical status. Smith uses plausible but defeasible empirical claims to underwrite

his "invisible hand" accounts, and his "invisible hand" itself consists in a set of social forces, not metaphysical ones. The beneficent tendencies nudging individual economic decisions in the direction of an entire society's good arise from general facts about human nature. None of these facts are underwritten by metaphysical guarantees. None of them are even universally true: for which reason the invisible hand works, as Smith says, only "in many cases," not in all cases.

Common Misunderstandings of WN (II): The Role of Self-interest

The notion that WN regards "rational egoism" as driving all human activity is an artefact of the late nineteenth century, and particularly of a set of German scholars of Smith who, noting that TMS talks throughout of "sympathy" while WN almost always refers to an agent's "interests," maintained that there was an unbridgeable gap between the two books. Thus was born *das Adam Smith Problem* (see Raphael and Macfie, 1976). Contemporary Smith scholars tend to deny that there is any such problem, stressing the implausibility of a view that would attribute such a large gap, over such a central issue, to an author who was busily revising his earlier book even as, and after, he wrote the later one. They also point out that the German scholars misunderstood what Smith meant by "sympathy," that selfish pursuits are constrained by justice in WN, that self-interest is given a respectable place in human motivation even in TMS, and that WN is concerned simply with economic activity, not with human behavior as a whole. To these points, one might add that if there were such a gap between the two books, it would be odd that none of Smith's contemporaries noticed it.

In fact, Smith's views on self-interest are quite humdrum for his time. He keeps far away from MANDEVILLE's (chapter 31) cynical reduction of human nature to self-interest, is a greater believer in the possibility of concern for others than Hume, allows more room for sincere religious faith than Voltaire, and differs barely at all from the gentle Hutcheson on the role of interest in economics. It is Smith's egalitarian view of human *cognition*, and not any claim about the nature of human *motivation*, that sets him apart from his contemporaries, and that provides the essential premise for his arguments against government interference with the economy. For Smith, all human beings, civilized and uncivilized, educated and uneducated, are capable of *judging well* about their own interests and situations, and are generally better at so judging than any administrator or legislator trying to plan society from above. Smith's teacher Hutcheson, his rival James Steuart, and many other political economists, did not share this confidence in ordinary people's judgment, and therefore looked to a government where the benevolent and wise would guide investment, and control the labor- and consumption-choices of the poor. Smith's great success lay in overturning this paternalism, not in the name of self-interest, but in the name of the general cognitive equality, at least as regards economic matters, of all human beings.

Now it is true that some motivational assumptions are necessary to Smith's account of how markets work. If people produce and exchange goods largely out of a love for their society, or a belief that the gods or spirits require them to produce

certain goods, then their exchanges will fail to constitute the sophisticated signal system that Smith sees in the market. If people buy more or less corn than they need because of a love for their society, or a traditional taboo, then, *pace* Smith's analysis at WN 524–34, the depth and extent of a famine will not show up properly in the prices of foodstuffs. If markets are to provide that kind of information, the agents in those markets must be a) rationally pursuing some interest, rather than blindly following rules of ritual or taboo, and b) mutually disinterested – uninterested in the projects of the people with whom they are exchanging. But it does not follow that the agents need to be *self*-interested. They may care about their families and friends, their religious communities, or any of a variety of political and social projects. It is just that, if they live in a large, anonymous society, they will not normally be making economic exchanges with family members, friends, fellow save-the-whales-activists, and the like. If I buy bread from you because I care about you, or because I believe that supporting your bakery is good for our society, then the price I pay will not reflect how much I, or my family and friends, want your bread. So it is important to an argument that the market gives information that the participants in the market not be interested, *qua* market participants, in *each other*'s well-being; it is not important, it is entirely unnecessary for such an argument, that they be interested only in their *own* well-being. And Smith in fact makes the former but not the latter assumption. All of Smith's analyses of economic phenomena rely on an assumption of mutual disinterest; nothing he says requires the assumption that people are (solely) *self*-interested.

Conclusion

Smith has an account of the nature of moral judgment, and its development, that is richer and subtler than that of Hume; he offers a prototype for modern Aristotelianism in morality; he is probably the first philosopher, and still one of but a few, to regard the imagination as central to moral thought; he is an early and forceful promoter of the notion that history is guided largely by "unintended consequences"; and he derives from these views an unusual variant of liberal political philosophy. Few of these contributions are spelled out with the clarity and tight argumentation that philosophers like to see in their canonical figures, but Smith compensates for this weakness by the humanity and thoughtfulness of his views, by their detachment from metaphysical commitments, and by the abundance of historical and imaginative detail throughout his writings. The richness of his ideas, and their quiet plausibility, earn him a right to stand among the most important of modern moral and political philosophers.

References

Baugh, Daniel A., 1983, "Poverty, protestantism and political economy: English attitudes toward the poor, 1660–1800." In Stephen Baxter (ed.). *England's rise to greatness*. Berkeley: University of California Press.

Brown, Vivienne, 1994, *Adam Smith's Discourse*. London: Routledge.
Darwall, Stephen, 1999, "Sympathetic liberalism: recent work on Adam Smith." *Philosophy and Public Affairs*, 28, pp. 139–64.
Firth, Roderick, 1952, "Ethical absolutism and the ideal observer." *Philosophy and Phenomenological Research*, 12, pp. 317–45.
Fitzgibbons, Athol, 1995, *Adam Smith's system of liberty, wealth and virtue*. Oxford: Oxford University Press.
Fleischacker, Samuel, 1999, *A third concept of liberty: judgment and freedom in Kant and Adam Smith*. Princeton: Princeton University Press.
Gay, Peter, 1969, *The Enlightenment: An interpretation*. (Vol. II). New York: Alfred A. Knopf.
Griswold, Charles, 1999, *Adam Smith and the virtues of enlightenment*. Cambridge: Cambridge University Press.
Haakonssen, Knud, 1981, *The science of a legislator: the natural jurisprudence of David Hume and Adam Smith*. Cambridge: Cambridge University Press.
—— 1996, *Natural law and moral philosophy*. Cambridge: Cambridge University Press.
Hume, David, 1739–40, *Treatise of human nature*. London: John Noon (Books I and II), Thomas Longman (Book III). (Cited from Clarendon edition, 1978).
—— 1777, *Enquiry concerning the principles of morals*. London: Thomas Cadell. (Cited from Clarendon edition, 1975). IX.II, p. 282.
Korsgaard, Christine, 1996, *Sources of normativity*. Cambridge: Cambridge University Press.
McDowell, John, 1998a, "The role of *eudaimonia* in Aristotle's ethics." In John McDowell. *Mind, value, and reality* (pp. 3–22). Cambridge, MA: Harvard University Press.
—— 1998b, "Virtue and reason." In John McDowell. *Mind, value, and reality* (pp. 50–73). Cambridge, MA: Harvard University Press.
Muller, Jerry, 1993, *Adam Smith in his time and ours*. Princeton: Princeton University Press.
Murdoch, Iris, 1970, *The sovereignty of good*. London: Routledge.
Raphael, D. D. and Macfie, A. L., 1976, Editors' introduction to Smith, 1759.
Smith, Adam, 1759, *The theory of moral sentiments*. London: A. Millar. (Cited from the Oxford edition, 1976, edited by D. D. Raphael and A. L. Macfie).
—— 1776, *An inquiry into the nature and causes of the wealth of nations*. (Cited from the Oxford edition, 1976, edited by R. H. Campbell, A. S. Skinner, and W. B. Todd.)
—— 1795, *Essays on philosophical subjects*. London: T. Cadell, Jr. & W. Davies. (Cited from the Oxford edition, 1980, edited by W. P. D. Wightman and J. C. Bryce.)
—— 1978, *Lectures on jurisprudence*. R. Meek, D. D. Raphael and P. G. Stein (eds.). Oxford: Oxford University Press.
—— 1983, *Lectures on Rhetoric and Belles Lettres*. J. C. Bryce (ed.). Oxford: Oxford University Press.
—— 1987, *Correspondence of Adam Smith*. E. C. Mossner and I. S. Ross (eds.). Oxford: Oxford University Press.
Williams, Bernard, 1978, "Persons, character, and morality." In Bernard Williams. *Moral Luck* (pp. 1–19). Cambridge: Cambridge University Press.
Wood, Gordon, 1991, *The radicalism of the American revolution*. New York: Vintage Books.

Further Reading

Some of the literature below treats topics omitted from this article. For a good summary of Smith's technical contributions to economics, see (Blaug, 1997), chapter 2, which concludes with a good bibliography on the subject. For Smith's philosophy of science and

"four-stage theory" of history, see chapters 2 and 4 of Skinner (1979). Smith's aesthetics are discussed in the essay by Peter Jones in Jones and Skinner, (1992).

Blaug, Mark, 1997, *Economic theory in retrospect*. Cambridge: Cambridge University Press.
Campbell, T. D., 1971, *Adam Smith's science of morals*. Totowa, NJ: Rowman & Littlefield.
Hont, I. and Ignatieff, M. (eds.), 1985, *Wealth and virtue*. Cambridge: Cambridge University Press.
Jones, P. and Skinner, A. S. (eds.), 1992, *Adam Smith reviewed*. Edinburgh: Edinburgh University Press.
Macfie, A. L. (1967). *The individual in society*. London: George Allen & Unwin.
Raphael, D. D., 1985, *Adam Smith*. Oxford: Oxford University Press.
Ross, Ian, 1995, *The life of Adam Smith*. Oxford: Clarendon Press.
Skinner, Andrew, 1979, *A system of social science: papers relating to Adam Smith*. Oxford: Oxford University Press.
Skinner, A. S. and Wilson, Thomas (eds.), 1975, *Essays on Adam Smith*. Oxford: Clarendon Press.
Teichgraeber, Richard, 1986, *"Free trade" and moral philosophy*. Durham, NC: Duke University Press.
Werhane, Patricia, 1991, *Adam Smith and his legacy for modern capitalism*. New York: Oxford University Press.
Wilson, Thomas and Skinner, A. S. (eds.), 1976, *The market and the state: essays in honour of Adam Smith*. Oxford: Clarendon Press.
Winch, Donald, 1978, *Adam Smith's politics*. Cambridge: Cambridge University Press.

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Thomas Reid

RONALD E. BEANBLOSSOM

Previously a self-acknowledged follower of Bishop Berkeley, Thomas Reid (1710–96) is regarded as the founder of the Scottish school of common sense philosophy. Other Scottish philosophers, for example, HUTCHESON (chapter 30) and HUME (chapter 32), appeal to common sense. However, they use "common sense" to mean common feeling or sentiment. Reid's use of "common sense" is identified, when it is not misconstrued, with common reason and knowledge. It is associated with realism and, sometimes, with critical common sense philosophy. The latter is the view that labeling a belief as common sense does not absolve it from dispute and some sort of justification. As a realist, Reid does not question the reality of the physical world. Metaphysically, Reid begins with a basic understanding of the nature of the external world, for example, that matter is inert and extended. The question which follows is – psychologically and epistemically, how do we come to know this world?

The Ideal Theory

It is appropriate to begin with Reid's critique of the theory of ideas since Reid, in his customary modesty, regarded it as his primary contribution to philosophy. Reid contends that the theory of ideas is responsible for Hume's skepticism about the existence of the material world and immaterial substance, i.e., the mind. DESCARTES (chapter 5) uses the word "idea," strictly speaking, to mean images in the mind which are the immediate objects of perception and thought. The problem for Descartes' methodological skepticism is to show that these ideas accurately represent external objects. Not only would this establish that external objects exist but it would also establish what they are like. LOCKE (chapter 24) argues that all objects of thought are ideas or like ideas. However, not all of our ideas can accurately represent, i.e., resemble, qualities, namely, the secondary qualities of objects such as the qualities of heat, color, and smell. BERKELEY (chapter 29) then showed that nothing but ideas can resemble ideas, a conclusion which leaves us with a mind and its ideas but no external object. According to Reid's historical analysis, it was Hume who added the term "impressions" to this theory of ideas in order to

account for the original object of experience. And, it was Hume who showed that Berkeley could no more have an idea of immaterial substance than he does of material substance. Hence, what we call the mind is no more than a bundle of thoughts and feelings just as, according to Berkeley, what we call a body is only a bundle of sensations. It was this loss of his mind, Reid confesses, that moved him to rethink his philosophical views as a follower of Berkeley. Reid consequently no longer finds the seeds of skepticism to lie in the concept of substance, as did Berkeley, but to lie instead in the theory of ideas.

Reid's historical account of Hume's intellectual lineage has been challenged by twentieth-century scholars as has his characterization of Hume's theory of ideas. Criticism of Reid's characterization of the theory of ideas is not, however, limited to the twentieth century. Not only was Reid criticized by eighteenth-century opponents, such as Joseph Priestly, but also by common sense realists such as Thomas Brown. However, Reid does have textual evidence for his interpretation of Hume. For example, he cites Hume's claim in the *Treatise* "...that all the perceptions of the human mind resolve themselves into these two kinds, *impressions* and *ideas*." (*Essays on the Intellectual Powers*, II; XII). Moreover, it is noteworthy that Hume, who read Reid's manuscript for the *Inquiry* and corresponded with Reid about it, never challenged the correctness of Reid's interpretation. Hume's "hypothesis" of ideas, as understood by Reid, is

> ...that nothing is perceived but what is in the mind which perceives it: that we do not really perceive things that are external, but only certain images and pictures of them imprinted upon the mind, which are called impressions and ideas. (*Inquiry into the Human Mind*, Dedication)

A more precise formulation would be that nothing is *immediately* perceived but what is in the mind that perceives it, to wit, impressions and ideas. Hume, like Berkeley, argues that we cannot by reasoning infer the existence of external objects from our ideas. However, representationalists' versions of the theory of ideas rely on the claim that we can infer the existence of external objects from the ideas that represent them. It is this position, apparently held by Descartes and Locke, that elicits Berkeley's and Hume's epistemological arguments against the possibility of making such inferences. Reid embraces the views of Berkeley and Hume on this point (*Inquiry into the Human Mind*, Dedication).

Reid adopted Locke's interest in applying Newton's scientific model to the study of the mind and its activities. It is a study which can best be carried out by attentive reflection or introspection. This inner experience must be reflective because for our experiences to be intelligible there must be understanding and judgment. There is a difference between consciousness and the attentive reflection by means of which we make distinctions.

> The first is common to all men at all times; but is insufficient of itself to give us clear and distinct notions of the operations of which we are conscious... The second – to wit, attentive reflection upon those operations, making them objects of thought... so far from being common to all men, that it is the lot of very few. (*Essays on the Intellectual Powers*, VI: V)

There are two aspects of NEWTON's (chapter 26) scientific model to which Reid attempts to adhere in his empirical investigation of the theory of ideas: (1) Newton's first rule of philosophizing and (2) *hypotheses non fingo*. The latter advocates avoiding speculative hypotheses, which are presumably more appropriate for speculative metaphysics than for physics. Thus, Reid proposes not to accept any conjectures or hypotheses about the causes of any natural phenomena unless they are first confirmed by fact and experience (*Essays on the Intellectual Powers*, I: III).

Reid interprets Newton's first rule regarding what is to be accepted as a cause to mean that there must be sufficient evidence to show that the alleged cause exists and that the effect "...necessarily follows from it" (*Essays on the Intellectual Powers*, I: III). It is Reid's contention that the theory of ideas is guilty of being a speculative hypothesis (*Inquiry into the Human Mind*, II: III). There is not sufficient evidence to show that the *cause* of either memory or imagination is a presently existing idea. And, for that matter, there is not sufficient evidence to show that ideas are the object of sensation either. Moreover, supposing ideas are objects of experience does not enable us to understand how our senses make us acquainted with external objects. Finally, the theory of ideas is contrary to the facts because Reid finds he can think about things that are not ideas nor like ideas.

Reid contends there are two mistaken principles, i.e., prejudices, responsible for the theory of ideas.

> The *first* is that, in all the operations of the understanding, there must be some immediate intercourse between the mind and its object, so that the one may act upon the other. The *second*, that, in all the operations of understanding, there must be an object of thought which really exists while we think of it. (*Essays on the Intellectual Powers*, IV: II)

It seems inconceivable that there can be action at a distance between physical objects without some physical intermediary. The theory of ideas assumes the same principle of no action at a distance applies to the mind and its objects. However, that is something not to be assumed but to be confirmed, if possible, by experience. To Reid, positing ideas to be that which is in immediate contact with the mind seems absurd. It is absurd, for example, to say in regard to our affections and passions

> ...that ideas are the immediate objects of love or resentment...It is, I think, acknowledged, that persons and not ideas, are the immediate objects of those affections; persons, who are as far away from being immediately present to the mind as other external objects... (*Essays on the Intellectual Powers*, IV: II)

Reid's example drawn from conception is applicable not only to the first prejudice assumed but also to the assumption by proponents of the theory of ideas that every object of thought must really exist when we think of it. The latter is a misunderstanding of the view which is surely correct, to wit, that you cannot think about nothing. The misunderstanding lies in thinking that since nothing is not-being,

which cannot be or exist, thinking must be about something which is, i.e., exists. However, we can think about things which do not exist, centaurs, for example. In the case of conceiving or imagining centaurs attentive reflection tells Reid that he is not conceiving an image or idea of a centaur but a centaur (*Essays on the Intellectual Powers*, IV: II).

Memory also provides examples of our ability to think of what does not exist, and, hence, what we remember cannot be either a presently existing object, i.e., idea, or an object in direct contact with the mind. Reid uses the example of the tuberose. Suppose, Reid says, I have the sensation of smell when the tuberose is near. The next day the sensation no longer exists but I can remember the smell. What I remember, i.e., the sensation, does not exist now whereas an idea is supposed to exist only in the present. Memory is a thought not about something that needs to exist in the present but about something that did exist in the past (*Inquiry into the Human Mind*, II: III). It is perhaps this observation which leads Reid at times to identify the theory of ideas with the representational account. He does so despite knowing, as a former follower of Berkeley, that nothing but sensations or ideas can be like sensations or ideas. Reid continues to embrace Berkeley's views as a pillar in his claim that we have direct knowledge of external objects. However, if memory involves thinking about or recalling what is past and if ideas as the immediate object of thought exist only in the present, then memory becomes impossible unless our ideas represent or resemble the past. This would also be the case with imagination if, for example, we are conceiving something as existing in the future. Both are cases of conceiving something that does not now exist, but the ideas which represent them do. In short acceptance both of the theory of ideas and the characterization of memory as thinking about what is past would unwittingly commit Berkeley and Hume to the representational theory which they reject in perception.

Reid agrees that from the present existence of an idea we cannot infer the existence of an external object. Neither can we infer the existence of what happened in the past. However, Reid's innovative argument against all forms of the representational account – in perception, memory, and imagination – is that for us to conceive that there is a representation of an external object or a previously existing object requires that we have a conception of what is being represented. In short, Reid argues, representational theories are self-refuting because they require that we must be able to think immediately about what is being represented. Against Berkeley and Hume's need for representation to preserve what is meant by memory, it follows that we must be able to think immediately of sensations occasioned by the tuberose; but those sensations no longer exist.

Reid is not content to stop with this critique based upon attentive reflection and the inability of the theory to explain the phenomena of the understanding. The theory of ideas is too well entrenched among philosophers, though not among common people who believe external objects are the immediate objects of perception and the past is the immediate object of memory. As previously noted, based upon the questionable analogy with the physical world, the theory of ideas is an attempt to account for how an object at a distance from the mind "causes" the mind to perceive it. We can give a physical account of perception; but this is only a partial

account. For example, we can determine that light waves interact with the eyes which stimulates the optic nerve, which stimulates the brain. The question remains, based upon the analogy with the physical world, what is in direct contact with the mind that creates the perceptual experience? Ideas are hypothesized as the answer to this question.

Reid's response is that clearly neither light waves nor retinal images caused by light waves are in direct contact with the mind. We can hypothesize and empirically confirm whether the physical stimulation of the retina causes a vibration or a chemical response in the optic nerve which in turn stimulates movement in the brain. But "...neither that vibration nor this motion can resemble the visible object which is presented to the mind" (*Inquiry into the Human Mind*, VI: XII). The fact that at the end of this process images are created is not explained by the theory of ideas. Nor does the theory of ideas account for how ideas, which are unlike the vibrations or motions which give rise to them, enable us to perceive, either mediately or immediately, objects unlike them (*Essays on the Intellectual Powers*, II: XIV). Thus, the theory of ideas does not serve to explain how we perceive.

Another reason the theory of ideas was introduced was to explain misperception. Naïve realism mistakenly claims objects are as they appear to be. Harkening back to the argument about thinking, to wit, that we cannot think about nothing, it is also claimed that we cannot perceive nothing. Thus, even in cases of misperception there is an experience and it must, therefore, be an experience of something which exists. Since what exists cannot be the real object, it must, therefore, be an image of the object. In at least some cases there is no inspectable difference between the experience when we correctly perceive and when we misperceive an object. Hume offers his table argument as a belated attempt to prove the theory of ideas in his own *Inquiry*, which he acknowledges is a reply to Reid. Hume argues that a real table, i.e., a table which supposedly exists independently of us, would not change its size as a result of our moving either closer to or farther away from it. However, when we perceive a table it looks larger or smaller depending upon our movement. Hume concludes that it must not be the real table we see. Since we cannot see or perceive nothing, it would seem to follow that it is an image or impression which is the object of sight.

Reid's reply to this line of argument relies in part upon a distinction developed in his own theory of perception. How something appears to us, i.e., how we experience it, is different than perceiving it to be so. In other words we cannot be said to have perceived or seen a table to be a size which it is not. Thus, Reid restricts this proper use of the term "perception" to its veridical sense. Unlike the case of thought in which we can think about something which does not exist, we cannot properly be said to perceive something which does not exist. This is because perception involves a judgment that something exists whereas thinking, for example conceiving of a centaur, does not. Judgments are either true or false.

Moreover, Reid argues, given what Hume says, from the apparent change of an object's magnitude, i.e., what Reid calls its apparent magnitude, it does not follow that its real magnitude has changed. Nor does it follow that it is not the real object we see. To the contrary, if it is the real table we see, we would expect it to have a

different apparent magnitude from different distances; we can even calculate how it should appear (*Essays on the Intellectual Powers*, II: XIV). Thus, the theory of ideas is an unnecessary hypothesis. It was Reid's investigation of the apparent qualities of visible objects, i.e., visible shape and size, that led to his mathematical discovery of a non-euclidean geometry in his geometry of the visibles (*Inquiry into the Human Mind*, VI: IX).

Reid's second argument against the theory of ideas as an account of misperception is that it does not solve the problem for which it was introduced. If the mistake in perception is due to reason or judgment, as Berkeley claims, then introducing ideas as the object of sense experience will not solve the problem. Reason will be in no better position to avoid mistakes with ideas as immediate objects than it would be if external objects are directly perceived.

However, suppose, as does Descartes, that mistakes are due to the fallacy of the senses. That is to say, the senses provide conflicting information – the object looks large and then small, round and then eliptical. If perceptual mistakes are due to the fallacy of the senses, introducing ideas as the object of perception will not enable us to give any account of misperception. This is because, as Descartes acknowledges, ideas cannot be mistaken. Hence, if ideas are introduced to solve the problem of how we can make perceptual mistakes, it solves the problem by eliminating the possibility of perceptual mistakes; but this is absurd (*Essays on the Intellectual Powers*, II: XXII). Thus, the theory of ideas is an unsatisfactory hypothesis to account for problems of misperception.

If the theory of ideas necessitates proving the existence of external objects, then we must be skeptics about the existence of the external world; we cannot know it exists. What Berkeley and Hume might have overlooked, Reid argues, is that there is the same need in memory to prove that a presently existing idea accurately represents a past idea. If we cannot do this, then we must be skeptics with regard to memory knowledge too (*Essays on the Intellectual Powers*, VI: V). Not only is there a conceptual problem created by the need for representation, i.e., the inability to conceive the original, there is also an epistemic problem created, to wit, we cannot legitimately infer there is an original.

Having found no evidence based upon experience or reason to accept the theory of ideas, Reid in the *Inquiry* makes a claim which, if true, not only proves the theory of ideas is false but establishes the basis for his own account of perception. According to Reid's account, the theory of ideas claims that the immediate object of thought is an impression or idea. Reid relies upon two claims he accepted as a follower of Berkeley. First is the claim that nothing can be like an idea but an idea. Second, Reid knows that Berkeley had to admit he was able to think of at least one thing that was neither an idea nor like an idea, to wit, the mind. Thus, we are able to think of things other than impressions and ideas (*Inquiry into the Human Mind*, VII). Upon attentive reflection, Reid finds that he can conceive of other things which are clearly neither ideas nor like ideas. When Reid compares his concept of hardness with the sensation of pain present on that occasion, he finds that the hardness he conceives is not an idea nor like an idea, i.e., sensation (*Inquiry into the Human Mind*, V: VII). Thus, the theory of ideas is false. On this basis Reid proposes his *experimentum crucis*. Proponents of the theory of ideas must show Reid that in

the case of primary qualities, for example extension and shape, he is really thinking of a sensation or an idea.

Conception

Reid claims that he has a clear concept of extension, hardness, and motion as well as a clear concept of pain. The question is how do we get these concepts? With Locke in mind, Reid is not prepared to say we are born with these concepts, i.e., these concepts are not innate. The problem is complicated by the fact that the concepts we have referred to are general concepts. We know that some general concepts are formed by reasoning. But are all of them formed by reasoning? Reid, by attentive reflection, does not find this to be true. The concepts of extension, hardness, and motion are among those that occur naturally without reasoning. Hence, if we are not born with these ideas, then they must be formed by means of natural principles of thought with which we are born. For example, we naturally generalize, it would seem, with our initial experience of an object. We not only have a conception of the extension, hardness, and motion as universals. In other words in identifying the particular extension, hardness, or motion of the object we are also applying general concepts to the object in the initial experience. If knowledge requires general concepts, this innate principle of thought, i.e., generalizing, seems crucial to Reid's account of our direct perception of external objects. We must naturally understand, i.e., have a concept of at least some qualities of the object if we are to conceive of it at all and, thus, be able to know it. After all, Locke was not concerned with the loss of the secondary qualities of objects because primary qualities were enough, or so he thought, to preserve the reality of external objects. The doctrine of natural signs provides Reid with a way around Locke's problem which had astutely been pointed out by Berkeley, to wit, how is knowledge of primary qualities and, hence, external objects, possible if they too are unlike our sensations or ideas?

It has been argued that there is an apparent inconsistency between Reid's view in the *Inquiry* on how we form general concepts, i.e., the view just outlined, and the view contained in the *Essays*. In the *Essays* it no longer seems to be nature that leads us to form general concepts but utility. It is still thought by Reid to be natural to generalize our concepts for without doing so we could not acquire knowledge and, hence, we could not knowingly seek to preserve human life (*Essays on the Intellectual Powers*, V: IV). Though usefulness dictates how we generalize our concepts, nature guides us to some extent in determining which general concepts will be useful in preserving human life.

> I apprehend, therefore, that it is utility, and not the associating qualities of the ideas, that has led men to form only certain combinations, and to give names to them in language, while they neglect an infinite number that might be formed (*Essays on the Intellectual Powers*, V: IV)

Thus, Reid claims Hume's doctrine of association of ideas is an inadequate account of how we combine ideas.

A proposed solution to Reid's apparent inconsistency on general concepts formation relies on the connection between nature and the utility in preserving human life. This proposal combines the utilitarian view which accounts for how we generalize concepts with Reid's doctrine of abstraction which accounts for the process of generalizing. Reid can be interpreted to mean there is a division between the concept of the particular quality of the object, for example its hardness, and the general concept of hardness. This is suggested in the *Essays* by Reid's use of the notion of abstraction. Reid can use the notion of abstraction despite Berkeley's criticism of Locke's abstract ideas, namely, that such ideas do not exist. Reid can use abstraction although what is abstracted, namely, the general concept of hardness, does not exist in the object or anywhere else; we can, as he has shown, think about what does not exist. This solution has the advantage of preserving the individual qualities of objects which can be naturally conceived.

Acknowledging that this solution to Reid's apparent inconsistency relies upon a connection between nature and the utility in preserving human life reveals both a problem with this proposed solution as well as a possible alternative solution. It is unclear how, for example, the general concept of beauty (and, for Reid, very likely moral goodness too) could be guided by the concept of utility in preserving human life unless we interpret Reid's concept of human life more generally. That is to say, when Reid says utility in preserving human life guides how we generalize concepts so that we form the combinations we do, he might mean utility in preserving our physical existence and/or the life of being human. The previous solution seems to rely upon interpreting Reid to mean only the former. However, although this interpretation could account for general concept formation pertaining to sensible qualities, e.g., hardness, it cannot account for all natural and acquired general concept formation. For example, Reid claims that like sensible qualities, beauty is a quality in beautiful objects. It is unclear how utility in preserving our physical existence would be involved in forming the general concept of beauty. But it could plausibly be argued that the general concept of beauty (and moral goodness too) is useful in preserving the life of being human.

Moreover, making a stronger case for the intimate connection between nature and this more general concept of what is useful in preserving human life could provide an alternative solution to Reid's apparent inconsistency regarding general concept formation. Reid claims there is a need for natural language in language formation and a need for natural signs for the direct perception of external objects. Both are views which seem to rely upon the law against infinite regress as another natural principle of thought. Parity of reasoning with these two views suggests that Reid would also be committed to a similar view in the formation of general concepts. At least some general concepts that naturally arise could in turn allow us to form other general concepts. Among the general concepts that naturally arise might be, for example, the concept of likeness as similarity. This concept exhibits utility for preserving human life as exhibited in the common sense principle that the future will be like the past, for example, like effects probably have like causes. "We must have this conviction as soon as we are capable of learning anything from experience." (*Essays on the Intellectual Powers*, VI: V).

Belief

According to Reid, not only do we have some natural conceptions, for example of primary qualities and our mind, we also have a natural belief in the existence of what we naturally conceive. The ideal theory, mistakenly, has attempted to reduce our sense experiences, memories, and conceptions to impressions and ideas. Hume, according to Reid, does away with the mind as something which thinks, judges, feels, and wills. The mind as well as all mental activities can, Hume contends, be resolved into impressions and ideas.

If impressions and ideas are the only objects of experience and if experience is the way in which, as good Newtonians, we are to investigate phenomena, then it would seem that there must be some inspectable difference that enables us to identify which are the ideas of sensation, memory, or imagination. According to the theory of vivacity, the inspectable difference lies in the greater or less liveliness that can be observed in these three types of experience. Hume was not alone in using the theory of vivacity to account for these three types of experience. However, if belief or judgment is not different in kind than the ideas about which belief makes affirmations or denials, then belief, like other mental phenomena, would have to be accounted for in terms of impressions and ideas and, hence, by the theory of vivacity.

> Mr. Hume made the last step in this progress, and crowned the system by what he calls his *hypothesis* – to wit, that Belief is more properly an act of the Sensitive than of the Cogitative part of our nature. (*Essays on the Active Powers*, V: VII)

In analyzing the differences among perception, memory, and imagination Reid notes that belief in the present existence of an object is an essential component of perception; belief in the past existence of an object is an essential component of memory. However, belief in the existence of an object is not a component of conception, i.e., simple apprehension. Hume must have seen that the theory of vivacity could not simply make reference to ideas but in the case of the ideas of sensation and memory, the theory of vivacity must include a reference to belief as well. Thus, there must be an inspectable difference among perceptual beliefs, memory beliefs and ideas for which there is an absence of belief.

However, it is at this point that the theory of ideas spawns one of those paradoxes to which Reid has alluded. If the theory of vivacity is true, we cannot account for conflicting beliefs about the same thing. According to the theory of vivacity, the belief that something is pleasurable differs only in degree from the belief that it is not pleasurable for pleasure is the object of belief in both cases. Reid contends ideas are not judgments nor are they like judgments. Ideas make neither affirmations nor denials about anything. But that is what judgment is about – making affirmations and denials about propositions (*Essays on the Intellectual Powers*, III: VII). Thus, Reid says, according to the theory of ideas, the belief in something differs only in degree from the belief in nothing. The belief in life after death differs only in degree from the disbelief in life after death. Moreover, making belief something which is added to the idea will not solve the paradox. If, according to Hume, all is to be analyzed in

terms of impressions and ideas, then the something more which would be added, for example a feeling or affection, would itself be an impression or an idea. This would still not account for affirmation and denial. If the conflicting beliefs are equally lively ideas about life after death, "...then the belief of a future state and the belief of no future state must be one and the same" (*Inquiry into the Human Mind*, II: V).

Hume's "hypothesis" that belief is more properly sensitive rather than cognitive in nature is also flawed on both empirical; i.e., it is contrary to fact, and linguistic grounds. Using moral beliefs as an example, Reid establishes what is and what must be the nature of all beliefs if we are to be able to distinguish affirmation from denial and truth from falsity. Reid's empirical account again uses introspection to examine belief. In this case, however, the introspection does not seem to rely upon the notion of attentive reflection which Reid has previously employed. Instead, introspection appears to involve that use of consciousness which Hume assumes, without proof, in affirming that impressions and ideas, not external objects, are objects of experience. Hume's account of consciousness in the *Treatise* characterizes consciousness as incorrigible. All mental phenomena revealed to us by consciousness must be what they appear to us to be. In his epistemic attack on skepticism Reid, according to the dictates of common sense, argues that either the evidence of all of our faculties are reliable or, for the same reasons, none of them, including consciousness, will be reliable as a means of knowing.

Reid delights in turning the skeptic's arguments against the skeptic. Reid uses the same device in his psychological account of belief. Reid does so by assuming the truth of Hume's claim that consciousness is incorrigible. Reid claims he is conscious of making judgments when he believes. Thus, given Hume's claim for the incorrigibility of consciousness, Reid cannot be mistaken that beliefs are judgments and, as such, involve affirmation and denial, truth and falsity. To characterize belief as a feeling is ridiculous on Hume's own empirical grounds. "I am conscious that I judge them to be true propositions; and my consciousness makes all other arguments unnecessary, with regard to the operations of my own mind" (*Essays on the Active Powers*, V: VII). For Reid, then, belief is a simple, i.e., unanalyzable, act of the mind which judges, i.e., affirms and denies. Moreover, belief is essentially cognitive rather than sensitive, i.e., a matter of feeling. Consequently, a belief is either true or false.

There is another significant point about the role of feeling in belief that emerges in this account of belief. In perception, as we shall see, sensation precedes belief as well as conception. However, this is not typical of the relation between belief and sensations of feeling in nonperceptual beliefs, for example moral beliefs. "But in most of the operations of the mind in which judgment or belief is combined with feeling, the feeling is the consequence of the judgment, and is regulated by it" (*Essays on the Active Powers*, V: VII). Feelings, for example, moral feelings, occur because of the distinctions or judgments we make; feelings are a consequence of the cognitive function of belief. Consciousness reveals there are feelings present in the case of beliefs. But attentive reflection reveals that neither in perception, in which belief is the consequence of sensations, nor in nonperceptual beliefs, in which feelings are the consequence of the belief, should we confuse belief with the feelings which may attend it. Belief involves judgment and we can feel strongly or indifferently about the judgments we make.

Reid's use of language in resolving philosophical problems emerges in his analysis of belief. When in the *Treatise* Hume defines belief as a lively idea, he creates linguistic nonsense. If Hume's account was accepted it would follow that in expressing their beliefs, people are really expressing their feelings. However, Reid argues, a claim that another person is courageous cannot be reduced to an expression about how the person whose belief it is feels. "The *first* expresses plainly an opinion or judgment of the conduct of the man but says nothing of the speaker. The *second* only testifies a fact concerning the speaker – to wit, that he had such a feeling" (*Essays on the Active Powers*, V: VII). Indeed, Reid continues, if the first expression were reducible to the second, disputes about what is expressed become impossible or would be reducible to claims about whether the person is being deceitful in what they express. "... for as every man must know his own feelings, to deny that a man had a feeling which he affirms he had, is to charge him with falsehood" (*Essays on the Active Powers*, V: VII).

Perception

In discussing perception Reid claims as part of his *experimentum crucis* that, using primary qualities as the test case, he can think of things that are neither ideas nor like ideas. This claim is crucial for his contention that in perception we directly perceive not impressions or ideas but external objects. Reid is clear that sensations or ideas cannot be like qualities in objects that occasion them. Sensations are intensive and nonmeasurable. Qualities, on the other hand, are extensive and measurable. We cannot measure our feelings of hot and cold but we can measure the quality of the object which can occasion our feelings. "For what could be more absurd, than to say that the thermometer cannot rise or fall unless some person be present..." (*Inquiry into the Human Mind*, V: I). Sensations must be distinguished from what is suggested by them, to wit, qualities of objects. The common failure to carefully reflect upon this distinction is reflected in language.

> Thus, *I feel a pain*; *I see a tree*: the first denoteth a sensation, the last a perception. The grammatical analysis of both expressions are the same... But if we attend to the things signified by these expressions, we shall find that in the first, the distinction between the act and the object is not real but grammatical; in the second, the distinction is not only grammatical but real. (*Inquiry into the Human Mind*, VI: XX)

Sensations and ideas are not the content or objects of perception. They are how we experience external objects. The object of a perceptual experience is the external object. In veridical perception the distinction between the act and the object is real. In nonveridical perception either there is no object of perception, as in hallucinations, or there may be a physical object but the qualities we mistakenly attribute to it do not exist as an object of experience. We can have concepts of things that do not exist but, properly speaking, we cannot perceive things that do not exist.

In referring to the "act" of the mind in sensation which has no object distinct from it, Reid is not saying the mind must be active. Having sensations need not be and typically is not intentional. However, there does seem to be intentionality, i.e.,

there is activity involved in perceptual acts. What then is the role of sensations in perception? For Reid, sensations play a causal role in perception, i.e., they are the occasion for perception. Sensations cannot be causes in the strict sense of making us perceive since they are passive and, hence, cannot initiate anything. Only agents can be causes in the strict sense. There is, of course, a physical process by means of which our sense organs are stimulated and ultimately occasion sensations in the mind. However, the role of sensations is the causal one of suggesting the concepts we have of the object and its qualities, which in turn leads to the immediate belief in the present existence of the object. Thus, Reid uses "suggests" to mean immediate or noninferential (*Inquiry into the Human Mind*, II: VII).

Reid preserves Locke's distinction between primary and secondary qualities but with a crucial difference to avoid Locke's mistake. That is to say, Reid cannot say, as did Locke, that primary qualities are those that resemble our sensations because no qualities can resemble our sensations. Instead, Reid's distinction relies upon the nature of the concept we have of both types of qualities. In the case of primary qualities, for example hardness, a sensation, for example pain, occasions the concept. However, the concept of the quality does not exhibit a reference to the sensation (*Inquiry into the Human Mind*, V: II).

This natural conception of and belief in the existence of primary qualities enables us to be directly or immediately aware of the physical object. Moreover, this natural conception of primary qualities enables us to form the concept of secondary qualities. In the case of secondary qualities, for example heat, not only do our sensations, for example a feeling of pleasure or pain, occasion the concept, they are exhibited as part of the concept. Secondary qualities such as heat and color can only be conceived of relative to the sensations that cause the concept of them (*Inquiry into the Human Mind*, V: I). In the case of creating a language we could not agree on what a word or sign meant without having the ability to communicate. This ability to communicate presupposes we already naturally understand the meaning of some signs, for example some gestures and facial expressions. In this respect perception is like creating a language. We could not create the concept of secondary qualities (the artificial or acquired language) without an understanding of the primary qualities (the natural language).

The concepts of primary qualities are by no means innate ideas. Nor can they be arrived at by reasoning. From our sensations we can no more infer the concept of that which is unlike our sensations than we can infer the existence of what we conceive. However, we must admit we have the concept.

> Hence, by all rules of just reasoning, we must conclude, that this connection is the effect of our constitution, and ought to be considered as an original principle of human nature... (*Inquiry into the Human Mind*, V: III)

Common Sense

Reid argues that skeptics are inconsistent. Inconsistency is observed in their practice of life. Hume acknowledges that when he leaves the study he cannot be a practicing

skeptic (*Inquiry into the Human Mind*, I: V). However, there is a more fundamental inconsistency in the formulation of skepticism. The skeptic typically argues that we lack knowledge because the means we use to acquire knowledge, for example the senses, reason, or memory, can be mistaken. Descartes doubted the existence of the external world because the senses can be mistaken. However, it is easily shown that we make mistakes in reasoning too. Yet, Descartes, without proving reasoning is reliable, uses it to prove the existence of God and the external world. Should we, given the fallibility of reason, distrust reason too? But "He must either be a fool, or want to make a fool of me, that would reason me out of my reason and senses" (*Inquiry into the Human Mind*, I: VIII).

The skeptic's inconsistent use of a means of knowledge whose use has not been justified is not limited to reason. Descartes never called into question the reliability of consciousness as evidence for the claim that he thought. Hume never called into question the truth of his claim that consciousness is an incorrigible means to know about impressions, ideas, and mental acts. Yet, why, if consciousness is so reliable, indeed, unmistaken, are there conflicting views on mental phenomena and activities? "It is difficult to give any reason for distrusting our other faculties, that will not reach consciousness itself" (*A Brief Account of Aristotle's Logic*, VI: II).

More fundamental is the inconsistency in the formulation of skepticism which results in it refuting itself. If nothing is to be believed or can be known but what is proven to be true, then even skepticism is not to be believed. However, a *reductio ad absurdum* will not convince a skeptic who does not believe in reason. You cannot reason with those who do not recognize the law of non-contradiction or who dismiss it as an unproven assumption (*Inquiry into the Human Mind*, II: V).

For Reid common sense is not, then, something opposed to reason but is an essential part of reason.

> We ascribe to reason two offices or two degrees. The first is to judge of things self evident; the second to draw conclusions that are not self-evident from those that are. The first of these is the province and the sole province of common sense; and therefore, it coincides with reason in its whole extent... (*Essays on the Intellectual Powers*, VI: II)

Not only is "common sense" used by Reid to refer to the faculty of reason which enables us to judge what is self-evident, he also uses "common sense" to refer to the outcome of reasonable thought which does not need to be and which cannot be justified by demonstration. That is to say, common sense also refers to what is self-evident – the first principles.

In claiming that first principles need not and cannot be justified by demonstration, Reid is not claiming there can be no disputes about what is or is not self-evident. The very term, "common sense" suggests that regard must be given to what humankind irresistibly believes. These common or universal beliefs are determined by how people throughout history have conducted themselves and/or by the structure of language which reveals how people think (*Essays on the Intellectual Powers*, VI: V).

A second means of settling disputes about common sense is that opinions opposed to common sense are not merely regarded by us as false but as absurd. Reid may

have in mind his own response to Hume's conclusion that there is no such thing as a mind or thinking substance – it is only a fiction of our imagination. Reid's reference to absurdity seems to be a psychological one to be dealt with by ridicule. But to label this use of absurdity as psychological is an oversimplification of what Reid is saying. Reid has said feelings, including the feeling of absurdity, arise as a consequence of judgment. If someone claims that torture and mutilation are good or that such actions are neither good nor bad, such beliefs and the principles that give rise to them are ones that a reasonable person should not only judge to be false but absurd as well. Ridicule is a response we use when dealing with unreasonable people.

Reid's other two means for settling disputes about common sense are more logically than psychologically based. These means also reveal a distinction on Reid's part between not being able to justify first principles by demonstration and the possibility of being able to justify them in other ways. We can offer a "proof" for first principles that is not a demonstration, i.e., what he calls a "...direct or apodictical proof. Yet there are certain ways of reasoning even about them, by which those that are just and solid may be confirmed, and those that are false may be detected" (*Essays on the Intellectual Powers*, VI: IV). One form of this kind of indirect proof is the *reductio ad absurdum* used in mathematics, i.e., assume the opposite of a self-evident principle and deduce an absurd consequence, for example a contradiction. The other form of indirect proof relies upon showing the inconsistency of someone's fundamental beliefs or principles as in the case of Descartes and Hume who rely on some faculties while rejecting others which are on an equal footing (*Essays on the Intellectual Powers*, VI: IV).

The appeal to common sense has always been controversial as a solution to skepticism as evidenced in Reid's own time by Priestley and Kant. Even those who are sympathetic to Reid's views find his characterization of the first principles controversial. Some, for example William Hamilton, construe his first principles as synthetic *a priori*. Others, construe Reid's contingent first principles as general rules.

Both of these characterizations and the arguments that give rise to them miss the point. Whether one claims as Hume does that what we are aware of in perception are impressions and ideas or as Kant does that we are only aware of representations, these are metaphysical claims. The inability to prove the truth of these claims by attentive reflection or justify them as legitimate hypotheses, shows them to be metaphysical claims. As I have argued elsewhere, Reid is claiming that metaphysics must precede epistemology. In the absence of proof to the contrary, we are justified in accepting what is evident to our understanding, for example, that what we are aware of in perception are real, i.e. external, objects. This metaphysical starting point determines how we come to know the objects of perception – psychologically and epistemically. Likewise, the self-evident principle that we have power over our choices determines the psychological account of the role of motives, to wit, that they are like advice which can be accepted or rejected by the agent (*Essays on the Active Powers*, IV: IV).

One should not in matters of philosophy expect disagreements to disappear. The importance and richness of Reid's views are attested to both by the controversy they generate and by his continuing influence on the views of others whether or not he has always received the recognition he deserves.

Writings

An Inquiry into the Human Mind on the Principles of Common Sense, ed. Derek R. Brooks. University Park, PA: Pennsylvania State University Press, 1997. (First printed Edinburgh: Edinburgh University Press, 1996).

Philosophical Works. Notes and supplementary dissertations by Sir William Hamilton. 2 vols. Hildesheim: George Olms Verlag, 1983. With an introduction by H. M. Bracken. (Reprint of *The Works of Thomas Reid D.D.* 8th ed. Ed. Sir William Hamilton. 2 vols. Edinburgh: James Thin, 1895).

Thomas Reid's Inquiry and Essays, ed. Ronald E. Beanblossom and Keith Lehrer. Indianapolis: Hackett, 1983. With an introduction by R. E. Beanblossom. (First printed Indianapolis: Bobbs-Merrill, 1975).

Further Reading

Daniels, Norman, 1974, *Thomas Reid's Inquiry: the Geometry of Visibles and the Case for Realism*. Forward by Hilary Putnam. New York: Burt Franklin.

Flower, E. and Murphey, M., 1977, *A History of Philosophy in America*. Vol.1. New York: G. P. Putnam's Sons.

Grave, S. A., 1960, *The Scottish Philosophy of Common Sense*. Oxford: Clarendon Press.

Lehrer, Keith, 1989, *Thomas Reid*. London and New York: Routledge.

Manns, James W., 1994, *Reid and His French Disciples: Aesthetics and Metaphysics*. Leiden and New York: E. J. Brill.

Rowe, William L., 1991, *Thomas Reid on Freedom and Morality*. Ithaca and London: Cornell University Press.

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Part IV

THE EIGHTEENTH CENTURY: THE CONTINENT

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35

German Philosophy After Leibniz

MARTIN SCHÖNFELD

German philosophy after LEIBNIZ (chapter 18) is usually regarded as the interval between Leibniz and Kant. Actually, this phase in the history of continental thought started with Christian Thomasius, who appeared on the philosophical stage in 1687. Gottfried Wilhelm Leibniz was still alive (he died later, in 1716); many of his great works had not yet been written. Nor did this period end with Immanuel Kant, who was born in 1724 and started publishing in 1749. Instead, it came to a close with the publication of his fifth book, the *Critique of Pure Reason* in 1781, shortly after Kant's fifty-seventh birthday. German philosophy "after" Leibniz is thus the century of central European thought that began in 1687 and ended in 1781.

Another misconception is to view this period as a hiatus: Leibniz was a genius; Kant's critical turn changed the face of philosophy; and nothing much happened in between. The protagonists of this interval – Thomasius, Wolff, Crusius, Baumgarten, Mendelssohn, Lambert etc. – are forgotten. No one except specialists would read their tomes today. Nonetheless, German philosophy after Leibniz was perhaps the most vibrant time in the history of ideas since the Platonic Academy. It was the heyday of reason and the age of Enlightenment. The structure of the world seemed accessible to observation and reason, and its mysteries did not appear all that hard to figure out. Some thinkers investigated the very fabric of reality. Christian Wolff composed his *German Metaphysics* (1719), whose full title indicates its contents: "Rational Thoughts on God, the World, the Human Soul, and All Things in General." Imagine finding a reputable publisher for such a work today! Other thinkers fought for humane legislation and due judiciary process. Christian Thomasius published *On the Vice of Sorcery* (1701; *De Crimine Magiae*), a controversial tract that helped to end the witch hunts. Intellectual work could contribute to the good of humankind. It was a great time to be alive as a philosopher.

Nonetheless, life for most central Europeans in the eighteenth century was rather difficult. The Thirty Years War (1618–48), over many years before, cast a long shadow. Forty percent of the German population had died. Villages had become ghost towns, and fields had reverted back to scrubland. A generation after the Westfalian Peace, the Plague ravaged the Baltic provinces, the very regions that had been spared by the war. Meanwhile the Osmanic expansion was threatening from the South. Had the Turks not been defeated at Vienna in 1683, the German

states would have become Islamic – or French, because Louis XIV was pursuing an aggressive eastward expansion of his empire. One military conflict followed the next. Before the German–French fights ended in 1704, the Northern War broke out among Sweden, Russia, Poland, and Denmark in 1700. After the harsh winter of 1708/9, failed harvests in Prussia led to starvations and epidemics. The Northern War continued until 1721 and ended in Russia's favor, crushing any chance for Sweden to become a world power. The Austrian War of Succession commenced in 1740, as did the first Silesian War which lasted until 1742. Before the Austrian War of Succession ended in 1748, the second Silesian war between Prussia and Austria erupted in 1744 and '45. The Seven Years War began in 1756, which turned Kant into a Russian for five years, and which changed the contours and colors of the world map – the Philippines ceased to be Spanish; France lost Canada to the British; and Prussia, against all odds, prevailed as a dominant continental power.

To say that the emergence of Prussia as a major European force was significant for the development of philosophy after Leibniz would be an understatement. German philosophy after Leibniz was Prussian philosophy; more specifically, it was philosophy at the University of Halle and at the Academy in Berlin. Germanophone cities outside the Hohenzollern empire (Hanover in Brunswick, Leipzig in Saxony, Frankfurt in Hesse, Munich in Bavaria, Basel in Switzerland, Stuttgart in Swabia, or Vienna in Austria) had comparatively little importance. The flourishing of philosophy in Prussia has often been attributed to Friedrich II (reign 1740–86), the verse-making, flute-playing "philosopher-king" who is better known as Frederick the Great. He turned Prussia into a powerful empire as well as into a *Kulturnation*. His dictum, "Jeder soll nach seiner Façon glücklich werden," every man has the right to pursue his own happiness, signaled the intellectual tolerance characteristic of his administration.

By comparison, Frederick the Great's father and predecessor, Friedrich Wilhelm I (reign 1713–40) comes off badly. Dubbed the "soldier-king," Friedrich Wilhelm I has often been portrayed as a stupid lout, who physically abused his family, beat and imprisoned his son, and spent all his money on the military. The soldier-king slashed the funding of the Prussian Academy of Arts and Sciences. The academy, dependent on state subsidies, almost ceased to exist during his regime. German philosophers flocked to Russia to find support from the St. Petersburg Academy, a make-shift situation that would end only with Frederick the Great re-energizing the Berlin Academy with grants and appointments. Whereas Frederick the Great would cultivate his friendship with VOLTAIRE (chapter 39) and host a company of philosophers, literati, and poets at his table in Sanssouci, his father, Friedrich Wilhelm I, hobnobbed with his cronies of the "tobacco-cabinet," read nothing but the Bible and military manuals, and was enamored with his *Lange Kerle*, the "tall guys," as he affectionately called the elite troopers of his army.

To historians of philosophy, the soldier-king Friedrich Wilhelm I is known as the Prussian sovereign who, in 1723, mistook Christian Wolff's defense of the Leibnizian theory of causality, the preestablished harmony, as an excuse for desertion. (The monarch, advised by Wolff's opponents, reasoned like this: a preestablished harmony implies an initial divine predetermination of all events affecting the caus-

ally isolated substances. This further implies that there cannot be free will. But in the absence of freedom there is no culpability and thus no reason for penance. Hence, what Wolff is really saying is that I should not punish any of my soldiers going AWOL because the hypothesis of the preestablished harmony entails that desertion would not be their fault.) So Friedrich Wilhelm I ordered Wolff to leave Prussia within forty-eight hours or be hanged. The soldier-king decreed that any intellectual found guilty of spreading Wolff's ideas would be subject to the *Karrenstrafe*, the cart sentence. (The exposed Wolffian philosopher, now a felon equipped with a shovel and chained to a cart, is to clear the market place daily of excrement, by scooping it into the carriage dragged behind.)

But despite these differences in political style from king to king, the Prussian monarchy, even under Friedrich Wilhelm I, pursued a sustained policy of religious freedom that was a boon to the state and a windfall to science and philosophy. That German philosophy after Leibniz increasingly concentrated in Prussia, and not in Saxony, Bavaria, or Austria, is a powerful argument for the causal link between political tolerance and research productivity. The first Prussian king, Friedrich I, founded Prussia's primary research institutions, the University of Halle (1693) as well as the Academy of Arts (1696) and Sciences (1700). After the French king Louis XIV (a Catholic) revoked the tolerance edict of Nantes in 1685, Friedrich I encouraged the imperiled French Huguenots to come to Prussia. The twenty thousand that followed his call transformed the sleepy Brandenburg town of Berlin into a multicultural merchant city and boosted agricultural productivity in the eastern lands depopulated by war and pestilence. A steady influx of immigrants and minorities from other German states, France, and Switzerland continued to pour into Prussia in the following decades. The second Prussian monarch, the soldier-king Friedrich Wilhelm I, carried on his father's liberal policies. In 1727, the Habsburg emperor Karl VI (another Catholic) sharpened the oppression of the Lutherans in Austria, which culminated in their expropriation in 1731. Friedrich Wilhelm I immediately invited them to move to Prussia to make up for the losses of the Lithuanian Plague of 1709. True to his declaraction, "People are the greatest wealth!" the soldier-king gave civil rights, tax breaks, and trade licenses to the refugees. Berlin became a center of banking and industry. Through administrative and agrarian reforms, Friedrich Wilhelm I streamlined Prussia's finances, boosted its economy, and created a powerful infrastructure. The third Prussian king, Frederick the Great, recalled Wolff in 1740 and continued the open door policy to the extent that by 1786, the year of Frederick's death, a third of the Prussian populace consisted of newcomers and their children. One of the immigrants, nearly a century earlier, had been Christian Thomasius. The Saxon authorities had almost arrested him because of his teachings; the Prussian government gave him tenure instead. Thomasius had regarded Prussia as an enlightened state, and in many respects he had been right.

Thomasius

Christian Thomasius was born in 1655 in Leipzig into a family of scholars. He went to law school in Leipzig, where he gained a Master's degree in 1672 (aged

seventeen). He moved to Frankfurt at the Oder to continue his studies in 1675 and earned the doctoral degree in law in 1679. He returned to his home town, failed to find an academic post and opened a law practice instead, while teaching classes on Hugo Grotius' theory of natural law as a *privatdozent* or adjunct instructor at the local university. After falling in to disfavor with the authorities, he went to Prussia and accepted an appointment at Halle, where he stayed until his death in 1728.

In 1687, still at Leipzig, Thomasius announced his intention to give his lectures in German, not in the customary Latin. He was not the first to do so – Paracelsus had taught in German before him – but he was the first to exploit his intentions politically. In the sixteenth and seventeenth centuries, it was customary to issue a printed lecture advertisement at the beginning of a new semester, usually in the form of a brief essay that did not necessarily have much to do with the actual contents of the course. Thomasius's advertisement, *Discourse on the Imitation of the French* (1687; *Discours welcher Gestalt man denen Franzosen . . . nachahmen solle?*), that announced his law class was a carefully calculated provocation. Although German nobility imitated the French in customs and language, Germany and France did not get along. Hungry for territorial gain, Louis XIV had conducted several eastbound military campaigns in the recent past, had fought with the German Empire (1674–5), snatched Strassburg through political maneuverings (1681), and was on the verge of starting another war (1688). To demand from Germans, in 1687, to imitate the French was to ask them to emulate an enemy. Thomasius unveiled the *Discours* on October 31, the same day Martin Luther is said to have nailed his Theses to the Wittenberg church doors in 1517. The historical allusion was not lost on the Lutheran Saxons. Thomasius proposed that Germans should follow the French in using their own language for academic purposes. Luther had believed that the Bible belonged in the hands of the common folk and proceeded to translate the Latin Scripture into the speech of the people. Because sixteenth-century German was a quilt of different dialects instead of a unified language, Luther had picked the Saxonian tongue spoken by administrative officials for his Bible translation. This particular sociolect served as the linguistic root of what would become standard written German. But no one had followed Luther's example. Luther's *Bibeldeutsch* had remained restricted to religious affairs. German scholars continued to publish in Latin or French. Thomasius was the first to transform German into a language of scholarship and science.

Thomasius was not trying to make a patriotic gesture. In his view, Latin had become instrumentalized by the clerics to exclude common people from ethical and legal disputes. Two generations later, Kant would define enlightenment as "man's release from his self-incurred tutelage" (*Acad. Ed.* 8: 35) in his famous essay on the subject. This definition did not quite apply to Thomasius's situation. That his contemporaries were not enlightened had not been the result of "laziness and cowardice," as Kant would put it later, but was the effect of a successful linguistic disenfranchisement profitable to the political and clerical authorities. The first step towards ending this tutelage was to give people a voice.

The second step was to provide them with a useful education. Thomasius deplored the lack of practical relevance of the curricula and criticized the dogmatism

of the Lutheran orthodoxy that had constructed its own brand of Aristotelian scholasticism. This cost him friendships among his tenured peers. Outside the university, he created a cultural journal, the *Monthly Conversations* (1688/9, *Monats-Gespräche*), aimed at informing a nonacademic readership. The aggressive satirical contents of the paper increased the number of his enemies. It did not help Thomasius's standing in Leipzig that he found an ally in August Hermann Francke (1663–1727), a misfit in the theological faculty and critic of the Lutheran establishment, who was quickly becoming the leading exponent of the young Pietist movement. Thomasius sympathized with their cause and considered himself a Pietist for about ten years. Inspired by Philipp Jakob Spener's *Pious Desires* (1675, *Pia Desideria*), the Pietists strove for a second, inner reformation of the Lutheran Church by discarding ideological and external aspects of the faith for the sake of a spartan and introspective piety. Thomasius's meddling in a political affair at the Saxon court was the straw that broke the camel's back. A Lutheran brother of the ruling elector had married a Reformed duchess. The union of two partners from different Protestant denominations had been opposed by the court as well as by individuals from the theologian quarter. In *A Question of Marriage and Conscience* (1690, *Ehe- und Gewissensfrage*), Thomasius submitted that this marriage was the business of the spouses and not of the theologians. The court, incensed, issued a gag order on Thomasius, prohibiting him from teaching and publishing.

So he fled to Berlin and then moved to Halle, teaching at the old Knights' Academy that was just in the process of being transformed into a university. The administrators of the new university were far more receptive to his plans for academic reform than his Leipzig colleagues had ever been, and Thomasius flourished in his new home as a teacher and researcher. In Leipzig, he had already composed his first major treatise on natural law, *A Concise System of Divine Jurisprudence* (1688, *Institutiones iurisprudentiae divinae*; German 1709, *Drey Bücher der Göttlichen Rechtsgelahrtheit*). This work made him known as a commentator of Samuel Pufendorf's *On Natural Law and the Law of Nations* (1672, *De iure naturae et gentium*). PUFENDORF (1632–94, chapter 15) had argued that the moral law rests on the "natural" basis of God's will. According to Pufendorf, the divine will is intelligible; that is, human reason is capable of determining the difference between right and wrong. Thomasius's own views in *Divine Jurisprudence* closely resemble Pufendorf's. For Thomasius, reason serves as a tool for deriving moral laws. It emerges in the guise of considerations based on a rational long-term self-interest informed by the human need for fellowship. Both theories, the original and the commentary, involve a contractarian core: we will be better off through cooperation; cooperation requires a certain conduct; such conduct is expressible in rules; and reason can discover these rules.

Although the *Divine Jurisprudence* pegged Thomasius as a follower of Pufendorf, his subsequent development showed him moving in a new direction. A more skeptical conception of humankind informed his *Principles of Natural Law and Law of Nations* (1705, *Fundamenta iuris naturae et gentium*; German 1709, *Grundlehren des Natur- und Völkerrechts*). People are really neither notably rational nor particularly benevolent, Thomasius suggested now; they would do more harm than good if left to their own devices (I 4: 76). So they need rules – and a ruler. In the

System, Thomasius complemented his natural law theory with an appeal to a state authority whose function is to formulate and enforce the necessary rules. This raised the question of the legitimacy of government, and over long passages of his book, Thomasius tried to justify state authority (not very plausibly) by showing that government is in the hands of the wise. The wise are in charge and ought to formulate the rules. The foolish are the subjects and should heed the rules.

Examining the legitimacy of government revealed that Thomasius regarded state authority worthy of scrutiny. This was unusual and new, for the standard political theories of the age precluded questions of this sort. The traditional view was that the monarch had been put in his place by God, hence government was divinely justified by definition. The thrust of Thomasius's questions challenged this dogma, and his answers pointed into a secular direction. His predecessors GROTIUS (chapter 15) and Pufendorf had proceeded from a union of morality and God – natural laws are humanly intelligible as well as divinely ordained. Thomasius separated ethics from theology. His justification of political authority has little to do with God, and his derivation of the natural law depends on contractarian and commonsensical considerations. He also separated ethics from legislation. According to the *System*, the wise relate to the foolish by either counsel or command (I 4: 82). The former relation captures the nature of ethics, for moral principles advise, whereas the latter embodies the essence of legislation, for laws compel. Thomasius's appraisal of human nature balances hope and doubt. Ethics are relevant, because people are receptive to reason, and it is possible to appeal to their insight. But their rational capacities are limited. People require authority, and there would be chaos without it. This mixed assessment is characteristic of the early Enlightenment: people are citizens, not just chattel, but they are also subjects and should obey. This view of humanity perfectly harmonized with the enlightened and yet authoritarian Prussian state. In the much later *What is Enlightenment* (1784), Kant would put far more faith in human rationality – but a greater faith in people's talents is ultimately incompatible with feudal structures.

Thomasius served in 1694 as a consultant at a witch trial. This was part of his job description; law professors not only taught classes but also advised in court cases. He did the review by the book: he read the file, noted the defendant's confession, and recommended capital punishment. Why? As he explained more than two decades later in *Legal Proceedings* (1720, *Juristische Händel*): "Because I heard and read it thus and did not give further thought to the issue, nor did I have the opportunity to consider it in depth" (Achtzehnter Handel, p. 197). In other words, because he had been an idiot. He realized that he had become guilty in an innocent's death, and this impelled him to fight for the victims of religious fanaticism. In *Whether Heresy is a Punishable Offense* (1697, *An haeresis sit crimen*; German 1705: *Ob Ketzerei ein strafbares Laster sei*), Thomasius argued that heresy does not fall within the purview of the judiciary. Only the Bible could decide what is heretical or not, but even the Bible is not free of ambiguities (1705 ed., p. 213). Church authorities are not in unanimous agreement over the definition of heresy either (p. 229). Moreover, human cognition can never fully grasp God in His infinitude, and therefore divergent interpretations are inevitable (p. 250). The only referee who could

decide what is heresy would be God, but never a human judge. With this conclusion, Thomasius implied that tolerance, not prosecution, is the appropriate response to religious heterodoxy. The tract triggered a flurry of hostile publications from the protesting clerics, but Thomasius rebuked them in his next piece. According to the *Treatise on the Right of Lutheran Dukes against Heretics* (1697, *De iure principis circa haereticos*; German 1705, *Abhandlung vom Recht evangelischer Fürsten gegen die Ketzer*), clerics endorse different creeds at different times, hence the clerics' claim to be the guardians of the "right" faith is discredited by their own inconsistent track record. If the ruling nobility acknowledged the clerics' claim, it would unwittingly relinquish power – "the dukes do not see that they become subjects of the clerics," he warned (1705 ed., p. 347).

His polemics antagonized not only the orthodox Lutherans. The Pietists, who enjoyed their newfound political influence in Halle, were not amused. Thomasius had a falling out with his former friend Francke and ended his alliance with the Pietists in 1700. A year later, Thomasius published his definitive tract on the subject of the witch hunts, *On the Vice of Sorcery* (1701, *De crimine magiae*). There he deplored the groundless superstition of the devil's pact, which those accused of sorcery allegedly enter, and which had caused the deaths of so many innocents (#30). He argued that the extorted confessions of sorcery and devil's pacts are legally useless because torture "makes people confess whatever they are asked to confess" (#21). Joachim Lange (1670–1744), Francke's follower and chair of the theology department, scolded Thomasius for his irreverent remarks and irritating freedom of thought in *Necessary Reprimand of Conscience* (1702, *Notwendige Gewissensrüge*). Nonetheless, the argument against extorted confessions was as simple as it was compelling – and it convinced the authorities. A year after his inauguration, in 1714, Friedrich Wilhelm I decreed his wish to be officially informed whenever local authorities prepared to try and torture alleged magicians. This effectively discouraged further witch hunts in Prussia, decades before they petered out in Austria and France, and more than half a century before the last European woman accused of being a sorceress was burned in Switzerland.

Thomasius has been rightfully called the father of the German Enlightenment. Trained as a lawyer, he published what we would call "applied ethics" today. Logic and common sense were his tools for dealing with the practical affairs of the day. He defined his eclectic stance in opposition to the quasi-Aristotelian scholasticism that dominated the philosophical landscape in both Protestant and Catholic universities. Nowadays, "eclecticism" has a bad ring, often being associated with a lack of intellectual originality and theoretical coherence. For Thomasius, however, eclecticism was the weapon of the Enlightenment. Instead of bowing to the authority of a system or figure, one should trust one's own reason and judge ideas on their own merits regardless of their origin. Neither a system-builder nor a speculative thinker, his thought is lacking in theoretical depth. But this was not a disadvantage. The power of his arguments often consisted in their very plainness, level-headedness, and humanity. He was a courageous dissident who enjoyed the good fortune of becoming a successful reformer, and he was one of the few philosophers whose search for wisdom made the world into a better place.

Wolff

With Wolff's *oeuvre*, Thomasius's wish had come true (although not how he had anticipated): German had evolved into a genuine medium of scholarship and science. Because Wolff wrote enormously popular German treatises on practically every aspect of philosophy as well as related fields, he single-handedly created the vocabulary that became the terminological foundation for modern German philosophy. The leading thinkers at the end of the eighteenth century unanimously rejected the Wolffian system, but they remained its true heirs. Kant, Fichte, Schelling, and Hegel could have never written what they did had it not been for Wolff's trailblazing linguistic efforts.

Christian Wolff was the leader of the German Enlightenment. All the philosophical contemporaries stood in one way or other in relation to Wolff, either as his followers or as his opponents. Born in Breslau in 1679 into a family of artisans (his father was a tanner), he was expected to become a Lutheran pastor, but decided to pursue a career in mathematics instead. He enrolled at Jena university in 1699 and transferred to Leipzig in 1702, where he earned a Master's degree in the following year. After a brief stay in Jena, he returned to Leipzig where he taught mathematics at the university as a *privatdozent* until 1706. The Northern War spilled over into Saxony in that year; Wolff left before the Swedish troops arrived, moved to Gießen, and settled in Halle in 1707. He completed his *habilitationsschrift* or professorial dissertation and earned an appointment as a professor of mathematics and natural science in Halle, where he became *rektor* or chief academic administrator of the university for a two year appointment in 1719. His final address as *rektor* caused a scandal that culminated with Wolff losing tenure and fleeing Prussia. He relocated to Marburg in 1723, where he taught for the next one and a half decades. Friedrich Wilhelm I eventually regretted Wolff's expulsion and tried to win him back, but Wolff declined. Frederick the Great was able to persuade him to return in 1740 and appointed him to the Berlin academy. After a stint in Berlin, Wolff returned to Halle and resumed teaching, but failed to regain his former influence. He retired from his post and died in 1756.

Although he was trained as a mathematician, Wolff's real interest was in philosophy. Already in Jena and Leipzig, he audited philosophy classes; both his Master's thesis and his professorial dissertation concerned the application of the mathematical method to practical philosophy. (The *mos geometrico* or mathematical method was not so much a quantitative procedure but more a stylistic imitation of mathematics. It involved differentiating the logical steps and organizing the overall argumentative structure in terms of axioms, theorems, elucidations, lemmata, and the like. Spinoza's *Ethics*, for example, is written *more geometrico*.) As a graduate student in Leipzig, Wolff worked as an editorial assistant for the famous academic journal *Acta Eruditorum* and became acquainted with Ehrenfried Walther von Tschirnhaus (1651–1708), the Western re-inventor of Chinese porcelain, whose *Medicina Mentis* (1687) was a methodology for experimental philosophy. Tschirnhaus, friend of SPINOZA (chapter 16) and Leibniz, took Wolff under his wing, sponsored his professorship, and introduced him to Gottfried Wilhelm Leibniz, with whom Wolff corresponded from 1704 to Leibniz's death.

Wolff's earliest publications, composed in Leipzig, were contributions to the theory of the calculus. The next group of works was a series of textbooks in mathematics written in Halle, where he taught only math classes for the first several years. To these books belonged the *Foundations of all Exact Sciences* (1710, *Anfangsgründe aller mathematischen Wissenschaften*, 4 vols.), the *Elements of General Mathematics* (1713–15, *Elementa mathesos universae*, 1st ed. 2 vols., 2nd ed. 4 vols.), and the *Lexicon mathematicum* (1716). These works (which became standard classroom materials in Germany) already suggested Wolff's future philosophical style. As systematic compendia, they did not contain much in terms of original contributions. They were encyclopedic in the sense that "mathematics" was construed broadly, denoting not only the exact sciences but also disciplines that involved the application of quantitative procedures. The *Foundations*, for instance, contain next to the genuinely mathematical chapters also sections on statics, mechanics, hydrostatics, hydraulics, astronomy, and geography, as well as on artillery and fortress science (!). After he turned away from mathematics, Wolff would view philosophy the same way – as a universal science that is an encyclopedic inventory of knowledge.

The Wolffian conception of philosophy has both theoretical and practical branches. Theoretical philosophy is metaphysics. The inner core of metaphysics involves ontology, epistemology, rational psychology, rational cosmology, and rational theology. Logic occupies a peculiar place. As a propaedeutics of thought, it is theoretical, but as a derivative organon, which applies ontological principles to cognition, it belongs to practical philosophy. The outer shell of theoretical philosophy consists of disciplines that are about rational objects but admit of empirical approaches, such as empirical psychology and natural theology. The latter comprises physico-theology or teleology and concerns the knowledge of God through nature's purposes and design. Inquiries that deal with empirical subject-matters, such as cosmology and physics, pertain to theoretical philosophy as well. (The distinction between philosophy and natural science emerged only in the last two decades of the eighteenth century. Prior to their divorce, physics was "experimental philosophy" belonging to "philosophy of nature.") Practical philosophy, the other main branch of the universal science, divides into ethics, philosophy of natural law, jurisprudence, and economics. Wolff, the *praeceptor Germaniae* or "Germany's schoolmaster," was an extraordinarily prolific author. He penned works, often in multiple volumes, on almost the whole range of conceivable philosophical subjects. He wrote a number of books on metaphysics alone: the *German Metaphysics* (1719); a sequel, the *Anmerkungen zur Deutschen Metaphysik* (1724); several Latin tomes on the subject, *Philosophia prima sive Ontologia* (1730), *Cosmologia generalis* (1731), and *Psychologia rationalis* (1734); as well as several smaller treatises. The edition of his collected works contains twenty-two volumes in German (turned out mostly in Halle, when Wolff addressed his fellow-Prussians) and thirty-seven volumes in Latin (most of them composed in the Marburg years, when Wolff was "abroad" and wished to address a European audience).

Wolff's philosophical productivity eventually led to problems in Halle. In 1710, he started offering classes in philosophy. Despite the advice of the diplomatically schooled Leibniz that Wolff seek the support of Thomasius, Wolff avoided his senior colleague. Thomasius and Wolff were philosophical opposites and personal rivals.

The former advanced practical and eclectic ideas; the latter pushed theoretical and systematic philosophy to new heights. Wolff, the mathematician, invaded the philosophers' turf, showed off his superior logical skills and encyclopedic mind, and took Thomasius's students away. No wonder Thomasius, the fighter for intellectual freedom, would stand passively aside when his rival was persecuted because of his ideas.

Despite his break with Pietism, Thomasius remained on good terms with the theologians of Halle. The leading Pietist philosophers – Johann Franz Budde (1667–1792), Andreas Rüdiger (1673–1731), and Rüdiger's student Adolf Friedrich Hoffmann (1703–41, who would in turn become Crusius' teacher) – had been influenced by his works. So Wolff's performance antagonized the theologians as well. Budde and Rüdiger dismissed Wolff as an unimaginative popularizer of Leibniz and coined the expression "Leibnizian–Wolffian school philosophy," to insinuate Wolff's lack of originality. The label stuck, but it is a misnomer. Wolff was more influenced by Aquinas than by Leibniz. He did not know Leibniz's philosophy particularly well, and their acquaintance was largely limited to an exchange on mathematical subjects. He was familiar only with Leibniz's published writings (which, at that time, were few; most of his major works would appear postumously). Leibniz's epistemology was thoroughly rationalistic; Wolff's was a mixture of rationalistic and empiricist elements. Leibniz's logic proceeded from a deductive schema; Wolff's was inspired by Tschirnhaus's analytic–synthetic method. Wolff rejected Leibniz's monadology and the relational conception of space, and entertained only a restricted form of the preestablished harmony before renouncing it altogether.

The situation worsened upon publication of the *German Metaphysics* in 1719. The theory of causality proposed there ignited the controversy, the so-called *pietismusstreit*, which embroiled Wolff and his followers for almost thirty years (1723–49). The empirically accessible level of the world consists of compound objects. They interact and are grounded in each other (#543, p. 331). This *nexus rerum* or causal web of nature reveals a "natural necessity," as Wolff called it (#575, p. 352). The conception of the universe resembled Newton's – nature is ordered, its parts affect each other, its processes are governed by laws, and physical events can be described and predicted. (Wolff was familiar with the *Principia* and the similarity of his views with Newton's was not merely coincidental.) The Pietists, particularly Lange, reacted with sharp criticism. In *The Case of God and Natural Religion against Atheism* (1723, *Caussa Dei et religionis naturalis adversis atheismum*), Lange accused Wolff of atheism. While carefully avoiding to identify his target by name, Lange scolded his mathematical colleague for construing a determinist world in which there was no place for God (p. 362–9).

According to the *German Metaphysics*, there is a second and non-empirical level of reality that consists of simple substances coordinated in a preestablished harmony. In contrast to the compound objects of visible nature, the simple, non-empirical substances do not interact. The soul is such a simple substance; already DESCARTES (chapter 5) had assumed that the soul's simplicity makes it indivisible, hence incorruptible and thus immortal. For Wolff, changes of substances are governed by a monolinear determination that he called "geometric necessity" (#575, p. 353). Lange correctly noted that this would render an interaction of the

soul with its body impossible (*Caussa*, p. 399). We would never be sinners if Wolff was right. Sinning presupposes the interaction of the mind with its mortal shell; sins occur when intentions (by the soul) cause actions (of the body) or when desires (of the body) cause temptations (in the soul). Wolff's geometric necessity makes God, as the putative cause of such a preestablished harmony, responsible for our sins. Lange branded Wolff as a blasphemer and declared that any decent Pietist must attack Wolff's preestablished harmony (*Caussa*, p. 3–5).

Intimidated, Wolff caved in. In the *Anmerkungen* (1724), he dropped the preestablished harmony of simple substances. In the *Psychologia Rationalis* (1734), he flirted with the influxionist account of substantial interaction. Despite these and numerous other tracts in which Wolff hoped to appease his critics, his retraction had little effect. The *pietismusstreit* would continue to overshadow the remainder of his career.

Wolff failed to settle the conflict because the *German Metaphysics*, his second bestselling work that went through ten consecutive editions (the *German Logic* of 1713, Wolff's bestseller, went through fourteen), had become the canonical text of the Leibnizian–Wolffian school philosophy. Wolff's students took their guidance from this work and not from its sequels. Georg Bernhard Bilfinger defended the preestablished harmony in *Hypothetical Treatise on the Perfectly Preestablished Harmony of Soul and the Human Body* (1721, *Commentatio hypothetica de harmonia animi et corporis humani maxime praestabilita*). He ignored Wolff's retraction as the not quite sincere diplomatic gesture that it was. After his teacher's change of heart, he continued to defend the preestablished harmony in his textbook *Philosophical Clarifications* (1725, *Dilucidationes philosophicae*). But Wolff's retraction would not have made a difference even in the best of circumstances. Wolff and what he stood for were anathema to the Pietists. They were intellectual dinosaurs, throwbacks to a more primitive age. Although motivated by good intentions, such as the ethical rejuvenation of the Lutheran creed, they were Christian fundamentalists who put faith above intellect just like their modern-day counterparts in the United States. The Wolffian *oeuvre* represented conceptual analysis, systematic inventories of empirical data, and the power of speculation. The Kantian motto of the enlightenment, "*Sapere aude*! – have courage to use your own reason," was personified in Wolff. His metaphysical exuberance and intellectual optimism were a far cry from Thomasius's skeptical reservations about humans and their foolishness. The Pietists underscored the ethical–religious limits of human existence and subjugated reason to devout feeling. In particular the zealous Lange emphasized that our sinfulness severely restricts our freedom to comprehend the universe; the very fact that entities such as God are rationally inaccessible only accentuates their sublime nature. That Wolff assessed God as a metaphysical problem worthy of rational investigation was a provocation to the faithful. Wolff's far-ranging works were investigations into practically everything under the sun; the Pietists could see nothing but hubris at work here.

The Pietist campaign, forcing Wolff to flee Halle, had enormous importance for the direction of German philosophy after Leibniz. Wolff's farewell address as the university's *rektor* was the *Speech on the Ethics of the Chinese* (1721, *Oratio de Sinarum philosophia practica*). His *Ethics of the Chinese* would galvanize public perception of

the Chinese and push European enlightenment to a new level. Jesuit missionaries had tried to convert the Chinese since the late sixteenth century. Their attempt largely failed, partly because the Beijing dialect of the time lacked a term capable of denoting an abstract, supreme, and personal deity (the best the Jesuits could do was to call God *tian*, which means "heaven" or "day"), and partly because the sophisticated Chinese thought it distasteful to worship an instrument of torture. Instead of the missionaries teaching the Chinese, the Chinese began to teach the missionaries. An increasing volume of priestly documents about East Asian language, culture, and philosophy reached European shores from the early seventeenth century on. Leibniz had been an attentive follower of the rites controversy and sided with the Jesuits. (The sinofied Jesuits had allowed converted Chinese to practice their own spiritual rituals, but the Dominican and Franciscan monks, who followed in the 1630s, were appalled and informed the pope. The rites controversy ensued, which ended in 1715 with a papal injunction against further Jesuit activities in China.) In 1711, François Noël published a translation of six Chinese classics that included the *Analects*. Wolff, who had already reviewed an earlier volume on China by this Jesuit, reported on this translation for the *Acta Eruditorum* in 1712. Wolff was impressed with what he learned about Confucius through Noël. In the 1721 speech, he likened Confucius' importance to the Chinese to Christ's to the Christians (p. 18) and expressed his full approval of the tenets of the *Lun Yu* (p. 65). The Pietists were scandalized. Pagans had wisdom? Pagans had an *ethics*? If Wolff was right (and by all means, he could not be), then this would imply that the difference between right and wrong is discernible without the Bible.

Ironically, the very uproar caused by Wolff's speech in 1721 and by his expulsion in 1723 disseminated the offending view. Knowledge of the good was apparently not an exclusive possession of the Christian faith. Already Thomasius had insinuated similar ideas in his legal philosophy. But now the authority of institutionalized Christianity had suffered a serious blow. When a generation later Voltaire would rally against the Church, its reach would have weakened to the point that it failed to silence him. Through the scandal of Wolff's speech, Confucius had triggered the secularization essential to the European enlightenment.

Crusius, Baumgarten, and Lessing

Wolff's system became the paradigm of German thought until the rise of Kant's star in the 1780s. Some of Wolff's students deserted to the Pietists and made careers in Halle. Daniel Strähler (1692–1750) criticized Wolff in his *Examination of Wolff's Rational Thoughts* (1723, *Prüfung der vernünftigen Gedanken Wolffs*) and earned a professorship after Wolff's departure. Other disciples remained faithful and were fired. Ludwig Philipp Thümmig (1697–1728) left with Wolff, went to Kassel in 1723, and published the first of the textbooks, *Principles of Wolffian Philosophy* (1725/6, *Institutiones philosophiae Wolffianae*, 2 vols.). The Wolffians gained appointments throughout Germany and dominated the philosophical landscape well into the 1770s. The time of the so-called textbook authors had begun. Georg Bernhard Bilfinger (1693–1750), the author of the *Dilucidationes* (1725), went to Tübingen.

Johann Friedrich Stiebritz (1707–72) worked in Gießen and Frankfurt and wrote *Wolffian Philosophy Condensed* (1744/5, *Philosophia Wolfiana contracta*, 2 vol. despite its title). Johann Franz Coing earned an appointment in Marburg in 1753 and published his *Philosophical System of God, the Human Soul, the World, and the First Principles of Human Cognition* (1765, *Institutiones philosophicae de Deo, anima humana, mundo, et primis cognitionis humanae principiis*). The well-known philologist, literary critic, and playwright Johann Christoph Gottsched (1700–66) lectured on metaphysics in Leipzig and produced with his *First Grounds of Complete Philosophy* (1733/4, *Erste Gründe der gesamten Weltweisheit*, 2 vols., eight editions until 1778) the most celebrated of the Wolffian textbooks next to Baumgarten's. Johann Peter Reusch gained a position in Jena in 1738, ending the Pietist grip on the university there, and followed suit with his *Systema metaphysicum* (1734). Friedrich Christian Baumeister (1709–95) was professor in Wittenberg and Görlitz, and his *Institutiones philosophiae rationalis* (1735) and *Institutiones metaphysicae* (1738) gained wide circulation. Andreas Böhm (1720–90) taught philosophy and mathematics in Gießen and contributed to the deluge of Wolffian textbooks with his *Metaphysica* (1753). Johann Nikolaus Frobesius (1701–56) was at the university in Helmstedt and provided with *Systematicis metaphysici Wolfiani delineatio* (1730) a summary of the *German Metaphysics*. Israel Gottlieb Canz (1690–1753) was the resident Wolffian in Tübingen after Bilfinger had left for St. Petersburg and composed a whole number of textbooks, among them the *Philosophiae Leibnitianae et Wolfianae usus in theologia* (1728), then *Disciplines morales omnes* (1739), the *Humanae cognitiones fundamenta* (1741), and the *Philosophia fundamentalis* (1744). Martin Knutzen, Kant's teacher in Königsberg, defended Wolffianism in his textbook *Elementa philosophiae rationalis seu logicae* (1744), before parting ways with the school of philosophy over the analysis of causal events. The Huguenot and Wolffian Johann Heinrich Samuel Formey, secretary of the Berlin Academy during Frederick the Great's reign, thought that philosophical enlightenment should not be an exclusively male affair. Formey addressed female intellectuals with his six-volume *La Belle Wolfienne* (1741–53). Needless to say, Pietism was not receptive to women's liberation. The only female philosophers of the age were both members of the other camp. The French noblewoman Marquise de Châtelet defended Leibniz's view of dynamics and living forces in various publications in the 1740s and prepared in the subsequent decade the first French translation of Newton's *Principia*. The lone female philosopher in Germany was Johanna Charlotte Unzer, who composed like Formey a Wolffian textbook for women (which went through two editions), the *Outline of Philosophy for Ladies* (1751, *Grundriß einer Weltweisheit für das Frauenzimmer*). Finally, the most famous of the textbook authors, Alexander Gottlieb Baumgarten (1714–62), taught in Frankfurt at the Oder. He published his famous *Metaphysica* in 1739. The work went through seven editions until 1779 and was translated into German in 1766. Baumgarten's *Metaphysica* remained Kant's favorite course material even after the critical turn; Kant used it in his own classes well into the 1790s.

Wolffians reigned so triumphantly because they filled a need that the previous philosophical establishment, Aristotelian scholasticism, had failed to satisfy. The most momentous event at the turn of the century had been Newton's *Principia* (1687). Its third edition (1726) supplanted Cartesian kinematics and Leibnizian

dynamics as the new scientific paradigm on the continent. The traditional scholasticism taught in universities at that time was incompatible with the new physics, and two competing pictures of reality resulted. The more influence the Newtonian conception of nature gained, the more precarious the position of mainstream philosophy became. In the early decades of the eighteenth century, academic philosophy was in a crisis. Wolff was uniquely qualified to overcome it. He was equally well-informed about scholasticism and current scientific research. His vaguely Leibnizian ontology, with its sensible and intelligible levels of reality, permitted the union of the two competing pictures of reality into one system.

The Pietist philosophers, on the other hand, failed to come to terms with the scientific innovations of the age. Franz Budde rejected in his *Elementa philosophiae theoreticae* (1703) Copernicus's model of the solar system because Tycho Brahe's conception of the sun and the planets harmonizes better with the words of the Scripture (IV 1). Andreas Rüdiger distinguished in his *On the Sense of Truth and Falsehood* (1722, *De sensu veri et falsi*) between mathematics as the science of the possible and philosophy as the science of the real and viewed their respective objects as being categorically distinct. The concepts of the former, in other words, are not applicable to the objects of the latter (II 4: 3). Rüdiger's ontological bifurcation expressed a Pietist consensus and ruled out quantitative approaches to nature such as NEWTON's (chapter 26). Christian August Crusius, the most mature as well as the most open-minded of the Pietists, remained hamstrung by this demarcation between mathematics and reality. Although he conceded in his *Instructions of Thinking Orderly and Carefully about Natural Affairs* (1749, *Anleitung über natürliche Begebenheiten ordentlich und vorsichtig nachzudenken*) that mathematics can supplement metaphysics to some degree (p. 454), he repeated the Pietist tenet that mathematical concepts are fundamentally distinct from real things. For Crusius, physics ought to capture the qualitative essences of entities; to quantify the structure of the phenomena would be misguided (p. 508). So he accepted Newtonian quantitative physics only as an abstraction and not as an accurate representation of nature (p. 536) – and progress passed him by.

Christian August Crusius (1715–75) was born near Merseburg, Saxony, into a family of clerics. He studied at Leipzig where he accepted a teaching post in 1744. In less than a decade, he published all of his major philosophical works: an ethics called the *Directions to a Sensible Life* (1744, *Anweisung vernünftig zu leben*), a scholastic manual on metaphysics, the *Outline of Necessary Truths of Reason* (1745, *Entwurf notwendiger Vernunftwahrheiten*), a logic with the title *Path to Certainty and Reliability in Human Cognition* (1747, *Weg zur Gewißheit und Zuverlässigkeit der menschlichen Erkenntnis*) as well as a tract on physics, the *Instructions* mentioned above. His *Use and Limits of the Principle of Determining Reason* (1743, *Dissertatio de usu at limitibus principii rationis determinantis*), contains a new ontological conception causality which influenced Kant's own early efforts in this direction, the *New Elucidation of the First Principles of Metaphysical Cognition* (1755). In 1750, Crusius was appointed to the chair of theology in Leipzig and henceforth concentrated his efforts on this area, founding an influential school of Bible interpretation. In his ethics, he rejected Wolff's intellectualistic theory of action (according to which doing the good

depends only on knowing it) by arguing for the existence of two basic powers of the soul, understanding (the power of representation) and will (the power to act). Crusius quite correctly assumed that the will is not subservient to the understanding – an assumption that would later provoke Kant to criticize him. In his logic, Crusius rejected the geometric method in philosophy advocated by Wolff and argued for three basic principles of being and knowledge: To the standard principle of contradiction, he added two more, the principles of inseparability ("whatever two things cannot be thought apart from one another cannot be apart from one another") and unconjoinability ("whatever two things cannot be thought together cannot be together"). His metaphysics is similarly comprehensive as Wolff's *German Metaphysics*, but as was to be expected, God was far more central to Crusius's system than to Wolff's. The metaphysical exuberance of the age had infected Crusius as well; next to a chapter on God's existence, the book contains a nearly two hundred pages long study of God's character.

Crusius was quickly recognized as Wolff's most effective critic in the 1750s and '60s. Whereas Lange had turned out one direct attack on Wolff after the other, Crusius did not write critiques but supplied a different philosophical option instead. Crusius's system constituted the primary metaphysical alternative to Wolffianism in eighteenth-century German thought. By mid-century, Crusius had become the leading German philosopher. But perhaps his influence was due to a lack of competition. After Wolff's success in the *Pietismusstreit*, Wolffianism reigned unchallenged in the 1730s and '40s. One textbook appeared after the other, but none of them was innovative. The deluge of self-congratulatory Wolffianist tomes that merely regurgitated the contents of the *German Metaphysics* revealed that the new mainstream had become stagnant – as quickly as the school of philosophy had emerged, as quickly had it become fossilized.

Only two of the mainstream philosophers qualify as exceptions to the rule of stagnation: Baumgarten and MENDELSSOHN (chapter 40). Alexander Gottlieb Baumgarten was born in Berlin in 1714 and studied under Wolff in Halle. He became professor in Halle in 1738. Two years later he moved to Frankfurt at the Oder and taught there until his death in 1762. He acquired fame not only as the author of *Metaphysica* (1739) and *Ethica philosophica* (1740), but also and in particular through the publication of his *Aesthetica* (1750). With the *Aesthetica*, Baumgarten single-handedly laid the foundation of a new discipline. Already in the *Meditationes philosophicae* (1735) he had stated the need for a new science of aesthetics, for philosophy had until now neglected to investigate the region of the sensate. He was the first professor of philosophy to lecture on aesthetics, and his lecture notes became the basis of his main work. "Aesthetics," for Baumgarten, designates the realm of the outer sense. Much more than the other Wolffians, he emphasized Leibnizian rationalism, which he adapted to bridge the gap between philosophy and art. The goal of philosophy is to produce a rational and coherent system of knowledge. Sense apprehensions, however, are intrinsically messy, giving rise to imprecise representations. This tension characterized Baumgarten's struggle to construct a science of the sensate (for the more scientific this science becomes, the more it risks losing sight of its subject-matter), a struggle that he tried to resolve partly by

relegating aesthetics to a lower cognitive faculty and partly by suggesting that there may be two different kinds of knowledge instead of just one.

Moses Mendelssohn was born in Dessau in 1729 and died in Berlin in 1786. He was the leading Jewish philosopher of the German Enlightenment whose German publications were directed to a Jewish and non-Jewish audience alike. A friend and mentor of Kant, he hoped to improve the relations of Jews and Christians and fought for the end of the intellectual isolation of the Jews in Germany. He was a school philosopher who combined elements of Leibniz's thought and Wolff's system with Judaism. Known as the "German Socrates," he became known through his *Treatise on the Evidence in Metaphysical Knowledge* (1764, *Abhandlung über die Evidenz in metaphysischen Wissenschaften*) that took the prize in a competition sponsored by the Berlin Academy in 1763 about the question of the demonstrability of metaphysical knowledge. Through this work, which defended an optimistic and affirmative answer to the prize question, he emerged as a late protagonist of the Wolffian establishment. The *Treatise on Evidence* was published together with the runner-up in the competition, which happened to be the so-called "Prize Essay" by the young Kant. (Kant suggested a considerably more guarded assessment of the demonstrability of metaphysical knowledge in his contribution, the *Inquiry concerning the Distinctness of the Principles of Natural Theology*.)

Gotthold Ephraim Lessing (1729–81) immortalized Mendelssohn in his play *Nathan the Wise* (1779). Lessing, a playwright, poet, literary critic, and religious thinker, contributed to the fledging discipline of philosophical aesthetics (primarily with his dramas, such as *Laocoon* in 1766), and was influenced by the Leibnizian–Wolffian paradigm through Mendelssohn's mediation. Lessing sympathized with Spinoza's pantheism. Throughout the period of German philosophy after Leibniz, Spinoza had remained a notorious figure; to declare one's admiration for Spinoza was an effective way of killing one's career. Before Lessing died, he had discussed Spinozism with F. H. Jacobi, whose subsequent publication of the *Letters on the Teachings of Spinoza* (1785) triggered the pantheism controversy in Germany. The effect of this controversy was the eventual rehabilitation of Spinoza at the end of the eighteenth century. That such a rehabilitation was possible signalled how far freedom of thought, intellectual tolerance, and philosophical sophistication had progressed. Now it had finally become possible to discuss openly whatever issue one wished. The age of philosophy after Leibniz, which had started with witch hunts and a quasi-medieval scholasticism, ended with the completion of the Enlightenment and the onset of modernity.

Writings

Baumgarten, Alexander Gottlieb, 1983, *Texte zur Grundlegung der Ästhetik*, trans. H. R. Schweizer. Hamburg: Meiner.

Crusius, Christian August, 1964ff, *Die Philosophischen Hauptwerke*, ed. G. Tonelli, S. Carboncini, and R. Finster. Hildesheim: Olms.

Kant, Immanuel, 1910ff, *Gesammelte Schriften* (Academy Edition), ed. Akademie der Wissenschaften. Berlin: Reimer, later deGruyter.

Lessing, Gotthold Ephraim, 1886–1924, *Sämtliche Schriften*, ed. F. Muncker. Berlin/Leipzig: Goshen, later deGruyter.
Mendelssohn, Moses, 1929–31, *Gesammelte Schriften*, ed. Akademie der Wissenschaften. Reprint by Stuttgart/Bad Cannstatt: Frommann-Holzboog; 1971ff.
Thomasius, Christian, 1993ff, *Gesammelte Werke*, ed. W. Schneiders. Hildesheim: Olms.
Wolff, Christian, 1968ff, *Gesammelte Werke*, ed. J. Ecole et al. Hildesheim: Olms.
—— 1985, *Oratio de Sinarum philosophia practica*, ed. M. Albrecht. Hamburg: Meiner.

References and Further Reading

Arkush, A., 1994, *Moses Mendelssohn and the Enlightenment*. Albany: State University of New York Press.
Beck, L. W., 1969, *Early German Philosophy. Kant and His Predecessors*. Cambridge, MA: Harvard.
Brüggemann, F. (ed.), 1972, *Aus der Frühzeit der deutschen Aufklärung. Christian Thomasius und Christian Weise*. Darmstadt: Wissenschaftliche Buchgesellschaft.
Cassirer, E., 1951, *The Philosophy of the Enlightenment*, trans. F. C. A. Koelln and J. P. Pettegrove. Princeton: Princeton University Press.
École, J., 1972, *La métaphysique de Christian Wolff*. Hildesheim: Olms.
Schneiders, W. (ed.), 1989, *Christian Thomasius 1655–1728. Interpretationen zu Werk und Wirkung*. Hamburg: Meiner.
Schönfeld, M., 1998, "Dogmatic Metaphysics and Tschirnhaus's Methodology," *Journal of the History of Philosophy* 36: 57–75.
—— 2000, *The Philosophy of the Young Kant*. Oxford: Oxford University Press.
Schröder, P., 1999, *Christian Thomasius. Zur Einführung*. Hamburg: Junius.
Wundt, W., 1945, *Die deutsche Schulphilosophie im Zeitalter der Aufklärung*. Tübingen: Mohr.

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Giambattista Vico

DONALD PHILLIP VERENE

Giambattista Vico (1668–1744) was born and lived throughout his life in Naples. At age thirty-one he became professor of Latin eloquence (rhetoric) at the University of Naples, a position he held until two years before his death. In 1734 he served as head of the University delegation to congratulate Charles of Bourbon on his conquest of the Kingdom of Naples. The following year, Vico was appointed Royal Historiographer. From the age of eighteen to twenty-seven, Vico served as tutor to the sons of the Rocca family at their castle at Vatolla in the mountainous region of the Cilento, making occasional visits to Naples. Unlike other thinkers of the period who moved about the centers of Northern Europe, where their influence was felt, Vico's presence was local and during his lifetime his works were known by only a few outside Italy.

Because of its themes of the nation and the historical development of peoples, Vico's major work, the *New Science* (*La scienza nuova*), became the book of the Risorgimento in the hands of Italian patriots such as the historian and nationalist Vincenzo Cuoco and the poet and literary figure Ugo Foscolo, who carried Vico's ideas beyond Italy. Herder was influenced by Vico, and when Goethe visited Naples in 1787 he was presented with a copy of the *New Science*, which he records in his journal of his Italian travels, and on his return to Germany he lent the book to Jacobi. From Jacobi's comment on Vico in his *On Divine Things and their Revelation* (1811), Coleridge took a quotation which became part of his *Theory of Life* (1848).

In France in 1824, Jules Michelet discovered Vico, which resulted three years later in an abridged translation of the *New Science*. In 1828 at the Sorbonne, before audiences of two thousand, Victor Cousin delivered a series of lectures on the history of philosophy, the eleventh of which concerned Boussuet, Vico, and Herder. Marx corresponded with Engels about Vico and included an important footnote in the thirteenth chapter of *Das Capital* regarding Vico's view that history is made by man and suggesting that this principle could be the key to formulating a history of technology.

The two figures who most fully introduce Vico to the twentieth century are Benedetto Croce and James Joyce. Along with the Vico scholar Fausto Nicolini, Croce was responsible for the first modern edition of Vico's works. Croce wished to find in Vico, and thus within the history of Italian philosophy, a basis for his own

idealism. Croce's view that Vico is the Italian Hegel should not, however, deter the contemporary reader from an appreciation of his excellent interpretative studies of Vico's thought.

There are Vichian elements in Joyce's *Ulysses* and it is possible that the whole work is influenced by Vico's thesis of the "discovery of the true Homer," which is the subject of Book Three of the *New Science*, but Vico is most of all the figure behind *Finnegans Wake* (1939). As the *Odyssey* is the work upon which Joyce pins *Ulysses*, Vico's *La scienza nuova* is the grid Joyce employed for the structure of *Finnegans Wake*. Joyce said this to many people, telling his benefactor Harriet Weaver to read Vico's work to understand what he was writing, then with the title *Work in Progress*. Of Vico, he said to Padraic Colum, "I use his cycles as a trellis." To the Danish writer Tom Kristensen, Joyce said, "My imagination grows when I read Vico as it doesn't when I read Freud or Jung."

Joyce's four ages are a variation on Vico's three ages of gods, heroes, and humans; he adds a fourth in which providence brings the cycle to its end. Joyce uses various terms for his four ages, such as "thunderburst, ravishment, dissolution, and providentiality" (p. 362). He speaks of "Our wholemole mill-wheeling vicociclometer" (p. 614) as the machine which turns history. The School-day section of the second part of *Finnegans Wake* is full of plays on Vico's terminology. Vico appears in his Latin name on the first page of the *Wake* in the phrase, "a commodius vicus of recirculation" (*vicus* being a road with houses on either side, the "Vico road"). Vico appears in person as "the producer (Mr John Baptister Vickar)" (p. 255).

The current renaissance in Vico studies stems from such works as Isaiah Berlin's *Vico and Herder* (1976) and has grown within the past two decades to the point where there is scarcely a work in the humanities that does not take some notice of Vico and his views of myth, language, history, or society. Vico's *New Science* has appeared as almost a contemporary work; its ideas have been claimed by advocates of such movements as hermeneutics, semiotics, structuralism, phenomenology, post-modernism, and cultural studies.

The details of Vico's life are recorded in his autobiography, written in 1725–8 and continued in 1731. In the history of autobiographical writing Vico's work is unique in that it is the first work by an original thinker to apply the genetic method to his own life. Augustine's *Confessions* are certainly a precursor to Vico's account of his intellectual development. Augustine narrates the intellectual and life events leading up to his conversion to Christianity, and we see how he became a philosopher and Christian writer. But Vico deliberately approaches his own intellectual development genetically, as a series of stages, one leading to the next, in which he says he gave the causes of his thought both natural and moral and the occasions of fortune that affected it. He says he is relating his life as a historian and he speaks of himself throughout in the third person, as though he were his biographer. In accord with his general doctrine of history as having a providential order, Vico sees the events of his life and thought as directed by providence.

If Augustine's *Confessions* is a precursor for Vico's autobiography, Descartes' *Discourse* is its opposite. Vico says he regards his own attempt at relating the genesis of his discoveries as genuine in contrast to Descartes' work; the *Discourse*, Vico says,

feigns such an account. DESCARTES (chapter 5) would have the reader believe he discovered his method of right reasoning while meditating on it for a day in the famous stove-heated room (*poêle*) in Germany. Descartes portrays himself as a true rationalist, coming to conclusions by a process of pure reasoning. Vico portrays himself as the true humanist developing his thought in the experience of a real life affected by both orderly and accidental events, reflected in his memory as displaying a definite pattern of significance. To understand events in this way we cannot eliminate rhetorical and poetic modes of formation and replace them with logic, as Descartes advocates. Autobiographical truth is not as such open to logic. In this way Vico opposes the rationalistic conception of knowledge of Cartesianism as in the *New Science* he opposes the naturalistic conception of the basis of human society in a social covenant or contract of the seventeenth-century natural-law theorists HOBBES (chapter 22), GROTIUS (chapter 15), PUFENDORF (chapter 15), and Selden.

The decisive event of Vico's childhood was his fall head-first from a ladder at age seven, his description of which begins his autobiography. He fractured his skull and was not expected to live, or should he survive, it was predicted by the surgeon, he would be mentally slow (stolid). Instead, Vico says, as a result of this accident he grew up with the melancholy and acrid temperament typical of men of ingenuity and depth. Vico's account echoes a view that goes back to Aristotle, that great thinkers are melancholic. Vico regards his fall as providential, as it created in him his philosophical temperament. He considered himself an autodidact, attending grammar school sporadically, studying at home and engaging in a reading program of his own devising, and later, during his nine years as tutor at Vatolla, reading his way through a good library in a nearby convent.

The decisive event of Vico's mature years was his loss of the concourse to advance to a chair of civil law (1723). The professorship of rhetoric he held was underpaid and without special prestige; its duties were to prepare young students for admission to the law. In anticipation of future promotion he published in Latin a three-part work on *Universal Law* (*Il diritto universale*) (1720–2) that is larger than his later *New Science*. His defeat for the chair resulted from internal university politics. As a result of this defeat Vico felt free both to address the problem of a new science of the world of nations and to write in Italian instead of academic Latin.

In December 1725 Vico published what was to be the first version of his *New Science*, his major work. It might be said of this work what HUME (chapter 32) says of the publication of the *Treatise*, that "it fell *dead-born from the press*." The first *New Science* attracted little attention and some ridicule, including a false notice of it sent to and published in the Leipzig *Acta Eruditorum* which misdescribed its contents and claimed that its author was a certain "abbé" of the Vico family, an attempt to discredit Vico's work to scholars of Northern Europe from whom Vico throughout his life wished approval. The false book notice was most probably the work of Vico's colleague and *gran tormentatore* Nicola Capasso, who in collaboration with others at the University sent it to the *Acta*. Capasso, a man without real talent, gave Vico the cruel nickname of "mastro Tisicuzzo" (*tisico* means "tubercular"), an antique slur but one that apparently captured Vico's skin-and-bones appearance.

In 1730 Vico wrote an expanded version of his major work, *Principles of New Science of Giambattista Vico concerning the Common Nature of Nations* (*Principi di*

scienza nuova di Giambattista Vico d'intorno alla comune natura delle nazioni). He was seeing a revision of it through the press at the time of his death. This last version he regarded as definitive; it is this "second" version that is commonly meant when referring to Vico's *New Science*. Having produced this, which contained all of his discoveries about the nature of history, mythology, language, law, and society, Vico felt himself exhausted. He had discovered the very principles of the human world itself in the way that GALILEO (chapter 4) and the founders of modern science had discovered the principles of the natural world. Despite its limited reception, Vico was sure of the importance of his work. He concluded the continuation of his autobiography by saying that the shameless, caitiff, semi-learned and pseudo-learned called him a fool and the more courteous called him obscure and eccentric and said he had "odd" ideas. Although he taught only young students he said he always taught as though great men had come to hear him and he endeavored to achieve the humanist ideal, to be "wisdom speaking" (*la sapienza che parla*). He saw all these adversities as so many occasions to withdraw to his desk as to a citadel and to meditate his discoveries. When he had finished his *New Science*, he says, he felt himself more fortunate than Socrates, but he says had he been able to win Socrates' fame he would not have shunned his fate. Thus Vico suggests that as Socrates was the gadfly of the ancient *polis* he is the thinker of the new polis, Neapolis or Naples.

Vico's philosophy develops through three main phases. It begins in a doctrine of pedagogy based in his conception of a "new method of studies." His attack on the Cartesian conception of human knowledge implicit in this conception of education leads Vico to formulate a direct criticism of Descartes' metaphysics that underlies this conception of knowledge. From this Vico turns to his work on universal law, in which he projects a new approach to human institutions. Finally, Vico sets down the full version of his discoveries as his new science of the nations which he bases on a "new critical art." This new critical art produces a metaphysics of history in which the particulars of the lives of nations are brought together with the universal pattern or cycles of history that all nations hold in common and to which they are all subject.

Among the duties of Vico's position as professor of rhetoric was to present an opening oration for each academic year. He delivered six of these inaugural orations between 1699 and 1707. Vico's seventh oration, delivered in 1708 was enlarged into a small book and published in 1709 as *On the Study Methods of Our Time* (*De nostri temporis studiorum ratione*). He gave an eighth oration in 1732 "On the Heroic Mind" (*De mente heroica*) a prolongation of the themes of this book. In 1727, at the fourth annual inauguration of the Academy of Oziosi in Naples Vico delivered an address on the Academies and the relation between philosophy and eloquence. These orations comprise Vico's conception of pedagogy and show his life-long interest in it.

The first inaugural oration, on the theme of self-knowledge, is closely associated with Socratic philosophy. Vico reminds us of Cicero's statement that Socrates brought philosophy down from the heavens, meaning that he moved philosophy from its focus on nature with the Presocratics to its focus on the nature of the human. "Know thyself" is the famous inscription on the Temple of Apollo at Delphi attributed to various of the Seven Sages. Vico interprets this, through Cicero, as a

precept to urge the individual to cultivate the spirit and mind. He regards self-knowledge as a divine urge placed in the human to realize itself by following the natural desire to know. Vico's theme is that self-knowledge is the greatest incentive to acquire the universe of learning in the shortest possible time. He urges young students to engage in all the fields of learning as a totality and thus to realize their own human nature by acquiring wisdom, which Vico understands to be a grasp of the whole of things.

In the second oration Vico connects virtue to wisdom. In the third he discusses true learning, and in the fourth, education for the common good. The fifth concerns the relation of liberal arts to political power. The sixth concerns the proper order of studies. In it Vico raises the question of how the individual can best enter the world of learning with the aim of achieving a grasp of the Renaissance humanist ideal, going back to Cicero, of the interconnection of wisdom, eloquence, and prudence – of thought, speech, and action. This becomes the subject worked out in the book-length seventh oration, *The Study Methods of Our Time*. Vico is arguing against the Cartesian and Port-Royalist conception of education that cultivates the *ars critica* in place of the *ars topica*.

Criticism presupposes a mind adept at the art of topics. If this is not so then critical thought, upon which the sciences and metaphysics are based, will become sterile and unable to discover the necessary starting points from which to form hypotheses. Young minds are to be educated first in poetic, rhetoric, and the arts of memory and metaphor. These stimulate the imagination and cause us to see similarities between things. The art of topics is the ability to use our memory, imagination, and ingenuity (*ingenium*) to bring forth *topoi* or commonplaces in the mind that give us starting points from which to think. Vico includes Euclidian geometry as suitable for the education of the young because it employs images and is constructive. But he regards analytic geometry as a subject for mature minds because of its critical and abstract nature. This, along with metaphysics, theology, natural sciences, and jurisprudence, are subjects to be introduced to mature minds, after they have been educated in youth to forms of topical thought.

In *On the Most Ancient Wisdom of the Italians Unearthed from the Origins of the Latin Language* (*De antiquissima Italorum sapientia ex linguae latinae originibus eruenda*) (1710), Vico attacks Descartes' metaphysics and the conception of truth that underlies it. Vico planned that this work on metaphysics would be followed by a second part on physics and by a third on ethics. It would be a system to oppose Descartes' tree of knowledge, which has metaphysics as the root and physics as the trunk and medicine, mechanics, and morals as the principal branches. Vico did not write the third part; instead he turned to his work on law. Regarding the second part, he did produce a small work of natural science, *On the Equilibrium of Living Bodies* (*De aequilibrio corporis animantis*) (1711), which is lost. His thesis in the *Ancient Wisdom* is that the etymologies of Latin reveal many learned phrases that the early Romans, being primarily farmers and warriors, could not have invented, and that these phrases presume a wisdom developed among the early Ionian philosophers and cosmologists and the Etruscans, who excelled in sacred rites and divinity. In these phrases there is a metaphysics that goes back to the very origins of culture and which enters into Latin. Vico thus derives the principles of this metaphysics from

the most primordial powers of the mind and sets this against Descartes' metaphysics, which he purports to derive directly from the powers of cognition through a method of rational doubt.

The first chapter of Vico's *Ancient Wisdom* uncovers the principle that for the Latins the true (*verum*) and the made (*factum*) are convertible (*verum et factum convertuntur*). The true is precisely what is made (*verum esse ipsum factum*). Mathematics is true not because its truths are discovered but because we make them. The divine making of nature embodies this principle of the conversion of true and made. God knows by making and makes by knowing. When we make truths directly from the human mind (the divine element in the human), as in mathematics and metaphysics, we imitate the divine making. The convertibility of the true and the made gives us *scientia*, science in its proper sense. The knowledge we produce in natural science is not arrived at by this principle of convertibility because the knower does not make the objects of nature that are known. Thus natural science gives us only *conscientia*, a term which has the sense of consciousness as well as conscience. Natural scientific investigation is a form of "witnessing consciousness." Natural science is a conscious and precise witness of events but not their maker.

Experimentation, Vico says, plays such an important role in natural science because in it we simulate the making of the event in order to witness its truth or cause. Later, in the *New Science*, Vico applies the principle of the convertibility of the true and the made to history such that man makes history. The human world is made from human nature and thus there can be a proper science of the human. Vico argues that Descartes' procedure of supposition and rational doubt yields only intellectual certainty and cannot produce a knowledge of causes. Descartes' principle of "I think, therefore I am" provides us with a certainty but it cannot offer us a knowledge of how the self causes its own world to come into being through its powers of thought.

Vico's work on *Universal Law* comprises two books, *On the One Principle and the One End of Universal Law* (*De uno universi iuris principio et fine uno*) (1720) and *On the Consistency of the Jurisprudent* (*De constantia iurisprudentis*) (1721). The books were followed by a set of elaborate notes. Vico, having gotten beyond the Cartesian rationalist conception of knowledge and metaphysics, attempts in his *Universal Law* to go beyond the rationalistic understanding of society in the natural-law theory of Hobbes, Grotius, Pufendorf, and Selden. Seventeenth-century natural law theory sees society as based on a conception of natural law that is supposed to transcend history, but this sense of natural or universal law is in fact only the "natural law of the philosophers."

This sense of law was built upon the distinctions made by later Roman jurists between *ius civile* (civil law), *ius naturale* (natural law), and *ius gentium* (law of nations). Against the abstract "natural law of the philosophers" Vico formulates the phrase, the "natural law of the peoples" (*ius naturale gentium*), and this he carries over into his *New Science*. The one law is natural, as it grows out of the development of society; it is civil, because it is for each society its law; and it is *ius gentium* in the sense that it grows from the vulgar wisdom of the peoples; and it is universal in the sense that what it is at any stage in one society's development corresponds in essence to the same stage of any other society's development.

The *ius gentium* was that part of Roman law that corresponded to the crucial parts of the laws of other peoples and was thus concrete as well as universal. *Ius gentium* stands opposed both to natural law as a product of theoretical thought and to civil law as wholly particular to a given society as a product of authority. Vico's "natural law of the peoples" is the sense of jurisprudence that develops in phases as any society develops, those elements or patterns of law that every nation shares with every other nation at their corresponding stages of historical development. This appears in Vico's *First New Science* as the idea of "jurisprudence of the human race" and is carried on into the *Second New Science* as the principle of the common nature of nations.

In the first book of the *Universal Law*, Vico formulates the principle that the certain is part of the true (*certum est pars veri*). The law is a bond between what is certain (what is made by an act of human will, authority) and what is true (what is justified on the basis of a direct expression of human reason). A law is the making of a particular version of the law, or right itself. This suggests to Vico the possibility of a general form of thought that joins philosophy, which aims at the universal, with philosophy, which studies the "certains" of the human world, the customs, deeds, and languages of particular societies that are the products of choice and authority. In the second book of the *Universal Law*, Vico offers a brief sketch of a science that would bring these two elements of thought and investigation together, "A New Science is Essayed" (*Nova scientia tentatur*). This is Vico's first statement of his new science, which, as mentioned above, he decided to pursue after he lost the concourse for the chair of civil law at the University of Naples.

Vico bases his *New Science* (1725, 1730, 1744) on "a new critical art" (*una nuova arte critica*) which he says is also a metaphysics. In this new critical art, philosophy must undertake to examine philology. Philology can offer us only the details of history and of particular notions in history. Philosophy can offer us only the products of reason as the pursuit of universal ideas. The new critical art requires philosophy to apply its power to discern the universal in the order of events in history, to see the metaphysical structure of history. Philosophy thus strives to articulate the workings of providence in history. When this is done, we see that all nations are born, rise, and fall in history. All nations live out a life and none survive history except as they are "recoursed" in the life of other nations.

Thus history is *corso e ricorso*, as mentioned above. Each nation develops through three ages, the age of gods, in which all of experience is formed in terms of gods; the age of heroes, in which the virtues and ideas necessary to the ordering of society are embodied in heroes and their deeds; and the age of humans, in which all aspects of life become rationally ordered and all law becomes written law, applied to each situation. This engenders a "barbarism of reflection" or "barbarism of the intellect" in which society's cultural memory is wakened and it is cut off from the power of the imagination that formed its origin. This lack of connection with its origin finally brings about its end in a collapse and fall in which there is a return to a near bestial state. Each nation in the world of nations develops at its own rate, but all develop according to this pattern of three ages.

The new critical art combines the two principles, that the true is the made and that the certain is part of true. We can have a science of the human world because we have made it, and this science involves seeing the connections that exist be-

tween the philological "certains" that are the result of will and authority and the philosophical truths of the providential order of history.

Vico distinguishes between the history of the ancient Hebrews and the history of the gentile peoples. Only the gentile nations undergo *corso* and *ricorso*. The divine is present indirectly as providence that governs these cycles. The ancient Hebrews have a direct relation to God and experience God's direct intervention and power. The gentile nations are descended from the sons of Noah. Vico says the world took two centuries to dry out after the universal flood. During this period the world was covered with forests, and the humans grew to the size of giants. When the atmosphere was sufficiently dry lightning and thunder occurred, a new experience for the giants, who roamed the forests as protohumans. With the appearance of thunder they experienced fear. They formed thunder as Jove, and Vico says every nation has its Jove, known by a different name.

Jove is the first name, and once in possession of this power of the name the humans formed all of the world as a pantheon of gods. Their fear caused them to flee into caves and form "marriages" out of the sight of Jove; thus to create families Jove was identified with the sky. The fathers of families began to clear areas of the forest in which to erect altars for taking the auspices of Jove. Also they began to practice burial, which established lineage and claim to particular land. Vico says the three principles of humanity are religion, marriage, and burial. They are the most rudimentary marks of a human society and the principles from which all other human institutions arise.

The first humans were poets, Vico says, and organized the world through the powers of their imagination (*fantasia*). Jove is an "imaginative universal" or "poetic character," not an abstract concept. Through imaginative universals was created an original poetic wisdom (*sapienza poetica*), which precedes and grounds rational thought. This poetic wisdom extends through the age of heroes, in which the peoples, unable to form the various virtues that govern human conduct as concepts, instead form them as heroes. They formed courage as the imaginative universal of Achilles and cleverness as Ulysses. Vico says that the first science to be learned should be the science of mythology or the study of fables. In this sense Vico is the founder of the modern philosophy of mythology.

In the age of humans, imagination remains but does not govern the essential actuality of society. Instead society and thought turn to "intelligible universals" or "abstract universals." Memories of the gods and heroes fade, theory and reason pervade all life. Vico sees the cycle as: first men feel necessity, then look to utility, then seek comfort, then pleasure. From this they grow dissolute in luxury and finally go mad and waste their substance.

The Vichian reading of Western history sees Homer as the culmination of the original poetic wisdom of the ancient world. The third book of the *New Science* concerns "the discovery of the true Homer," where Vico sees Homer as the embodiment of the Greek people themselves. Homer brings together the previous ages of gods and heroes. After Homer the philosophers arrive, and with philosophy the quest for intelligibility in all areas of life. The *corso* comes to an end with the fall of the ancient world. The *ricorso* of Western history begins with the Middle Ages, in which there is a return to religion. This *ricorso* is built upon the memory of the first

corso and it leads to the heroic age of the high Middle Ages. This is followed by the Renaissance in which the philosophy of the ancient world is remembered and revived. This ushers in the third age, of reflective understanding. The emphasis on the intellect becomes a form of "barbarism." Vico and we ourselves live in the centuries in which the "barbarism of reflection" reigns, the last stage of the *ricorso*, when we have lost touch with the origin of humanity, in which written law replaces the vitality of custom and the intellect is separated from *fantasia*.

Vico is generally considered the founder of the philosophy of history; as mentioned above, he is also the founder of the modern philosophy of mythology. The originality of the *New Science* rests on a number of points, but central to them all is Vico's claim that imagination or *fantasia* is the primordial faculty out of which all society and thought develops. In this he challenges the Platonic quarrel with the poets by making poetry or myth an original form of thought that the reason of the philosophers requires. Vico revises Aristotle's claim that poetry is more philosophical than history because it treats universals while history treats only particulars by making the myths the first histories of a naturally poetic humanity.

Vico's *New Science* shows that any understanding of history, society, knowledge, or language must be founded on a study of mythology in which they originate, for, as Vico claims in his science: doctrines take their beginning from the matters of which they treat. This approach of making the truth of the whole of the human world through a philosophical narration of its origins and causes as they arise from its origins is the hallmark of Vico's work.

Writings

The Autobiography of Giambattista Vico, trans. Max Harold Fisch and Thomas Goddard Bergin. Ithaca: Cornell University Press, 1990; 1944.

The New Science of Giambattista Vico, rev. trans. Thomas Goddard Bergin and Max Harold Fisch. Ithaca: Cornell University Press, 1984; 1948.

Giambattista Vico. *Opere*. 2 vols., ed. Andrea Battistini. Milan: Mondadori, 1990.

Giambattista Vico. *On the Study Methods of Our Time*, trans. Elio Gianturco. With a translation of Giambattista Vico, "The Academies and the Relation between Philosophy and Eloquence," by Donald Phillip Verene. Ithaca: Cornell University Press, 1990; 1965.

Giambattista Vico. *On Humanistic Education: Six Inaugural Orations, 1699–1707*, trans. Giorgio A. Pinton and Arthur W. Shippee. Ithaca: Cornell University Press, 1993.

Further Reading

Berlin, Isaiah, 1976, *Vico and Herder: Two Studies in the History of Ideas*. New York: Viking.

Goetsch, James Robert, Jr., 1995, *Vico's Axioms: The Geometry of the Human World*. New Haven: Yale University Press.

Mali, Joseph, 1992, *The Rehabilitation of Myth: Vico's New Science*. Cambridge: Cambridge University Press.

Mazzotta, Giuseppe, 1999, *The New Map of the World: The Poetic Philosophy of Giambattista Vico*. Princeton: Princeton University Press.

Mooney, Michael, 1984, *Vico in the Tradition of Rhetoric*. Princeton: Princeton University Press.

Pompa, Leon, 1975/1990, *Vico: A Study of the "New Science."* Cambridge: Cambridge University Press.

Schaeffer, John D., 1990, *Sensus communis: Vico, Rhetoric, and the Limits of Relativism*. Durham: Duke University Press.

Verene, Donald Phillip, 1981/1991, *Vico's Science of Imagination*. Ithaca: Cornell University Press.

——1991, *The New Art of Autobiography: An Essay on the "Life of Giambattista Vico Written by Himself."* Oxford: Clarendon.

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Aesthetics before Kant

TED KINNAMAN

Like the rest of early modern philosophy, seventeenth- and eighteenth-century philosophies of art and beauty can be seen as a series of responses to the epistemological and metaphysical doctrines of DESCARTES (chapter 5). Although Descartes did not formulate an aesthetic theory, his view of the relation between reason and sensation, and the problems that accompanied this view, shaped the development of aesthetics in this period by setting the poles between which later theories were to move. Descartes' philosophical enterprise begins in the *Meditations* with a rigorous questioning of the adequacy of sensing as a foundation for knowledge. The senses are unreliable because it is possible to have the very same sensations in a dream that one has when awake, and because materially false ideas represent non-things as things. Indeed, even when we are clearly and distinctly perceiving sensible objects, as in the ball of wax passage in the Second Meditation, we are doing so not through the senses but through the intellect. The intellect, on the other hand, as faculty for the clear and distinct perception of abstract truths, receives validation from the arguments in the Third and Fourth Meditations that God exists and is not a deceiver. Ultimately, for Descartes, our knowledge of the sensible world is expressed in laws of nature describing the motions of extended objects; the colors, sounds, smells, and tastes of these objects figure only as sources of information about the properties of the extended things around us. In so far as art and beauty concern objects of sensation, therefore, Descartes bequeathed to early modern thought an apparent choice between seeing beauty as objective, and thus governed by laws it is the principal task of philosophers of art to uncover, or as subjective because tied essentially to sensation, and thus standing in a problematic relation to disciplines that were seen as producing genuine knowledge. The former approach risks eliminating the distinction between aesthetic experience and other forms of knowledge, such as science or morality – risks, that is, destroying the autonomy of the aesthetic. The latter approach, on the other hand, threatens to relegate the aesthetic to a peripheral role in the pursuit of knowledge. The various philosophical approaches to aesthetics in the 150 years before Kant can be seen as embracing either one horn of this dilemma or another.

Neo-classical French Theory: Boileau and Batteux

The first significant efforts at philosophical thought on art and beauty in the early modern period were the French Neo-classical attempts to prescribe rules for poetry, by which was understood not just verse but literature generally. Neo-classicism might therefore be better categorized as literary theory than as philosophical aesthetics. Nevertheless, the writings of the Neo-classicists are of philosophical interest today because the views they express reflect views of the relationship between art on the one hand and science, morality, and nature on the other.

The chief proponents of Neo-classicism were Nicolas Boileau-Despréaux and Charles Batteux. Boileau was born in 1636 to the family of a prosperous Parisian legal official. Although he began a legal career of his own, he abandoned this profession to devote himself entirely to his writing, and the comfortable circumstances of his family enabled him to do this without losing his connection to finer Paris society. Boileau came under the patronage of several prominent nobles, and despite his bourgeois upbringing he considered the court his natural audience. This is important, because a number of works, including *L'Art Poétique*, were read aloud at salons and other social occasions.

Boileau's *L'Art Poétique (The Art of Poetry)*, which was first presented in 1672 and published in 1674, is itself a poem, and thus is both an example and the clearest expression of the Neo-classical doctrine. The poem begins with a warning about the difficulty of writing good poetry: The "brave author" will try but fail to scale the "heights of Parnassus" unless he has both genius (*génie*) and a "secret source of poetic effectiveness" (*la ciel l'influence secrète*; Chant I, ll. 1–6). Nevertheless, the task Boileau undertakes is to prescribe rules for both the creation and the evaluation of poetry. One means by which he achieves this task is through distinguishing the various genres of literature. The genres are arranged in a definite hierarchy of value, with tragedy and epic at the top and satire (of several of which Boileau himself was author) near the bottom, with comedy somewhere in the middle; moreover, each genre has its own rules, violation of which constitutes bad taste on the author's part. Thus Boileau tells us that epic ought to have a more elevated tone than tragedy, but that nevertheless the poet ought to "enliven" the material ("*Le poëte s'égaye en mille inventions*"; Chant III, l. 174) so as to entertain and instruct his audience, while the writer of comedies needs especially to observe the various types of human being, such as what it is to be "a wastrel, a miser, an honest man, a fool, a jealous man, an oddball" ("*un prodigue, un avare / Un honnête homme, un fat, un jaloux, un bizarre*"; Chant III, ll. 363–4).

Several features of the conception of literature in general expressed in *L'Art Poétique* are typical of Neo-classical doctrine. First, as the term "neo-classical" implies, Boileau regards the Greeks as having given us superlative examples of dramatic art – although he regards them not as models for their own sake, but rather as exceptionally successful attempts at what all drama tries to achieve. Boileau is thus steering a middle course in the "quarrel of the ancients and moderns" that so divided authors in the wake of the Renaissance. Furthermore, Boileau follows Aristotle (Chant III, ll. 45–6) in defending the dramatic unities of time (the action of a

drama ought to take place in one twenty-four hour span), place (*un lieu*, probably meaning that the action should be limited to one town), and action (greatest possible unity of plot).

Second, Boileau sees poetry as tied essentially to the imitation of nature. But of course the poet does not merely reproduce whatever she sees; what is important is not so much *le vrai* as *le vraisemblable*, that is, verisimilitude. Boileau mocks, for example, one Scudéri for being "too full of his subject," and thus including every last detail in his description of a palace, without selecting or generalizing (Chant I, l. 51). But how is the author to go about selecting the portion of reality that merits inclusion in his work? Boileau's answer is, using reason. The cause of an error like Scudéri's is that he has been carried away in a "senseless trance" (*une fougue insensée*; Chant I, l. 41), whereas the path to "good sense" (*au bon sens*; Chant I, l. 47) is treacherous and difficult, and cannot be approached however the poet wishes. Similarly, Boileau praises authors who seek to please their listeners "with reason alone, and not by violating reason" (*par la raison seule, et jamais ne la choque*; Chant III, l. 421).

Boileau's emphasis on reason in *L'Art Poétique* can be seen as an indication of the influence of the broader philosophical currents of his time. But one ought not simply to identify reason in Boileau's sense with reason as the term is used, for example, by Descartes. Boileau makes no effort to connect the reason that guides the successful poet with laws of nature or eternal truths in any sense that a scientist or philosopher would recognize. Instead, reason for him has a primarily ethical sense, as involving freely chosen constraints on the mere desire for pleasure. Reason distinguishes human beings from animals, aristocracy from peasants, and Frenchmen from the rest of Europe. Thus at various points Boileau warns his readers (and listeners) against violations of good taste that are better left to the Spanish or Italians, and authors of comedies that appeal by means other than reason are said to be suited for "amusing the Pont Neuf," that is, the rabble. This understanding of reason also helps to explain the seemingly moral force of Boileau's injunction that for the good author the rules of proper linguistic usage must be "always holy." Above all, reason for Boileau is connected with the explicitly ethical concept of decency (*les bienséances*), as evidenced in his discussions of the depiction of love in poetry, and with the morally edifying task of the poet. The poet himself must be virtuous, and the goal of his poetry ought to be both to please and to instruct his audience.

Another exponent of French Neo-classicism, Charles Batteux, was widely influential not only in France but also in Germany. Batteux's principle work was *Les Beaux-Arts réduits à un même principe (The Fine Arts Reduced to a Single Principle)*, published in 1746. As the name suggests, Batteux's work is more recognizably philosophical than Boileau's: Although Batteux does not diverge much from Boileau in his specific views on good artistic taste, his main achievement is to argue that for taste as for science general principles can be identified on the basis of which particular phenomena become explicable. Implicitly, demonstrating this parallel helps to ground the value of art in an age of reason.

The "*même principe*" to which Batteux reduces the fine arts is that art is imitation of *la belle nature*, which can be translated literally as "beautiful nature" or more loosely as "ideal nature." For Batteux as for Boileau art is imitation of nature, but

Batteux takes as his central problem what for Boileau was but a passing concern, namely the necessity that the artist choose from the many things in nature just those objects that are suitable for representation in works of art. Batteux's view is that those features of nature are suitable for artistic imitation that have some relationship or *rapport* with human life. Specifically, *la belle nature* is that part of nature that accords with our self-interest, our *amour-propre*. But although for Batteux the fine arts are distinguished from applied arts by having pleasure as their aim, he does not think that the artist simply represents things that make the viewer feel good, but rather that he must display nature in its perfection (hence the translation of "*belle*" with "ideal"). This requires that the work of art present elegance, symmetry and proportion. Part of the impulse for this idealization comes, in Batteux's view, from the need to relieve human boredom by rearranging nature in ways the human soul longs for but rarely sees.

Taste for Batteux is an achievement of both reason and *sentiment*, that is, sensation or feeling. Reason is required for both the creation and evaluation of art in the first place because in order to make intelligent selections from among the many natural phenomena, or to evaluate an artist's attempts to imitate these phenomena, it is necessary that one know nature and the ideals of which it is capable. Second, if art is necessarily connected to human self-love, then the artist and the art-lover need to know wherein our real self-interest lies and how these interests are to be connected to nature – and this is knowledge that requires reason rather than feeling. But what then is the role of feeling in artistic taste? Batteux's answer is that feeling is a sign of our natural attraction to the perfect and ideal. The pleasure we take in *la belle nature* is a sign, as LEIBNIZ (chapter 18) might put it, of the preestablished harmony between our desires and the good.

The German Enlightenment: Gottsched and Lessing

In Germany as in France the development of philosophical aesthetics was inevitably shaped by developments in the fields of epistemology, metaphysics, and moral theory. Here however the figure of the greatest direct influence was not Descartes but Leibniz. One of the central doctrines of Leibniz's philosophy was the view that all true propositions are analytic, and thus can be arrived at through analysis of the concepts of things. Furthermore, Leibniz derives from this theory of knowledge and the conception of God as an absolutely perfect being that the actual world must also be perfect – as he put it, the best of all possible worlds.

The philosophical views of Leibniz had a decisive influence on the first great German thinker on art literature, Johann Christoph Gottsched. Gottsched, born in 1700 in East Prussia, was a professor first of literature and later of metaphysics and logic. Gottsched was a thinker of limited originality, and his impact on German thought was largely negative, namely as the dogmatic authority against whom later writers defined their own views. His major contributions to German philosophy of art were to adapt the writings of the French Neo-classicists to a German context, and above all to define more specifically than any of the French had the relation between philosophy and art. His most important work was his *Versuch einer*

critischen Dichtkunst vor die Deutschen (Attempt at a Critical Theory of Literature for the Germans), published in 1730.

In many respects Gottsched's views are identical to those of the great French Neo-classicists. His major writings are sprinkled with references to Boileau, and late in his career Gottsched published a German translation of excerpts from Batteux's *Traité*. Gottsched shared the view that art is essentially imitation of nature; that the artist ought to choose natural features to represent that serve to instruct and improve the moral health of the audience; that the real criterion of successful imitation is not truth but verisimilitude – in German, *Wahrscheinlichkeit* instead of *Wahrheit* – and that the task of the critic and the philosopher is to specify rules for the creation and evaluation of works of art in accordance with canons of good taste. Indeed, Gottsched probably carried this latter effort a bit too far. Although a playwright and poet in his own right, the *Critische Dichtkunst* contains some laughably mechanical explanations of the writing of a proper story, which he handles under the rubric of "fable": First one selects an instructive moral principle, then one invents a plot that helps to illustrate the principle, and so on (Pt. I, ch. 1). Passages like this provided ammunition to those who saw Gottsched as a mere purveyor of rules with little sense of the real nature of literature.

Whatever the limitations of Gottsched's views on literature, his real significance in the German Enlightenment lies in his explicit application of philosophy to art. One place where this is apparent is in his grounding of the imitative nature of art by deriving it from the natural state of humankind. This sort of genetic justification was a common feature of eighteenth-century philosophical discourse. Gottsched imagines early human beings living "more in gardens or comfortable pleasure-forests than in houses," and learning to sing by listening to birds (Pt. I, ch. 1). More seriously, he postulates in these primitive peoples a natural tendency to imitation of the world around them, a tendency he finds also in children. But such early efforts at artistic imitation were, he says, necessarily "raw," "crude," and "naïve" (ibid.). Only the Greeks and Romans attained perfection in imitation. The influence of the philosophy of Leibniz is apparent in Gottsched's handling of the purpose of art and the roles of the various artforms in realizing this purpose. First, as mentioned, for Gottsched as for Boileau and Batteux art is imitation of idealized nature with the purpose of moral instruction. But Gottsched explicitly connects this doctrine to the conception of possible worlds, and to the related view of the relation between intellectual and sensual knowledge. Poets must obey the laws of verisimilitude or *Wahrscheinlichkeit*. Mere observation and description, however, give us only truth, whereas the poet's task is to show us *not* what is but what *can be*. As Gottsched notes, besides the actual world we inhabit, there are an infinity of logically possible but not actual worlds, and he therefore characterizes all (good) narratives as "pieces from another world" (Pt. I, ch. 4). Second, the superiority of concepts over sense perceptions as vehicles of knowledge underlies Gottsched's view that literature is more effective than painting at achieving the goal of art. Both painting and literature have the same purpose, namely imitation of idealized nature. But whereas painting is limited to representing sensible particular things, literature "works through the imagination" rather than the senses, and thus can present to the mind not only a wider range of sensible things but also nonsensible, "intellectual things" (ibid.). Finally, when Gottsched

follows Boileau in saying that the poet and critic must use reason, he says explicitly that this means that they must be philosophers: The critic is one who "studies the rules of perfection," and thus criticism is philosophy as applied to the "free arts." Similarly, the poet must have a thorough knowledge of the entire reality he is charged to imitate, especially the portion of reality known as human nature, and thus "no science (*Wissenschaft*) is closed to him" (Pt. I, ch. 2).

Gottsched was viewed by many of his German successors as a proponent of the blind adherence to rules. The literary theory of the *Critische Dichtkunst* came under attack a few years after its publication from the Swiss critics Johann Jacob Bodmer and Johann Jakob Breitinger. Both men shared Gottsched's conviction that art is imitation of nature, but rejected his attempt to specify rules for the proper manner of this imitation. They emphasized instead the importance of imagination (*Phantasie*) and wonder (*das Wunderbare*) in the experience of art, thereby shifting the philosophical emphasis from the objects art imitates to the imponderable nature of aesthetic experience. The views of Bodmer and Breitinger were associated with a literary tendency known in German as *Empfindsamkeit* and in English as "sensibility." The foremost representative of this tendency in Germany was the poet Klopstock, while in England it was exemplified in the works of Richardson and Sterne.

The views of the greatest literary figure of the German Enlightenment, Gotthold Ephraim Lessing, can also be understood through the contrast with Gottsched. Lessing (1729–81) was a prolific playwright and critic who also produced highly influential philosophical statements of Enlightenment doctrine. His play *Nathan der Weise* (*Nathan the Wise*) offered a classic defense of religious tolerance. Lessing also wrote extensively on literary and artistic theory, and because of his engagement with philosophical currents of his time these works are important for an understanding of the state of philosophical aesthetics in the eighteenth century. Lessing's principal work of dramatic theory, the *Hamburger Dramaturgie* (so named because it was written while he was the resident critic of the National Theater in Hamburg), was published in 1767–9; in it Lessing argues that the French obsession with rules (as he saw it) was an unsuitable model for German theater. His views on the theory of art are also expressed in "Laokoon," in which he addresses the relationship between literature and painting, and the *Literaturbriefe* (*Letters on Literature*). The seventeenth Letter contains Lessing's open attack on Gottsched. He opens his assault by quoting the assertion that "nobody will deny that the German stage owes a great deal of its improvement to Herr Gottsched." "I am this Nobody," says Lessing, "I deny it altogether." Lessing admits that before Gottsched's *Critische Dichtkunst* the German stage had little to boast of – "one knew no rules; no one cared about models" – but he denies that Gottsched's theories represent an improvement. He accuses Gottsched of "frenchifying" the German theater, "without investigating whether this frenchifyied theater is suited to the German way of thinking." Lessing associates the French with an aesthetics of rules, and with dramas that are "refined" and "delicate"; whereas Germans, he says, "want to see and think" more than they can watching a French play. But Lessing is not advocating the abandonment of all rules. Rather, for him the rules of dramatic theory must focus not on the content of the work but on its reception by the audience. In a gesture that would resonate through German literature for the rest of the century, he appeals to

Shakespeare as the proper model for German drama. It would have been better to give the Germans translations of Shakespeare than of Corneille or Racine, he says, because "a genius can only be ignited by another genius, and most easily by one who seems to owe everything merely to nature, and does not frighten away [the audience] with tiresome perfection." Shakespeare's advantage over Corneille is simply that he "almost always achieves the goal of tragedy, no matter how strange and idiosyncratic a path he chooses," whereas Corneille "almost never reaches [this goal], even if he follows the well-worn way of the ancients."

Lessing's aversion to what he sees as the rule-worship of the French is apparent also in his treatment of Aristotle. In one important essay in the *Hamburger Dramaturgie* (Essay 74) he takes up Aristotle's account of the effect of tragedy on the viewer. If, as Aristotle is taken to say, tragedy aims at awakening "sympathy and horror" (*Mitleid und Schrecken*) in the viewer, why then is Shakespeare's *Richard III* a successful tragedy, as Lessing thinks it clearly is? After all, we can hardly have sympathy for Richard, and the only horror his deeds awaked in us is the horror of a spectator to a bloodbath. Lessing argues that Aristotle has been mistranslated – more specifically, mistranslated by the French Neo-classicists. What a successful tragedy arouses in the audience is not sympathy and horror but sympathy and *fear*. The change is significant because it allows Lessing to reduce Aristotle's two emotions to one, in a way that reinforces the focus on the subjective experience of the viewer of tragedy: Fear, Lessing says, is sympathy directed at oneself. Tragedy awakens this fear by convincing us that what happens to the hero of the tragedy could happen to us as well. A consequence of this is that in order to cause this fear the hero must be "like us" (*unsersgleichen*); Lessing applied this principle in his own "bourgeois tragedies," most famously in *Emilia Galotti*. By thus aiming at a bourgeois audience rather than an audience of aristocrats, Lessing was thereby rejecting the elitism of Boileau and Gottsched. Lessing's contempt for the blind rule-following of the French also plays a role in his discussion of the dramatic unities, in the 46th Essay of the *Dramaturgie*. For the Greeks, he says, unity of action was the truly essential unity; the unities of time and place were consequences of this given the Greek custom of having a chorus of common citizens on the stage. The French, on the other hand, ignored the rational basis for the unities and instead saw them as "tyrannical rules," which they did not have the courage to challenge but which, since they inevitably cramped the action of the play, they had to compromise. The contrast Lessing draws here is typical: The French believe in rules for rules' sake, whereas the Greeks recognize the rational basis for the rules, specifically as this is directed toward the audience's experience of the play. While retaining the Neo-classicists' allegiance to the role of reason in the theory of art, this reason requires understanding not so much of external objects as of the human mind and its subjective mode of understanding.

Baumgarten

The works of Alexander Gottlieb Baumgarten, especially his last, unfinished masterpiece the *Aesthetica*, claim the honor of being the first examples of philosophical

aesthetics in the sense in which that phrase is understood by philosophers today. It is in Baumgarten that the term "aesthetics" gets the meaning it has today, as the philosophical study of art and beauty. For Baumgarten himself, however, "aesthetics" refers both to the study of the faculties of sensation and to the study of the sort of perfection peculiar to the senses, namely beauty. In this he was a major influence on Immanuel Kant, not only in the latter's aesthetics but also in his understanding of the relation between understanding and sensibility. Baumgarten was born in Berlin in 1714, and took his degree at the university in Halle in 1735. His first major work, the *Meditationes philosophicae de nonnullis ad poema pertinentibus* (*Philosophical Meditations on Matters Pertaining to Poetry*, translated into English as "Reflections on Poetry"), published in 1735, dealt with the question of perfection in poetry; his *Metaphysica*, published in 1739, was a sufficiently important work that Kant used it as a textbook in his lectures. But his most important work was his *Aesthetica*, published in both 1750 and 1758 but on which Baumgarten was still working when he died in 1762.

In the *Aesthetica* Baumgarten is attempting to preserve the most important elements of the doctrines of Leibniz while nevertheless reconceiving sensation in general and beauty in particular as more than just the obscure and confused counterpart to the clear and distinct perceptions of the understanding. Because, however, this project diverged in many ways from the fundamental principles of Leibniz, Baumgarten's theory is characterized by a constant tension between his desire to recognize the aesthetic as a realm having its own rules and its own forms of perfection, and his desire to incorporate this realm into the rationalistic world picture. This is evident already in the first section of the work, where Baumgarten offers a definition of aesthetics as the "science of sensory cognition" (*scientia cognitionis sensitivae*; §1). This suggestion that aesthetics is a science is echoed in the apparently equivalent formulations that aesthetics is a "theory of the free arts" and a "logic of the lower cognitive faculties" (*theoria liberalum artium* and *gnoseologia inferior*), but also undermined in the suggestions, made in the same place, that it is an "art of beautiful thinking" and an "art analogous to reason" (*ars pulchre cogitandi* and *ars analogi rationis*). Clearly, Baumgarten wants to overcome the distinction between science (meaning not physical science, but rather, approximately, rational knowledge) and art, and establish a science of the beautiful, but the question remains whether this reconciliation takes place on terms more congenial to the former or the latter. The same tension is evident in the sections, early in the *Aesthetica*, where Baumgarten defends "our science" of aesthetics against objections, most of which suppose that the senses are beneath philosophical interest because further from truth than clear and distinct discursive concepts. His defense of the science of aesthetics seems, however, to concede a great deal to his critics. He considers, for example, the objection that "confusion [meaning, presumably, the confusion attributed to sense perception] is the mother of error" (*confusio mater erroris*). His response (§7) is to accept the description of sensation as confused cognition, and argue that sense experience is nevertheless a necessary step toward the discovery of truth, and therefore attention to the senses is needed to prevent error. Similarly, against the suggestion that the "lower faculties" ought rather to be "combatted" (*debellandae*) rather than developed (§12), Baumgarten says that these faculties need "firm leadership,

not a tyranny" (*Imperium in facultates inferiores poscitur, non tyrannis*). Even while declaring the independence of philosophical aesthetics, Baumgarten must do so by justifying the utility of aesthetics for logic.

The status of sensation as a cognitive faculty separate from yet analogous to understanding is matched by the concepts of perfection toward which each is directed: The perfection of the world from the point of view of logic is expressed in the great variety of phenomena that are explained by means of relatively few laws. Similarly, our lower faculties also are capable of recognizing a sort of perfection in the world, namely beauty, which Baumgarten defines as "perfection in sensory cognition" (*perfectio cognitionis sensitivae*; §14). It is for this reason that Baumgarten can move so easily from talking about sensation to talking about beauty and art, that is, to the subject-matter of aesthetics as it is understood today. But whereas the understanding strives for laws of ever greater generality, beauty remains with the representation of the particular. This aesthetic perfection is closely linked to the notion of harmony, and consists in the harmony of our thoughts with each other; the harmony of the order in which we think about beautiful objects; and the harmony of the means of expression with each other and with the objects represented. While Baumgarten offers little illumination as to the precise content of these characterizations of harmony, it is clear that he understands them to be expressions of laws of "beautiful thinking," and thus as rules for the creation and evaluation of art. Baumgarten's reticence about prescribing specific applications of his rules may be intentional, for he recognizes that if reason's rule over beauty is not to be tyrannical it must not consist in the issuance of strict canons of taste. Thus he admits that there are a great many exceptions to the rules for sensory perfection (one might think here of Lessing's later praise for Shakespeare), but these exceptions ought not to be considered flaws or mistakes because they serve the overriding end of the greatest possible harmony among appearances. Indeed, it might be better to conceive of these instances not as exceptions but as applications of a higher rule (Baumgarten does not say what these rules might be), much as Leibniz explains the conformity of miracles to the "general order" by interpreting them as violations only of subordinate laws of the universe, subject to being overridden for the sake of the most general of God's laws ("Discourse on Metaphysics," §7). By so connecting the concepts of beauty and perfection, Baumgarten also makes possible a detailed account of ugliness, which of course is identified with imperfection. Every sort of perfection, he says, is marked by the abundance (*ubertas*), magnitude (*magnitudo*), truth, clarity, certainty, and the "liveliness of cognition" (*vita cognitiones*); correspondingly, he says, ugliness consists in narrowness (*angustiae*), cheapness (*vilitas*), falsity, obscurity, doubtful fluctuation (*dubia fluctuatio*), and stagnation (*inertia*; §§22–3). More generally, beauty represents movement toward an ideal while ugliness is a falling away from the same ideal.

The close connection between aesthetics and sensation broadly understood is reinforced by the contrast Baumgarten draws between "natural" and "artificial" aesthetics. The former refers to the state of the lower cognitive faculties without any instruction from the artificial aesthetics (§2). This distinction thus bears as well on the relation between the untutored masses and the educated and artistically sophisticated elites that was such an important theme in Boileau and Gottsched. In

the section of the *Aesthetica* devoted to the *aesthetica naturalis* Baumgarten lists several talents that are needed for the exercise of natural aesthetics, such as good taste and a disposition to poetic invention, along with several others that are general cognitive skills: acute sensing (*acute sentiendi*); imagination; perspicacity (*perspicaciam*, for the refinement of what is sensed); memory; the ability to predict the future (which he says is necessary for the *vita cognitiones*; and finally the ability to convey one's perceptions to others (§§30–7). Baumgarten says that these are abilities one is born with, and that they are requirements for "beautiful thinking." But Baumgarten stresses that the lower faculties not only are not in conflict with the higher faculties, but indeed need the understanding and reason in order to flourish. Reason serves to "excite" the lower faculties, and in turn the greater liveliness of intuitive thought often improves the clarity and distinctness of the intellectual faculties.

The heart of Baumgarten's effort to provide a rational justification for the aesthetic – and the heart of the problems that beset this effort – lies in his elaboration of the notion of "aesthetic truth." There must be some such thing as aesthetic truth, because Baumgarten wants to assure that the philosophical study of the "lower faculties" has a value of its own while at the same time explaining this value in terms of its utility for and similarity to the pursuit of rational truth. His solution is to introduce a complex taxonomy of truths in which both logical, that is, general or universal truth, and aesthetic truth, that is, particular truth, take their place. Truth as it is conceived through general propositions by means of the understanding is now called logical truth; truth as it is conceived through awareness of particulars by means of sensation is called aesthetic truth; for the general class of truth in which both of these belongs Baumgarten coins the term "aestheticological truth" (*veritas aestheticologica*; §427). Both logical and aesthetic truth are means of achieving still another sort of truth, namely "metaphysical truth." Metaphysical truth denotes absolute correspondence between subject and object, whereas aestheticological truth refers to the subject's representations aimed at achieving metaphysical truth. At several points Baumgarten expresses the view that the senses express the highest degree of metaphysical truth. Thus, for example, in §441 he writes, "The aestheticological truth of the genus is the perception of great truth, the aestheticological truth of the species is the perception of greater metaphysical truth, and the aestheticological truth of the individual or the particular is the perception of the highest conceivable metaphysical truth." General propositions necessarily omit all qualities of the particular things to which they refer, except for those properties that figure in the proposition itself. This marks a radical break with the tradition of Descartes and Leibniz, for here sensation is not only accorded its own value as a means to truth, but indeed despite its obscurity and confusion is viewed as superior to understanding as a representation of reality – yet without embracing empiricism, which Baumgarten agrees cannot provide the necessity essential to philosophical knowledge. But Baumgarten does not hold this position consistently throughout the *Aesthetica*; in the important section on the pursuit of "absolute aesthetic truth" (*Studium veritatis aestheticum absolutum*), he emphasizes that the "highest" truth is *not* aestheticological but rather logical "in the strict sense," that is, in terms of general propositions, and that such truth is reached through the

understanding rather than the senses. This vacillation is perhaps an inevitable consequence of Baumgarten's attempt to see understanding and the senses as autonomous and equally valid yet to some extent competing ways of reaching one truth. Kant later tried to avoid this problem by viewing sensation and understanding as two "roots" of the tree of knowledge, each of which needs the other to produce cognition.

Hamann and the German Counterenlightenment

For an important and influential group of thinkers and writers in Germany in the mid-eighteenth century, the perceived opposition between reason and beauty was not so much a problem as an opportunity. Motivated by opposition to a number of features of Enlightenment culture, among them the development of rationalistic criticism of the Bible, the efforts of German *Aufklärer* to promote religious tolerance, and the general ambition of Enlightenment thought to establish a rational or "natural" religion in place of the merely "positive" one based on biblical revelation, some Germans saw art and natural beauty as a source of nonrational knowledge, immune both to rational criticism and to monopolization by educated elites. Against the Enlightenment model of an aesthetics of laws based on nature (whether human or nonhuman), these writers saw genius as a faculty for understanding nature in a way that cannot be reduced to reason or formulated in terms of rules.

The most significant and philosophically sophisticated thinker of the German Counterenlightenment was Johann Georg Hamann. Hamann, like Kant a native of Königsberg, was drawn as a young man to the ideas of the *Aufklärung*. After going through a somewhat mysterious religious conversion, however, he began to attack the Enlightenment in polemical essays and letters. These writings were influential as much for their style as for their content. Hamann's works contain no arguments in any philosophical sense, nor do they outline well-defined philosophical positions, but instead rely on puns, personal invective, and a sometimes opaque weaving together of allusions to a dizzying array of literature both ancient and modern. The result was a style so unique as to remind the reader constantly that what she is reading is the product of a particular man from a particular place and time, in contrast to the pursuit of universality and timelessness he saw as both the essence and the Achilles' heel of the Enlightenment.

Hamann's most important works were the *Sokratische Denkwürdigkeiten* and his *Aesthetica in nuce* – roughly, "Socratic Memorabilia" and "Aesthetics in a Nutshell." The former attacks Kant and Kant's publisher and fellow-*Aufklärer*, Johann Christoph Berens by contrasting unfavorably their pretensions to knowledge with Socrates' famous ignorance. The ground for this rejection of Enlightenment reason is made clearer in *Aesthetica*. Here Hamann sketches his view that the world is a book written by God for us, "a speech to creation through creation." Thus far it may seem like nothing to which Descartes or Baumgarten would need to take exception. But Hamann construes the "world as book" thesis in a way that is fundamentally contrary to the aims of the Enlightenment, for he sees it as a book that can be understood, as he puts it in *Sokratische Denkwürdigkeiten*, only "by plowing with

some other calf besides our reason." Several aspects of Hamann's view contribute to his attack on the Enlightenment in the *Aesthetica in nuce*. First, if the world is a text written by God, then there is no longer a fundamental difference between our understanding of the world and our understanding of that other text written by God, the Bible. Second, neither of these divine texts is transparent, that is, available for universal understanding. Instead, he emphasizes the "invisibility that man has in common with God." God's speech to us is in our language, not His, because "to speak is to translate – from an angelic language into human, i.e., thoughts into words – objects into names, – images into symbols." Thus language is for Hamann inherently opaque, undermining human attempts, symbolized in the story of the Tower of Babel, to find a universal language of nature.

But the feature of Hamann's thought most influential for German aesthetic thought in this period is his inversion of the customary ordering of rational and aesthetic experience: It is art, not science, that provides the clearest grasp of the natural world. Hamann's view depends partly on the genetic claim that art preceded science in the course of human development. "Poetry is the mother-tongue of the human race," he writes in *Aesthetica in nuce*, "just as gardening is older than the plow: painting, than writing: song, than declamation: similes, than conclusions: barter, than trade." Hamann is responding here partly to Gottsched's comparison of primitive peoples to children, and also to the work of Condillac, who had argued that art had originally developed as a primitive means of communication, which with the increasing complexity and sophistication of human society was supplanted by the superior vehicle of discursive language. (Hamann also participated in a lively dispute over Condillac's thesis about the origin of language, arguing that human beings were incapable of inventing language, and that it must therefore be a gift from God.) Furthermore, for Hamann, the human soul makes its connection with nature not through reason but rather through sensation and emotion, and this grasp is not discursive but imagistic: "Senses and passions understand nothing except images. The whole treasure of human knowledge and happiness consists in images." These images can therefore be best understood not by the scientist or philosopher but by the genius, who follows not the artificial rules of the critics but rather his own direct apprehension of nature: "What replaces in Homer the ignorance of the artistic laws invented by Aristotle, and in a Shakespeare the ignorance or violation of these critical laws? *Genius* is the unambiguous answer." Thus the modern era, in preferring reason over emotion and science over art, turns away both from God and from its most direct link to the world God created.

Hamann's view that art rather than science or philosophy gives the most direct access to reality, and his association of aesthetic experience with passion and sensation, was instrumental in the rise, around the turn of the century, of the Romantic movement in Germany. It also inspired philosophers such as Friedrich Heinrich Jacobi, who appropriated the skeptical arguments of DAVID HUME (chapter 32) to argue that reason is based entirely on faith, and Johann Gottfried Herder, who offered an account of human thought that emphasized the continuous historical development of humanity from its original natural state. More immediately, Hamann's thought had an enormous impact on the literary movement known as the *Sturm und Drang* – literally, "storm and stress," the name taken from the title of

a play by Friedrich Klinger. A number of the most prominent German authors of the time wrote works that can be described as reflecting the ideals of the *Sturm und Drang*, including Johann Wolfgang von Goethe, Friedrich Schiller, and Siegfried Lenz. The literature of the *Sturm und Drang* was characterized by a valorization of nature and of human passion. Indeed these two themes were closely linked, in that passion was seen as closer to nature. Connected to this was an emphasis on the basic goodness of the *Naturmensch*, the natural man, as opposed to the corruption of the civilized, the educated, and the city-dwellers. Here one can see also the influence of ROUSSEAU's (chapter 38) pessimistic view of civilization as representing a decline from the naturally good state to which humanity was originally born. The most widely-read work of this period was Goethe's *Leiden des jungen Werthers (The Sorrows of Young Werther)*. Goethe's epistolary novel about a young man, alienated from bourgeois society, who falls hopelessly in love with an engaged woman during a stay in the country and ultimately commits suicide, occasioned a wave of suicides across Europe, and in the process established Goethe's reputation as the greatest author in Germany at that time.

The most prominent feature of the literature of the *Sturm und Drang*, indeed one could argue its defining feature, was its worship of the genius. The defining feature in turn of the genius was his contempt for rules, whether moral or aesthetic. The concept of artistic genius played a role in earlier theories of art, of course, but it was only with the *Sturm und Drang* that genius came to be understood as a human faculty not merely additional but radically opposed to the governing authority of Enlightenment reason. Whereas Neo-classical thought had taken appreciation of art to be the domain of educated elites, and prescribed rules for art that expressed the expectations of those elites, the Counterenlightenment idealized figures such as Werther who stood outside mainstream society and obeyed their emotions rather than artificial rules. It was in this context, for example, that the *Stürmer und Dränger* continued the general German worship of Shakespeare. Lessing had already praised Shakespeare for his disregard for the Aristotelian unities, but for Lessing this signified the Bard's recognition of the impossibility of specifying determinate rules for achieving the genuine purpose of drama. For these authors, on the other hand, Shakespeare's genius indicated not his ability to find effective means to a rational end, but rather his unclouded extrarational perception of nature. Schiller translated Shakespeare's *Macbeth*, and Goethe's important play *Götz von Berlichingen*, the story of an honorable robber-knight killed defending his honor by the court of the Holy Roman Emperor, owes much to Shakespeare's influence. The *Sturm und Drang* cult of the genius was given its most emphatic expression in the writings of Johann Kaspar Lavater, who solicited the portraits of great artists in order to determine the physiognomic features associated with genius.

The association of art with irrationality that characterized the *Sturm und Drang* was a major impulse in the development of Kant's aesthetic theory as expressed in the *Critique of Judgment*. For Kant, aesthetic judgments express the purposiveness or suitability of sensible objects for theoretical understanding in the broadest sense, but this suitability by its very nature cannot be expressed in rules (least of all the sort of very specific rules offered by Boileau). Furthermore, genius for Kant is an inexplicable "mental disposition" through which "nature gives the rule to art." The prod-

ucts of genius are thus fundamentally different from those of the scientist or philosopher, but directed all the same at promoting knowledge of the natural world, knowledge that has both theoretical and moral implications. Kant is attempting to synthesize the need for rules, if art is to be connected with the presumably higher cognitive task of knowing, and the need to avoid thereby reducing aesthetic experience to an impoverished form of cognitive experience.

References

Batteux, Charles, 1989, *Les beaux-arts réduits à un même principe*. Paris: Aux Amateurs de livres.

Baumgarten, Alexander Gottlieb, 1954, *Reflections on Poetry*, trans. by Karl Aschenbrenner and William B. Holtner. Berkeley: University of California Press.

—— 1961, *Critische Abhandlung von dem Wunderbaren in der Poesie*. Stuttgart: Metzler.

Boileau-Despréaux, Nicolas, 1966, *Oeuvres Complètes*. Paris: Éditions Gallimard.

Goethe, Johann Wolfgang, 1971, *Die Leiden des jungen Werthers*. Stuttgart: Reclam.

Gottsched, Johann Christoph, 1968–1995, *Ausgewählte Werke*, ed. by Joachim Birke. Berlin: De Gruyter Verlag.

Hamann, Johann Georg, 1968, *Sokratische Denkwürdigkeiten/Aesthetica in nuce*. Stuttgart: Reclam.

Jacobi, Friedrich Heinrich, 1994, *The Main Philosophical Writings and the Novel Allwill*. Montréal; Buffalo: McGill-Queen's University Press.

Lessing, Gotthold Ephraim, 1968, *Gesammelte Werke*. Berlin: Aufbau-Verlag.

Further Reading

Baeumler, Alfred, 1967, *Das Irrationalitätsproblem in der Ästhetik und Logik des 18. Jahrhunderts bis zur Kritik der Urteilskraft*. Tübingen: Max Niemeyer Verlag; reprint of the edition of 1923.

Cassirer, Ernst, 1951, *The Philosophy of the Enlightenment*, trans. by Fritz C. A. Koelln and James P. Pettegrove. Princeton: Princeton University Press, ch. VII.

Coleman, Francis X. J., 1971, *The Aesthetic Thought of the French Enlightenment*. Pittsburgh: University of Pittsburgh Press.

Mattick, Paul, 1993, *Eighteenth-century Aesthetics and the Reconstitution of Art*. New York: Cambridge University Press.

Nisbet, H. B. (ed.), 1985, *German Aesthetic and Literary Criticism: Winckelmann, Lessing, Hamann, Herder, Schiller, Goethe*. Cambridge: Cambridge University Press.

Norton, Robert Edward, 1995, *The Beautiful Soul: Aesthetic Morality in the Eighteenth Century*. Ithaca: Cornell University Press.

Pocock, Gordon, 1980, *Boileau and the Nature of Neo-classicism*. Cambridge: Cambridge University Press.

Schweizer, Hans Rudolf, 1973, *Ästhetik als Philosophie der sinnlichen Erkenntnis: Eine Interpretation der "Aesthetica" A. G. Baumgartens*. Basel: Schwabe & Co. Verlag.

Wellbery, David E., 1984, *Lessing's "Laocoon": Semiotics and Aesthetics in the Age of Reason*. Cambridge: Cambridge University Press.

White, Julian Eugene, 1969, *Nicolas Boileau*. New York: Twayne Publishers, Inc.

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Jean-Jacques Rousseau

PATRICK RILEY

Introduction: Life and Works of Jean-Jacques Rousseau (1712–78)

There is no need to "recommend" the writings of Jean-Jacques Rousseau: the greatest of all critics of inequality, the purest social contract theorist of the eighteenth century (and simultaneously the deepest critic of contractarianism after Hume), the greatest writer on civic education after Plato, the most perceptive understander of mastery and slavery after Aristotle and before Hegel, the finest critic of Hobbes, the most important predecessor of Kant, the most accomplished didactic novelist between Richardson and Tolstoy, the greatest confessor since Augustine, the author of paradoxes ("the general will is always right" but "not enlightened") that continue to fascinate or infuriate.

Rousseau's extensive range and intensive depth have been best brought out by Judith Shklar, in the Postscript to her celebrated *Men and Citizens*:

> What did his contemporaries recognize as great in him, even those who reviled him as a charlatan and a *poseur*? He lived among the most intelligent and competent literary judges. Why did they think that he was so remarkable? His eloquence was universally recognized. Admirers and bitter enemies alike agreed that Rousseau was the most eloquent man of his age. His style is overwhelming. Rousseau, Diderot eventually said, was what one says of the poor draftsman among painters: a great colorist. Rousseau's literary powers were indeed phenomenal and to understand him fully one must give more than a passing thought to how he wrote. There is, however, another quality that his contemporaries did not recognize, partly because they shared it. That is the scope of Rousseau's intellectual competence. Even among his versatile contemporaries he was extraordinary: composer, musicologist, playwright, drama critic, novelist, botanist, pedagogue, political philosopher, psychologist. That is not unimpressive. There is nevertheless even more in Rousseau's intellectual scope that seems notable now, though it did not strike his fellow intellectuals. They tended only to marvel at his suspect novelties and "paradoxes". We can marvel at the catholicity of Rousseau's social philosophy. (Shklar 1985, 176)

Jean-Jacques Rousseau was born in the Calvinist stronghold of Geneva on June 28, 1712, the second son of the watchmaker Isaac Rousseau and his wife Susan;

both parents were "citizens" of Geneva, and Rousseau styled himself *citoyen de Genève* until his final renunciation of citizenship in 1764. Rousseau's mother died ten days after his birth, leaving him initially in the care of his father – with whom the child read (and then perpetually cherished) Plutarch's *Lives* of the greatest Greeks and Romans; later he was brought up by a puritanical aunt who (he admitted in the *Confessions*) did much to warp his sexuality. In 1722 Isaac Rousseau fled Geneva after a quarrel, and the ill-educated Jean-Jacques had to be apprenticed – at first to a notary, then to an engraver.

In March 1728 Rousseau missed the Genevan city-curfew, found himself locked outside the gates, and wandered on foot to Annecy in Savoy – where he was taken in by Mme. De Warens, Rousseau's protector and then (1733–40) lover. In the provincial salon of Mme. De Warens ("Les Charmettes"), Rousseau acquired the education he had lacked in Geneva (Plutarch apart); one gets some sense of his autodidactic passion from his poem, "Le Verger des Charmettes":

> Tantot avec Leibniz, Malebranche et Newton,
> Je monte ma raison sur un sublime ton,
> J'examine les lois des corps et des pensées,
> Avec Locke je fais l'histoire des idées.

Mme. De Warens, who specialized in finding Catholic converts, sent the young Rousseau to Turin, where he renounced his inherited Calvinism and converted to the Roman church; he even briefly attended a seminary for priests, until a Catholic ecclesiastic attempted to seduce him (as we again learn in the *Confessions*). Returning to Les Charmettes, he lived with *maman*, completed his education, and undertook his earliest writings – including the remarkable *Chronologie universelle* (*c.* 1737), with its eloquent praise of Fénelon's charitable moral universalism.

Beginning in 1740, the now superbly-educated Rousseau began to serve as a tutor – moving north to Lyon and living in the house of M. de Mably, whose children he instructed. But in Lyon above all he met M. de Mably's two elder brothers – Étienne Bonnot (later the Abbé de Condillac, with VOLTAIRE (chapter 39) the greatest "Lockean" in post-Regency France), and the Abbé de Mably. This was the beginning of Rousseau's connection to the Paris *philosophes*, with whom he would later (and permanently) have a love–hate relationship. At this same time Rousseau became a considerable composer, music-theorist, and music-copyist; in later years he would represent himself as a simple Swiss republican who earned a living as a musical craftsman.

In 1742 Rousseau moved definitively northward to Paris, carrying with him a new system of musical notation, a comedy, an opera, and a collection of poems. (Even at this comparatively early date his sheer range was in evidence: if he eventually came to be known as a psychologist, group-psychologist and eloquently accusing *moraliste*, he was one of the last and latest "Renaissance men.") In Paris Rousseau eked out a precarious living by tutoring, writing, and copying music; for a brief period (1743–4) he served, not very happily, as Secretary to the French ambassador in Venice – an interlude which he mordantly described in his later *Lettres écrites de la montagne* (1764). Most importantly for his career as a man of

letters, he met and befriended Denis Diderot, soon-to-be editor of the great *Encyclopédie* (who would ultimately commission Rousseau's first great writing on civic "general will," the *Économie politique* of 1755).

It was while visiting Diderot in prison (for alleged impiety) in 1749 that Rousseau *became* Rousseau (as we now know him) by deciding to write an essay for a prize-competition sponsored by the Académie de Dijon – dealing with the question whether morals had been harmed or advanced by the re-birth (*renaissance*) of the arts and sciences. Rousseau won the prize with the so-called *First Discourse*, in which he defended Spartan–Roman civic *généralité* against the Athenian literary "tyranny" of poets and orators; the *Discourse* made a European reputation, even attracting the criticism of the King of Poland, and from this period forward Rousseau was a leading citizen, however reluctantly, of the *République des lettres* (as Voltaire maliciously reminded him).

In 1752 his opera, *Le devin du village* ("The Village Soothsayer") was performed at the court of Louis XV at Versailles; at roughly the same time his black comedy, "Narcissus, the Lover of Himself" was given in Paris at the Theatre Francais. As a good *citoyen de Genève* Rousseau refused a royal pension, continuing his republican self-support as a musician by publishing his *Letter on French Music* in 1753; the *Lettre*, with its strong defense of Italian simplicity against French elaborateness, led to a collision with Rameau, the greatest French composer of the day.

Rousseau's *Discourse on the Origins of Inequality among Men*, the so-called "Second Discourse," was completed in May 1754; it is his most radical work, and urges that existing government is a kind of confidence-trick on the part of the rich, who persuade the poor that it is universally and equally advantageous to be subjected to law and to political order. (For the French Revolution this was the "true" Rousseau.) In June 1754 Rousseau left Paris for a visit to his native Geneva, where he re-converted to Calvinism and had his civic rights restored; the year 1755 saw the publication of *Inégalité* and of the *Economie politique* (the "Third Discourse"). In 1756 Rousseau moved to the countryside, taking up residence at l'Hermitage, the country seat of Mme. d'Èpinay; this inspired Diderot's sarcastic epigram, "a fine citizen a hermit is," and marked the start of the weakening of Rousseau's ties to the *philosophes* – a process accelerated by his 1758 *Lettre to M. d'Alembert*, which opposed the latter's scheme to found a theater in Geneva. (Plato-like, Rousseau urged that such a theater would be inimical to civic virtue and good morals, the Molière's *Misanthrope* would have a deleterious effect.)

To the year 1758 can also be assigned the magnificent, uncompleted fragment called *L'état de Guerre* ("The State of War") – Rousseau's most brilliant and scathing critique of HOBBES (chapter 22) and Hobbism. Taking over observations first made by DESCARTES (chapter 5) and LEIBNIZ (chapter 18) (*Theodicée*, 1710), Rousseau insists that Hobbes has simply mistaken badly-socialized, ill-educated Englishmen for "natural" men, leading to Hobbesian unquestionable "sovereignty" as the only antidote to rapacious appetitiveness: looking out his London window, Hobbes "thinks that he has seen the natural man," but he has really only viewed "a bourgeois of London or Paris." Hobbes, for Rousseau, has simply inverted cause and effect; he has mistaken a *bad* effect for "natural" depravity.

In the late 1750s Rousseau labored on (but never published) the superb *Lettres morales* (for Sophie d'Houdetot), then produced his vast epistolary novel, *Julie, ou la Nouvelle Heloïse* (published 1761) – with its celebrated account of a small ideal society, Clarens, superintended by the godlike, all-seeing M. de Wolmar. The novel was a runaway bestseller – the greatest literary success since the appearance of Fénelon's *Telemachus, son of Ulysses* in 1699.

In May 1762 Rousseau brought out two of his greatest but most ill-fated works: *The Social Contract* and *Émile*. Both were condemned and publicly burned in Paris, at the behest of Archbishop Christophe de Beaumont (and with the acquiesence of the *parlement* of Paris); Rousseau, under order of arrest, fled to Geneva (only to find the same works condemned and burned there). Against charges of impiety leveled by the Genevan public prosecutor – alleging the dangerousness of Rousseau's "natural" theology in *Émile*'s "Profession of Faith of the Savoyard Vicar" – Rousseau composed and published his trenchant *Letters Written from the Mountain*, in which he defended ancient "civic" religion, and insisted that Christianity produces good men whose other-worldliness makes them "bad citizens." (This of course only increased the furor against him, and he took refuge in the Prussian enclave of Neuchatel.) Renouncing his Genevan citizenship definitively, Rousseau occupied himself by writing a "Constitution" for recently-liberated Corsica; increasingly threatened, his paranoia aggravated by genuine danger, Rousseau accepted the offer of British refuge from David HUME (chapter 32) – though he soon came to see the benevolent Scot as part of the "league of malignant enemies" bent on his destruction. After an unhappy period in England – which nonetheless yielded the great Ramsay portrait now in the National Gallery at Edinburgh – Rousseau returned incognito to France, living under the assumed name of "Renou." (While living under this assumed name, Rousseau finally married his longtime companion, Thérèse Levasseur, by whom he had fathered – if the *Confessions* are to be believed – five children, all supposedly abandoned to a foundling hospital.

The *Confessions* themselves increasingly occupied Rousseau's time, and he often read substantial fragments of this work-in-progress in sympathetic aristocratic *salons*. In 1772 he produced the remarkable *Gouvernement de Pologne* as part of an effort to avert partition by Prussia, Austria and Russia; the book combines intelligent constitutional reforms with Rousseau's most glowing account of Spartan and Roman-republican civic virtue. And in the same year he wrote (without publishing) the brilliantly innovative *Rousseau juge de* Jean-Jacques, in which he bifurcated himself and had one half comment on the other – schizophrenia turned into a literary *genre*.

In 1777 Rousseau wrote his last great confessional work, *The Reveries of a Solitary Walker*, which begins with the celebrated words, "Here I am, then, alone on the earth, no longer having any brother, or neighbor, or friend, or society except myself." A year later, while in refuge on an aristocratic estate at Erménonville (north of Paris), and while engaging in his beloved botanical studies, Rousseau died quite suddenly on July 2, 1778; he was originally buried in a quasi-Roman sarcophagus on the Isle of Poplars at Erménonville, but at the height of the French Revolution his ashes were translated, in a dramatic torchlight procession, to the Pantheon, and placed next to the remains of his nemesis, Voltaire (1794).

"Given the range of his erudition, the depth of his reflection, and the variety of his interests," writes the eminent Rousseau scholar Roger D. Masters, "it is hardly surprising that Rousseau's influence has changed markedly over time."

> In the eighteenth century, he was the *enfant terrible* of the Enlightenment, denying the legitimacy of the status quo while challenging the concept of progress. In the nineteenth century, he was more often viewed either as the apostle of the French Revolution or as the founder of the romantic movement. For twentieth-century critics, he is often praised as the founder of the western democratic tradition or vilified as a forerunner of totalitarianism. This very range of interpretation suggests that his thought cannot be reduced to a single stereotype or category: Rousseau – like Plato, Hobbes or Marx – deserves to be considered as one of the most profound and complex political thinkers in the history of the West. (Masters 1987, p. 458)

What the twenty-first century will make of the *citoyen de Genéve* remains, of course, to be seen. But no imaginable transmogrification, however it may re-shape Rousseau, will succeed in diminishing his stature as one of the half-dozen supreme political–moral theorists of the last two and a half millennia. Since it is as a political philosopher that Rousseau is at his greatest, it seems reasonable to focus on that side of his accomplishment – and that is what will be done here.

Rousseau's General Will: Freedom of a Particular Kind

Had Rousseau not been centrally concerned with freedom – above all with the voluntariness of morally legitimate human actions – some of the structural features of his political thought would be (literally) unaccountable. Above all, the notion of *general will* would not have become the core idea of his political philosophy: he would just have spoken *à la* Plato, of achieving perfect *généralité* through civic education, as in *Republic* 462b ("do we know of any greater evil for a state than the thing that distracts it and makes it many instead of one, or a greater good than that which binds it together and makes it one"), or would have settled for Montesquieu's republican *esprit général*; he would never have spoken of generalizing the *will* as something central but as difficult as squaring the circle – difficult because one must "denature" particularistic beings without destroying their (ultimate) autonomy. But one must (for Rousseau) have *volonté générale*, not a mere *esprit général*: for "to deprive your will of all freedom is to deprive your actions of all morality," and "civil association is the most voluntary act in the world" (Vaughan 1962, vol. 2, p. 105). That voluntarist side of Rousseau is brought out best by Judith Shklar, who has argued persuasively that the notion of general will "conveys everything he most wanted to say" precisely because it is "a transposition of the most essential individual moral faculty [volition] to the realm of public experience" (Shklar 1969, p. 184).

Moreover: were not generalized will – a will of a very particular kind – essential in Rousseau, the Great Legislator would not have to achieve his civic results (in *Du contrat social* II, 7) by such tortured means – such as "compelling without violence" and "persuading without convincing." Plato (again) didn't worry about this kind of

difficulty because the philosopher-king simply knew the eternal verities such as "absolute goodness" (*Phaedo* 75d) which even the gods know and love (*Euthyphro* 10d–e) and therefore deserved to educate and rule (*Republic* IV); for Rousseau what is needed for perfect politics (*Du contrat social* II, 6) is "a *union* of will and understanding," so that the Great Legislator's civic knowledge is finally, at the end of civic time, *absorbed* into an (originally ignorant) popular general will which is ultimately as "enlightened" as it was always "right." (If Aristotle's critique of *Protagoras* is correct, Plato lacked any adequate notion of volition; but one can only generalize a "will" that actually exists.)

Here the history of "the general will" before Rousseau is illuminating. In Rousseau, the general will is non-natural: it is artificially produced (over time) through the "denaturing," counter-egoistic educative ministrations of Lycurgus or Moses – though at the end of education informed, independent choice must finally be possible (as Émile ultimately says, "I have decided to be what you made me"). But in the seventeenth century inventors of *volonté générale* – ARNAULD (chapter 9), PASCAL (chapter 7), MALEBRANCHE (chapter 11), Fénelon, BAYLE (chapter 17), Leibniz – the general will of God (to "save all men" after the Fall) is *naturally* general: how could one "denature" or transform the will of a perfect being, make him "become" over time what he "naturally" was not? (For Malebranche, for example, the "generality," uniformity and simplicity of God's [Cartesian] operation expresses his perfection: "God acts by *volontés générales* . . . in order to construct or to preserve his work by the simplest means, by an action that is always uniform, constant, perfectly worthy of an infinite wisdom and of a universal cause . . . to act by *volontés particulières* shows a limited intelligence . . . little penetration and breadth of mind" [Malebranche 1958, vol. 5, pp. 147–8]). Rousseau – who knew intimately the entire seventeenth century controversy over "general will" – knew too that a non-divinity must be (to revise a phrase) "forced to be general." But that non-divinity's freedom must finally arrive, as a child (in *Émile*) finally becomes what it was not. Indeed the central problem of all Rousseau's thought is to find a form of non-authoritarian educative authority which will "make men what they ought to be" (*Économie politique*) without (permanently) depriving them of the freedom without which "neither virtues, nor vices, nor merit, nor demerit, nor morality in human actions" is conceivable (*Lettre à M. de Franquières*, 1769).

Nonetheless: even if Rousseau's aim is to "generalize" will over time without destroying freedom – which makes it crucial that he find a non-authoritarian authority that can "compel without violence" – one can say that Rousseau has a more difficult tie in *reconciling* freedom and "what men ought to be" than (most notably) Kant; and here a comparison with Hegel will also be helpful. Rousseau, Kant, and Hegel – separated by whole universes as they are – are all *voluntarists* who make "will" ethically weighty (in the shape of "general will," "good will," and [so-called] "real will"). All three are in search of a non-willful will; all are in full flight from capricious *volonté particulière*, from what Shakespeare calls "hydra-headed willfulness" (*Henry V*, I, i). But for Rousseau the flight from egoism and *amour-propre* ends at the border of Sparta (with the "Spartan mother" on the opening page of *Émile*), while for Kant one "ought" to move on to a universal Kingdom of Ends or (failing that) at least to universal republicanism and eternal

peace. But Kant more easily preserves freedom/autonomy than Rousseau – or Hegel, who wants our "real" will to be "recognition" of the state as rational freedom concretely *realized* – because what "generalizes" (or rather universalizes) will is reason-ordained "objective ends," *not* Lycurgus (or *Bildung*). What moves us away from "pathological" self-love, for Kant, is not a denaturing civic education within Spartan or Roman borders, but simply "seeing" – at the "age of reason" – a moral law which (as a "fact of reason") is just *there*. It is no accident that education (domestic and civic) is everything in Rousseau (and nearly everything in Hegel), and (nearly) nothing in Kant: if "ought" is a fact of reason, Moses' heroic efforts are superfluous (and possibly autonomy-endangering). Rousseau, of course, doubted that there could be a reason-ordained *morale universelle*; for him the crucial line should be drawn *between* the "general" and the "universal," the *polis* and the *cosmopolis*. Doubting (in advance of Kant) that a "Kantian" *kind* of autonomy was possible, Rousseau set himself the daunting task of generalizing will without recourse to "objective ends" – but *with* recourse to educative authority whose highest ambition is to wither away after injecting its (civic, "politan") knowledge into beings who become free in the course of time.

In what follows there will be, first, an examination of the (particular) way in which Rousseau generalizes *volonté* – leaving it (he hopes) free but not willful; and second, a fuller comparison of Rousseau and Kant (and also Hegel) which will try to determine which of these three great modern voluntarists does best in "canceling and preserving" the will.

Why "General Will"?

Rousseau's reasons for using "general will" as his central political concept were essentially philosophical – however ready-made for his purposes the seventeenth-century theological notion may have been. (Does not the Spartan mother have a *volonté générale* to "save" the city, as God has a general will to save "all men"?) After all, the two terms of *volonté générale* – "will" and "generality" – represent two main strands in Rousseau's thought. "Generality" stands, *inter alia*, for the rule of law, for civic education that draws us out of ourselves and toward the general (or common) good, for the non-particularist citizen-virtues of Sparta and republican Rome. "Will" stands for Rousseau's conviction that civil association is "the most voluntary act in the world," that "to deprive your will of all freedom is to deprive your actions of all morality" (*Du Contrat Social*, Vaughan 1962, vol. 2, p. 105). And if one could "generalize" the will, so that it "elects" only law, citizenship, and the common good, and avoids willful self-love, then one would have a general will in Rousseau's particular sense. The (originally divine) *volonté générale* of Pascal, Malebranche, Fenelon and Leibniz corresponded closely to these moral aims: hence why not employ a term already rendered politically usable by Bayle in the *Pensées diverses sur la comète*?

It is scarcely open to doubt, indeed, that the notions of *will* and *generality* are equally essential in Rousseau's moral and political philosophy. Without will there is no freedom, no self-determination, no "moral causality" (*Première version du contrat*

social), no obligation; without generality the will may be capricious, egoistic, self-obsessed, willful.

Rousseau shared with modern individualist thinkers (notably Hobbes and LOCKE (chapter 24)) the conviction that all political life is conventional, that it can be made obligatory only through voluntary, individual consent. Despite the fact that he sometimes treats moral ideas as if they simply "arise" in a developmental process, in the course of socialization (*Lettre à M. de Beaumont*), he often – particularly in his contractarian vein – falls back on the view that the wills of free men are the "causes" of duties and of legitimate authority. Thus in an argument against slavery in *Du Contrat social*, Rousseau urges that "to deprive your will of all freedom" is to deprive your actions of "all morality," that the reason one can drive no notion of right or morality from mere force is that "to yield to force is an act of necessity, not of a will." (This shows in advance how carefully one must interpret the *deliberately* paradoxical phrase, "forced to be free.") In *Inégalité*, in a passage that almost prefigures Kant, he insists on the importance of free agency, arguing that while "physics" (natural science) might explain the "mechanism of the senses," it could never make intelligible "the power of willing or rather of choosing" – a power in which "nothing is to be found but acts which are purely spiritual and wholly inexplicable by the laws of mechanism" (*Discourse on Inequality*, Cole 1950, p. 208). It is this power of freely willing, rather than reason, which distinguishes men from beasts. In the (unpublished) *Première version du contrat social* he had even said that "every free action has two causes which concur to produce it: the first a moral cause, namely the will which determines the act; the other physical, namely the power which executes it" (Vaughan 1962, vol. 1, p. 499). Rousseau, then, not only requires the Kant-anticipating idea of will as "moral causality"; he actually uses that term.

All of this is confirmed by what Rousseau says about will in *Émile*, in which he argues (though a speech put into the mouth of the Savoyard Vicar) that "the motive power of all action is in the will of a free creature," that "it is not the word freedom that is meaningless, but the word necessity." The will is "independent of my senses": I "consent or resist, I yield or I win the victory, and I know very well in myself when I have done what I wanted and when I have merely given way to my passions." Man, he concludes, is "free to act," and he "acts of his own accord" (*Émile*, pp. 243–4). Moreover, human free will does not derogate from Providence, but magnifies it, since God has "made man of so excellent a nature, that he has endowed his actions with that morality by which they are enabled." Rousseau cannot agree with those theologians (for example Hobbes) who argue that human freedom would diminish God by robbing him of his omnipotence: "Providence has made man free that he may choose the good and refuse the evil... what more could divine power itself have done on our behalf? Could it have made our nature a contradiction and have given the prize of well-doing to one who was incapable of evil? To prevent a man from wickedness, should Providence have restricted him to instinct and made him a fool?" (*Émile*, 243–4).

To be sure, the pre-Kantian voluntarism of *Émile* and of *Inégalité* is not the whole story; even in the *Lettres morales* (1757), which were used as a quarry in writing *Émile*, the relation of free will to morality is complicated and problematical. The opening of the fifth *Lettre* – "the whole morality of human life is in the intention of

man" – seems at first to be a voluntarist claim, almost prefiguring Kant's notion in the *Grundlegung* that a "good will" is the only "unqualifiedly" good thing on earth. But this *intention* refers not to the "will" of *Émile*, but rather to "conscience" – which is a "divine instinct" and an "immortal and heavenly voice." Rousseau, after a striking passage on moral feelings ("if one sees . . . some act of violence or injustice, a movement of anger and indignation arises at once in our heart"), goes on to speak of feelings of "remorse" which "punish hidden crimes in secret"; and this "importunate voice" he calls an involuntary feeling (*sentiment involontaire*) which "torments" us. That the phrase *sentiment involontaire* is not a mere slip of the pen (or of the mind) is proven by Rousseau's deliberate repetition of "involuntary": "Thus there is, at the bottom of all souls, an innate principle of justice and of moral truth [which is] prior to all national prejudices, to all maxims of education. This principle is the involuntary rule [*la règle involontaire*] by which, despite our own maxims, we judge our actions, and those of others, as good or bad; and it is to this principle that I give the name conscience." Conscience, then, is an involuntary moral feeling – not surprisingly, given Rousseau's view that "our feeling is incontestably prior to our reason itself" (Rousseau 1971, vol. 4, pp. 1106ff.). And so, while the fifth *Lettre morale* opens with an apparent anticipation of *Émile's* voluntarism, this is only an appearance which proves that it is not straightforwardly right to "find" in Rousseau a predecessor of Kant. Rousseau's *morale sensitive* (one strand of his thought) is not easy to reconcile with rational self-determination (another, equally authentic, strand) – for if Rousseau says that "to deprive your will of all freedom is to deprive your actions of all morality," he also says that conscience is a *sentiment* which is *involontaire*.

The fact remains, however, that while *Émile* was published, the *Lettres morales* were held back. (Perhaps Rousseau anticipated the judgment of Bertrand de Jouvenel that "nothing is more dangerous" than the sovereignty of a conscience which can lead to "the open door to subjectivism" – a judgment no less effective for being borrowed from Hegel's attack on Lutheran "conscience" in the *Phenemenology*.) And in *Émile* Rousseau insists on the moral centrality of free will: so much for the supposed "Calvinism" of one who was (often) closer to being a Pelagian – as Pascal would have pointed out. Hence Rousseau can understand "will" as an independent moral causality with the power to produce moral effects. He definitely thought that he had derived political obligation and rightful political authority from this "power" of willing: "Civil association is the most voluntary act in the world; since every individual is born free and his own master, no one is able, on any pretext whatsoever, to subject him without his consent." Indeed the first four chapters of *Du contrat social* are devoted to refutations of erroneous theories of obligation and right – paternal authority, the "right of the strongest" (*à la* Thrasymachus), and obligations derived from slavery. "Since no man," Rousseau concludes, "has natural authority over his fellow men, and since might in no sense makes right, [voluntary] convention remains as the basis of legitimate authority among men" (Vaughan 1962, vol. 2, pp. 105, 27).

Even if "will" is plainly a central moral, political, and theological notion in Rousseau, this does not mean that he was willing to settle for just any will – such as a particular will or a "willful" will. His constant aim, indeed, is to "generalize" will –

either through civic education, as in the *Gouvernement de Pologne*, or through private education, as in *Émile*. In his view, ancient societies such as Sparta and Rome had been particularly adept at generalizing human will: through their simplicity, their morality of the common good, their civic religion, their moral use of fine and military arts, and their lack of extreme individualism and private interest, the city-states of antiquity had been political societies in the proper sense. In them man had been part of a greater whole from which he "in a sense receives his life and being"; on the other hand, modern "prejudices," "base philosophy" and "passions of petty self-interest" assure that "we moderns can no longer find in ourselves anything of that spiritual vigor which was inspired in the ancients by everything they did" (Vaughan vol. 2, p. 430). And that "spiritual vigor" may be taken to mean the avoidance – through identity with a greater whole – of "that dangerous disposition which gives rise to all our vices," self-love. Political education in an extremely unified ("generalized") state will "lead us out of ourselves" and provide us with a general will before the human ego "has acquired that contemptible activity which absorbs all virtue and constitutes the life and being of little minds" (*Économie politique*, Cole 1950, p. 308). It follows that the best social institutions "are those best able to denature man, to take away his absolute existence and to give him a relative one, and to carry the *moi* into the common unity" (*Émile*, p. 145).

If these reflections on the pernicious character of self-love and particularism are reminiscent of Malebranche – who had urged that "to act by *volontés particulières* shows a limited intelligence," and whose love for divine *généralité* had led Rousseau to rank the great Oratorian Father with Plato and Locke – it is in contrasting Rousseau with Malebranche that an important difficulty arises. In Malebranche, God's will is essentially and naturally general; in Rousseau, men's will must be *made* general – a problem which he likens (in the correspondence with Malesherbes) to that of squaring the circle. But one can reasonably ask: is will still "will" (*qua* independent "moral cause") if it must be denatured, transformed? Do Rousseau's notions of education – private and civic – leave will as the autonomous producer of moral "effects" that he seems to want? One is tempted to say that this is *the* question for one who wants *volonté* and *généralité* to fuse – so that (at the end of time) a perfect "*union* of will and understanding" will synthesize (Lockean) "voluntary agreement" and (Platonic) generalizing education, will blend antiquity ("Sparta") and modernity ("contract") in this "modern who has an ancient soul."

To retain the moral attributes of free will while doing away with will's particularity and selfishness and "willfulness" – to generalize this moral "cause" without causing its destruction – is perhaps the central problem in Rousseau's political, moral, and educational thought, and one which reflects the difficulty Rousseau found in making free will and rational, educative authority co-exist in his practical thought. Freedom of the will is as important to the morality of actions for Rousseau as for any voluntarist coming after Augustine's insistence (*De Libero Arbitrio*) that *bona voluntas* alone is good; but Rousseau was suspicious of the very "faculty" – the only faculty – that could moralize. Thus he urges in the *Économie politique* that "the most absolute authority is that which penetrates into a man's inmost being, and concerns itself with his will no less than with his actions" (Cole 1950, p. 297). Can the will be both an autonomous "moral cause" and subject to the rationalizing,

generalizing effect of educative authority? This is Rousseau's constant difficulty. Even Émile, the best-educated of men, chooses to continue to accept the guidance of his teacher: "Advise and control us; we shall be easily led; as long as I live I shall need you" (*Émile*, p. 444). How much more, then, do ordinary men need the guidance of a "great legislator" – the Numa or Moses or Lycurgus of whom Rousseau speaks so often – when they embark on the setting up of a system which will not only aid and defend but also moralize them. The relation of will to authority – of autonomy to educative "shaping" – is one of the most difficult problems in Rousseau. The general will is dependent on "a union of understanding and will within the social body": but that understanding, which is provided (at least initially) by educative authority – rather than by a Kantian "fact of reason" giving (timeless) "objective ends" – is difficult to make perfectly congruent with "will" as an autonomous "moral cause."

This notion of the relation of educative authority to will appears not just in Rousseau's theories of public or civic education (particularly in the *Économie politique* and the *Gouvernement de Pologne*), but also in his theory of private education in *Émile*. In educating a child, Rousseau advises the tutor, "let him think he is master while you are really master." And then: "there is no subjection so complete as that which preserves the forms of freedom; it is thus that the will itself is taken captive" (*Émile*, p. 84). One can hardly help asking what has become of "will" when it has been "taken captive," and whether it is enough to preserve the mere "forms" of freedom. On this point Rousseau appears to have been of two minds: the poor who "agree" to a social contract that merely legitimizes the holdings of the rich "preserve the forms of freedom," but Rousseau (in *Inégalité*) dismisses this contract as a fraud. Thus it cannot be straightforwardly the case – as John Charvet argues in his remarkable Rousseau study – that the *citoyen de Génève* simply was not "worried by the gap which opens up between the appearance and the reality of freedom" (Charvet 1974, p. 58). And yet Charvet has something of a point, since will is "taken captive" in *Émile* and "penetrated" by authority in the *Économie politique*; and neither that captivity nor that penetration is criticized by Rousseau – despite his *dictum* about depriving one's actions "of all morality" if one deprives his will of "freedom." So one sees again why a general will would appeal to him: capricious willfulness would be "canceled," will rationalized by authority, "preserved."

If will in Rousseau is generalized primarily through an educative authority, which he wants to be provisionally authoritative but not permanently authoritarian, so that volition as "moral cause" is not quite so free as he would sometimes prefer, it is at least arguable that any tension between "will" and the authority that "generalizes" it is only a *provisional* problem. Rousseau seems to have hoped that at the end of political time (so to speak) men would finally be citizens and would will only the common good in virtue of what they had learned *over* time; at the end of civic time, they might actually be free, and not just "forced to be free." At the end of its political education – no *more* "denaturing" or transformative than any true education – political society would finally be in a position to say what Émile says at the end of his "domestic" education: "I have decided to be what you have made me." At this point (of "decision") there would be a "union of understanding and will" in politics, but one in which "understanding" is no longer the private posses-

sion of a Numa or a Lycurgus. At this point, too, "agreement" and "contract" would finally have real meanings: the "general will," which is "always right," would be enlightened as well, and contract would go beyond being the mere rich man's confidence-trick (legalizing unequal property) that it is in *Inégalité*. At the end of political time, the "general will one has as a citizen" would have become a kind of second nature, approaching the true naturalness of *volonté générale* in Malebranche's version of the divine *modus operandi*. "Approaching," however, is the strongest term one can use, and the relation of will to the educative authority that generalizes it remains a problem in Rousseau – the more so because he often denied (in his more Lockean moods) that there is any natural authority on earth.

One can still ask: how can one reconcile Rousseau's insistence on an all-shaping educative authority with his equal insistence on free choice and personal autonomy ("civil association is the most voluntary act in the world")? A possible answer is: *through* his theory of education, which is the heart of his thought – the one thing which can make Rousseaueanism "work." (Thus those who view Rousseau principally as a "philosopher of education" are not mistaken.) At the end of civic time, when men have been denatured and transformed into citizens, they will finally have civic knowledge and a general will – just as adults finally have the moral knowledge and the independence that they (necessarily) lacked as children. For Rousseau there are unavoidable stages in all education, whether private or public: the child, he says in *Émile*, must first be taught necessity, then utility, and finally morality, in that inescapable order; and if one says "ought" to an infant he simply reveals his own ignorance and folly. This notion of necessary educational time, of *becoming* what one was not – Aristotelian potentiality-becoming-actuality, transferred from *physics* to the *polis* – is revealed perfectly in Émile's utterance, "I have decided to be what you made me." That is deliberately paradoxical (as many of Rousseau's central moral–political beliefs are cast in the form of paradoxes); but it shows that the capacity to "decide" is indeed "made." (It is education that "forces one to be free" – by slowly "generalizing" the will.) Similarly, Rousseau's "nations" are at first ignorant: "There is with nations, as with men, a time of youth, or, if you prefer of maturity, for which we must *wait* before subjecting them to laws" (*Du Contrat Social*, Vaughan 1962, vol. 2, p. 56). Waiting, however, requires time; autonomy arrives at the end of a process, and the general will is *at last* as enlightened as it was (always) right. On the most favorable reasonable reading, then, Rousseau does not, as some critics allege, vibrate incoherently between "Platonic" education and "Lockean" voluntariness; if his notion of becoming-in-time works, then the *généralité* of antiquity and the *volonté* of modernity are truly fused by this "modern who has an ancient soul."

Rousseau and Kant

In the end, the "generality" cherished (variously) by Pascal, Malebranche, Fénelon, Bayle and Rousseau turns out to occupy a place midway between *particularity* and *universality*; and that *recherche de la généralité* is something distinctively French. This becomes visible if one contrasts French moral–political *généralisme* with the thought

of Kant, viewed as the perfect representative of German rationalistic universalism ("I am never to act otherwise than so that I could also will that my maxim should become a universal law . . . reason extorts from me immediate respect for such [universal] legislation" [*Grundlegung*, pp. 19–21]), and with that of William Blake, seen as a typical representative of English ethical "empiricism":

> He who would do good to another
> must do it in Minute Particulars,
> General Good is the plea
> of the scoundrel, hypocrite and flatterer.

The discovery of an *ethos* that rises above "minute particulars," that moves toward universality but has its reasons (*le coeur a ses raisons*) for not building *on* reason, and for drawing up short at a more modest *généralité* – the advocacy of a kind of (free) willing that is more than egoistic and self-loving and *particulière* but less than a Kantian, universal, "higher" will – that is the distinctively French contribution to practical thought worked out by Rousseau, who socialized the "general will" bequeathed to him by his greatest French predecessors. The genesis of "general will" is in God; the creation of the political concept – yielding a covenant and a law that is a mosaic of the Mosaic, the Spartan, the Roman, and the Lockean – is the testament of Rousseau.

But why should Rousseau – unlike Kant – have drawn the dividing line between *généralité* and *universalité*, between the *polis* and the *cosmopolis*, between the "citizen" and the "person"? And why does this particular "placing" of the line make it visibly easier for Kant to *reconcile* freedom with "what men ought to be" than for Rousseau? Here a fuller Rousseau–Kant comparison will be helpful; and after that a contrasting of Rousseau *and* Kant with Hegel may be illuminating.

No one has ever doubted that Kant begins his moral philosophy with an insistence on "good will" – that is, with the idea of a "moral causality" (owed to Rousseau), itself independent of natural causality, which is the foundation of man's freedom and responsibility. That good will is crucial to Kant's understanding of politics is quite clear: "public legal justice" is necessitated by the partial or total absence of a good will that would yield, if it could, a non-coercive, universal "ethical commonwealth" (or "kingdom of ends") under laws of virtue. Good will's absence necessitates politics' presence. And the *idea* of an ethical commonwealth generated by good will serves as a kind of utopia that earthly politics can "legally" approximate through eternal peacefulness, both internal and international.

Kant was by no means the first moral philosopher to insist that a good will is the only unqualifiedly good thing on earth; on this point he simply reflects and repeats St. Augustine's *De Libero Arbitrio* I, 12, which argues that a *bona voluntas* is "a will by which we seek to live a good and upright life" and that "when anyone has a good will he really possesses something which ought to be esteemed far above all earthly kingdoms and all delights of the body." (This is remarkably "pre-Kantian": indeed one can wonder whether Kant's kingdom of ends was not suggested by Augustine's denigration of earthly kingdoms.) But Kant, given his radical distinc-

tion between "pathology" and morality, could not have accepted Augustine's further notion of moral "delection," could never have said, with Augustine, that the "man of good will" will "embrace" rightness as the "object of his joy and delight." The Augustinian notion of opposing higher "delectations" to lower ones, so that "concupiscence" is replaced by the love of temperance, prudence, justice, ultimately *God* – by quasi-Platonic sublimated (made-sublime) erotism (as in the *Phaedrus*) – is alien to Kant (though not always to Rousseau who could speak of *morale sensitive*). If, then, Kantian good will is not an Augustinian *delectio*, or "higher" love, what is it? If it is not to be "pathological," it must surely be the capacity to determine oneself to action through what ought to be, so that "ought" is the complete and sufficient incentive. And if what ought to be is defined as respect for persons as members of a kingdom of ends, then Kantian good will will mean "determining oneself to act from respect for persons" (*Grundlegung*, pp. 55–6). Surely this is a reasonable way to read Kant's moral philosophy; for at the outset one cannot know exactly what post-Augustinian *bona voluntas* actually involves.

If, however, good will begins in Augustinianism, Kant, in insisting on will as a kind of undetermined "moral causality" is still more closely related to Rousseau – who, as was seen, had actually urged (in the *Première version du contrat social*) that "... every free action has ... a moral cause, namely the will which determines the act." And Rousseau had also insisted – in an already-examined passage from *Inégalité* – that while "physics" might explain the sense and empirical ideas, it could never explain "acts which are purely spiritual and wholly inexplicable by the laws of mechanism": above all "the power of willing or rather of choosing," and "the feeling of this power." All of this – will as free "moral cause," as something spiritual and not mechanically determined – Kant could and did applaud. But then Rousseau had gone on to say (in *Inégalité*) that one must draw a line between "free agency" and "understanding": that "if I am bound to do no injury to my fellow-creatures, this is less because they are rational than because they are sentient beings" (Cole 1950, p. 208). And this Kant could not accept at all. In Kant's view, if the duty not to injure others rests on "sentience," then one can have duties only if one feels (and sympathizes with) the pains and pleasures of sentient beings. For Kant this is a calamitous view of morality: it makes duty a mere reflection of psychological facts (feelings) that change from moment to moment. Rousseau, in Kant's view, cannot have it both ways: it cannot be the case that "will" is an independent "moral cause" that freely determines moral acts, and the mere tip of an iceberg of feelings. For in the second case "good will" would once again become a quasi-Augustinian *delectio*; it would not be self-determination through a rational concept (e.g. "ought").

Indeed, had not Kant been so boundlessly devoted to the "Newton of the moral world" as the moralist who had "set him straight" and taught him to "honor" mankind – had Rousseau's thought been a mere *objet trouvé* that Kant stumbled across – he would have dealt more harshly with Rousseau. He might easily have said that Rousseau gets the concept of "negative freedom" – not being determined by mechanism – right, but without knowing why. To use the arguments from the *Critique of Pure Reason*, negative freedom in Rousseau is not "critically" established by showing that while *phenomena* must be understood as caused, *noumena* or "things in themselves" are undetermined. At best, from a Kantian perspective,

Rousseau can offer an intuitive account of the *feeling* of freedom, as in *La Nouvelle Héloïse*: "A reasoner proves to me in vain that I am not free, [for] inner feeling [*le sentiment intérieur*], stronger than all his arguments, refutes them ceaselessly" (p. 671). For Kant this anti-Spinozist feeling, however eloquently expressed, must yield to the "Transcendental Deduction's" proof in *Pure Reason* that being an undetermined "moral cause" is conceivable.

But in the treatment of "positive freedom," Rousseau is still more problematical from a Kantian point of view. For positive freedom in Kant means self-determination through an objective moral law ("ought") enjoining respect for persons-as-ends. But Rousseau (a strict Kant would say) is wholly sound neither on self-determination nor on "ought." He frequently undercuts real self-determination – true spontaneity or "autonomy" – by reducing morality to a natural, "pathological" feeling (such as sympathy), or by saying, as in the *Lettres morales*, that "conscience" is a *sentiment involontaire* which precedes both reason and will. As for "ought," that shifts from work to work: in *Du contract social* it is *généralité* and the avoidance of "particularism" in one's willing; in the *Profession de foi du Vicaire Savoyard* it is an "order" that reflects the divine world order, making morality nature's "analogue"; in the earlier books of *Émile* it is Stoicism or limiting one's desires to match one's powers. Only in the eighth of the *Lettres écrites de la montagne* (1764) does Rousseau get both negative and positive freedom nearly right from a Kantian perspective; there he speaks of not being determined and of not determining others:

> It is vain to confuse independence and liberty. These two things are so different that they even mutually exclude each other. When each does what pleases him, he often does something displeasing to others; and that cannot be called a free condition. Liberty consists less in doing one's will than in not being subject to that of another; it consists again in not submitting the will of another to our own. Whoever is master cannot be free; to rule is to obey. (p. 57)

(This is one reason why the "great legislator" does not *rule*, but only helps a people to "find" the general will it is "seeking" – or would seek, if it "knew." If the legislator were a "master," he would not have to bend backwards to "persuade" without convincing – so that freedom can *finally* arrive.)

One wonders whether Kant did not have this passage from the *Lettres écrites de la montagne* in mind when he said that "Rousseau set me straight... I learned to honor mankind." Rousseau's notion in *Montagne* that one should neither be subjected, nor subject others, comes closest to a Kantian "negative" freedom which allows one "positively" to respect persons as objective ends.

But if this is Rousseau's closest approach to Kant, Kant still wanted to turn back Rousseau's claim that "free agency" is separated from understanding or reason. Against that, Kant wanted to show that a truly free will – finally *good*, not merely *general* – would be determined by "practical reason" itself. That is why Kant insisted in the *Grundlegung* that

> Everything in nature works according to law. Rational beings alone have the faculty of acting according to the conception of laws, that is according to principles, i.e. have a

> will. Since the deduction of actions from principles requires reason, the will is nothing but practical reason. The will is a faculty to choose that only which reason independent of inclination recognizes as practically necessary, i.e. good. (p. 30)

Had Rousseau (consistently) risen to this view of rational self-determination, in Kant's opinion, he would not (occasionally) have undermined his own distinction between "physics" and free agency by reducing good will to non-rational sympathy for sentient beings. For Kant sympathy and sentience are, equally, "pathological" feelings caused by nature; that being so, one does not escape from the very "laws of mechanism" which Rousseau himself rejected by placing a gulf (unreasonably) between reason and freedom. All of this suggests what Kant actually believed: that one cannot find a real duty *in* sympathy, feelings of pleasure and pain, or happiness, simply because the concept of moral necessity cannot be derived from the bare *data* of psychology. Why Kant thought that "ought" cannot be extracted from nature – even human "nature" or psychology – he made especially clear in a quasi-Platonic passage from *Pure Reason* that is the foundation of his whole practical philosophy:

> That our reason has causality, or that we at least represent it to ourselves as having causality, is evident from the *imperatives* which in all matters of conduct we impose as rules upon our active powers. "Ought" expresses a kind of necessity ... which is found nowhere else in the whole of nature. The understanding can know in nature only what is, what has been, or what will be ... When we have the course of nature alone in view, "ought" has no meaning whatsoever. (A 547/B 575)

Precisely here – and equally in *Practical Reason*'s insistence that the moral law is just there as a "fact of reason," underivable from *anything* else (nature, custom, God) – lies the gulf that separates Rousseau and Kant (anti-willful voluntarists though they both are). If, for Rousseau, reason had "causality," we wouldn't stand in need of Moses' or Lycurgus' *educative* "causality": the will would be generalized (or rather universalized) by a Kantian "objective end" (respect for persons as members of a kingdom of ends) which is *unproblematical* for freedom because all rational beings simply "see" that end (at the age of reason). The whole Kantian "universalizing" operation is completely impersonal: there is no person (Lycurgus) bending backwards to be impersonal, non-authoritarian, persuading-without-convincing. In Kant one isn't made free (in time): one simply knows "ought" and takes himself to be free (able to perform ought's commands) *ab initio* – much as Meno's slave just "has" astonishing geometrical knowledge. Of course – and Rousseau would (reasonably) insist on this – Kantianism works only if there are universal, reason-ordained "objective ends" which we "ought to have"; and Rousseau worried about every term in that sentence: whether we can know a *morale universelle* which is "beyond" the *générale*, whether "reason" ordains anything (morally), whether there are "ends" that all rational beings "see" (as facts of reason). Negatively, Kant and Rousseau are companions-in-flight from self-loving *volonté particulière*; positively, they offer the still-viable *contrasting* possibilities once that flight is over – rational, universal, cosmopolitan morality valid for *persons*, vs. educator-shaped, general, politan *civisme* valid for a *citoyen de Génève* or *de Sparte*. (Try to

imagine Kant as *citoyen de Königsberg*: that will measure very precisely the distance from Switzerland to Prussia.)

Without "waiting" (as it were) for the actual Kant, Rousseau treated "Kantian" moral universalism and rationalism in his great attack on Diderot, the *Première version du contrat social* – a work in which Rousseau says, in effect: *of course* one can readily make freedom and "what men ought to be" congruent if autonomous rational agents just "see" the right and the good for themselves. But what if a moral or general standpoint has to be *attained*, over time, through a denaturing anti-egoism which will nonetheless finally *cause* autonomy? That is the permanent "Rousseau-question" which "Kantians" *ought* (suitably enough) to keep in mind – as Kant himself certainly did.

Rousseau's radical doubts about the real existence of any universal, reason-ordained morality come out most plainly and brilliantly in the *Première version* – that remarkable refutation of Diderot's *Encyclopédie* article, "Droit naturel," arguing that there is a universal *volonté générale* of and for the entire *genre humain*, a rational *morale universelle*.

In "Droit naturel," Diderot had argued that "if we deprive the individual of the right to decide about the nature of the just and the unjust," we must then "take this great question... before the human race," for the "good of all" is the "sole passion" that this most-inclusive group has. Paralleling Rousseau (initially), Diderot goes on to say that "*volontés particulières* are suspect," for they can be indifferently good or wicked, but that "the general will is always good," since it has never "deceived" and never will. It is to this always-good, never-deceiving *volonté générale* "that the individual must address himself," Diderot insists, "in order to know how far he must be a citizen, a subject, a father, a child, and when it is suitable for him to live or to die" (Vaughan 1962, vol. 1, p. 431).

So far, no great gap has opened up between Diderot and Rousseau. But when Diderot begins to indicate where the general will is *deposited*, he moves in the direction of a proto-Kantian universalism which is (usually) foreign to the citizen of Geneva. The general will can be "consulted," he urges, "in the principles of the written law of all civilized nations; in the social actions of primitive and barbarous peoples; in the tacit conventions of the enemies of the human race between themselves; and even in indignation and resentment, those two passions that nature seems to have placed even in animals, to supply the defect of social laws and public vengeance." Diderot's nominal *généralité* is in fact a *morale universelle* (to use his own term); it relates to the whole *genre humain*, and seems to extend even to "honor among thieves." Rousseau's *volonté générale* – of Rome, of Sparta, of Geneva – is a great deal more *particulière*; indeed in the *Gouvernement de Pologne* Rousseau insists on the importance of national peculiarities and particularities that should not be submerged in a cosmopolitan universalism. For Diderot, then – as Robert Wokler has elegantly put it – the general will is to be found almost everywhere, whereas Rousseau doubts that it has ever been fully realized anywhere.

In the next section of "Droit naturel," Diderot goes on to urge – after repeating that "the man who listens only to his *volonté particulière* is the enemy of the human race" – that "the general will is, in each individual, a purse act of the understanding which reasons in the silence of the passions about what a man can demand of

his fellow-man and about what his fellow-man has the right to demand of him" (Vaughan 1962, vol. 1, p. 432). And it is at this very point that Diderot begins to be separated from Rousseau: the *citoyen de Génève*, as he styled himself, would have stressed precisely "citizenship" and "Geneva," and would never have urged that *volonté générale* is immediately dictated by understanding or reason (as distinguished from will-generalizing civic education). Had Rousseau thought that, the passions being "silent" (a phrase Diderot borrows from Malebranche), understanding and reason could alone dictate what is right, he would never have made his famous claim that "the general will is always right" but "the judgment which guides it is not always enlightened." If reason alone dictated right (as in Kant it furnishes "ought"), Rousseauean men would have no need of a Numa or a Moses to help effect "a union of understanding and will."

Book 1, chapter 2 of Rousseau's *Première version* is a refutation of Diderot's rationalism and universalism; but it also provides more than a hint of what Rousseau *would* have said about Kant's distinctive way of combining "ought" and freedom. At one time, to be sure, Rousseau had himself stressed a roughly comparable *morale universelle*; in an early, unpublished fragment called *Chronologie universelle* (*c.* 1737) he had appealed to Fénelon's notion of a universal Christian republic:

> We are all brothers; our neighbors ought to be as dear to us as ourselves. "I love the human race more than my country," said the illustrious M. de Fénelon, "my country more than my family and my family more than myself." Sentiments so full of humanity ought to be shared by all men... The universe is a great family of which we are all members... However extensive may be the power of an individual, he is always in a position to make himself useful... to the great body of which he is a part. If he can [do this], he indispensably ought to...

Later, of course – most clearly of all in the *Première version* – Rousseau would abandon the *universelle* in favor of the *générale* and exchange the *respublica christiana* for more modest republics: Sparta, Rome, Geneva. Indeed his great difference from Diderot – and, "in advance," from Kant – rests precisely in the difference between the *universelle* (known to all by reason alone, in the "silence of the passions") and the *générale* (known to citizens of a particular republic through a civic education supplied by Numa or Moses or Lycurgus). Hence Rousseau's problem with freedom: he must find an authoritative person who is neither authoritarian nor personal, who generalizes will while leaving it voluntary. Diderot and Kant, different as they are, do not have this difficulty.

That Rousseau is not going to argue for a reason-ordained *morale universelle* valid for the entire human race – whether in a late-Stoic, Diderotian, or Kantian shape – is evident in the opening sentence of the *Première version*: "Let us begin by inquiring why the necessity for political institutions arises." If a passion-silencing reason spoke to and governed all men, no mere particular political institutions would arise at all (as Locke had already shown in section 128 of the *Second Treatise*, saying that only a "corrupt" rejection of reason keeps a unitary, unfied mankind from being perfectly governed by natural law). Rousseau is struck by the beauty of Diderot's *morale universelle*: "No one will *deny* that the general will in each individual is a

pure act of the understanding, which reasons in the silence of the passions about what man can demand of his fellow-man and what his fellow-man has the right to demand of him." But where, Rousseau immediately and characteristically asks, "is the man who can be so objective about himself, and if concern for his self-preservation is nature's first precept, can he be forced to look in this manner at the species *en général* in order to impose on himself duties whose connection with his particular constitution is not evident to him?" If reason is not directly morally efficacious (as it cannot be, if great legislators are to have the important formative function that is assigned to them in *Du contrat social*), and if "natural law" is scarcely natural (as *Inégalité* tries to prove), then the natural man who fails to find his particular good in the general good will instead become the enemy of the *genre humain*, allying himself with the strong and the unjust to despoil the weak. "It is false," Rousseau insists, "that in the state of independence, reason leads us to cooperate from the common good" (*Première version*, Vaughan 1962, vol. 1, pp. 159–60).

So strongly does this current of thought sweep Rousseau along that he mounts a brief assault on *généralité* that would be fatal not just to Diderot, but to his own political aims as well: "If the general society [of the human race] did exist somewhere other than in the systems of philosophers, it would be . . . a moral being with qualities separate and distinct from those of the particular beings constituting it, somewhat like chemical compounds which have properties that do not belong to any of the elements composing them." In such a *société générale* "there would be a universal language which nature would teach all men and which would be their first means of" communication"; there would also be a "kind of central nervous system which would connect all the parts." Finally, "the public good or ill would not be merely the sum of private goods and ills as in a simple aggregation, but would lie in the liaison uniting them. It would be greater than this sum, and public felicity, far from being based on the happiness of private individuals [*des particuliers*], would itself be the source of this happiness" (*Première version*, Vaughan 1962, vol. 1, pp. 159–60).

Plainly this argument goes too far, since Rousseau himself wants to argue for a general good that is more than a mere sum or aggregation of private goods and ills; it is no wonder that he suppressed the *Première version*. Nevertheless the dilemma remains that a general society cannot be produced by passion-silencing "reason" alone. The only way out of the dilemma, *selon* Rousseau, is through denatured, non-natural "new associations" (Sparta, Rome, Geneva) that take the place of well-meant but imaginary reason-governed *sociétés générales* and which, through rigorous civic education, draw natural beings out of their (equally natural) ego-centrism, bringing them to think of themselves (finally) as "parts of a greater whole" – a whole less extensive, but more realizable, than a *respublica christiana* or a kingdom of ends. The particular social remedies designed to overcome *particularité* and self-preference at the end of the *Première version* are rather abstractly, even vaguely, characterized ("new associations," "new insights," "perfected art"); but one knows from other works such as the *Économie politique* and the *Gouvernement de Pologne* how Rousseau proposes to produce, through an educative shaping which finally yields "enlightened" free choice, a civic *volonté générale* which is certainly no cosmopolitan *esprit universel*.

In the end, for Rousseau, no *morale universelle* – not a Christian one based on universal charity, not a Diderotian one grounded in passion-silencing reason, not a Kantian one resting on reason-ordained "objective ends" – can help in the transformation of natural men into denatured citizens. The *générale* must be (somewhat) *particulière*. This explains the weight which Rousseau gives to education. For him, men do not naturally think of themselves as parts of a greater whole – a *genre humain* or a *Reich der Zwecke* – and must therefore be *brought* to a non-natural civic belief. But at the end of civic time – if *volonté* is to be equal to *généralité* – they must finally see the force of Émile's "I have decided to be what you made me."

Rousseau and Hegel

If Rousseau's "generalism" can be illuminated by contrasting it with Kant's "universalism" – and this makes it plain that for Rousseau freedom must be made congruent with *shaping* and *becoming*, while for Kant ought is just "there" and doesn't endanger autonomy – one can throw some further light on Rousseau's effort to find a generalized *volonté* which will be voluntary but not "willful" by contrasting the Rousseauean operation with that of Hegel.

Here the first thing to be said is that Hegel strives to place more distance between himself and the citizen of Geneva than is really warranted. After all, Rousseau would agree with Hegel's assertion, in the Preface to the *Philosophy of Right*, that human thought is "perverted into wrong" if it "knows itself to be free only when it diverges from what is generally recognized and valid [*Allgemein-Anerkannten*], and when it has discovered how to invent for itself some particular character" (*Philosophy of Right*, p. 4). That sounds like, and is, a Teutonic echo of the *Économie politique*. Rousseau, moreover, would find little to reject – though much to re-word – in Hegel's further claim that in the "ethical substantial order . . . the self-will of the individual has vanished together with his private conscience which had claimed independence and opposed itself to the ethical substance," so that there is finally an "identity of the general will with the particular will [*Identitat des allgemeinen und besonderen Willens*]." And Rousseau would surely approve Hegel's definition of hypocrisy as "knowledge of the true general" coupled with "volition of the particular which conflicts with this generality" – a particular willing which is "evil in character."

But if Hegel praises Rousseau for correctly "adducing the will as the principle of the state" (rather than falling back on "gregarious instinct" or "divine authority"), if he congratulates him for seeing that "the will's activity consists in annulling the contradiction between subjectivity and objectivity and giving its aims an objective instead of a subjective character, while at the same time remaining by itself even in objectivity," he also, quite surprisingly, accuses Rousseau of deifying "the will of a single person in his own private self-will, not the absolute or rational will" (*Philosophy of Right*, p. 156). This seems unjust, even perverse, if it is true that Rousseauean *volonté générale* is neither merely "private" nor simply "rational" – that it is general rather than universal, Lycurgus-shaped rather than reason-ordained. Hegel speaks as if there were nothing between the private and "capricious" on the one

hand, and the rational and the universal on the other; but that simply rules out Rousseau's distinctive mediation between subjective egoism and objective "higher" will. Thus when Hegel says in section 258 of the *Philosophy of Right* that Rousseau's "'general will'... reduces the union of individuals in the state to a contract and therefore to something based on their arbitrary wills," he neglects (generally, willfully) Rousseau's heroic effort to transform traditional Lockean contractarianism into a notion of educated, no-longer-fraudulent consent at the end of civic time, after the general will is finally as "enlightened" (and free) as it was always "right." He does injustice to Rousseau's valiant striving to transcend arbitrariness by bringing each denatured citizen to think of himself as "part of a greater whole." To be sure, Hegel thought he saw in Rousseau the embryo of Robespierre, the germ of the Terror: "The phenomena which [Rousseauanism] has produced both in men's heads and in the world are of a frightfulness parallel only to the superficiality of the thoughts on which they are based" (*Philosophy of Right*, p. 157). Despite the incomparable brilliance of Hegel's reading of the unfolding of Western *Geist* – one thinks of his definitive interpretations of "Antigone" and "Hamlet" – this reading of Rousseau is itself "superficial": Rousseau, not unlike Hegel, wanted citizens to embrace a "concrete" universal (the polity), not mere Kantian universalizing of maxims through non-political "good will." In short: Hegel ought to have understood Rousseau better, but he (in Shklar's words) "refused to honor his debt to Rousseau" (Shklar 1976, p. 207). (May it be the very fact that Rousseau, Kant and Hegel are "anti-willful voluntarists" that leads Hegel to accuse Rousseau of "superficiality" and Kant of being an "arid formalist" who tries to torture substantive ethics out of bare logic ["universality"]? May the fact that Rousseau and Kant were half right – in opposing *volonté particulière* – have distressed Hegel, who wanted will to be "satisfied" with the modern state *qua* rational freedom concretely "realized"? Were Rousseau and Kant too close for comfort, but not *quite* right enough?)

A Brief Conclusion

Following these Kantian and Hegelian critiques of the precise way in which Rousseau balances freedom and "what men ought to be" – and what Rousseau always wants is a generalized *volonté* which is finally free because it finally "sees" ("I have decided to be...") – one can give the final word to Rousseau himself.

Rousseau not only wanted to "secularize" the general will – to turn it (mainly) away from theology (and God's will to save "all men"); he wanted to endow human beings with a will, a really efficacious "power" of choosing, which can then be subjected to the generalizing influence of civic education – a republican education which Montesquieu eloquently described but took to have vanished from the modern (monarchical) world. First *real* will, then *general* will; that is what Rousseau would say to his great French predecessors. This is not to say that Rousseau thought he knew perfectly what *la volonté* is: but in his most extensive and important treatment of volition (*Émile*, Book 4) Rousseau never allowed (unavoidably incomplete) knowledge of will to cast doubt on either the real existence or the moral necessity of this "faculty." And so he has the Savoyard Vicar ask:

> How does a will produce a physical and corporeal action? I know nothing about that, but I experience in myself [the fact] that it produces it. I will to act, and I act; I will to move my body, and it moves; but that an inanimate body at rest should begin to move itself by itself, or produce movement – that is incomprehensible and unexampled. The will is known to me by its acts, not by its nature. I know this will as motor cause, but to conceive matter as the producer of movement is clearly to conceive an effect without a cause, which is to conceive absolutely nothing.

This doctrine, Rousseau has the Vicar say, is admittedly "obscure"; but it "makes sense" and contains nothing repugnant to either reason or observation. "Can one say as much of materialism?" the Vicar finally asks.

The answer is clearly, "no." And that answer remained constant, seven years after *Émile*, when Rousseau wrote his magnificent *Lettre à M. de Franquières* – in which he urges his correspondent to abandon a materialism and a determinism which are fatal to freedom and morality:

> Why do you not appreciate that the same law of necessity which, according to you, rules the working of the world, and all events, also rules all the actions of men, every thought in their heads, all the feelings of their hearts, that nothing is free, that all is forced, necessary, inevitable, that all the movements of man which are directed by blind matter, depend on his will only because his will itself depends on necessity; that there are in consequence neither virtues, nor vices, nor merit, nor demerit, nor morality in human actions, and that the words "honorable man" or "villain" must be, for you, totally devoid of sense... Your honest heart, despite your arguments, declaims against your sad philosophy. The feeling of liberty, the charm of virtue, are felt in you despite you.

Here, more than anywhere else in Rousseau, *le coeur a ses raisons que la raison ne connait point*. But this Pascalian "heart" is used to defend a freedom of willing that Pascal himself would certainly have called "Pelagian." And if that will can be generalized by a non-authoritarian educative authority, the final product will be the realization of Rousseau's highest civic ideal: the *volonté générale* one has "as a citizen."

Had Rousseau not been centrally concerned with freedom – above all with the voluntariness of morally legitimate human actions – he would never have made "the general will" the core idea of his political philosophy.

References

Charvet, John, 1974, *The Social Problem in the Philosophy of Rousseau*. Cambridge: Cambridge University Press.

Cole, G. D. H. (trans.) 1950, *Rousseau: The Social Contract and Discourses*. New York: Everyman.

Hegel, Georg Wilhelm Friedrich, 1942, *The Philosophy of Right*. Oxford: Clarendon Press.

Kant, Immanuel, 1949, *Fundamental Principles of the Metaphysics of Morals*, T. K. Abbott, trans. Indianapolis: Library of Liberal Arts.

Malebranche, Nicolas, 1958, *Oeuvres complètes*, A. Robinet, dir., 12 vols. Paris: J. Vrin.

Masters, Roger D., 1987, "Jean-Jacques Rousseau," in *The Blackwell Encyclopedia of Political Thought*, ed. David Miller. Oxford: Blackwell.
Rousseau, Jean-Jacques, 1764, *Lettres écrites de la montagne*. Amsterdam: Rey.
—— 1910, *Émile*, trans. Foxley. London: Dent.
—— 1960, *La Nouvelle Héloïse*. R. Pomeau, ed. Paris: Garnier.
—— 1971, *Oeuvres complètes*. Paris: Editions de Seuil.
Shklar, Judith, 1969, *Men as Citizens: A Study of Rousseau's Social Theory*. Cambridge: Cambridge University Press.
—— 1976, *Freedom and Independence*. Cambridge: Cambridge University Press.
Vaughan, C. (ed.) 1962, *Rousseau: Political Writings*. Oxford: Blackwell.

Further Reading

Cassirer, Ernst, 1963, *The Question of Jean-Jacques Rousseau*, trans. Peter Gay. New York: Columbia University Press.
Cranston, Maurice, 1983–97, *A Rousseau Biography*. Volume 1: *Jean-Jacques*, Volume 2: *The Noble Savage*, Volume 3: *The Solitary Self*. London: Allen Lane and Viking.
Hendel, C. W., 1934, *Jean-Jacques Rousseau, Moralist*. 2 vols. Oxford: Oxford University Press.
Kavanagh, Thomas, 1987, *Writing the Truth: Authority and Desire in Rousseau*. Berkeley: University of California Press.
Kelley, Christopher, 1987, *Rousseau's Exemplary Life: The Confessions as Political Philosophy*. Ithaca: Cornell University Press.
Leigh, R. A. (ed.) 1982, *Rousseau After 200 Years*. Cambridge: Cambridge University Press.
Masters, Roger D., 1968, *The Political Philosophy of Jean-Jacques Rousseau*. Princeton: Princeton University Press.
Riley, Patrick, 1986, *The General Will Before Rousseau*. Princeton: Princeton University Press.
Starobinski, Jean, 1988, *Jean-Jacques Rousseau: Transparency and Obstruction*. Chicago: University of Chicago Press.
Wokler, Robert, 1995, *Rousseau*. Oxford: Oxford University Press.

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Voltaire

GARY GUTTING

Voltaire lived a long and complexly eventful life that covered just about the entire span of the Enlightenment (1696–1778) and placed him at the center of its projects and achievements. He was born François-Marie Arouet, on November 21, 1694, in Paris. His parents were prosperous members of the upper-middle-class, who had connections with the nobility and aspirations for even greater social advances through their brilliant second son. Young Arouet was educated from age twelve to sixteen at the famous Jesuit *collège*, Louis-le-Grand (a favorite of aristocrats and attended by several *philosophes*), where he showed exceptional talent and received excellent training in the Greek and Roman classics. But he did not turn out to be the good Catholic lawyer his parents had hoped for. He rejected the law for literature and very soon made his name as a poet and playwright. Even more disconcerting, he lost his faith, becoming flippantly skeptical and anticlerical, a frequenter of free-thinking Parisian society. The result was a break with his family and his adoption of the pseudonym (of unclear origin) by which he is known to history.

Voltaire's first fame was for his play *Oedipe* (1718), which contemporaries thought put him in the company of Corneille and Racine, and his epic poem, the *Henriade* (1723), which won him favorable comparison with Vergil. These successes made him the darling of the aristocratic literary salons, but events soon revealed the precariousness of his position as an upstart commoner. A quarrel with the Chevalier de Rohan culminated in Voltaire's drubbing by the Chevalier's servants. His hopes that his aristocratic friends would be outraged proved empty as he learned a vivid lesson in the power of class distinctions in pre-Revolutionary France.

In the wake of this incident (and after a brief detention in the Bastille, mostly for his own protection), Voltaire left for England in 1726, where he learned English well and mixed with leading British intellectuals over the next two years. He became very enthusiastic for the English traditions of political and religious toleration, for NEWTON's (chapter 26) physics, and for JOHN LOCKE's (chapter 24) empiricist philosophy. He later expressed these enthusiasms in his *Philosophical Letters* (1734), in which his praise for England also conveyed sharp criticism of French institutions and thought. The *Letters* caused a great scandal and were publicly burned by Paris's hangman, but they established Voltaire as a major critic of society and religion and set the tone for much the rest of his life's work.

A major feature of the next fifteen years of Voltaire's life (1734–49) was his close connection with Émile du Chatelet, his mistress as well as his intellectual companion in a period of intense study and reflection. Their work – much of it done at Madame du Chatelet's chateau at Cirey in Champagne – focused on the natural sciences, in which du Chatelet was particularly capable, and on the critical scrutiny of religion and the Bible. Voltaire produced a popularization of Newtonian physics and also wrote much of the material that he published later (from 1760 on) in his assault on Christianity.

Beginning in the 1740s, Voltaire became deeply involved in the affairs of royal courts, both at Louis XV's Versailles and at Frederick the Great's Berlin. With the support of Madame Pompadour, he became the Royal Historiographer and was elected to the Académie française. But the French royal favor did not last, and by 1750 Voltaire had become Frederick's friend and the principal ornament of his court. This lasted until 1753, when these two strong personalities quite predictably fell out. Shortly after leaving Berlin, Voltaire settled (in 1755) near the French–Swiss border, not far from Geneva, where he lived for the rest of his life. In 1759 he purchased a chateau called Ferney, where, until his death in 1778, he held court to the world. He became recognized as the grand old man of the Enlightenment (the acknowledged *maître*, as Diderot called him), who received the homage of a constant stream of visitors. In this period, he was extremely active in protests against gross miscarriages of justice, such as the execution of Jean Calas. He also conducted an increasingly intense polemic against the absurdities of Christian doctrines and the viciousness and corruption of the Catholic Church, eventually ending all his letters with the famous phrase, "écrazez l'infâme" ("crush the infamous thing").

In February, 1778, Voltaire made his first trip to Paris in many years and was greeted with tumultuous adulation. But the strain of Parisian life broke his health and by the end of May he was seriously ill. His fear of not receiving a decent burial led him to confess to a priest and sign an ambiguous statement purporting to reconcile himself with the Church. But Voltaire endorsed no specific doctrines, did not repudiate any of his writings, and his final words, to two priests pressing him for a concrete avowal of faith, are said to have been "Let me die in peace." He died on May 30, 1778.

Voltaire's formation as a philosophical thinker occurred during his visit to England during the mid-1720s. As John Morley put it, Voltaire went to England a poet and returned a philosopher. Unlike many others in the France of the time, Voltaire accepted whole-heartedly the scientific achievements of Isaac Newton – "the greatest man," he said, "who ever lived" – and his school. Specifically, he was committed to the Newtonian picture of the universe as a vast mechanical system of material bodies, all interacting in accord with exact and unchanging laws. Voltaire was particularly impressed by the immense scale of the Newtonian universe and by the insignificance, in comparison, of what, in *Micromegas*, he called "our little anthill". He was also impressed by standard deistic arguments (from the universal order revealed by Newton's system) to the existence of God as supreme orderer and designer. Voltaire saw Newton's success as due to his rigorously empirical, non-speculative methodology, expressed in the famous "hypotheses non fingo" ("I do not frame hypotheses"). The moral, as Voltaire saw it, was that all inquiry should

follow Newton's "experimental method," proceeding on the basis of solid experience and eschewing speculative or mystical flights of pure reason.

Voltaire greatly admired John Locke's application of this Newtonian approach to the study of the human mind. He endorsed Locke's critique of DESCARTES (chapter 5), which rejected the Cartesian doctrine of innate ideas and denied Descartes' claim to have a direct and certain intuition of the mind as an immaterial thinking substance. Rather, Voltaire maintained that the ultimate nature of the mind must remain a mystery to us and that, in particular, we cannot rule out the possibility that it is a material entity.

Voltaire was also very impressed, although in a negative way, by the great seventeenth-century mathematician and religious thinker, BLAISE PASCAL (chapter 7), whose *Pensées* he discussed at length in his twenty-fifth *Philosophical Letter*. He saw Pascal as a giant whose shadow blocked the path of enlightenment. His primary differences with Pascal are over the understanding of evil. Pascal was obsessed with the evil and misery inherent in human nature and saw the doctrine of original sin as key to human psychology. More generally, he tried to explain all of human existence in terms of Christian theological doctrines of sin, grace, and redemption. This, in turn, led him to emphasize the value of suffering as a means to the triumphal happiness of the afterlife. Voltaire, by contrast, saw human suffering as of no discernable value and urged social action to eliminate it as far as possible. He also maintained that our life on earth, for all its horrors, has a precious value in its own right and does not require supernatural redemption. He acknowledged the mysteriousness of human existence but argued against Pascal that the mystery is by no means lessened by appeals to incomprehensible theological doctrines.

Voltaire's overall philosophical stance is a combination of *skepticism*, *empiricism*, and *humanism*. His skepticism is directed not at the common-sense beliefs (for example, in an external world and in moral principles) that make our lives possible but at metaphysical and theological dogmas that purport to provide knowledge beyond these mundane truths. This skepticism is complemented and reinforced by an empiricism that asserts our knowledge of what is given to the senses and what can be logically inferred from this given, but denies our capacity for substantial knowledge beyond these limits. Voltaire's humanism involves an acceptance of our human life in this world as meaningful in its own terms and livable for its own sake. It condemns the intolerance that persecutes those who refuse to accept unprovable metaphysical or theological doctrines.

Voltaire's views are most fully worked out on questions of religious belief. Given his reputation as a denier of religion, it is important to emphasize that he has strong religious commitments and regarded his "anti-religious" writings as a denial of false religion on behalf of true.

Voltaire's religion centers on his consistent and sincere affirmation of God's existence. He was often accused of atheism because he denied any specific intervention of God in human history – an action he thought inconsistent with the divine nature. But Voltaire did think that God was revealed in the reality and order of nature as a whole. He made no important contribution to the project of philosophical proofs of God's existence but rather accepted the standard cosmological and teleological arguments as inferences that should be obvious to anyone who pays

them minimal attention. (He does evoke a less standard "argument from pleasure": "Physically, pleasure is divine; I hold that every man who drinks Tokay wine, who makes love to a beautiful woman . . . must recognize a supreme and beneficent Being.")

Voltaire's position is often dismissed as an effete, virtually meaningless deism, asserting no more than a vague, impersonal God, who has no concern for humans and who is, in any case, entirely beyond our understanding. But, although Voltaire allows little knowledge of God, this little is of crucial importance. We do know that God has created the universe, that he governs the course of this universe, and that this creation and governance show his supreme power and goodness. This is slight knowledge compared with the heady metaphysical and theological claims of, say, the Christian religion. But it is knowledge with major moral import. Our dependence on God as our creator calls out for us to worship him as the source of all our good; and the only meaningful way of providing this worship is to emulate the divine goodness by leading good lives of love, tolerance, and compassion for our fellow humans. Moreover, we are aided in leading such lives through our knowledge of God. Knowing that he is our common father encourages us to treat all humans as brothers and sisters, and realizing our insignificance in comparison with God and his universe helps take us beyond the pretty prejudices and desires that lead us to treat one another badly. Further, since one aspect of the divine goodness is justice, we can be sure that, one way or another, good lives will be rewarded and bad lives punished. In sum, Voltaire's God is extremely important to human existence, even intimately involved in our lives. But his significance is moral rather than theological. What we know of him is constant source of the strength and inspiration we need to lead good lives, even though it does not include specific information about detailed beliefs, codes, or rituals required for salvation.

The moral dimension is still more dominant in Voltaire's view of immortality. In contrast to his view of arguments for God's existence, he is entirely skeptical of metaphysical efforts to prove survival after death; we know too little of the soul – what it might be or even if it actually exists – to support any such demonstrations. There are bases for belief in immortality, but they are entirely moral. Voltaire was particularly impressed by the proto-Kantian argument that immortality is necessary to reconcile divine justice with the suffering of innocents and by the pragmatic argument that moral order might well collapse without a general acceptance of sanctions in an afterlife.

Although Voltaire's strictly philosophical writings had wide influence and are important for understanding the intellectual core of his work, his real achievement was in the literary expression of philosophical issues, particularly in *Candide* and other stories, where he reflects on the problem of evil. Voltaire is not centrally concerned with the *logical problem* of evil, with whether we can show that the existence of God is possible (or probable) given the evil that exists. To the extent that he is concerned with this issue, he seems content to accept a broadly Leibnizian solution, maintaining that there may well be goods that even an all-powerful God cannot realize without accompanying evils. But Voltaire's focus is rather on the *moral problem* of evil: the question of how, if at all, we can lead a meaningful life given all the evil our world is prey to.

There are two opposed responses to this problem, both of which Voltaire finds ultimately unsatisfactory. Optimism holds that, since our lives are in the control of an all-good, all-powerful God, everything that happens is for the best, and we should welcome it as part of God's overall plan for the best of all possible worlds. Pessimism, to the contrary, holds that since evil is an unavoidable fact of human existence, there is no point trying to avoid it and the proper attitude is a cynical awareness of the sad facts of life and a studied indifference to their horrors. These two views are represented in *Candide* by, respectively, Pangloss, Candide's tutor, and Candide's friend Martin.

Although *Candide* is Voltaire's most penetrating treatment of evil, he also offers important approaches to the issue in earlier writings, particularly the short story "Zadig" and the "Poem on the Lisbon Earthquake." "Zadig" presents the capriciousness of fate by following the ups and downs of its Babylonian title character as he goes from ordinary citizen, to prime minister, to slave, to king. Along the way, Voltaire very effectively makes a number of characteristic points about the limits of human knowledge, the need for tolerance, and the absurdities of institutional religion. But the story's main concern is the apparently accidental and arbitrary way that happiness and misery comes to humans. Voltaire addresses the issue most directly in the penultimate chapter, "The Hermit." Here Zadig, having reached a nadir of humiliation and "tempted to believe that the world was governed by a cruel destiny," meets a hermit who strikes him as a wise and good man. The hermit suggests that he may be able to console Zadig, who joins with him as a traveling companion. Despite the hermit's wise conversation and kind manner, Zadig soon notices some oddities in his behavior. He steals a precious cup from their host and later gives it to a miser; with no apparent motive, he burns down the house of a philosopher who had befriended them. Things finally come to a head when the hermit gratuitously drowns a young boy. As Zadig vigorously denounces this outrageous behavior, the hermit reveals himself as the angel Jesrad and claims to be acting for the greater good of humankind. He claims, for example, that the fire revealed a great treasure hidden under the philosopher's house and that the young boy would have murdered his kindly aunt within a year and Zadig within two. Zadig, however, argues with Jesrad, asking why he couldn't have made the young man virtuous rather than killing him. Jesrad responds that if the youth had been virtuous and lived to manhood, he would have been himself later murdered along with his wife and child. Zadig persists, asking why good must be purchased at the price of evil, why there could not be a world that was simply good. To this Jesrad responds in the manner of Leibnizian optimism. Pure perfection, he says, can exist only in God; any world distinct from God must be imperfect. Further, our world is but one of an immense multitude created by God, and the imperfections of each are coordinated so as to maximize the goodness of the whole. The evils of our world only seem gratuitous from our limited viewpoint. Zadig is on the verge of disputing even this final theodicy: "'But', said Zadig – ." But at this point Jesrad flies away to heaven and "Zadig on his knees adored Providence and submitted." He follows the angel's parting instruction to return to Babylon, where, in the final chapter, he triumphs over his enemies and becomes ruler of Babylon. The last lines of the story tell us: "The empire enjoyed peace, glory, and abundance; that age was the best

which the earth had known. It was ruled by justice and by love. All men blessed Zadig, and Zadig blessed heaven."

Zadig reveals a Voltaire who has some intellectual difficulties with Leibnizian optimism but is not prepared to abandon it as a basis for living. Zadig's final "But –" is left unstated, but he acquiesces to the angel's authority, and his acceptance leads to happiness. Voltaire's later reflection, stimulated above all, by the Lisbon earthquake, undermined this unstable resolution of the problem of evil.

About 9:30 a.m. on November 15, 1755, a major earthquake, followed by fire and tidal wave, devastated the Portuguese capital of Lisbon. Over 60,000 people were killed, and all Europe was stunned by this unexpected disaster. Voltaire immediately saw the event as a symbol of the difficulties of the Leibnizian theodicy. Writing to a friend shortly after learning of the earthquake, he said: "this is indeed a cruel piece of natural philosophy. We shall find it difficult to discover how the laws of movement produce such fearful disasters in the best of all possible worlds" (to M. Tonchin, November 24, 1755).

The next year, Voltaire published a poem on the Lisbon earthquake, entitled "An Inquiry into the Maxim, 'Whatever Is, Is Right'." Here he vehemently denies Pope's optimistic *mot* as a description of our present state, while allowing that it may well be true of the ultimate dispositions of Providence: "All may be well; that hope can man sustain, / All now is well; 'tis an illusion vain." He is particularly emphatic on the inappropriateness of Pope's motto as a practical response to experienced evils. As he puts it in his Preface to the poem: "If, when Lisbon... and other cities were swallowed up... philosophers had cried out to the wretches, who with difficulty escaped from the ruins, 'All is well... it is the necessary effect of necessary causes; your particular misfortune is nothing, you contribute to the general good,' such a harangue would doubtless have been as cruel as the earthquake was fatal."

The poem begins a retreat from the optimism of "Zadig" that culminates in *Candide*. Voltaire attacks the position through his relentless caricature of Candide's Leibnizian tutor, Dr. Pangloss. The main source of the book's humor is Pangloss's repeated explanation of the most outrageous calamities as having a "sufficient reason" in the "best of all possible worlds." It is, however, important to note that Voltaire never presents theoretical arguments against Leibnizian theodicy; he does not try to show that it is false or even merely improbable as simply an intellectual position. Rather, his narrative exhibits the absurdity of *living* in accord with the optimistic view. He gets us to see, through our laughter, the total irrelevance of Leibnizian theory – no matter how correct it might be – to the problem of responding to life's evil. But the retreat from optimism is not an endorsement of pessimism. Martin, the cynical Manichean, who says, "When I consider this globe..., I think that God has abandoned it to some evil creature," represents the temptation to pessimism. But Voltaire eventually characterizes this position as "detestable" and, in the end, Martin abandons it for Candide's more nuanced view.

But just what is this view? How does Voltaire find a path between optimism and pessimism? The answer emerges from the brilliant concluding chapter of the story. After extraordinary vicissitudes, the main characters have all come together in Turkey and are puzzling over the meaning of the horrors they have experienced. They go to visit a "very famous Dervish, who was supposed to be the best philoso-

pher in Turkey." Pangloss acts as spokesman and asks "why so strange an animal as man was ever created." The Dervish rudely refuses any discussion: "What has it to do with you? . . . Is it your business?" The implication seems to be that Pangloss's specialty of philosophical reasoning and understanding is entirely irrelevant. Candide immediately intervenes, not with a question, but with just the factual comment – overwhelmingly supported by the story's narrative – that "there is a horrible amount of evil in the world." To this, the Dervish is at least a bit more forthcoming: "What does it matter . . . whether there is evil or good? When his highness sends a ship to Egypt, does he worry about the comfort of the rats on the ship?" This can be plausibly taken as a pithy expression of a broadly Leibnizian solution to the logical problem of evil. But when Pangloss offers to "discuss with you effects and causes, this best of all possible worlds, the origin of evil, the nature of the soul and pre-established harmony," the Dervish slams the door in his face.

The Dervish, therefore, teaches the practical irrelevance of philosophical speculation about evil. Next, Voltaire presents the inadequacy of trying to deal with evil through political action. After leaving the Dervish, Candide and his friends hear that several court officials have been murdered (an event that, we are told, "made a prodigious noise everywhere for several hours"). They meet an old man sitting under some orange trees and ask him if he knows who the officials were. He replies that he knows nothing of such matters but "presumes that in general those who meddle with public affairs sometimes perish miserably and that they deserve it." He also remarks that he "never inquires what is going on in Constantinople" but contents himself "with sending there for sale the produce of the garden I cultivate." He also suggests that his work "keeps at bay the three great evils: boredom, vice, and [poverty]."

Back home, reflecting on the old man's remarks, Candide and his friends develop Voltaire's own final response to the problem of evil. They first agree with the old man that work is the key to an effective practical response to evil. Voltaire ingeniously shows how the diverse orientations of Pangloss, Martin, and Candide converge on the notion of work. Pangloss's erudition derives it from an elaborate appeal to history and, especially, to Scriptural authority: "when man was placed in the Garden of Eden, he was placed there *ut operaretur eum*." Martin asserts the primacy of work as a corollary to his world-weariness: "Let us work without theorizing . . . That's the only way to make life endurable." Finally, Candide, reflecting Voltaire's own empiricism appeals to his own experience, noting that the old man's way of life is clearly superior to that of the six great kings with whom he had dined earlier in the story.

Voltaire's doctrine of work, of "cultivating our garden," rejects both optimism and pessimism as sharing a false premiss: fatalism. Both these opposed views agree that the course of events is beyond our control, the difference being just that the optimist thinks it will turn out for the good while the pessimist thinks it will turn out evil. Voltaire is pessimistic on some levels (for example, that of political action) and optimistic on others (for example, that of the ultimate governance of the universe). But on the level most relevant to the practical problem of evil, that of day-to-day living in small social groups, he rejects both pessimism and optimism in favor of gradual, if intermittent, amelioration through productive labor. Echoing the old

man, Candide notes that work avoids the boredom that threatens even the most aesthetically refined idleness, leaves no time for vice, and provides the only protection available to us against physical suffering.

There remains the question of just what Voltaire means by "work." His description of the life of Candide and his group on their "little farm" suggests a quite limited notion of practical chores needed for the sustenance of a small group ("gardening" in something near to a literal sense). This has led some readers to conclude that Voltaire advocates a return to a life of isolated rural simplicity, one that would renounce all the scientific, artistic, and moral achievements of high civilizations. But extreme simplicity fits neither Voltaire's own life nor that of Eldorado, the utopian community described in *Candide*, which embodies a wide range of sophisticated cultural activities. Moreover, the only flaw Candide finds in Eldorado is its isolation from the rest of the world, which is precisely the reason he leaves it. Voltaire is convinced that our primary sphere of activity should be a restricted community of people with whom we have direct personal contacts. But this activity covers the full range of human cultural achievement and requires at least some significant contact with the wider world.

Candide's treatment of evil is typical of Voltaire as a representative of what we might call the *humanistic* as opposed to the *philosophical* Enlightenment. "Enlightenment" covers a wide diversity of views and approaches, all, however, with the ultimate intent of asserting the freedom of human beings against arbitrary religious and political authorities. One tendency of the Enlightenment was to challenge these authorities in the name of a philosophical reason claiming the right to adjudicate all cognitive claims. This tendency derived from the great rationalist systems of the seventeenth century and had an important, if not ultimately decisive, role in the systematic philosophies of Hume's *Treatise* and Kant's Critiques. (The tendency was more pronounced in the scientism of radical materialists such as d'Holbach.) Critics from the early Romantics on have rightly objected to the dogmatic pretensions of this philosophical Enlightenment. But Voltaire – like Diderot and, in general, the early French Enlightenment – rejected this secular sort of dogmatism and challenged it along with the traditional authorities of Church and state in the name of the common sense and sensibility of honest and intelligent non-experts. Voltaire's challenges to authority in the name of freedom presuppose neither the foundationalist certainty nor the comprehensive vision of a theoretical system. They are *ad hoc* and piecemeal, and appeal, for better or worse, to nothing more than the good sense and fairness he hopes are still alive in the hearts and minds of most humans. Voltaire is, in Whitehead's famous phrase, a *philosophe* but not a philosopher.

Writings

Candide and Other Stories, translated by Roger Pearson. Oxford: Oxford University Press, 1998.

Candide or Optimism: A Fresh Translation, Backgrounds, Criticism, translated and edited by Robert M. Adams, 2nd edition. New York: Norton, 1991.

Letters on England, translated by Leonard Tancock. New York: Penguin, 1995.

Philosophical Dictionary, edited and translated by Theodore Besterman. London: Penguin, 1972.
Political Writings, edited and translated by David Williams. Cambridge: Cambridge University Press, 1994.
The Portable Voltaire, edited by Ben Ray Redman. New York: Viking, 1977.

Further Reading

Besterman, Theodore, 1969, *Voltaire*. New York: Harcourt, Brace & World.
Gay, Peter, 1988, *Voltaire's Politics*, 2nd edition. New Haven, CT: Yale University Press.
Gray, John, 1999, *Voltaire*. London: Routledge.
Mason, Haydn, 1981, *Voltaire*. Baltimore: The Johns Hopkins University Press.
Pomeau, René, et al., 1995, *Voltaire en son temps*, new edition. Oxford: Voltaire Foundation.
Wade, Ira, 1969, *The Intellectual Development of Voltaire*. Princeton: Princeton University Press.

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Moses Mendelssohn

DANIEL O. DAHLSTROM

One of the most intriguing and widely read figures of the German Enlightenment, Moses Mendelssohn (1729–86) brought unmatched levels of sophistication and eloquence to its metaphysics and epistemology, aesthetics and psychology, political theory and theology. Unlike SPINOZA (chapter 16), the other major Jewish thinker among early modern European philosophers, Mendelssohn was actively committed to Judaism. Aptly dubbed "the German Socrates" and "Reformer of the German Israelites," he worked for recognition of Jews' civil rights and translated the Pentateuch and the Psalms, even as he maintained Judaism's reconcilability with liberal political theory and with the rationalist metaphysics that he propounded in the mold of LEIBNIZ (chapter 18), WOLFF (chapter 35), and BAUMGARTEN (chapter 35). Mendelssohn's theory of "mixed feelings," grounded in that same system of rationalist metaphysics, left an indelible mark on German students of aesthetics, even those who became the system's severest critics. Not coincidentally, Mendelssohn was regarded as one of his age's foremost critics, weighing in on the literary and philosophical merits of works and translations of Homer and Aesop, Pope and Burke, Maupertuis and ROUSSEAU (chapter 39) – to name only a few of his numerous critical studies.

The following sketch of Mendelssohn's philosophy begins with his metaphysics and epistemology, before identifying the point where, in his view, they give way to aesthetic theory. Attention then shifts to his major works on rational psychology, political theory, and natural theology, though not without discussion of an infamous debate over pantheism that plagued his final years. The aim of this review is to convey a sense of Mendelssohn's philosophical *habitus* and the basic outlook that informs it. For Mendelssohn to philosophize is to look for appropriate distinctions within and across various phenomena, but with a confidence – in his eyes, as rational as it is devout – that there is a harmony to the real differences underlying those distinctions.

Evidence, Idealism, and Common Sense

In 1763, with his essay "On Evidence in Metaphysical Sciences" (traditionally dubbed "the Prize Essay"), Mendelssohn won a contest, staged by the Royal Prus-

sian Academy of Sciences, on the question of whether metaphysical truths are able to have the same evidence as mathematical truths. Mendelssohn approaches the question by distinguishing kinds of mathematical evidence. Calculus may be no less certain than geometry but it is hardly more perspicuous. So, too, metaphysics, he argues, is no less certain than mathematics but, like calculus, lacks the transparency and imaginative resources available to geometry. Mathematics and metaphysics both owe their certainty to the same analytic method. "For what else can the profoundest inferences do but analyze a concept and make distinct what was obscure?" (Mendelssohn, 1997, p. 257). What Mendelssohn understands by analysis is tied to a difference, both psychological and epistemological, that he inherits from Leibniz and his school, namely, the difference in the distinctness of our perceptions or concepts. Mathematical and metaphysical concepts are initially clear (reidentifiable, conscious) but indistinct. The certainty of these disciplines is allegedly assured by the respective identity of the content of the indistinct (unanalyzed) and distinct (analyzed) perceptions. "The analysis of concepts is for the understanding nothing more than what the magnifying glass is for sight" (Mendelssohn, 1997, p. 258). As this metaphor suggests, Mendelssohn claims that "mathematical inferences are nothing but analyses of sensuous impressions or of concepts abstracted from them." But he also rejects the notion that the soul enters into life as a tabula rasa ("as the Aristotelians would have it"), opting instead for Leibniz's reinterpretation of Platonic recollection to the effect "that the soul never ceases implicitly to represent to itself the entire world while explicitly representing to itself only the world relative to the position of its body in it" (Mendelssohn, 1997, p. 260).

The "basic difference" between mathematics and metaphysics (which Mendelssohn equates here with philosophy) is thus a matter of content, not method. Comprising geometry and arithmetics, sciences of static and dynamic extended quantities respectively, mathematics is a science of quantities, metaphysics a science of qualities. (Mendelssohn also notes the possibility of a yet to be developed science of nonextended quantities or intensive magnitude, e.g., degrees and their measurements, not to be confused with a science of the qualities themselves.) Despite the difference between mathematics and metaphysics, there is a fundamental harmony between them since, at least for finite beings, quantity and quality are both intrinsic characteristics of things and there is no quantity without quality and vice versa (though qualities and not quantities are allegedly conceivable without some other thing). As this last remark indicates, *qualitas* (=*Beschaffenheit*) signifies the constitution of things and hence is not restricted to an Aristotelian *poion* such as virtue, health, or color. Mendelssohn assumes without argument the Leibnizian notion that a thing has various characteristics, the sum total of which determine the thing from every side (such that knowledge of this total would constitute complete and adequate knowledge of the thing) and that these characteristics are extrinsic, e.g., being to the left of something, or intrinsic e.g., being so large or being human (quantity and quality respectively).

Yet if the method is the same and the content is in each case an intrinsic character of things, why has progress in metaphysics lagged so far behind progress in mathematics? Mendelssohn gives three "objective" reasons why metaphysics is less perspicuous and, hence, less developed than mathematics. First, metaphysics must

rely even more than mathematics upon arbitrary signs, i.e., signs that do not coincide with what is signified. Second, the content of metaphysics is holistic, i.e., no quality can be defined without an adequate insight into the others. Third and most important, in metaphysics it is necessary to establish the actual existence of what corresponds to the analyzed concepts. The truths of mathematics are merely analytical truths that need not suppose more than the appearances of things. This supposition does not undermine mathematical evidence as long as a distinction is made between constant and inconstant appearances or, equivalently, between appearances that have their basis in the intrinsic, essential constitution of our senses and those that do not (e.g., those due to sickness or an impairment). "Thus, even in the system of a doubter or an idealist, the value of not only pure, theoretical mathematics but even practical and applied mathematics remains, and it retains its undeniable certainty" (Mendelssohn, 1997, p. 268). In other words, in order to establish a true judgment in mathematics, it suffices to demonstrate the necessary connection between subject and predicate (what Kant calls an "analytic" judgment), but in philosophy, it is necessary to determine the existence of what corresponds to the subject or the nonexistence of what corresponds to the predicate.

While mathematics is in Mendelssohn's view independent of the question of idealism, it is clear from his account of idealism in the Prize Essay that he associates idealism with a skepticism that it is incumbent on philosophy to refute. Twenty-five years later, the specter of idealism continues to haunt his account of truth and knowledge at the outset of *Morning Hours or Lectures on the Existence of God*, his final metaphysical work. He iterates the difference between mathematics and metaphysics in making the case for an anti-idealist ("dualist") position, but the account also reveals deep tensions in the endeavor and a decidedly weaker commitment to anti-idealism. For example, the traditional definition of truth as an agreement of things with representations (words, thoughts) of them is hopeless in his eyes, since we lack any means of comparing the original with the copy. Words and thoughts, by contrast, can be compared and so he turns to them for a determination of truth. Thus, in what today might seem a prototypically idealist move, he defines truth in terms of knowledge ("an effect of the positive powers of our souls") rather than vice versa (Strauss, 1974, p. 29).

Mendelssohn recognizes, at the most elementary level, what he terms "sensory" or "intuitive" knowledge of the outer and inner senses, knowledge that is indubitable but not easily distinguishable from understanding. Illusion and deception are explained as judgments based upon faulty inferences or, more precisely, "incomplete inductions" about objects outside us. His main concern, however, is for the sort of knowledge that takes the form of judgments, namely, "rational knowledge" and "actual knowledge," i.e., "knowledge of nature," "knowledge of what is actually outside us," or, even more broadly, our "representation of the fact that we find ourselves in a physically-actual world" (Strauss, 1974, pp. 39–42). Corresponding to these two kinds of knowledge, he identifies two distinct kinds of truth. There are timeless and absolutely certain truths consisting in the agreement of thoughts with themselves, such as logical and mathematical truths, based upon the principle of contradiction. For a statement to be "actually" true, however, some comparison beyond that of the thoughts with themselves, i.e., some criteria in addition to the

principle of contradiction must be invoked. The additional means of comparison or criteria are principles of induction and analogy. Hence, a proposition about an actual fact outside us or about a causal connection is more likely to be true, the more sensations of a single sort agree with one another, the more different sorts of sensations concur, and the more our assessment agrees with those of others, of other species, and of even "higher entities." Assurance of God's existence accordingly presents, in Mendelssohn's eyes, the best prospect of definitively establishing the actual existence of things outside us.

Mendelssohn thus takes the anti-idealist position that there is a reality other than the modifications of the thinker or perceiver. Yet he also identifies a point at which the disagreement is merely verbal. If the idealist were to ask for the original behind all the sensory properties and beyond what can be encountered in consciousness, then he would be asking for something "extra-conceptual" and, hence, raising a nonsensical question. "You are investigating a concept that is actually no concept and thus must be something contradictory." Yet, he concedes that *all* parties to the debate share a certain complicity in this confusion. "I fear that, in the end, the famous debate among materialists, idealists, and dualists amounts to a merely verbal dispute that is more a matter for the linguist than for the speculative philosopher" (Strauss, 1974, pp. 60f; 86ff, 104).

Still, one might ask how we are to determine that a dispute is merely verbal or, if it is not, which side of the dispute is more likely to be right. Mendelssohn answers this query with a striking allegory that came to him in a dream. He was traveling with a group of tourists in the Alps, led by a male and a female guide, named "common sense" and "speculation" respectively, each of whom suddenly took a different path at a fork in the mountain trail. The startled tourists, anxious about whom to follow, were comforted by an old matron (called "reason," at least on earth) who informed them that, if they did not impatiently follow either guide, the guides would return and let her settle the matter. But before this could happen, "a fanatical crowd" had gathered around "speculation," resolved to drive away "common sense" as well as "reason." Mendelssohn interprets the dream as an allegory of a valuable rule. Common sense is usually right and, hence, if we are to take leave of it, reason must show how it has erred and present decisive arguments in favor of speculation (Strauss, 1974, pp. 81f).

The Aesthetics of "Mixed Feelings"

Questions of truth and falsity (or, correspondingly, rational, actual, and sensory knowledge) concern what Mendelssohn deems the "matter" of knowledge. But knowledge also has a "form" that refers, in Mendelssohn's parlance, to how pleasing or desirable it is. He accordingly distinguishes three capacities of the soul, namely, the ability to know, to approve, and to desire – where approval is related to the feeling of pleasure and desire to the idea of what is good. A similar distinction figures famously in Kant's *Critique of Judgment*, as does Mendelssohn's placement of the feeling of pleasure and pain "between" the other two and, indeed, "as the transition (*Uebergang*) as it were from knowing to desiring." Kant's aesthetics also

echoes Mendelssohn's conception of the experience of beauty as something affording us a pleasure that is independent of any desire, use, or possession. "We consider the beauty of nature and art with pleasure and satisfaction, without the slightest movement of desire. Instead, it appears to be a particular mark of beauty that it is considered with tranquil satisfaction; that it pleases if we also do not possess it and we are still far removed from demanding to use it" (Strauss, 1974, p. 61). The importance of this distinction scarcely needs iterating, giving rise, as it did, to a conception of the autonomy of aesthetics and art (*l'art pour l'art*), relative to science or morality (which, of course, is not to say that Mendelssohn could have endorsed such a "dissonant" development).

But Mendelssohn's contributions to aesthetic theory by no means end here. The German philosophers Johann Georg Sulzer and Alexander Baumgarten had articulated the notion that beauty is objectively a harmony of differences and subjectively the perfection of a sensuous cognition, an awareness that is not obscure but also less than distinct (a suitable delineation of parts eludes us in the experience). Expanding on this conception, Mendelssohn construes beauty as an objective perfection but one within our experience and not to be confounded with an intellectual or moral perfection. The objective form of objects in the environment of the human body and the body's objective relation to those objects is at the basis of beauty and every sensuous perfection. Not surprisingly, Mendelssohn's conception of the aesthetic experience is, as he himself emphasizes, fully erotic and, by no means, devoid of emotion. While Mendelssohn may contribute to the subjectivizing of aesthetics, his conception of the experience of beauty as a continuous harmony, indeed, to the point of the congruence of physiological and psychological dimensions, is far removed from Kant's disinterested aesthetic subjectivity and its purely reflective principles of judgment.

With his conception of beauty as the perfection of sensuous cognition, Mendelssohn challenges the traditional mimetic theory of art as well as the modern notion of an aesthetic sense and argues for the superiority of artistic beauty ("a sensuously perfect representation") over natural beauty. In this connection (like Winckelmann) he endorses the artist's need to idealize nature, "just as God would have created it if sensuous beauty had been his supreme, final purpose" (Mendelssohn, 1997, p. 176). On the basis of the difference between natural and artificial signs, he offers an explanation for the distinction between "fine sciences" (poetry and rhetoric) and "fine arts" (music, dance, painting, sculpture, architecture). The grandfather of the famous composer not only attends repeatedly to the aesthetics of music but also accords music a certain primacy over the other arts.

As significant as these contributions to aesthetic theory are, they are overshadowed by Mendelssohn's insights into the significance of "mixed feelings." Mixed feelings combine pleasure with displeasure and yet are more pleasant and lasting than so-called pure pleasures. What Mendelssohn appreciated, like few before him (except, perhaps, DuBos), was the crucial role that this phenomenon plays in the constitution of aesthetic experience and art. The phenomenon explains, for example, the crucial distinction between content and style, where the content might be quite repulsive but it is, nonetheless, a pleasure to see how that content is presented. So, too, tragedy is based upon a mixed feeling, namely, sympathy, "love for an object combined with the conception of a misfortune that befalls it" (Men-

delssohn, 1997, p. 74). Note that the mixed feeling is not, as traditionally conceived, the combination of sympathy with terror or fear. Mendelssohn rejects the role of terror or fear as superfluous, at least if they indicate some selfish concern as part of the dynamics of tragic theater.

Even experiences of what is no longer beautiful, but still aesthetically pleasing, for example the enormous or the sublime, are matters of mixed feelings. Though things of immense scale, strength, or perfection overstep and thus confound our capacity to perceive or comprehend them, they nonetheless inspire "awe" and produce a "sweet shudder." When the sublime takes the form of art, the pleasurable side of the mixed feelings may consist in our admiration for the artist (painter, actor, etc.) or in the heartening recognition that all is an illusion. But Mendelssohn also registers the simple if seemingly sinister sensationalism in human nature, the sheer but typically hidden delight we allegedly take merely in beholding what is dangerous, horrifying, repulsive. We enjoy "the terrifying nature" not simply, as Lucretius would have it, because we see what afflictions we are spared, but because the experience pleasingly affirms our own powers of understanding, assessing, and at times even sympathizing with what is placed before us.

Aesthetic considerations are by no means matters for critics alone. As Mendelssohn's reflections on sublimity and tragedy amply attest, the fine arts can be a veritable treasure trove of psychological insight. "The profoundest secrets of our soul lie hidden in the rules of beauty," he observes, adding that "each rule of beauty is at the same time a psychological discovery" (Mendelssohn, 1997, p. 169). Yet such considerations also hardly exhaust the subject of psychology for Mendelssohn, who gives the question of personal identity and immortality a separate, albeit artful treatment.

Socrates and Rational Psychology in Mendelssohn's *Phaedo*

Translated into at least ten European languages, Mendelssohn's *Phaedo or On the Immortality of the Soul* (1767) is arguably his most popular work. Part of the work's popularity is due to its paean to Socrates and its poignant portrait of the dire personal, moral, and political consequences which arise if this life is a person's "highest good." Thus, for example, Simmias observes at one point: "A human being who is robbed of hope for immortality is the most miserable animal on earth," while Socrates cites the political stakes of the issue: "I am of the opinion that if it is assumed [that a person has only this life], then a war between the fatherland and the citizen must result, and what is most curious, a war in which both parties are right whenever the preservation of the fatherland requires a citizen to lose his life or even merely run that risk" (Bamberger & Strauss, 1972, pp. 80, 119). But the eighteenth-century best-seller is also, as Dilthey put it, "a classic of rational psychology," with an argument for the simplicity and immortality of the human soul, explicitly singled out by Kant for criticism in the second edition of the *Critique of Pure Reason* (B413ff).

Only loosely modeled on Plato's dialogue by the same name, Mendelssohn's *Phaedo* is actually divided into three dialogues prefaced by a sketch of "the life and

character of Socrates." In that sketch, among other things, Mendelssohn discusses the historical circumstances surrounding Socrates' trial and condemnation, pans Aristophanes' *The Clouds*, repudiates the charge that Socrates engaged in "unnatural vices" with "young people," and broaches the issue of Socrates' genius and references to utterances "that cannot be explained by any natural power of the soul." In the first dialogue, Socrates defends his eagerness to die with the familiar argument that, given the way the body hinders the soul's pursuit of wisdom, a lover of wisdom must regard death as a liberation. When proof of the soul's immortality is then demanded, Socrates appeals to the absurdity of annihilation and the constancy of natural transformation. Just as no genuine transformation is *ex nihilo* or *ad nihilum*, so in the change from life to death, he argues, the soul can no more be destroyed than the simple corporeal parts of the body itself can.

This argument provokes two objections, the respective themes of the remaining two dialogues. First, why should we presume that the soul is a simple entity existing on its own rather than a product of the composition of corporeal entities, existing only as long as that composite? Second, even if it is proven that the soul survives the body's demise, what reason do we have to think that its future condition will be a better one? While Socrates counters the second objection largely by appealing to divine goodness and providence, he replies to the first objection by emphasizing both the unifying (synthetic) character of consciousness and the identity of self-consciousness. In this way he hopes to show that the soul cannot be derivative of anything composite, whether its parts are incapable or capable of thinking. "We would be able neither to remember nor to reflect nor to compare nor to think, indeed, we would not even be the person who we were a moment ago, if our concepts were divided among many and were not to be encountered somewhere together in their most exact combination. We must, therefore, assume at least one substance that combines all concepts of the component parts... There is, therefore, in our body at least one sole substance that is not extended, not composed, but instead is simple, has a power of presentation, and unites all our concepts, desires, and inclinations in itself" (Bamberger & Strauss, 1972, pp. 96f).

While Kant would later make appeals to similar phenomena in arguing for the originally synthetic unity of apperception (self-consciousness), Mendelssohn's argument appropriates Leibniz's conception of apperception in more orthodox fashion as proof of the existence of a thinking substance likely to survive and even thrive after the body's demise. The undeniable presence of this self-consciousness also confirms for Mendelssohn that the soul is a reality distinct from other substances, including the divine substance. In order to elaborate this distinctness, however, Mendelssohn found himself forced to come to terms with pantheism and, indeed, to do so in a public controversy that would involve practically every prominent philosophical mind in Germany in the final decades of the eighteenth century.

Religious Tolerance and a Philosophy of Judaism

The appearance of Mendelssohn's major contribution to political theory coincides chronologically with the beginnings of the controversy, though it is typically not

included among the texts pertinent to the pantheism debate. Yet *Jerusalem, or on Religious Power and Judaism* (1783) is directly relevant to this debate. For Mendelssohn not only makes the case in *Jerusalem* for political and religious tolerance of conscience, but also argues that Judaism is not a revealed religion, but a revealed legislation, eschewing religious power and fully reconcilable with "the universal religion of mankind," for which revelation is superfluous – not unlike the sort of religion that drew the charge of pantheism from some quarters.

Jerusalem exemplifies once again Mendelssohn's insistence on maintaining appropriate distinctions, in this case between the state and religion and between Judaism and other religions, even as he insists that ancient Judaism neither has nor needs any "articles of faith." Touting the liberty of conscience as "the noblest treasure of human felicity," Mendelssohn warns of the loss of this liberty if those distinctions are not upheld. In the first half of the book, he repudiates the idea of *religious power*, arguing that, given the "inalienability" of human conscience, religion has no more authority to coerce it (e.g., through excommunication) than the state does. By contrast, the state has the authority, while religion does not, to coerce certain actions for the sake of "outward peace and security." Herein lies the essential difference between state and religion. "The state gives orders and coerces, religion teaches and persuades... The state has *physical power* and uses it when necessary; the power of religion is *love* and *beneficence*" (Mendelssohn, 1983, p. 45). Once again, however, Mendelssohn finds a harmony in a distinction. Given the fact that the excellence of a state is relative to the degree to which it is governed by education and not coercion, religion can assist the state by convincing people "that duties toward men are also duties toward God,... that servicing the state is true service of God... and that true knowledge of the Creator cannot leave behind in the soul any hatred for men" (Mendelssohn, 1983, p. 43).

In the second half of *Jerusalem* Mendelssohn defends his understanding of *true Judaism*, the essence of ancient Judaism that was based on revelation, not of doctrinal truths, but of directives for acting, "which were to be peculiar" to the Jewish nation. Indeed, far from supposing a supernatural revelation of doctrine, this original Judaism presupposes that the powers of human reason are sufficient to persuade men of "the eternal truths which are indispensable to human felicity." Mendelssohn concludes with a passionate appeal to his Christian brethren to heed their founder's advice to acknowledge separate duties to state and religion ("Render unto Caesar, etc."), and to recognize the hypocrisy and intolerance of pursuing a union of faiths. "Brothers, if you care for piety, let us not feign agreement where diversity is evidently the plan and purpose of Providence" (Mendelssohn, 1983, p. 138).

"Refined Spinozism," the Pantheism Controversy, and *Morning Hours*

In the last five years of his life, Mendelssohn became embroiled in the infamous "Pantheism Controversy." At the heart of the controversy is the perennial issue of the relation between faith and reason, a relation that Mendelssohn repeatedly labored to negotiate. For Mendelssohn, like Maimonides, faith and reason were

ultimately compatible and therein lay his confidence in the Enlightenment. Echoing his account of Judaism in *Jerusalem*, he declared: "My religion recognizes no obligation to resolve doubt other than through rational means; and it commands no mere faith in eternal truths" (Strauss, 1974, p. 205). But to the likes of latter day pietists like Hamann and Lavater, such an assimilation of religion to reason was all too suspicious and, indeed, even pretentious if not downright blasphemous. The pantheism controversy arises in the 1780s when the Enlightenment's latest naysayer, F. H. Jacobi, contends that its inevitable descent into irreligion and atheism is exemplified by none other than its hero, GOTTHOLD EPHRAIM LESSING (chapter 37).

The story of the pantheism controversy thus begins with Mendelssohn's lifelong friend. The popular playwright and dramaturg had given the Enlightenment's appeals to reason an extraordinarily human face, thus making him particularly dangerous to its opponents. Lessing had also championed the idea of a purely rational religion, publicly taking on the orthodox Lutheran clergy in the process. His final dramatic work, *Nathan the Wiseman*, is quite fittingly about a Jewish sage (presumably modeled on Mendelssohn) who makes a poignant plea for tolerance by arguing that the differences among religions are essentially matters of history and not reason. In a celebrated metaphor, Lessing admitted his inability to leap across "the ugly, broad ditch" separating historical from rational truths.

In the summer before Lessing's death on February 1, 1781, he occasionally met with Jacobi, who was all too ready to make this leap (*salto mortale*). During one of their encounters, Jacobi read to him Goethe's pantheistic poem *Prometheus*, after which Lessing confessed that he had himself come to embrace Spinozism and was no longer able to accept the orthodox conception of God, though he had kept the fact from his best friend, Mendelssohn. Jacobi – like Leibniz, THOMASIUS (chapter 35), and Wolff before him – took Spinoza's philosophy to be tantamount to atheism. Not surprisingly, in Lessing's private admission Jacobi saw confirmation of his own view that the Enlightenment was a fraud, that its appeals to reason in matters of religion signaled confusion and self-deception, if not a loss of faith in God's living presence in history and tradition.

For a while Jacobi shared Lessing's secret with only a few confidants. Eventually, however, upon hearing that Mendelssohn planned a work on Lessing, Jacobi conveyed this "secret" to Mendelssohn via a mutual friend, Elise Reimarus. Whether it was in fact a secret is an important factor in the dispute since, if so, it implies that Lessing and Mendelssohn were not as close as generally assumed, an implication hurtful to Mendelssohn, both publicly and privately. A private correspondence on the question of Lessing's Spinozism ensued, with Mendelssohn promising to respond to Jacobi's interpretation critically in print but not without first letting Jacobi (who had given permission to be cited) see the objections. However, after Jacobi (sick and grieving at the recent death of his wife and son) took more than eight months to respond feebly to the objections, Mendelssohn decided to publish his view of Lessing's Spinozism in a separate work on the existence of God, without citing Jacobi's interpretation or even mentioning it by name. Thus, *Morning Hours*, Mendelssohn's maturest and final philosophical work, grew – at least in part – out of a critique of Spinozism and an attempt to set the record straight about the

nature of Lessing's Spinozism. Upon hearing of Mendelssohn's plans, an irate Jacobi hastily compiled the correspondence and rushed it off to the publisher in an attempt to pre-empt his foe's interpretation of Lessing's Spinozism. In 1785, a month before the publication of *Morning Hours*, he succeeded; *On the Teaching of Spinoza in Letters to Mr. Moses Mendelssohn* appeared, containing the content of the correspondence, without Mendelssohn's consent. The fact that Jacobi paraphrased and even quoted Mendelssohn's private letters to him may well have infuriated Mendelssohn as much as his interpretation of Lessing's Spinozistic views and claim that Lessing kept them from Mendelssohn. Yet there was apparently disingenuousness on both sides.

In any case, the controversy over the status of Lessing's Spinozism had become public and, in Mendelssohn's eyes, in a way demeaning to his departed friend (and to himself). So, in ill health only aggravated by the nastiness of the quarrel, he quickly composed *To the Friends of Lessing: an Appendix to Mr. Jacobi's Correspondence on the Teaching of Spinoza*. As legend has it, Mendelssohn was so anxious to get the manuscript to the publisher that he delivered it on foot personally to the publisher and, in his haste, forgot his overcoat on what was a bitterly cold New Year's eve. Mendelssohn would not live to see its publication. That very night he came down with a cold that proved fatal. Adding to the sensationalism of the controversy, friends charged Jacobi with responsibility for Mendelssohn's death four days later on the morning of January 4, 1786.

These historical details are legendary but they should not overshadow the substance and importance of the debate. Spinozism, Jacobi insisted, is the only consistent position for a metaphysics based upon reason alone, and the only solution to it is the leap of faith, that *salto mortale* that poor Lessing found himself unable to make. Mendelssohn responded to this challenge in three ways: first, he demonstrated the metaphysical inconsistency of Spinozism (thereby challenging Jacobi's first claim); second, he elaborated what he took to be Lessing's "purified Spinozism" or "refined pantheism," demonstrating its innocuousness for religion and morality (thereby overturning Jacobi's interpretation of Lessing), and third, he presented a rational alternative to Spinozism, a metaphysical conception of God's relation to creation (a conception that Jacobi, in his overly moralistic fideism, could not understand).

In Mendelssohn's first publication ("Dialogues") he actually pleaded for the compatibility of many of Spinoza's views with "true philosophy and religion." He suggests that Spinoza is the source of Leibniz's idea of a preestablished harmony and that, far from denying the distinctiveness of the actual world, Spinoza merely construes it as it is before the creation, namely, as an idea in the mind of God, having no existence other than as a part of God. Twenty-five years later, in the *Morning Hours*, Mendelssohn essentially recapitulates the latter argument as the key to Lessing's "refined Spinozism." Yet he also prefaces this compromised version of pantheism with a criticism of Spinoza's "basic ideas," beginning with the idea that there is only one, infinite, and necessary substance. The idea, Mendelssohn submits, is based upon an arbitrary conception of substance, arbitrary since there is a legitimate distinction between what is independent or self-standing (*das Selbständige*) and what obtains or persists for itself (*das Fürsichbestehende*). Either Spinoza is willing to

countenance the distinction or the dispute is merely semantical. But in the former case, Mendelssohn charges, Spinoza would not have proven what he needed to prove. "Instead of proving that everything obtaining for itself is only one, he establishes in the end only that everything independent is one. Instead of demonstrating that the entire aggregate of everything finite constitutes a single self-standing substance, he merely shows that this aggregate must depend upon the sole infinite substance" (Strauss, 1974, p. 107).

Mendelssohn also criticizes Spinoza for providing an account of the material, but not the formal aspects of both corporeal and spiritual worlds. Spinoza's conception of extension in terms of impenetrability supposedly leaves unexplained the particular organization and motion of bodies. Furthermore, Mendelssohn adds, if the whole is not in motion, how can parts, fully dependent on it, be in motion? Similarly, Spinoza's conception of freedom and the inevitability of choice arbitrarily conflates necessity that is a matter of knowing with necessity that springs from approving. He thus eclipses the notion of moral necessity and leaves unexplained "the difference between good and evil, desirable and undesirable, pleasure and pain" (Strauss, 1974, p. 109).

Mendelssohn recognizes that Lessing, besides having legitimate counters to some of these objections, is willing to concede the trenchancy of others without completely giving up on a pantheist system. Lessing would acknowledge a difference between the world and God, a difference that allows for the distinction between truth and goodness, knowledge and approval. But that difference is the purely ideal or abstract difference between the thinker (God) and its thoughts (the world). The refined pantheist accordingly asks: "Who is to tell us that we ourselves and the world surrounding us have something more to them than the thoughts of God and modifications of his original power?" (Strauss, 1974, p. 116). The fictitious Lessing then throws down the gauntlet by claiming that the only way to refute this refined pantheism is to show that there is something that can be predicated of things outside God that cannot be predicated of the divine thoughts of those things. But the very notion that there are such predicates is, he adds, inconsistent with divine omniscience.

Mendelssohn responds to this argument by appealing once again to the difference between the capacity to know and the capacity to approve. God knows, for example, all my shortcomings and weaknesses, without by any means approving them, sharing them, or requiring their existence. More importantly, their existence cannot be explained by the fact that they are thinkable since the opposite of them is just as thinkable. What, then, explains their existence? Or, turning the question around on the refined pantheist, what privileges one series of divine thoughts over others? For Mendelssohn there can only be one answer: "The thoughts of God that come to reality to the exclusion of the rest will have this prerogative by virtue of their relative goodness and purposiveness, insofar as they correspond here and now, namely, as they are and not otherwise, to the idea of the perfect and best" (Strauss, 1974, p. 122). If Lessing were to concede as much ("as he would certainly have done by virtue of his principles," Mendelssohn adds), then "morality and religion are born" and the difference between theism and refined pantheism would be little more than a subtle difference in choice of metaphor.

The Only Possible Bases of Natural Theology

The prime sources for Mendelssohn's natural theology, the cornerstone of his rationalist metaphysics, are the Prize Essay and *Morning Hours*. In the earlier work, Mendelssohn presents *a posteriori* and *a priori* proofs for the existence of God, roughly approximating what Kant would later call teleological, cosmological, and ontological arguments. In *Morning Hours* Mendelssohn also elaborates two *a posteriori* arguments and one *a priori* argument for God's existence, though the first *a posteriori* argument does not exactly coincide with the *a posteriori* ("teleological") argument from beauty, order, and purpose, given in the Prize Essay. God's existence may be established *a posteriori* by appeal to the testimony of the external senses to a world that is unthinkable without a necessary, extra-worldly being or to the testimony of the inner sense ("I am, therefore there is a God"). The *a priori* argument is an inference to actuality from possibility: "A God is thinkable, therefore a God is also actually present" (Strauss, 1974, p. 78).

The appeal to design in the Prize Essay and the argument based upon the testimony of the external senses in *Morning Hours* are flawed in Mendelssohn's view (the former only yields probability and the latter is unconvincing to idealist, solipsists, and skeptics). Hence, in both works Mendelssohn directs his attention to the remaining sorts of proof as the only possible bases for natural theology. In regard to both proofs, it bears noting, Mendelssohn works under the principle that each individual proposition is true or false or indeterminate. "S is P" is true if P is contained in the concept of S (e.g., "A body is extended") or if P is part of the subject under certain assumed conditions (e.g., "A body on our earth is heavy"), false if not, and indeterminate if true under certain conditions, false under others (e.g., "A solid body in a fluid material rises to the top"). Whenever an indeterminate proposition is transformed into a determinate one, there must be a sufficient reason for this transformation.

The *a posteriori* proof endorsed in both works derives its certainty from an application of the principle of sufficient reason and the certain but contingent existence of the cogito. The proof accordingly reads: If there is a contingent being, then there is a necessary being that is, indirectly, the sufficient reason for its existence; I am a contingent being; ergo. The proof is *a posteriori* because it infers God's actuality, not from a possibility, but from another actuality, the empirically confirmed premise of one's own existence.

By contrast, the third proof is the traditional *a priori* argument for God's existence from the mere idea of God. Mendelssohn gives the argument a distinctive twist by beginning with a determination of nonexistence. Whatever does not exist must be either impossible (i.e., its intrinsic properties are contradictory) or merely possible (i.e., its intrinsic properties are insufficient to determine that it exists and, hence, it is contingent). "The existence of such a thing is not a possibility intrinsic to it, nor part of its essence nor even one of its properties, and, for this reason, it is a mere contingency (*modus*), the actuality of which can only be grasped on the basis of another actuality. Such an existence is, accordingly, not independent but dependent" (Mendelssohn, 1997, p. 281). Since an independent existence is greater than a

dependent existence, the latter sort of existence would contradict the essence of a perfect being. Hence, the idea of a perfect being cannot be the idea of something merely possible.

But the idea of a perfect being, Mendelssohn submits, is also not impossible; that is to say, it does not contain determinations that must be affirmed and denied at the same time. After indicating that a determination is either a reality or a deficiency ("the former affirms, the latter denies") and no contradiction occurs unless deficiencies as well as actualities are ascribed to a subject-matter, Mendelssohn observes: "Now, all realities are affirmed of the most perfect being, all deficiences are denied it. Hence, no contradiction can lie in the concept of it" (Mendelssohn, 1997, p. 282). There is only one remaining option: God exists. While it is possible to conceive finite, contingent, dependent entities as nonexistent, it is impossible to conceive as nonexistent an infinite, necessary, independent entity, namely, an entity that combines all affirmative features and properties to the highest degree. "It can either not be thought at all or not be thought other than with the predicate of actual existence" (Strauss, 1974, p. 154).

As the argument stands, Mendelssohn seems to confuse affirmation and negation with the attribution of a property and the attribution of its lack, respectively (as though "x is not F" were equivalent to "x has a deficiency"). But, leaving aside this apparent confusion, the argument simply presumes that the most perfect being lacks all deficiencies and that the non-existence of any perfection would certainly be a deficiency. The criticism that existence is not a predicate is, Mendelssohn adds, mere quibbling. Because the concept emerges in all of us as a result of searching for a feature common to our own actions and passions, it enjoys such a universality that it is not further analyzable. For this reason, he even allows that there is something to the criticism that existence is not a predicate, that it is different from all features and properties of things, and that we are not permitted, as it were, merely to add it to the list of properties of the most perfect entity. Yet, he insists, whether existence is the "positing" of all properties of a thing or something inexplicable, we can think of a contingent being but not a necessary being without it.

For all its clarity and the innovativeness of its point of departure, the foregoing proof does not exactly break new ground. In natural theology as in rational metaphysics generally, Mendelssohn's primary virtue was to give lucid and popular expression to arguments and distinctions advanced less accessibly by Leibniz and his school. He was also ready, as noted earlier, to temper such speculation with common sense, though critics immediately questioned his confidence in the harmony of reason and common sense (is the confidence based upon reason or common sense?), arguing that it betrays an appeal to something other than reason at the basis of his rational metaphysics. Yet, precisely for his role in spawning the ensuing debate over these issues, Mendelssohn's contributions to the development of German philosophical speculation during the rest of the eighteenth century can hardly be underestimated. Moreover, even as his conception of rationalist metaphysics came increasingly under attack, it served as the backdrop for insights into harmonious differences that no student of aesthetics or political theory could afford to neglect.

References

Bamberger, F. & Strauss, L. (eds.). 1972, *Gesammelte Schriften Jubiläumsausgabe* (Vol. 3, 1): *Schriften zur Philosophie und Ästhetik*. [Collected Writings Jubilee edition. (Vol. 3, 1): Writings on Philosophy and Aesthetics]. Stuttgart-Bad Cannstatt: Frommann-Holzboog. (Reprint of 1932 Berlin edition). Contains *Phädon oder über die Unsterblichkeit der Seele* [Phaedo or On the Immortality of the Soul] (Originally published 1767).

Mendelssohn, M. 1983, *Jerusalem, or On Religious Power and Judaism* (A. Arkush, trans.). Hanover, New Hampshire: University Press of New England (Original work published 1783).

—— 1997, *Philosophical Writings*. (D. O. Dahlstrom, trans.). Cambridge: Cambridge University Press (Original works published in 1761, 1763, 1784 and an unpublished work completed in 1776).

Strauss, L., 1974, *Gesammelte Schriften Jubiläumsausgabe*. (Vol. 3, 2): *Schriften zur Philosophie und Ästhetik*. [Collected Writings Jubilee edition. (Vol. 3, 2): Writings on Philosophy and Aesthetics]. Stuttgart-Bad Cannstatt: Frommann-Holzboog. Contains *Morgenstunden, oder Vorlesungen über das Dasein Gottes* [Morning Hours, or Lectures on the Existence of God] (Originally published 1785).

Further Reading

Allison, H., 1966, *Lessing and the Enlightenment*. Ann Arbor: University of Michigan Press.

Altmann, A. et al. (eds.), 1971ff, *Gesammelte Schriften Jubiläumsausgabe*. [Collected Writings Jubilee edition]. (19 vols.). Stuttgart-Bad Cannstatt: Frommann-Holzboog. (Continuation of edition by F. Bamberger et al. in Berlin, 1929–38).

—— 1973, *Moses Mendelssohn: A Biographical Study*. University, Alabama: University of Alabama Press.

—— 1982, *Die trostvolle Aufklärung*. [The Consoling Enlightenment]. Stuttgart-Bad Cannstatt: Frommann.

Arkush, A., 1994, *Moses Mendelssohn and the Enlightenment*. Albany: State University of New York Press.

Beiser, F., 1987, *The Fate of Reason: German Philosophy from Kant to Fichte*. Cambridge, MA: Harvard University Press.

Cassirer, E., 1951, *The Philosophy of the Enlightenment*. Princeton: Princeton University Press.

Heidsieck, A., 1979, "Der Disput zwischen Lessing und Mendelssohn über das Trauerspiel." ["The Dispute between Lessing and Mendelssohn on Tragic Theater"]. *Lessing Yearbook* XI: 7–34.

Hinske, N. (ed.), 1981, *Ich handle mit Vernunft...: Moses Mendelssohn und die europäische Aufklärung*. [I act with reason...: Moses Mendelssohn and the European Enlightenment]. Hamburg: Meiner.

Jacobi, F. H., 1785, *Ueber die Lehre des Spinoza in Briefen an den Herrn Moses Mendelssohn*. [On the Teaching of Spinoza in Letters to Mr. Moses Mendelssohn]. Breslau: Löwe.

—— 1994, *The Main Philosophical Writings and the Novel Allwill*. (G. di Giovanni, trans.). Montreal & Kingston: McGill-Queen's University Press.

Mendelssohn, M., 1786, *An die Freunde Lessing's: Ein Anhang zu Herrn Jacobi's Briefwechsel über die Lehre des Spinoza*. [To the Friends of Lessing: An Appendix to Mr. Jacobi's Correspondence on the Teaching of Spinoza]. Berlin: Voß.

Schmidt, J., 1996, *What is Enlightenment? Eighteenth-Century Answers and Twentieth-Century Questions*. Berkeley: University of California Press.

Vallée, G., (ed.)., 1988, *The Spinoza Conversations between Lessing & Jacobi*. Lanham, Maryland: University Press of America.

Wizenmann, T., 1786, *Die Resultate der Jacobischer und Mendelssohnischer Philosophie von einem Freywilligen*. [The Results of the Jacobian and Mendelssohnian Philosophy, Freely Volunteered]. Leipzig: Göschen.

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