

Bodies of Thought

Science, Religion, and the Soul in the Early Enlightenment

ANN THOMSON



OXFORD

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For Nina and Tommy Thomson

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Preface

In 1845 Karl Marx included in *The Holy Family* a chapter on eighteenth-century French materialism. Following Charles Renouvier's history of philosophy, he described how materialism developed in England in the seventeenth century and was transformed into an atheistic philosophy: 'Hobbes had shattered the theistic prejudices of Baconian materialism: Collins, Dodwell, Coward, Hartley, Priestley similarly shattered the last theological bars that still hemmed in Locke's sensationalism'.¹ In this book we shall meet all of these names (some of whom are probably totally unknown to the modern reader) together with many others, and it will become clear how mistaken this interpretation was. Eighteenth-century materialism has mostly been studied as part of a history of irreligious thought emphasizing campaigning atheistic syntheses like *Système de la nature* (1770), the main eighteenth-century work of materialistic propaganda. Today it is less likely to be seen as a stage in the development of dialectical materialism than as an aspect of the 'radical Enlightenment' or for its contribution to the thought of the marquis de Sade, or occasionally as part of the prehistory of neuroscience. The present work takes a very different tack, attempting as far as possible to avoid teleological pitfalls. It studies the debate on the soul (the crucial question for a materialistic interpretation of humans) from the late seventeenth to the mid-eighteenth century in the terms of the period and investigates its political, theological, and scientific ramifications, trying to take religious concerns seriously rather than dismissing unorthodox expressions of belief as mere masks for irreligion. A secular conception of humans is seen to emerge not only from a radical onslaught on religion but also from difficulties raised by sincere if unorthodox believers. This book, which has been a long time in gestation, is the result of cumulative research extending over a long period and my increasing awareness of the complexity and multi-faceted nature of the early Enlightenment. After studying for many years irreligious and materialistic thought and the writings of those who challenged basic Christian doctrines about the immortal soul, often from an atheistic standpoint similar to my own, I came to realize that these questions needed to be situated in a wider context, paying more attention to not only medical but also theological concerns and the unintended consequences of doctrinal disputes. This research revealed the forgotten aspects of the English side of the story. It also led me to question certain assumptions about the Enlightenment(s) and plead for a more nuanced understanding of the complex currents of thought in this period. The first result is this book, which makes no attempt to define or situate an Enlightenment, radical or otherwise, or to stake

¹ Marx and Engels, *The Holy Family*, ch. 6, 3.d.

a claim for the centrality of a particular person or country, but tries to turn the spotlight on some less visible facets of the period. It questions certain claims about different types of Enlightenment and the sometimes arbitrary way in which battle lines have been drawn up. In the course of my study of the emergence of a secular conception of humans I shall rescue from obscurity a certain number of people who aroused passion and general vilification from their contemporaries. They have as a result disappeared so far below the historical horizon that when the author of a recent attempt to reconcile religious belief in a soul with the findings of modern neuroscience provides a brief historical survey of philosophical and theological positions, she seems totally unaware of any of these writings or their relevance to her preoccupations.² I hope it will be clear how my study of this question central to thinking about human nature resonates with contemporary preoccupations; it should throw light on modern debates about religion and human nature as much because of the different terms in which concerns were expressed as because of the similarity of those concerns.

I owe several, often intangible, debts to a wide range of people. My thanks go to Sarah Hutton, Marian Hobson, Mariana Saad, Nicholas Cronk, Michel Baridon, Knud Haakonssen, Gianni Goggi, Marie Leca-Tsiomis, Dominique Boury, Stefano Brogi, Miguel Benitez, William Lamont, Rachel Hammersley, François-Joseph Ruggiu, Barbara Villez, Michel Cordillot. I learned a lot from Olivier Bloch's seminar on the history of materialism at Paris 1 University (now continued by Jean Salem) and from the group he founded on clandestine manuscripts, from which developed the annual meetings at Paris 12 University organized by Geneviève Artigas-Menant. Some of the ideas developed here were first presented there. I also have fond memories of the stimulating three-year collective study of Diderot's *Rêve de d'Alembert*, organized by Jean-Claude Bourdin, Colas Dufflo, Annie Ibrahim, and Sophie Audidière. And this book bears traces of my discussions with Roselyne Rey, whose early death did not prevent her making an invaluable contribution to the study of eighteenth-century medicine. Finally, I would like to thank the Conseil scientifique of Paris 8 University for according me a six-month sabbatical leave which made all the difference.

² Murphy, 'Human Nature: Historical, Scientific, and Religious Issues'.

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1

Introduction

In his recent work on human nature the psychologist Steven Pinker lists the elements of what he calls the ‘official theory’ concerning human nature; he calls them ‘The Blank Slate’, ‘The Ghost in the Machine’, and ‘The Noble Savage’, all inherited according to him from the Enlightenment. While admitting the gradual undermining of this trilogy, he claims that there is ‘one wall standing’, which he sets out to demolish. According to him, it ‘divides matter from mind, the material from the spiritual, the physical from the mental, biology from culture, nature from society, and the sciences from the social sciences, humanities and arts’.¹ Some neurobiologists, however, see a number of enlightened thinkers as precursors of their own attempts to break down this wall and point to explanations, admittedly rudimentary, of human behaviour and intelligence in terms of the workings of the material brain.² In addition, Antonio Damasio has identified in Spinoza’s philosophy elements of his own approach to feeling, studied in terms of brain functioning, in structuring intelligence.³ The present work looks at some of these attempts to break down the wall between matter and mind and explain human nature by the physical workings of the body. It studies an important debate which took place in a series of interconnected episodes, essentially in Britain (mainly England), France, and the French-speaking community in the Dutch Republic,⁴ in the period loosely termed the early Enlightenment. In this period, characterized by the investigation of physical nature, rehabilitation of the body, and celebration of sensuality, a new view of human nature was emerging, inextricably linked to thinking about the soul. Although the debate studied here centred around the existence of an immaterial and immortal soul, it is striking that several of the arguments used were the same as those Pinker ascribes to his opponents today, even if they were couched in very different terms. I am not claiming that those who figure here had insights into or ‘prefigured’ the discoveries of neuroscience. But the similarities do indicate that the debate around the soul in the seventeenth and eighteenth centuries bears more affinities

¹ Pinker, *The Blank Slate*, 31.

² Changeux, *L’Homme neuronal*; Jeannerod, *Le Cerveau-machine*; Edelman, *Bright Air, Brilliant Fire*.

³ Damasio, *Looking for Spinoza*.

⁴ The debate also resonated in Germany among some of those studied by Mulsow, *Moderne aus dem Untergrund*.

than one might think with discussions on the mind today and that its study has more than purely antiquarian interest. It also provides a new understanding of the whole period by setting some of its main concerns in a new light. The central preoccupation with human nature, or the ‘science of man’—which Hume in the Introduction to *A Treatise of Human Nature* called ‘the only solid foundation for the other sciences’⁵—presupposed a concern with complex and dangerous scientific and theological issues, which have tended to be ignored in works on the period. By bringing these neglected issues to the foreground, this study argues for their importance and takes issue with certain influential interpretations of the Enlightenment. It will show that materialism was a spectre haunting any reflection on human nature in the eighteenth century, and one that was taken seriously. Scholarly neglect of the theological and scientific (mainly medical) issues involved in thinking about human nature has to some extent skewed our understanding of the period. An analysis of debates on the soul demonstrates that materialism was not necessarily fuelled by atheism or even deism, but was also an unintended consequence of certain, admittedly unorthodox, Christian beliefs. Doctrinal disputes within Christianity were at least as important as the onslaught on Christianity in producing free thought and ultimately atheistic arguments.

The crucial moment of the controversy with which this work begins, in the late seventeenth and early eighteenth centuries, was sparked off by the works of various heterodox writers and thinkers whose explanations of human intellectual activity dispensed with a separate immaterial soul. Although this speculation was not new, it took on a particular vigour and importance in those years. After a relatively high-profile polemic in England at the turn of the seventeenth to eighteenth centuries, it again came to the forefront of the intellectual scene with the eighteenth-century French materialists. This disparate group has long been recognized as important, but it has usually been studied in the context of irreligious thought or the long-term history of materialism, and its place in an ongoing international debate has attracted insufficient attention. As I shall show, the emergence of materialistic speculation in eighteenth-century France cannot be properly understood without a knowledge of speculation across the Channel. The roots of this speculation were as much in theological debate within Christianity as in antireligious thought, but in the course of their transmission to France, the arguments became part of an assault on all religion, sometimes going as far as open atheism. The present study, rather than being comparative, is concerned with what is called ‘cultural transfer’,⁶ with how ideas cross frontiers and are transformed by their interaction with the conditions in a different culture. Instead of pinpointing ‘influences’, it looks at how far the debate in England, the issues aired there, and the agendas of those who transmitted them interacted

⁵ Hume, *A Treatise of Human Nature*, xx.

⁶ See Espagne, *Les Transferts culturels franco-allemands*.

with the climate and the preoccupations across the Channel to produce a radical and subversive new synthesis. This book therefore looks at the various facets of speculation on human nature and the soul from the late seventeenth to the mid-eighteenth century, in a way which has not been hitherto attempted. At its centre are individuals who, even if largely forgotten in the mainstream of history, posed important questions which agitated minds because they corresponded to contemporary preoccupations.⁷ When not totally ignored, their works have tended to be minimized, circumscribed within the context of Locke's influence, or seen solely from the viewpoint of the atheistic materialism which emerged in France. I shall look afresh at what these eighteenth-century writers were trying to do and the implications of the issues they raised, and show how the debate which is the subject of this book fed directly into the early nineteenth-century 'science of man'. This in turn influenced many aspects of later thought and has profound implications for much contemporary thinking about human nature. Despite these modern echoes I have resisted the temptation to present issues in today's terms. This book is also an attempt to write a type of intellectual history that breaks with more habitual ways of studying the sort of issues discussed here. It aims to bring out the presuppositions and mental categories that underpinned the arguments. Aspects of this subject have been discussed by historians of ideas, philosophy, political thought and political history, religious history and theology, science and medicine . . . It is a truism to say that rigid disciplinary distinctions were unknown at the period under study and can preclude a proper understanding of the issues and their implications, which traverse disciplinary frontiers and historiographical traditions. That is why (and to pre-empt criticism from specialists in each of these fields) I shall here try to situate my study in relation to various relevant historiographical traditions. But first we need to consider the 'Enlightenment', which has been the subject of critiques, often directed at its supposed view of human nature and at the French materialists, seen to epitomize its antireligious character.⁸ So a discussion of this label is unavoidable and needs to be got out of the way before we go any further.

Varieties of Enlightenment(s)

The renewal of Enlightenment studies has led historians to nuance the sweep of works like Peter Gay's classic synthesis, which concentrated on a relatively small group of anti-Christian Philosophes.⁹ A more complex picture has emerged,

⁷ The most complete discussion, with a useful bibliography, is Berman, 'Die Debatte über die Seele'.

⁸ For an amusing summary of their contradictions see Wokler, 'The Enlightenment Project and its Critics'.

⁹ Gay, *The Enlightenment, an Interpretation*.

accompanied by a sort of new orthodoxy. A 'High Enlightenment', in the term popularized by Robert Darnton, is often said to embody an 'Enlightenment Project', opposed to the 'Radical Enlightenment', beginning much earlier, in or before the period which used to be called the 'Frühaufklärung' or Paul Hazard's 'crise de la conscience européenne'.¹⁰ This 'Radical Enlightenment' is said to be materialistic or pantheistic, and republican or even democratic. In contrast, the High Enlightenment is seen as less radical and at least partly driven by the concern of a new type of intellectual to find a place within the establishment. In addition, while the so-called High Enlightenment is still seen to centre in France, the earlier manifestations of the enlightened spirit occurred largely elsewhere, essentially in England and Holland. Other work has tried to rescue the Enlightenment from its French monopoly and posit the existence of different Enlightenments, while most recently John Robertson has forcefully made the case for one Enlightenment.¹¹ This is not the place to go into the minefield of debate about the Enlightenment, variously characterized as seeing the birth of modernity, totalitarianism, or imperialism. It is nevertheless worth looking briefly at the question of an English Enlightenment and at the period of the early Enlightenment, which has too often been ignored, misrepresented, or seen through the prism of the later eighteenth century. England (unlike Scotland in the second half of the eighteenth century) has long presented a problem for students of the Enlightenment, to the extent that John Pocock has called it a 'blind spot' in the historiography of the Enlightenment.¹² It has been difficult to know whether English thinkers (whose role in forming many of the ideas which flowered in France in the eighteenth century has long been recognized) should be excluded from the Enlightenment and classified under the heading 'pre-Enlightenment' or considered as precursors, or whether a specifically English Enlightenment should be identified. Roy Porter's book *Enlightenment* dealt with this 'English Enlightenment', despite his dissatisfaction with the term. He followed Pocock in preferring to speak of 'enlightenment' or 'enlightenments' rather than 'the Enlightenment'. He admitted that 'if the Enlightenment's defining features are taken to be atheism, republicanism and materialism', then an English Enlightenment must be a misnomer; but he pointed out that few French philosophes, not to mention those of other nationalities, were 'devoted democrats, materialists or atheists'.¹³ He was of course right, and his presentation of the alternatives, only slightly caricatured, shows what is wrong with many characterizations of the Enlightenment. His

¹⁰ Jacob, *The Radical Enlightenment*; Israel, *Radical Enlightenment*; Secrétan, Dagron, and Bove, *Qu'est-ce que les Lumières 'radicales'?*; Hazard, *La Crise de la conscience européenne*.

¹¹ Robertson, *The Case for the Enlightenment*.

¹² 'Clergy and Commerce. The Conservative Enlightenment in England', 528. Roy Porter takes this remark as the starting point for his discussion of the Enlightenment in Britain (see following note).

¹³ Porter, *Enlightenment*, 9–10.

book provides a better mapping of the ‘contacts and circuits of literati and their listeners’ and reflects the current interest in wider issues and material aspects of culture and its circulation. It paints a less schematic view of the period, concentrating less on particular ideas or ideology than on a transformation of social being.¹⁴ My interest in a particular intellectual debate, and specifically in the much-decried materialism up to and including the French variety, might seem to be swimming against this current, although it does have a certain amount in common with Porter’s last book, which dealt briefly with some of the issues discussed here.¹⁵ We shall see that monolithic categorizations of enlightened discourse are misleading and that the lines of battle were not as clear-cut or the different camps as internally united as has often been supposed. Porter specifically refused to take sides in the debate on the ‘English Enlightenment’, preferring to describe its practices, but this debate is particularly relevant to the theme of the present work. In view of the general understanding of the Enlightenment as embodying the rise of secularism or ‘modern paganism’, to use Peter Gay’s phrase, the relationship between the Church and enlightened ideas in England has been particularly contentious. There are those who see the English Enlightenment as an essentially conservative movement, not opposed to the Church. As Jonathan Clark puts it, “‘enlightenment’ found a home *within* the Christian churches’, which echoes the remarks of other scholars who also argue that the anti-Christian French Enlightenment is not representative of even events in France as a whole.¹⁶ Although his interpretation is, in Porter’s words, ‘highly idiosyncratic’, it shows the importance of religious debate in the period and helps us to see the wider issues. Despite his superficial treatment of the freethinkers as a closely knit group, Clark warns us against categorizing those who opposed the Establishment as necessarily democrats, insisting on the religious nature of their opposition.

Pocock has also argued against the view of ‘The Enlightenment’ represented by the French Philosophes and has defended a multiplicity of enlightenments. He has posited a specific, more conservative, English Enlightenment, ‘intimately bound up with the special, indeed unique character of the Church of England’, whose embodiment he sees in Edward Gibbon. Pocock’s study of Gibbon is presented as ‘an attempt to reshape the geography and definition of Enlightenment’ in such a way as to find a place for Gibbon in it.¹⁷ The greater interest shown in ‘rational dissent’ has also provided a deeper understanding of the complex

¹⁴ Since Porter’s ch. on ‘The Enlightenment in England’, in Porter and Teich, *The Enlightenment in National Context*, an English Enlightenment has become more generally recognized.

¹⁵ Porter, *Flesh in the Age of Reason*. His earlier ‘Bodies of Thought’ discussed the history of the body.

¹⁶ Clark, *English Society 1660–1832*, 28; see also Gilley, ‘Christianity and Enlightenment: An Historical Survey’, 104: ‘in England, Scotland, Germany, Holland and English North America, “enlightenment” found a home *within* the Christian churches’.

¹⁷ Pocock, *Barbarism and Religion*, i, 8, 9.

relationship between Enlightenment and religion in Britain.¹⁸ There is now more study of the interaction as well as the opposition between religion and the French Enlightenment too. Going beyond an interest in Pierre Bayle, who has always been seen as an ambiguous figure, more attention is being paid to other exiled French Protestants and to more 'enlightened' theologians.¹⁹ Nevertheless, the link between the Philosophes and Jansenism has been less explored.²⁰ While there is clearly a need for a more diversified view of (the) Enlightenment, for the present study the category of Enlightenment itself is not a particularly useful starting-point. On the one hand it tends, consciously or unconsciously, to invite comparisons with a paradigmatic French Enlightenment, and on the other it encourages the search for a unifying theme or outlook, excluding those who do not conform to it. While not going as far as those who would banish the word, I do not feel that the label is always helpful, except perhaps to define a chronological period. In saying this, I am obviously taking issue with John Robertson's 'case for the Enlightenment'. It will become clear in the course of this work that I approach the vital question of human nature from a completely different angle. While Epicureanism and the writings of Pierre Bayle figure largely here, as they do in Robertson's book, my map of the period bears few similarities with his. This is not only because I am dealing with England, Holland, and France rather than Scotland and Naples. I make no claim that the heterodox English writers who denied an immaterial soul and were condemned by various theologians including the 'enlightened' 'latitudinarian' Newtonians of the Boyle lectures²¹ formed part of an English Enlightenment; nor do I claim that they opposed or prepared for the Enlightenment. I want to show how their writings are rooted in a precise context and to understand the implications of their claims. It is not, I believe, helpful to situate them in relation to the English or French Enlightenment, nor is the label 'Radical Enlightenment' more useful. Writings on the 'English Enlightenment', in their authors' eagerness to defend a more conservative, less antireligious enlightenment, often present a view of heterodox thought that tends towards caricature, ignoring its complexities and the extent to which it interacted with the defence of orthodoxy.²²

Although there are studies of individual figures of the early English Enlightenment, there are surprisingly few books that study English heterodox thought

¹⁸ Haakonssen, *Enlightenment and Religion*.

¹⁹ See Häselser and McKenna, *La Vie intellectuelle aux refuges protestants*; Albertan-Coppola and McKenna, *Christianisme et Lumières*, although many articles are more concerned to reconcile 'enlightenment' and 'anti-enlightenment'.

²⁰ See Cottret, *Jansénismes et Lumières*. On possible links between Jansenism and aspects of La Mettrie's materialism see Thomson, *Materialism and Society*, 60–9.

²¹ See Jacob, *The Newtonians and the English Revolution 1689–1720*.

²² Pocock writes of 'an Enlightenment which made the mind the object of its own self-worship' as 'a new form of enthusiasm', remarking: 'even Locke had been interested in the possibility that matter might think, and materialism was a possible source of enthusiasm' (*Barbarism and Religion*, i, 69). See below, p. 19.

as a whole. John Redwood's *Reason, Ridicule and Religion*, subtitled *The Age of Enlightenment in England 1660–1750*, was for a long time the only one. Despite a certain lack of reliability, it does bring out the importance and many-faceted nature of theological disputes. Redwood's brief evocation of the debate on the soul is, however, rather idiosyncratic, situated as it is in a chapter entitled 'Witches, Apparitions and Revelations'.²³ More recently, Justin Champion's *The Pillars of Priestcraft Shaken* has provided a new perspective on the period. Champion agrees with Clark's emphasis on the continuing importance of religion in the eighteenth century in England, but he is interested in the antireligious Enlightenment. He studies the 'assault on Christianity' launched by those he characterizes as 'a group of like-minded Republicans', who could constitute an English Enlightenment closer to the 'Radical Enlightenment' discussed below. His work is an examination of 'how the Freethinkers set out to challenge the sanctity of the Church', although he insists that 'the radical programme was not to destroy religion, but to deprive the corrupt Christian priesthood of all independent political power'.²⁴ My study is in many ways parallel to Champion's, to the extent that I am dealing with some of the same people on the English side of the Channel (in particular Toland, who figures prominently in Champion's account) and discussing what many churchmen felt to be an 'assault on Christianity'. But my subject, revolving around questions which are in some ways more narrowly theological rather than historical or institutional, lies outside the scope of his study. The accusations of priestcraft and imposture made by many freethinkers—and which are an important theme of the notorious *Traité des trois imposteurs*—are naturally of particular concern to Champion and have provided a focus for many discussions of free thought in both England and France in this period. But this focus has perhaps obscured the closely related but more complex debate on the soul and divine providence. These beliefs were essential components of Christian teaching which exercised both theologians and heterodox writers of the time. To deny an immaterial soul and divine providence fatally undermined the Christian religion and was seen as the equivalent of atheism. But as we shall see, those who did so were not necessarily launching an attack, concerted or otherwise, on Christian doctrines and we cannot dismiss out of hand their stated aim of returning to a purer form of Christianity. As John Gascoigne has pointed out, English anticlericalism in the eighteenth century (although he excludes the few 'deists') 'rarely extended to an attack on the principle of an established Church or to a general assault on Christianity. Indeed, English anticlericals often regarded themselves as the defenders of Protestant Christianity against the popish tendencies of some of the clergy'.²⁵ Looked at from this perspective, the heterodox 'assault' appears less as the concerted action

²³ Redwood, *Reason, Ridicule and Religion*, 140–4.

²⁴ Champion, *The Pillars of Priestcraft Shaken*, 7, 9, 24.

²⁵ Gascoigne, *Cambridge in the Age of the Enlightenment*, 18. See also Goldie, 'Priestcraft and the Birth of Whiggism'. For a useful reminder of the seventeenth-century discussion of a minimal religion see Lagrée, *La Raison ardente*.

of a tightly-knit group than as a wider questioning of certain doctrines in the name of true Christianity and in the light of scientific developments. Instead of two coherent opposing camps we can identify a range of opinions. This blurring of boundaries is also brought out in certain studies of the theologico-political confrontations in England from the mid-seventeenth to the mid-eighteenth century.²⁶

Although Champion's book deals exclusively with England, it opens with the French *Traité des trois imposteurs*, a text in many ways at the heart of discussions of the 'Radical Enlightenment', a relatively recent label with a complex history. Nearly 100 years ago Gustave Lanson's research in library collections revealed the existence of a large number of more or less clandestine early eighteenth-century treatises questioning fundamental aspects of Christian teachings. Their study was pioneered by Ira Wade and John S. Spink, whose still useful works brought the importance and variety of heterodox erudition to the attention of specialists.²⁷ Since the 1980s their original work has been developed and expanded, revealing even further the diverse philosophical inspiration for these texts.²⁸ Attention has concentrated on French works, by far the most numerous, although English and Dutch influences are recognized, and the role of Dutch circles in their diffusion has been studied.²⁹ The circumstances of their composition and authorship and the details of their diffusion are still patchily understood, but there are valuable studies of the most notorious works and their history.³⁰ Much of this study was carried out in relative isolation from Margaret Jacob's work, which led to the adoption of the label 'Radical Enlightenment'. Her book, which derived partly from the important research of Franco Venturi,³¹ concerned certain of the late seventeenth- and early eighteenth-century English freethinkers, some of whom, like John Toland or Anthony Collins, are known to have played a role in French thinking. The

²⁶ In particular Lund, *The Margins of Orthodoxy*.

²⁷ Lanson, 'Questions diverses sur l'esprit philosophique en France avant 1700'; Wade, *The Clandestine Organisation and Diffusion of Philosophic Ideas in France*; Spink, *French Free-Thought from Gassendi to Voltaire*.

²⁸ See Bloch, *Le Matérialisme du XVIII^e siècle et la littérature clandestine*; Benitez, 'Matériaux pour un inventaire des manuscrits philosophiques clandestins des XVII^e et XVIII^e siècles' and *La Face cachée des Lumières*. The group studying clandestine manuscripts, founded by O. Bloch, now publishes *La Lettre clandestine*.

²⁹ See Berkvens-Stevelinck, *Prosper Marchand: la vie et l'œuvre (1678–1756)*; Almagor, *Pierre Des Maizeaux (1673–1745)*; Berkvens-Stevelinck, Bots, Hofstijzer, and Lankhorst, *Le Magasin de l'univers*.

³⁰ In particular the *Traité des trois imposteurs*; see also Berti, Charles-Daubert, and Popkin, *Heterodoxy, Spinozism, and Free Thought in Early-Eighteenth-Century Europe*, and Charles-Daubert, *Le 'Traité des trois imposteurs' Let 'Esprit de Spinoza'*; also the editions of *Theophrastus redivivus*, *L'Examen de la religion*, and *Parité de la vie et de la mort*. I shall draw on this research in my discussion of the spread of materialistic ideas.

³¹ Venturi, *Utopia and Reform in the Enlightenment*.

fact that these English thinkers have often been lumped together as ‘English deists’³² has not helped a clear understanding of their work or motivations, and the label has encouraged a non-useful debate about the extent to which they were or were not deists, in view of the widespread accusations of atheism made against them at the time.³³ Toland’s links with continental freethinking and political activity has put him at the heart of arguments about the Radical Enlightenment. John Toland, ‘first and foremost a politician’ according to Champion,³⁴ was an activist for the radical Whigs and republished the most important of the seventeenth-century republicans’ works. He also wrote *Pantheisticon* (1720), purporting to be the liturgy of a Europe-wide pantheistic sect. All of this has seemed to justify seeing clandestine activity in this period as the work of a coherent group centred around Toland and diffused by Dutch publishers, whose aim was to spread an ideology labelled pantheistic and republican. This Radical Enlightenment is said to constitute a coherent body of thought linked to the open materialism of d’Holbach in the later eighteenth century. Margaret Jacob’s influential interpretation, while doing much to stimulate new thinking, has been widely criticized, and her claim that the *Traité des trois imposteurs* originated with a supposedly Masonic group in Holland to which Toland was linked has been shown to be flawed.³⁵ But it still provides the basis for much understanding of heterodox debate in this period, particularly concerning the soul, which the present book challenges in several ways. The reader may be surprised that Masonic lodges do not figure more largely here, in view of claims concerning their role in spreading enlightened and antireligious ideas.³⁶ While the link between Freemasonry and deism has often been pointed out, so has the Trinitarian zeal of James Anderson, author of the *Constitutions* of the Grand Lodge of England;³⁷ in addition, questioning the immortality of the soul was not consistent with Masonic ideals. The complex issue of Freemasonry in this period and its different religious and political tendencies—which were more varied, particularly in the British Isles, than is often declared, being frequently conservative and even linked to Jacobitism³⁸—is outside the scope of the present work.

³² Sullivan’s chapter ‘The Elusiveness of Deism’ (ch. 7) in *John Toland and the Deist controversy* shows the ambiguity of the term; Herrick, *The Radical Rhetoric of the English Deists*, 24, admits difficulty defining it.

³³ Berman argues that Collins was an atheist: *A History of Atheism in Britain from Hobbes to Russell*. See below, pp. 17–18.

³⁴ Champion, *Republican Learning*, 6.

³⁵ Jacob, *The Radical Enlightenment*; see also Berti, ‘L’Esprit de Spinoza’; Berkvens-Stevelinck, ‘Les Chevaliers de la jubilation: maçonnerie ou libertinage?’; and Sullivan, *John Toland*, 201–3.

³⁶ Jacob, *Living the Enlightenment*.

³⁷ Clarke, ‘The Change from Christianity to Deism in Freemasonry’.

³⁸ Money, ‘Freemasonry and the Fabric of Loyalism in Hanoverian England’.

An alternative reading of the Radical Enlightenment has been provided more recently by Jonathan Israel, who nevertheless agrees with Margaret Jacob as to its politically radical nature. Retaining an understanding of the Enlightenment which, while much wider in sweep, is not so very different from that traditionally held, he claims that:

Whereas before 1650 practically everyone disputed and wrote about confessional differences, subsequently, by the 1680s, it began to be noted by French, German, Dutch, and English writers that confessional conflict, previously at the centre, was increasingly receding to secondary status and that the main issue now was the escalating contest between faith and incredulity.³⁹

According to him, ‘no other period of European history displays such a profound and decisive shift towards rationalization and secularization at every level as the few decades before Voltaire’.⁴⁰ He sees two rival wings of this European Enlightenment: the moderate mainstream seeking a synthesis of old and new, and the Radical Enlightenment, which, according to him, ‘sought to sweep away existing structures entirely’.⁴¹ Israel self-consciously shifts the emphasis away from the French Enlightenment and to a large extent claims Holland was the origin of Enlightenment rather than England, making Spinoza its central figure and inspiration (the ‘intellectual backbone’) of its radical thought. While his work provides much information on the neglected Dutch dimension of the period, its exclusive claims for Spinoza’s centrality also distort the picture by over-correcting it.⁴² As an essay in reinterpreting the Enlightenment, this work and its sequel⁴³ constitute a tour de force and, like Margaret Jacob’s work, are a welcome attempt to transcend national barriers and look at the Republic of Letters as an international phenomenon. Israel is certainly right in saying that to understand this phenomenon correctly one must look beyond France, or even England and France, and he has made an important contribution to our understanding of this European phenomenon. However, many of the people we shall meet in this present study figure only in passing in his work, if at all. While those who argued against an immaterial soul were certainly on the side of heterodoxy, a detailed analysis will show that the lines of demarcation were not as clear-cut as these historians suppose. One cannot lump all heterodox thinkers together in the camp of incredulity. It is precisely the virtue of an analysis of a particular problem like the one attempted here that it can bring out this greater complexity, which is not always possible in a work that aims at a large-scale reinterpretation. The present book looks at the same period from

³⁹ Israel, *Radical Enlightenment*, 4.

⁴⁰ *Radical Enlightenment*, 6.

⁴¹ *Radical Enlightenment*, 11.

⁴² On the Dutch Radical Enlightenment, see also Van Bunge, *From Stevin to Spinoza*, 149–62 and *The Early Enlightenment in the Dutch Republic*, 1–16.

⁴³ Israel, *Enlightenment Contested*.

a perspective which is at once narrower and wider: narrower because instead of attempting a general interpretation of the Enlightenment or even of irreligious thought, it takes a particular issue in essentially two countries; wider because it integrates into the picture both the intellectual debate and the conditions and controversies that informed it, in the theological and scientific as well as the political spheres.

An element common to interpretations of the Radical Enlightenment is the claim that it was politically radical or republican. This is vital to Jacob's argument and is reaffirmed by Israel, for whom it 'characteristically combined immense reverence for science, and for mathematical logic, with some form of non-providential deism, if not outright materialism and atheism along with unmistakably republican, even democratic tendencies'.⁴⁴ The two figures seen as being at the heart of these alternative visions of the Radical Enlightenment, Toland and Spinoza, both linked heterodox religious ideas to a politically radical stance. This made them more attractive than Hobbes to those who questioned authoritarian government. However, Toland's stance was very different from that of the mid-seventeenth-century republicans whose works he republished and on occasion rewrote to bring them into line with the outlook of his own day. It was even further from that of the Levellers, Diggers, and radical sectaries.⁴⁵ In addition, those who espoused aspects of the philosophy of either Spinoza or Toland, even their criticism of priestcraft, did not necessarily adopt a republican (and even less a democratic) political agenda. It has been suggested that a nature in which God has been dethroned and matter possesses its own motive force provides the basis for a more egalitarian outlook.⁴⁶ As we shall see, such claims are too sweeping. The possible political implications of the debate we shall be looking at need to be carefully investigated, particularly as it arose in England in a charged and complex period of political controversy and struggle. Clark, who argues that political opposition in this period had its roots in religious heterodoxy, denies that it implied a democratic position. According to him, Toland was accused of being republican, 'not because he was a leveller but because he was an anticleric'.⁴⁷ Champion, on the other hand, emphasizes the continuity of the radical anticlericalism of the 1690s with the revolutionary traditions of the 1640s and 1650s.⁴⁸ The political implications of religious and philosophical principles are not always easy to unravel and the period after 1689 needs to be studied with caution. We should also be wary of transposing English preoccupations to France, while resisting the temptation to interpret

⁴⁴ Israel, *Radical Enlightenment*, 12.

⁴⁵ See Worden, 'The Revolution and the English Republican Tradition' and *Roundhead Reputations*; also Wootton, 'The Republican Tradition: From Commonwealth to Common Sense'.

⁴⁶ Rogers, *The Matter of Revolution*, links the 'vitalist moment' of Harvey, Marvell, Milton, and Margaret Cavendish with egalitarian and 'liberal' political positions.

⁴⁷ Clark, *English Society*, 319 f, 342.

⁴⁸ Champion, *The Pillars of Priestcraft*, 24.

eighteenth-century French thinkers through the distorting lens of the French Revolution. This study will show that the link between religious and political positions is by no means as simple as has been claimed, even in the late eighteenth century. Generalizations are particularly dangerous and interpretations need to be made with caution.

Part of the problem has been that the political situation tends to be discussed in isolation from specifically theological debates: the religious dimension being limited to the question of the Church as an institution. There is much literature on the politically agitated post-Revolution period in England with which this book begins. There are detailed studies of the High and Low Church parties and the political factions linked to them, and of religious questions like toleration and occasional conformity or the Convocation issue. The admittedly less high-profile debate on the soul—which was nevertheless raised in both Convocation and Parliament and produced numerous publications—is completely absent from these studies.⁴⁹ When one attempts to understand how theological issues such as this one were intertwined with these contemporary sociopolitical disputes, the water becomes muddied. In her pioneering study of the Boyle lectures (discussed in the next chapter), Margaret Jacob presents the latitudinarian theologians who used Newtonian science to defend Christianity against the freethinkers as being motivated by essentially political aims: ‘The ordered, providentially guided, mathematically regulated universe of Newton gave a model for a stable and prosperous polity, ruled by the self-interest of men’. As it enabled them to combat atheism, ‘the new mechanical philosophy from its very inception possessed social and political significance’; ‘the latitudinarians adapted Christianity to a market society by transforming it into a natural religion which would serve the needs of self-interest and make them compatible with the dictates of providence’. It was this synthesis which, according to her, was rejected by the deists, freethinkers, and atheists.⁵⁰ While the study of the ‘social uses of science’⁵¹ is now widely accepted, this particular interpretation has been criticized for its oversimplification, by both historians of science⁵² and those who argue that greater attention should be paid to theological arguments and their seriousness. A study of different opinions among churchmen shows that the Church of England’s defenders had much more diversified views. For Brian Young, ‘even allowing for a coherence behind the ideas of latitudinarianism which the term does not actually possess, Jacob’s identification of Newtonian apologetics with Whig politics invites refutation’.⁵³ The present work, while looking at the political importance of the debates under scrutiny, pays equal attention to theological arguments and their presuppositions.

⁴⁹ Holmes, *Politics, Religion and Society in England 1679–1742*, 181–215; Rose, *England in the 1690s*; Kenyon, *Revolution Principles*; Harris, *Politics under the Later Stuarts*.

⁵⁰ Jacob, *The Newtonians and the English Revolution*, 18, 23, 51, 69–70.

⁵¹ Shapin, ‘Social Uses of Science’.

⁵² Hunter, ‘Science and Heterodoxy: An Early Modern Problem Reconsidered’.

⁵³ Young, *Religion and Enlightenment in Eighteenth-Century England*, 86.

It tries to understand how far they coloured political positions in this period and 'to take seriously many of the religious and philosophical options available to thoughtful men and women in eighteenth-century England, and to allow for the considerable influences of political and social pressure which were felt on such thought without presuming an indissolubly determinist link to hold between them'.⁵⁴ At the same time the theological preoccupations which still played an extremely important role in the early eighteenth century will be situated in the wider context. A recent book dealing with a question closely linked to my subject adopts a very different approach from mine. It analyses all aspects of the debate about death, the soul, the afterlife, and resurrection in the period 1650–1750, including briefly works by some of the English writers studied here.⁵⁵ While taking in wider theological issues than those I am considering it confines the narrative to these debates and does not investigate the wider ramifications of the questions evoked. As such, it provides a useful complement to my study from a different standpoint, attempting a different sort of analysis. An approach similar to mine is adopted in an article by Young dealing with the same issues in the 1770s.⁵⁶

Science and Religion

Part of the wider context concerns science, already referred to in connection with the way Newtonian science and Lockean principles were used to defend natural theology. This brings us to the link between theological, political, and scientific preoccupations.⁵⁷ I look more specifically at the way certain developments, notably in physiology, were used to defend a conception of humans which broke with religious orthodoxy. This subject falls beyond the pale of the usual interests of historians of science, who have tended to concentrate on those 'canonical' thinkers seen to have contributed to scientific progress; in the words of Margaret Osler, 'historians of science have sometimes succumbed to the Whiggish tendency to understand the history of science as the unfolding of ideas by the force of their own internal logic',⁵⁸ and, I might add, as a constant progress towards a greater understanding of nature. The distorted image that this historiography can give of the past is increasingly recognized and has led in recent years to reappraisals of the Scientific Revolution, accompanied by an interest in lesser figures and a move 'towards the contextualization of problems and solutions in specific intellectual polities'. Certain historians show a greater 'sensitivity to categories produced by

⁵⁴ Young, *Religion and Enlightenment*, 6.

⁵⁵ Almond, *Heaven and Hell in Enlightenment England*.

⁵⁶ Young, 'The Soul-Sleeping System'.

⁵⁷ See Kroll, Ashcroft, and Zagorin, *Philosophy, Science and Religion in England, 1640–1700*.

⁵⁸ Osler, *Rethinking the Scientific Revolution*, 6.

the actors themselves',⁵⁹ as is attempted here. However, it is an area strewn with pitfalls for the unwary. The relationship between scientific developments and beliefs and the debate on the soul is complex, is difficult to evaluate with precision, and has rarely been the concern of historians of science. Such discussions that do exist have often tended to be simplistic. The prevailing interpretation of this period was, for a long time, that a mechanistic explanation of the universe in terms of matter in motion and the laws governing it, which can be described in mathematical terms, opened the way for a materialistic, even atheistic, view of the world. This leaves no place for those who attempted to elaborate a materialistic explanation of humans using 'vitalistic' conceptions or equating the soul with life. For Thomas Hall, Descartes's separation of life from soul 'signals the close of a long series of conceptual and semantic cross-connections between the two beginning in Greece where one word, *psyche*, meant both'. In this view, Julien Offray de La Mettrie's materialistic physiology stands in direct line of descent from Descartes, by way of Herman Boerhaave's iatromechanism; although older elements are found in *L'Histoire naturelle de l'âme*, his subsequent rejection of them 'cleared the way for a more straightforwardly materialist-mechanist outlook'.⁶⁰ La Mettrie's materialistic explanation of humans, taken to represent eighteenth-century views, thus springs more or less directly from seventeenth-century mechanism.⁶¹ I shall argue that such a view is mistaken. In general, as Keith Hutchison puts it: 'The mechanical philosophers' adoption of a "barren" conception of matter thus appears as one of the principal stages in a more or less continuing process of secularization, which led from Renaissance naturalism to the Enlightenment'.⁶² Hutchison is one of those who provides a different interpretation, showing that the mechanical philosophy's new conception of matter made God necessary to explain the world.⁶³ We shall see that the link between the mechanical philosophy and materialistic explanations is more complex than has been thought, as is that between science and religion.⁶⁴

This raises the question of secularization, another vexed issue, and something that is notoriously hard to define or to reach agreement on. In addition, much of the work on the subject comes from sociology and does not deal with the same issues. John Sommerville prefers to call the secularization of belief, mentality, or thought the decline of religious belief rather than secularization 'pure and

⁵⁹ Westman and Lindberg, *Reappraisals of the Scientific Revolution*, pp. xix, xx.

⁶⁰ Hall, *Ideas of Life and Matter*, i, 257; ii, 46–8. See also Easlea, *Witch Hunting, Magic and the New Philosophy*; the section on Hobbes is entitled 'From Mechanistic Theism to Materialistic Atheism' (pp. 154–8).

⁶¹ See Porter, 'Medical Science and Human Science in the Enlightenment', 58.

⁶² Hutchison, 'Supernaturalism and the Mechanical Philosophy', 297.

⁶³ Osler, *Divine Will and the Mechanical Philosophy*; Shapin insists on the importance of mechanical philosophy for natural theology (*The Scientific Revolution*, 142 ff).

⁶⁴ See Brooke, *Science and Religion*, and 'The Superiority of Nature's Art? Vitalism, Natural Theology and the Rise of Organic Chemistry', in *Thinking about Matter*, iv; Hunter, 'Science and Heterodoxy'; Ashworth, 'Christianity and the Mechanistic Universe'.

simple'.⁶⁵ At first sight, the attempts to elaborate a purely material view of humans and deny an immaterial immortal soul might seem to constitute a paradigmatic case of an emerging secular view of humans freed from religious doctrines and constraints. It would seem to correspond to Peter Burke's use of the term to mean 'the process of change from the interpretation of reality in essentially supernatural, other-worldly terms to its interpretation in terms which are essentially natural and focused on the world'.⁶⁶ This is no doubt the case for the mid-eighteenth-century French materialist thinkers discussed in Chapter 6 below. However, one should not ignore John Hedley Brooke's warnings concerning the complexity of interactions between science and religion.⁶⁷ The religious origins of the views defended by the late seventeenth-century English materialists, to be discussed in Chapter 4, remind us that we need to keep an open mind on these interactions and avoid the temptation to see an uninterrupted process of secularization at work. In his study of seventeenth-century Christian mortalism, Norman T. Burns points out the error of scholars who have mistaken this heresy 'for a contribution to the secularization of English life and thought that would culminate in Deism by the end of the century'.⁶⁸ In addition, if we follow Sommerville's study, we need to be much more circumspect concerning the forces at work in this period. We need to ask how far the use of science in debates on the soul is the result of the wider secularization of society and government and how far it constitutes the impetus for it. Sommerville's position does not contradict Clark's, for he sees the importance of debates about religion as evidence of secularization by differentiation, accompanied by the disappearance of any power that the Church had possessed. Thus he can affirm both that by 1700 'we have seen many of the marks of completed secularization' and that in 1700 'religion was very much in the thoughts of English men and women'.⁶⁹ These statements, together with his emphasis on the relatively late secularization of thought, are relevant to the subject of this book, and his analysis can help us to understand the reaction of theologians to the debate on the soul and its impact within the Church of England. As can Blair Worden's reminder that what was seen by many late seventeenth-century Englishmen as the rise of irreligion due to 'the challenge posed by what was variously called epicureanism, Socinianism, deism, atheism' can be interpreted in a different way. These positions can be seen not as a refutation of religion but as an impulse to rescue it from clericalism, 'priestcraft', dogmatism, superstition, and fanaticism; as he says, 'there is also a sense in which they were meant to be a second Reformation'.⁷⁰ Such an

⁶⁵ Sommerville, *The Secularization of Early Modern England*, 5.

⁶⁶ Burke, 'Religion and Secularisation', 294.

⁶⁷ Brooke, *Science and Religion*, esp. chs. 1 and 2, although he also oversimplifies the question of materialism (pp. 171–80).

⁶⁸ Burns, *Christian Mortalism from Tyndale to Milton*, 3.

⁶⁹ Sommerville, *Secularization*, 122 ff, 186.

⁷⁰ Worden, 'The Question of Secularization', 27–8.

interpretation also helps to explain how the different situations in England and France influenced attitudes and arguments as well as the public profile of debates about the soul and human nature.

The interaction of science and religion is particularly present in recent research on the hitherto relatively neglected history of medicine in this period. As Osler remarks, medicine together with the biological sciences in general never fitted into the received historiography of the Scientific Revolution.⁷¹ Recent studies of medicine in the seventeenth and eighteenth centuries pay particular attention to the link between medicine and religion.⁷² The soul was part of the common ground between medicine and religion, and with changes in natural philosophy and religious doctrine came changes in how these two domains saw this ‘central issue’.⁷³ The relationship between medicine and the debate on the soul in seventeenth-century England has been discussed by John Henry, who demonstrates the difference between medically inspired monism and ‘the more familiar monism of mechanist materialists’ and considers that Henry More’s and Ralph Cudworth’s criticisms of medical theorizing were exceptional. One of the questions I shall be addressing is precisely this connection. We shall see how far Henry’s conclusion—‘that More and Cudworth were right to regard medical theory as heralding “the rising sun of atheism”’⁷⁴—is borne out and how the relationship between medicine and religion differed in England and France; also whether the distinction he makes between medical and non-medical materialism is valid. This historian is one of the few who have discussed the question; despite a certain interest in Thomas Willis,⁷⁵ the link between physiology and discussion of the mind in this period has been relatively neglected by historians of science,⁷⁶ and these writings on the mind have not generally interested historians of psychology or psychiatry.⁷⁷ According to Gary Hatfield, in one of the few studies devoted to the question, ‘whig’ histories of psychology as now generally understood tend to ignore developments before the late nineteenth century.⁷⁸ French historians, on the other hand, look to the end of the eighteenth century for

⁷¹ Osler, *Rethinking the Scientific Revolution*, 20.

⁷² See French and Wear, *The Medical Revolution of the Seventeenth Century*. Its companion vol., Cunningham and French, *The Medical Enlightenment of the Eighteenth Century*, addresses the wider question of medicine and enlightenment.

⁷³ See French and Wear, *The Medical Revolution of the Seventeenth Century*, 2–3.

⁷⁴ Henry, ‘The Matter of Souls: Medical Theory and Theology’, ‘Medicine and Pneumatology’, and ‘A Cambridge Platonist’s Materialism’. See also Chs. 2 and 3 below.

⁷⁵ Canguilhem, *La formation du concept de réflexe*; Frank, ‘Thomas Willis and his Circle’; Wright, ‘Locke, Willis and the Seventeenth-Century Epicurean Soul’ and ‘Metaphysics and Theology’.

⁷⁶ But see French, *Robert Whytt, the Soul and Medicine*, which includes a brief discussion of the early eighteenth-century debate.

⁷⁷ As George Rousseau points out, in this period there is no useful distinction to be made between psychology and psychiatry: ‘Psychology’, 144–5.

⁷⁸ Hatfield, ‘Remaking the Science of Mind’, 185 f.

the birth of psychiatry.⁷⁹ Hatfield emphasizes the need to reject the use of present standards to judge past materials, although his concern with the development of a discipline means that many of those mentioned in this book are ignored. While he cites the French materialists, including Diderot, La Mettrie, d'Holbach, and Helvétius, as exceptions to his generalization that 'psychological theorizing was only rarely pursued as part of an attempt to cast doubt on (or to secure) the existence of immaterial souls or their connection with things divine' and refers to 'the Christian apologetical approach' of certain early eighteenth-century English 'gentlemen and divines on the soul', he does not mention the works to which the latter were reacting, discussed here.⁸⁰ This brings us to another aspect of the way in which most historians have hitherto dealt with the issues or individual thinkers included in the present work. Certain categories and labels that have appeared in the discussion so far and have been passed over without comment need to be looked at before we go any further.

Labels

The heterodox thinkers who are the subject of this book have usually been designated as 'atheists', 'deists', 'materialists', or 'pantheists'. These labels raise a certain number of problems, which I have so far only referred to in passing, but we need to pay more attention to them and the philosophical positions they designate. It is hardly surprising that in studies of freethinkers there should be much talk of atheism and deism. Deism has frequently been said to characterize Britain as opposed to France, where atheism has been seen as more widespread; atheism has sometimes misleadingly been said to characterize the *Philosophes*, who were in fact more often than not deists. On the other hand, the type of materialism under discussion here, namely the denial of an immaterial immortal soul, was considered to be the equivalent of atheism as it entailed questioning divine providence. Much of the secondary literature therefore refers either to a vague group of deists, or to 'atheistic materialism'. The unsatisfactory nature of such general labels has led more recently to a certain number of not always enlightening discussions as to whether particular freethinkers were in fact deists or rather atheists, fuelled by the ambiguous statements of most British as well as French freethinkers. The ambiguity was often deliberate, dictated by the opprobrium or even danger involved in open atheism, and, as Roger Lund reminds us, contemporaries expended a lot of effort in deciphering their writings to

⁷⁹ See Swain, *Le Sujet de la folie*, which undermines Foucault's analysis of this period; also Baertschi, *Les Rapports de l'âme et du corps*; Rey, *Naissance et développement du vitalisme en France*; and Saad, 'Santé et maladie dans l'oeuvre de P. J. G. Cabanis'.

⁸⁰ Hatfield, 'Remaking the Science of Mind', 188, 196. Schaffer, 'States of Mind', deals essentially with the later eighteenth century.

uncover hidden atheism.⁸¹ Modern critics have continued the same enterprise, often drawing on the work of Leo Strauss.⁸² David Berman in particular has argued forcefully for the hidden atheism of several British freethinkers, relying on a Freudian interpretation of the repression of atheism without situating the thinkers in their historical context; following his lead a recent work on Anthony Collins is almost exclusively devoted to demonstrating that he was an atheist.⁸³ Heterodox works clearly need to be read with an eye for their coded messages intended for the initiated, in order to decipher their true meaning, intention, and possible impact at the time of writing.⁸⁴ Nevertheless, attaching labels which do not necessarily have the same meanings today as they did at the time can encourage misunderstanding of both the practical implications of certain philosophical positions and the precise import of contemporary accusations of atheism or deism. Michael Hunter's detailed discussion of 'the complex of associations summed up by the word atheism' brings out the implications of such accusations,⁸⁵ and in the introduction to a volume on early modern atheism he and David Wootton write: 'we would readily admit that it is neither helpful nor even feasible to attempt to concentrate exclusively on figures who were overtly atheistic according to a modern definition'. This is in part because of the conflation by contemporaries of atheism and deism, all of which renders this 'a particularly treacherous area of study'.⁸⁶ Contemporary reactions and accusations are of course important and have led some to conclude that true philosophical atheism was practically non-existent, being mainly a category constructed by theologians anxious about arguments which could encourage unbelief. Alan Kors's study of atheism in France from the mid-seventeenth century to the early eighteenth, while not denying the existence of atheists, is sympathetic to such a point of view and counters claims about the prevalence of atheism in France, arguing for 'the generation of disbelief by orthodox culture itself'.⁸⁷ Instead of attempting to stick labels on particular thinkers, my study will try to analyse the implications of their view of humans. As we shall see, the existence of a deity is not necessarily the main point at issue in their discussion of human beings.

The warning also applies to a third label which has been sometimes attached to materialistic thinkers of this period, who are said to defend 'materialistic pantheism' or 'pantheistic materialism'. The question of pantheism has particularly arisen in connection with John Toland and his description of a

⁸¹ Lund, *The Margins of Orthodoxy*, 1–29.

⁸² Strauss, *Persecution and the Art of Writing*.

⁸³ Berman, *A History of Atheism in Britain*; Taranto, *Du déisme à l'athéisme*.

⁸⁴ This has been much studied in relation to French clandestine and 'libertin' literature; see Bloch, 'Du libertinage au matérialisme des Lumières', reprinted in *Matière à histoires*, 225–86.

⁸⁵ Hunter, 'Science and Heterodoxy', 456.

⁸⁶ Hunter and Wootton, *Atheism from the Reformation to the Enlightenment*, 2–3.

⁸⁷ Kors, *Atheism in France*, xiii; see also D'Holbach's *coterie*.

pantheistic religion whose devotees constituted a secret sect spread throughout Europe. According to Sullivan the word describes ‘thoroughgoing materialists or deifiers of the physical universe’ (such as Hobbes or Spinoza), who had previously been called atheists or deists.⁸⁸ The term is notoriously difficult to define precisely,⁸⁹ and discussion of its appropriateness can be sterile, as it distracts attention from the true implications and import of the actual writings. In addition, the word chosen to label writers not only reflects one’s interpretation of their philosophical stance, but also has implications for what one sees as their wider aims. The connotations of pantheism lead Pocock to link atheism and ‘enthusiasm’ (or fanaticism), associated with Hobbes, as enemies of orthodoxy;⁹⁰ he writes of a “‘religion of reason”, or worse still “of nature”” which ‘smacked of republicanism . . . and of enthusiasm’.⁹¹ This study will address these assumptions and associations. It is interesting to note (without necessarily seeing a connection) that the English debate on the soul overlapped with the scandal caused in London in the first decade of the eighteenth century by the ‘French Prophets’, and the working out of French materialism was accompanied in the 1720s and early 1730s by the extraordinary spectacle presented by the ‘miracles’ and crucifixions of Jansenist ‘convulsionnaires’ in Saint-Médard Cemetery in Paris. The effect of these ‘inspired’ scenes was to encourage both scepticism about miracles and divine inspiration and reflection on the relation of mind and body, alongside medical attempts to explain possession.⁹² These complex interactions between religious and political extremism, scientific advance, and secularism also resonate with modern preoccupations.

So far I have been using the word ‘materialism’ as if it were completely unproblematical, which is far from being the case, and this label needs to be scrutinized as well. It can generally be understood as the attempt to explain natural phenomena in terms of matter alone without recourse to an immaterial principle, although different uses of the term are also found.⁹³ Some historians prefer another word such as ‘monism’ or ‘holism’.⁹⁴ The present work is not a history of materialism from the late seventeenth century to the mid-eighteenth (however useful such a work might be) but an analysis of the debate concerning the human soul and attempts to account for human activity in terms of matter; this is only part of the general explanation of the universe in material

⁸⁸ Sullivan, *John Toland*, 209. On Toland see also Giuntini, *Panteismo e ideologia repubblicana*.

⁸⁹ See Thomson, ‘Pantheism’.

⁹⁰ Pocock, ‘Within the Margins: The Definitions of Orthodoxy’, 43.

⁹¹ Pocock, *Virtue, Commerce, and History*, 234.

⁹² See Schwartz, *Knaves, Fools, Madmen, and that Subtile Effluviium*.

⁹³ See Bloch, *Le matérialisme*. Schofield, *Mechanism and Materialism*, deals with the legacy of Newtonianism.

⁹⁴ See Kaitaro, *Diderot’s Holism*; Braine, *The Human Person: Animal and Spirit*.

terms. The study of the history of materialism has brought to light a large number of ignored or neglected writings on the soul. The major work in this field is still Friedrich Lange's *History of Materialism*, written in the middle of the nineteenth century, which covers the period from Greek atomism up to Lange's own day; it has never been replaced despite the gradual refinement and extension of our knowledge since his publication.⁹⁵ Lange's immensely erudite work, discussing many thinkers who had been ignored by the history of philosophy, sought to establish lines of filiation in the various thinkers who defended a materialistic world view. He saw two different traditions in modern philosophy since the reappearance of materialism with the revival of science: one, idealistic, from Descartes through Spinoza, Leibniz, Kant, and Fichte, to Schelling and Hegel; the other, originating in Bacon, continued through Hobbes and Locke to the French eighteenth-century materialists, and indirectly to the materialists of Lange's own day. For him this materialistic tradition was based on empiricism, opposed to Descartes's deductive method, and he emphasized the role of Gassendi and Hobbes in the renewal of materialism in the seventeenth century. His section on eighteenth-century materialism begins with a chapter on the influence of English materialism in France and Germany. However, given La Mettrie's self-proclaimed Cartesianism, Lange describes the role played by Cartesian mechanism in encouraging materialistic attitudes, mainly by extending the idea of animal-machines to humans. The prevailing orthodoxy long posited the existence of two opposing strands of materialism: one, sensualist, deriving from Locke and represented by Helvétius, led towards nineteenth-century socialism; the other, mechanistic, derived from Descartes and was represented notably by La Mettrie. This interpretation was given authority by the passage on eighteenth-century materialism in Marx's *Holy Family*, itself borrowed from Charles Renouvier's history of philosophy published in 1842.⁹⁶ Although this interpretation of materialism has not totally vanished, it is now generally recognized that it needs to be seriously revised and recent scholarship has emphasized the diversity of the philosophical traditions drawn on by materialistic interpretations of humans.⁹⁷ Studies of Diderot have also done much to bring out the complexity of eighteenth-century materialism, even if he is still often seen as a special case.⁹⁸ Nevertheless, materialism continues to be analysed mainly in terms of the influence of leading philosophical systems

⁹⁵ Lange, *History of Materialism and Criticism of its Present Importance*. Stimulus for new research came from the seminar on the history of materialism directed by Olivier Bloch from the 1970s, first at Paris 12 University and then at Paris I University.

⁹⁶ See Bloch, 'Marx, Renouvier et l'histoire du matérialisme', reprinted in Bloch, *Matériau à histoires*, 384–441.

⁹⁷ See Bloch, 'Le Matérialisme des Lumières', and *Le Matérialisme du XVIIIe siècle et la littérature clandestine*.

⁹⁸ Belaval, 'Sur le matérialisme de Diderot'; Chouillet, *Diderot, poète de l'énergie*; Bourdin, *Diderot. Le matérialisme*; Tosel and Salem, 'Diderot, le matérialisme, la philosophie'.

which pushed certain thinkers towards a purely materialistic conception of the world. Historians refer to a ‘mechanistic materialism’ embodied in the seventeenth century by Hobbes and in the eighteenth by La Mettrie, or look at the influence of Locke’s ‘thinking matter’ hypothesis. A parallel approach to the question of the soul and a material conception of humans within the history of philosophy is to view it from the perspective of the mind–body problem.⁹⁹ While my analysis draws on such work, its aim is to look at the issue from a different perspective. It would undoubtedly be possible to write a richer and more inclusive history of materialism as a philosophical hypothesis, embodied in a chain of thinkers from the Greek atomists to modern-day ‘reductionists’, but this would not necessarily help us to understand why certain hypotheses came to the fore or were the subject of fierce debate in a particular period, nor the specific form they took. There is also the danger that such a history ignores side alleys and apparent dead ends. While increasing numbers of historians of ideas, philosophy, or literature are now paying attention to writers long considered to be too minor to merit serious attention, they have not taken much notice of several of the people who figure prominently in the present work, despite the important role they arguably played.¹⁰⁰ The greater interest in minor figures has produced more detailed study of the French-language clandestine manuscripts that circulated for much of the eighteenth century, which has led in turn to greater concern with the material conditions of the production and circulation of heterodox ideas, linked to the history of the book and journalism.¹⁰¹ While critical editions of particular texts and studies of particular figures have given a deeper understanding of the circumstances of their composition and publication,¹⁰² much uncertainty and disagreement remain, in particular concerning arguably the most important work, *Traité des trois imposteurs*.¹⁰³ At the same time the study of the material culture of the Republic of Letters, which has contributed to a greater understanding of the circulation of books and ideas,¹⁰⁴ still too often remains separate from the study of the issues debated. While commercial imperatives, personal ambitions, or rivalries, and the hierarchies of the Republic

⁹⁹ Baertschi, *Les Rapports de l'âme et du corps*, which includes useful discussion of aspects of seventeenth- and eighteenth-century science.

¹⁰⁰ An exception is Ricuperati, ‘Il problema della corporeità dell’anima dai libertini ai deisti’.

¹⁰¹ See Benitez, *La face cachée des Lumières*; Canziani, *Filosofia e religione nella letteratura clandestina*; Sgard, *Dictionnaire de la presse*; McKenna and Mothu, *La Philosophie clandestine à l'âge classique*; Berti, Charles-Daubert, Popkin, *Heterodoxy, Spinozism, and Free Thought in Early-Eighteenth-Century Europe*; Van Bunge and Klever, *Disguised and Overt Spinozism around 1700*. Much new research can be found in *La Lettre clandestine*, published annually since 1992.

¹⁰² In addition to the works already mentioned, see Meslier, *Ceuvres complètes* and *L'Âme matérielle*. Also Venturi, *Saggi sull'Europa illuminista, I: Alberto Radicati di Passerano*; Sheridan, *Nicolas Lenglet Dufresnoy and the Literary Underworld of the Ancien Régime*; Carayol, *Thémiseul de Saint-Hyacinthe*; Brogi, *Il cerchio dell'universo*.

¹⁰³ See n. 30.

¹⁰⁴ There is a large and growing bibliography on this subject; for a useful introduction, see Bots and Waquet, *La République des Lettres*.

of Letters are certainly factors to be taken into account,¹⁰⁵ they need to be situated in a wider context. The real ideological and philosophical differences need to be taken seriously.

An Alternative View

The present work, which draws on research on this less visible Republic of Letters, also aims at providing a new understanding of it, going beyond my previous studies of the ideas and their circulation. It is an attempt to write a more inclusive history of moments in the debate on an issue which has implications for us today and which straddles the boundaries between 'radical' and 'moderate' enlightenments, thus providing a different map of the period. While many of the protagonists held 'radical' views on particular issues, it is impossible to discern a common ideology shared by a clearly defined group of people. My study does not start from a theoretical position concerning the relationship between intellectual debates and the society in which they take place, or about the particular ideological context of the period under study. My approach is obviously indebted to much work in intellectual history and the history of science and is inevitably marked by the ideological confrontations of my formative years; but rather than espousing one particular school, it has benefited from many different writings, mainly in English and French.¹⁰⁶ Theoretically, it is more in the nature of a *bricolage*, partly because of the diverse nature of the object under study. This book does not deal with the work of a particular author or a coherent theory, body of ideas, or discourse (however that is defined), or even an intellectual tradition, but with several linked moments in an ongoing debate. In addition, the subject impinges on various discourses and is not primarily concerned with political thought, the domain in which much reflection on intellectual history has taken place in the English-speaking world. Nor does the present work chart the emergence of a dominant discourse. Instead it follows moments in the defence of an interconnected series of beliefs which, while they came at one point to occupy an important place on the intellectual stage, have never been hegemonic. The type of intellectual history I am attempting to write starts from a concern to understand, as far as possible, a group of divergent works on a particular issue in the terms in which they were understood by the participants at the time. This means trying to grasp the implications and connotations for

¹⁰⁵ See for example Goldgar, *Impolite Learning*.

¹⁰⁶ I have deliberately chosen not to discuss the theoretical debates on intellectual history or the history of science, in order to avoid getting bogged down in abstract considerations and the need to take up a position in relation to, for example, Foucault or Skinner. As there may be a disparity between theoretical positions and actual practice and certain approaches which I have found partially useful have led to interpretations which seem to me unsatisfactory, I have restricted references to writings relevant to the issues under study.

the authors and their contemporaries by reconstructing as far as possible the circumstances of the debate. It is an attempt to recover the principal conditions in which the authors produced their texts and to which they were responding, the assumptions they shared with their contemporaries, and the constraints on their utterances. More than simply situating the ideas in their intellectual context, decoding the thought structures of the authors of particular texts, or alternatively seeing them as sociocultural artefacts, I am trying to understand the interaction between written works and their environment—or in other words, not only how works were influenced by the context in which they were written but their effect on events, in a situation in which the texts are part of the context. The debate is not studied from the point of view of our present concerns or the historiographical traditions that have grown up since, but as part of the preoccupations of the period. The aim is not primarily to elucidate a particular philosophy or to decide the true meaning of a particular author or text, or the ‘influences’ on them, but to understand the contours and implications (religious, political, philosophical . . .) of a certain number of interconnected works in relation to their age, without ignoring their relevance to modern preoccupations. While it was about what may appear today to be abstruse matters, the debate on the soul which is the subject of this study was not confined to intellectual circles or to the higher echelons of society. On the contrary, it apparently reflected the preoccupations of many ordinary people concerning the pressing and practical issues of their own faith and salvation. These were questions which interested wider society, in view of the centrality of religion, its propensity to arouse popular emotions, and the dangers that the ideas put forward seemed to imply for behaviour if they became widely accepted. Its reverberations therefore extended far beyond the individual authors immediately involved, who might be considered as ‘losers’, to the extent that the ideas they defended did not become dominant and have almost disappeared below the historical horizon or are discredited in many people’s eyes. Nor did they clearly bring about changes; it is difficult, for example, to defend claims that the eighteenth-century French materialists prepared the French Revolution. One might wonder then why one should bother to study them. I would argue that it is precisely because the issue was seen at the time to be of profound importance, concerning as it did the way human beings understand themselves and their place in nature, with important implications for religion and politics. It led to violent reactions which managed to circumscribe these ideas to a minority or to discourage publication of them but could not prevent their wider reverberations. The discussion has continued up to the present day and has gradually and imperceptibly altered assumptions, so that certain of the arguments, while apparently rejected, in fact gradually entered mainstream thought. The eighteenth-century emphasis on sensibility and increasing awareness of the body and fleshly concerns are clearly connected to the materialistic arguments discussed here, which also lie behind much modern behaviour and thinking.

This study of the moments when a materialistic view of human nature was the subject of heated debate, in a society which was very different from ours, takes as its leitmotif the way in which theological and medical discussions were interrelated. Science and religion appear here not as antithetical views of the world but as different ways of approaching the same central questions, which in the period under study had to take account of each other. The complexity of the debate has imposed a particular plan on the present work. While the overall structure is chronological, recounting a story that begins in late seventeenth-century England and finishes in mid-eighteenth-century France, the need for detailed analysis of both the moments of the debate and the issues involved has led me to separate out some of them. In addition, as the exchanges in different countries have to be looked at separately, a strict linear development is impossible. I have gone into some detail concerning the religious and political situation in late seventeenth-century England because here the debate was a public one determined by precise political and religious events; this was not the case for the French works discussed in both Chapters 5 and 6, which were stimulated by a wider range of circumstances over a longer period. My starting-point is a series of works published in England after the ending of the Licensing Act in 1695, beginning with Henry Layton's confidentially circulated works in the 1690s and continuing with Dr William Coward's books from *Second Thoughts on the Soul* in 1702 to *The Just Scrutiny* in 1706 and John Toland's *Letters to Serena* in 1704, and ending with the Henry Dodwell affair and its ramifications. The issue at stake in these books was the existence of a separate immaterial soul, denied by Layton, Coward, Toland, and Anthony Collins, but in view of the politico-religious implications of the question, the ensuing reverberations were far-reaching. Those involved included a large number of theologians, polemicists, and political writers from all parts of the political spectrum, including the non-juror Henry Dodwell, the noted freethinker Anthony Collins, the theologian Samuel Clarke, the widely ridiculed financier, MP, and bankrupt John Asgill, and the High Church Tory propagandist Charles Leslie, as well as Jonathan Swift and Daniel Defoe, not to mention Leibniz in Hanover and John Locke. To understand the implications of these polemics requires a study of the charged political and theological climate in the two decades following the Glorious Revolution, with which the first chapter begins. Heterodox thought, in particular Socinianism, denunciations of 'priestcraft' and the campaign against unbelief, 'deism', and 'atheism' are linked to the crisis within the Church of England and political faction in the 1690s. The complex religious and political confrontations help to account for the emergence of the debate on the soul and show that the intentions of the authors of these particular heterodox texts have to be investigated carefully. They also have to be set against the intellectual traditions favouring materialistic strands of thought at the time, such as the revival of the Christian mortalist heresy from the mid-century in England, philosophical speculation on the soul, and apologetic literature. After

this presentation of the complex intellectual climate of late seventeenth-century England, emphasizing the interaction of philosophical and theological speculation and its link to political struggles, the following chapter deals with the relevant medical and physiological writing, in England and elsewhere, and its religious implications. It looks especially at William Harvey's writings on reproduction, Francis Glisson's conception of active matter, and Thomas Willis's study of the animal brain, and at some of the theological reactions to them which demonstrate the importance of medical speculation concerning active matter. Medical discussions of the interactions between mind and body, while used to support materialistic arguments, were in themselves insufficient as they were susceptible to various dualistic explanations.

The scene having been set, the fourth chapter is devoted to a detailed discussion of the works involved in the controversy over the human soul at the turn of the eighteenth century in England. As the writings of Henry Layton and William Coward, at the centre of this controversy, are hardly known at all today despite Coward being one of the freethinkers named by Jonathan Swift, this chapter devotes quite a lot of space to them, studying their possible motivations and implications of their works in the charged atmosphere of the day. The refutations Coward attracted and the polemic around his books are also discussed, as is the involvement of John Toland, Henry Dodwell, Samuel Clarke, and Anthony Collins. As the violence of these polemics subsided after the Hanoverian succession in 1714, this chapter does not take the study any further into the century, and Chapter 5 follows the trail of these ideas across the Channel. It looks at French-language periodicals published essentially by Huguenot journalists in Holland, semi-journalistic works by Thémiseul de Saint-Hyacinthe or the marquis d'Argens, and the clandestine philosophical treatises which circulated, often in manuscript form, from the early part of the century onwards. Also included is a discussion of some apparently isolated voices, like the village priest Jean Meslier and the exiled Italian republican Count Alberto Radicati di Passerano, who throw light on the link between theological and political radicalism. These lesser-known works rehearsed many of the arguments used to elaborate a material conception of human beings by the more high-profile French authors of the middle of the eighteenth century, which are the subject of the next chapter. The writers highlighted, who include both obscure thinkers and high-profile scientists like Maupertuis or Buffon, frequently knew each other personally. They seem to be conducting a debate which was the public face of private discussions often stimulated by the clandestine works analysed in the previous chapter. As their works have been the subject of several studies, this chapter concentrates on bringing out the most important elements of the mid-eighteenth-century attempts (mainly by Julien Offray de La Mettrie and Denis Diderot) to provide a purely material explanation of human beings and the difficulties involved. Their works are looked at in the context of eighteenth-century medical thought, with a re-examination of the teaching

of Hermann Boerhaave, the impact of new scientific discoveries such as the freshwater polyp, and the debate on generation. A comparison with David Hartley's contemporaneous book underlines the different emphases of the French and British debates and the different thrust of the French arguments, which became openly antireligious and even atheistic due partly to the limited possibilities for discussion or expression of religious unorthodoxy. This chapter also looks at the 'Spinozistic' theme of the determination of the will which runs through several clandestine materialistic texts, notably the *Traité des trois imposteurs* and La Mettrie's works, and continues in the later French materialistic writings as well as those of Hartley and later Joseph Priestley. Although my study ends with the emergence of material explanation of humans at centre stage with the scandalous mid-eighteenth-century French works, the final chapter indicates briefly the divergent currents that emerged in materialistic thinking and their impact in the later eighteenth and early nineteenth centuries. This includes the confrontation with religious orthodoxy, the impact of materialism on political ideas and reformist thought, and the contribution of materialistic speculation to the 'natural history of mankind' and 'science of man'¹⁰⁷ which fed into reforming programmes and physical anthropology as well as psychology. The terms and nature of debate on human nature were determined by circumstances, which ensured that the arguments we shall be looking at here were mainly excluded from the mainstream of thought. They have as a result been ignored or misunderstood by historians even though they concerned a crucial preoccupation of the period. This study tries to demonstrate that the questions raised, despite their subversive nature, continued to exercise minds and play a role not only in polemical works such as the *Système de la nature*, but even for authors who rejected their irreligious connotations. Despite their neglect by historians and sometimes despite their authors' intentions, these speculations contributed gradually and unobtrusively to the elaboration of a secular conception of humans in different fields. They are crucial to an understanding of later developments, however far removed the preoccupations of late seventeenth-century thinkers may at first sight seem from those of nineteenth- or twentieth-century scientists. But I am not telling a story of increasing enlightenment or secularization, the decline in a religious and rise of a scientific and/or secular conception of humans, or the gradual spread of 'enlightened' ideas among a wider public. As we can still see today, interactions between religion and science are more complex than is often supposed and an increase in scientific knowledge does not necessarily accompany greater scepticism or a decline in religious belief. This book is intended as a contribution to a better understanding of how views of human nature have changed by looking at attempts to defend a materialistic conception of humans, the conditions in

¹⁰⁷ There is no overall study of *l'histoire naturelle de l'homme*; Williams distinguishes it from the medical science of man in the nineteenth century (*The Physical and the Moral*, 18), but in the later eighteenth century the distinction was not so clear-cut and materialism fed into both.

which these attempts were made, and their implications. It may also help to explain why they have been ignored or misunderstood and why the thinkers discussed here remained a marginal group in the historiography, even as many aspects of the view they defended gradually became absorbed for most practical purposes into the outlook of the very people who rejected it. Primarily, however, this book provides a new interpretation of the period which can be designated, somewhat arbitrarily, as the 'early Enlightenment'. It shows how the 'science of man' developed in this period out of a complex interaction of politico-religious circumstances and theological and scientific preoccupations. The confrontations which marked these years did not mean that the lines of combat were clearly drawn between science and religion, orthodoxy and heterodoxy. I am arguing for a more complex reading of the intellectual history of the time, which can only be achieved by attempting to understand it in its own terms rather than sticking labels on it. And that understanding may help us to approach some of the intellectual confrontations of our own day.

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‘The Church in Danger’: Latitudinarians, Socinians, and Hobbists

The story starts in England in the turbulent 1690s, a period of passionate politico-religious debates, many centring around the role and place of the established Church. Amidst such violent exchanges, discussion of the immaterial soul may seem of minor importance and the arguments used sometimes obscure and bizarre, but in addition to throwing light on wider issues they had a greater and more lasting impact than one might assume at first sight. It may be the case, as Blair Worden claims, that ‘the great age of theological controversy was past’,¹ but it had certainly not vanished. Its appeal can be deduced from the disparate collection of authors who openly defended a heterodox view of the soul in this period: a venerable pious Yorkshire squire, an ambitious medical doctor with literary pretensions, a shady Irish political pamphleteer who was also a scholar and mixed with the great and the good, a non-juring theologian, a freethinking country gentleman and friend of Locke, and a financial writer and Member of Parliament defending, to general derision, a version of what certain Christian fundamentalists today call ‘rapture’. Their opponents were mainly various religious writers, both dissenting and Anglican. The subject at issue was the existence of an immaterial and immortal soul distinct from the body. It was, as one of the most consistent enemies of heterodox writers affirmed, ‘a most undoubted verity, That next to the Belief of the Being of God, the Perswasion of the Soul’s being immortal is the great basis of all true Happiness, the hinge upon which all Religion turns’.² Henry Sacheverell, the notorious High Church enemy of toleration, likewise insisted that the doctrine of the soul’s immortality was crucial for morality and the support of government.³ Doubts on this question were not new. In addition to the heterodox Italian Renaissance speculation on the soul which was kept alive in a subterranean current,⁴ doubts as to the existence of a separate immaterial and immortal soul had been expressed by the mid-century English Christian mortalists, who espoused a position adopted by

¹ Worden, ‘The Question of Secularization’, 38.

² Turner, *A Physico-Theological Discourse upon the Divine Being*, 115.

³ *The Political Union: A Discours Showing the Dependence of Government on Religion*, 1702, quoted in Kenyon, *Revolution Principles*, 92.

⁴ See for example *Theophrastus redivivus*.

Luther and some other reformers but condemned by Calvin⁵ and much discussed in relation to the works of Hobbes. While mid-seventeenth-century Christian mortalism, which flowered in an atmosphere of unbridled speculation, has been studied, as has the debate around the works of Hobbes and the Cambridge Platonists, the episode at the turn of the eighteenth century has received much less attention.⁶ The various protagonists held differing views: while Layton and Coward rejected the immaterial soul and accepted the doctrine of the resurrection, Dodwell concentrated on the question of the soul's immortality. In addition, while the early eighteenth-century mortalists appealed to the Scriptures and situated themselves within the Christian tradition, they also went beyond it, replying to philosophical discussions of the soul's necessary immateriality and immortality and drawing on medical research. This gave their arguments a new twist and enabled them to reach a wider audience. Their speculation was undoubtedly fuelled by theological intolerance and vituperation, as mutual accusations of atheism helped to undermine religious orthodoxy. Therefore, before going into the various arguments about the nature of the soul, this chapter will look at the theologico-political and intellectual circumstances which gave rise to heterodox speculation on the soul in the last decade of the seventeenth century and the first decade of the eighteenth. A discussion of the medical developments which contributed to arguments about the soul will be left for the next chapter.

Party Strife

In the last decade of the seventeenth century, as Geoffrey Holmes reminds us, religion coloured all controversies due to the Church's involvement in politics after the Glorious Revolution.⁷ Historians have emphasized the complex nature of the factions and currents running through the country: the conflict between Whigs and Tories, coupled with divisions between court and country parties, was reflected in the war between latitudinarians and High Church, complicated by the suspicion of treacherous papists and Jacobites on the one hand and of fanatical 'enthusiasts', 'sectarians', and republicans on the other.⁸ After 1689 the Tories generally accommodated themselves to the Revolution settlement, defending an

⁵ See Burns, *Christian Mortalism from Tyndale to Milton*, and Williams, *The Radical Reformation*.

⁶ Burns's study ends with the Restoration and refers to the continuers of the soul-sleeping tradition in a footnote (pp. 40–1); but see Ricuperati, 'Il problema della corporeità dell'anima dai libertini ai deisti'. Henry's important study 'The matter of souls' insists on the neglect of medical monistic thought in seventeenth-century anti-atheistic literature.

⁷ Holmes, *Politics, Religion and Society in England 1679–1742*, 181 ff, and *British Politics in the Age of Anne*, p. xx.

⁸ Dickinson, *Liberty and Property*, Part I; Horwitz, *Parliament, Policy and Politics in the Reign of William III*; Harris, *Politics under the Later Stuarts*; Rose, *England in the 1690s*.

ideology of order, and despite the fears of Jacobite plots few supported a return to the Catholic Stuarts. Tory ideology transformed itself gradually, adopting finally many of the 'country' positions of the Whigs, who did not want a wider distribution of power or an enlargement of the franchise. Only the radical or 'real' Whigs kept alive the spirit of the mid-seventeenth-century republicans whose works they published, although for them 'republican' generally meant support for the rule of law, opposition to any attempt to increase the power of the crown, and belief in the limitation of royal power by Parliament.⁹ They also attacked 'priestcraft', defending a return to the pure principles of original Christianity before it was corrupted by unscrupulous priests wielding power based on superstition.¹⁰ The real influence of 'True Whig' principles in these years is difficult to ascertain despite the activities of John Toland and his friends, who were, it is generally agreed, 'a tiny, dedicated, vocal minority'.¹¹ The divisions between the parties were seen to concern mainly the spoils of power, and many believed the principles of the Whigs had been corrupted. In Davenant's 1701 anti-Whig pamphlet 'an Original staunch Whig', described as 'one who had despis'd the Church and misliked Kingly Government from [his] very Cradle', was opposed to the 'Modern Whigs', 'who are Whigs out of interest' and are totally without principles.¹² Each side was accused of secret extremism: the High Church Tories were accused of favouring Catholicism, the Pretender, and England's enemies, while it was insinuated that the Whigs and latitudinarians were closet fanatics and revolutionaries. And the accusations were even at times conflated. As Humphrey Prideaux, the Dean of Norwich, remarked in 1693: 'I have been lately told by a very intelligent person that he is well assured that abundance of those that seem fierce Republicans are in reality fierce Jacobites, and that they openly promote this designe for noe other end but that it is ye likeliest to bring about what they would really have'.¹³ In the same vein, an undated pamphlet defending the bishops against the lower clergy lumps together 'atheists and jacobites' as those who are attacking the Church in order to foster irreligion and slavery.¹⁴ In this situation, accusations of heresy and irreligion were used as a stick to beat one's political opponents and we should be careful about taking at their face value accusations of atheism,¹⁵ republicanism, fanaticism, or enthusiasm, as they could simply be a means of implying that Whigs looked back to the days of the revolution. Gareth Bennett has explained the bitter atmosphere of the 1690s by the Anglican clergy's opposition to the toleration instituted in 1689

⁹ See Dickinson, *Liberty and Property*; Robbins, *The Eighteenth-Century Commonwealthman*; Worden, 'The Revolution and the English Republican Tradition'.

¹⁰ See Goldie, 'Priestcraft and the Birth of Whiggism'.

¹¹ Holmes, *British Politics in the Age of Anne*, xliii.

¹² Davenant, *The True Picture of a Modern Whig*, 15.

¹³ Letter to John Ellis, 27 Nov. 1693, in Prideaux, *Letters*, 156.

¹⁴ 'A Letter from a Country Clergyman to his Brother in the Neighbourhood, Touching Some Reproaches Cast upon the Bishops', attributed to Wake, *Harleian Miscellany*, xii, 268.

¹⁵ See Hunter, 'Science and Heterodoxy: An Early Modern Problem Reconsidered'.

and the visible growth of dissent, together with their increasing poverty and feeling of powerlessness. All of this was exacerbated by the increased influence of latitudinarians in the Church's hierarchy, marked by the appointment of Archbishop Tillotson, who had been a Presbyterian in his youth and was known to be friendly with the Socinian Thomas Firmin.¹⁶ The formation of a Whig ministry in 1695 precipitated the development of an opposition 'Country' party. The 'new High Church party' seems to date from about 1697, when it looked to a revived Convocation to put its case and carry out its policies. This dispute between High and Low Church became the dominant fact of life, so that according to Geoffrey Holmes, 'From the late 1690s onwards it was all-pervasive, and by 1705 overwhelming'.¹⁷

The open confrontation between 'high flyers' and latitudinarians really began, however, with the meeting of Convocation in early 1701.¹⁸ This assembly of the Church of England had not sat since 1689 as it was regularly prorogued immediately after its official opening. The Tory campaign to defend its authority in the late 1690s became inflamed following Francis Atterbury's *Letter to a Convocation-Man* in 1697, although the controversy over its powers and the authority of the Church in general dated from the early 1690s.¹⁹ After 1701 it became the stage for the confrontation, with the Lower House dominated by the High Church attacking the Upper House led by the latitudinarian bishops appointed after 1689, and the situation became even more discordant after Thomas Tenison became Archbishop of Canterbury in 1694.²⁰ At this juncture these bishops, who until then had been suspicious of party alignment, 'came at last to throw in their lot with whiggery'.²¹ In Davenant's pamphlet quoted above, the Whig is instructed to continue his 'wonted practice of ridiculing the Church and all revealed religion' but to spare certain bishops who had supported the Whig ministry.²² The Lower House of Convocation became the main platform for Tory and High Church campaigns like that for the repeal of toleration,²³ which dominated politico-religious struggle in this period. Occasional conformity (the practice which allowed dissenters to qualify for public office simply by very occasionally taking communion in the Church of England) was opposed by most of the clergy, who viewed with dismay the decline in church attendance and the growth of dissenting meeting-houses and

¹⁶ Bennett, *The Tory Crisis in Church and State 1688–1730*, 44 ff; Rose, *England in the 1690s*, 182 ff. On the latitudinarians, see Gascoigne, *Cambridge in the Age of Enlightenment*, chs. 2, 4.

¹⁷ Holmes, 'Science, Reason and Religion in the Age of Newton', 168.

¹⁸ Bennett, *The Tory Crisis*, 56–7.

¹⁹ See Champion, *The Pillars of Priestcraft*, 44 ff, quoting Goldie, 'The Nonjurors, Episcopacy and the Origin of the Convocation Controversy' in E. Cruikshanks (ed.), *Ideology and Conspiracy: Aspects of Jacobitism 1689–1759* (Edinburgh: 1982), 21.

²⁰ See Every, *The High Church Party 1688–1718*, 67.

²¹ Rose, *England in the 1690s*, 182, 193.

²² Davenant, *The True Picture of a Modern Whig*, 62.

²³ Holmes, *British Politics in the Age of Anne*, p. xxi.

educational establishments after 1689.²⁴ They feared both that toleration would allow irreligion to flourish and that the power of dissenters in Church and State would increase if dissenting mayors and others could hypocritically attend church services in order to remain in place. They accused those who defended toleration of favouring dissent and endangering the Church. Thus by the end of William's reign, in the Tory-dominated Parliament of 1701 and even more after the accession of Queen Anne in 1702, there was a concerted campaign to outlaw occasional conformity, which Kenyon attributes to the scandal caused in 1697 by the Lord Mayor of London attending a conventicle in full regalia after worshipping in an Anglican church.²⁵ The period in which the debate on the soul came to the fore corresponds precisely to the years when the Occasional Conformity bills were being presented to Parliament, amidst great agitation from the mass of the clergy and behind-the-scenes manoeuvring on all sides.²⁶ The attacks on freethinkers and the accusations of irreligion were a stick with which to beat the Whigs and the latitudinarian church hierarchy, in particular Archbishop Tenison. Promoters of the Bill to outlaw occasional conformity accused the latitudinarian defenders of toleration of atheism. Humphrey Prideaux, at the time a moderate Tory, wrote in 1692: 'the Act of Toleration hath added to this mischief, that since the liberty granted by it, a greate part of the nation worship God no way at all, but are degenerated into perfect atheisme'; he expected nothing from the 'atheisticall gentry in Parliament, who seem to aim at nothing as much as a totall libertinisme in manner as well as religion',²⁷ but claimed that 'unlesse there be some regulation made in it, in a short time it will turn halfe the nation into downright atheism'.²⁸ According to a pamphlet by a 'True Church-of-England-Man', an occasional conformist 'must be a person that has no true sense of his own, of any Religion whatsoever, and that's as much to say, he's a Latitudinarian', and so 'this Occasional Conformist that makes all this noise and outcry about Religion and Conscience, must be a downright Atheist'.²⁹ The fact that the Archbishop of Canterbury Thomas Tenison had written a pamphlet against Hobbes³⁰ was far from being counted in his favour: in a spoof catalogue of books, a series of 'Cases of Conscience, and Queries' includes as number 16, 'Whether Cumb— —d and Ten— —n ever confuted ten Hobbists by their bawling and printing? And whether they have not made ten-thousand by their practice?'³¹ So the latitudinarians' zeal to criticize irreligion can also be seen as a way of replying to accusations of heterodoxy; it was vital to demonstrate

²⁴ See Rose, *England in the 1690s*, 171–8.

²⁵ Kenyon, *Revolution Principles*, 84; Holmes, *Politics, Religion and Society in England*, 181–215.

²⁶ See Bennett, *The Tory Crisis*, 68 ff.

²⁷ Letter to his sister, 21 Aug. 1692, in Historical Manuscripts Commission, *Fifth Report*, 376.

²⁸ Prideaux, *Letters*, 154.

²⁹ *The Clamours of the Dissenters*, 6–7.

³⁰ Tenison, *The Creed of Mr. Hobbes examined*.

³¹ 'A Catalogue of Books of the Newest Fashion to be Sold by Auction, at the Whigs Coffee-House, at the Sign of the Jackanapes, in Prating-Alley, near the Deanery of St. Paul's', *Harleian Miscellany*, xii, 261.

that a defence of toleration did not include the toleration of freethinkers, nor did it lead to freethinking. It may also have been part of an attempt to heal internal division by uniting the Church against external enemies.

This does not mean that the anxiety among churchmen about the rise of irreligion and the undermining of certain Christian doctrines was not real. It was reinforced by the ‘moral panic’³² caused by the perceived decline in morality, but it took different forms in the different wings of the Church. The campaign against toleration went hand in hand with attacks on ‘irreligious books’. The High Church group led by Atterbury in the Lower House of Convocation was particularly concerned to condemn irreligious and scandalous books, and had invoked the bishops’ laxity as one of the arguments for Convocation to meet. The relevant passage from Atterbury’s *Letter to a Convocation-Man* shows his tactic of incriminating all sorts of people and appealing to a variety of feelings among the clergy:

when such an open looseness in Men’s Principles and Practices; and such a settled contempt of Religion and the Priesthood have prevail’d every where; when Heresies of all kinds; when Scepticism, Deism and Atheism itself over-run us like a Deluge; when the Mosaick History has by men of your own order been cunningly undermined and exposed under pretence of explaining it; when the Trinity has been as openly denied by some, as the unity of the Godhead sophistically opposed by others; when all Mysteries in Religion have been decried as impositions on Men’s Understandings, and nothing is admitted as an article of faith but what we can fully and perfectly comprehend: Nay, when the power of the magistrate and of the Church is struck at, and the indifference of all religions is endeavoured to be established, by Pleas for the justice and Necessity of an universal unlimited Toleration, even against the sense of the whole legislature: At such a Time, and in such an Age, you and I, Sir, and all Men that wish well to the interests of religion and the State, cannot but think, that there is a great need of a convocation.³³

This wide-ranging condemnation encompasses many unacceptable opinions stretching from downright atheism to toleration, taking in both Unitarianism and tritheism. It is therefore instructive to look more closely at the doctrines against which action was taken. The immediate target of the ‘High Church heresy hunt’ was opposition to mystery and the claim that, as Atterbury puts it, ‘nothing is admitted as an article of faith but what we can fully and perfectly comprehend’, tarred with the brush of Socinianism.³⁴ The committee appointed by the Lower House as soon as Convocation met, ‘for the Examination of books lately published against the truth of the Christian Religion’, immediately acted against not only John Toland’s *Christianity not Mysteriorious* but also Gilbert Burnet’s *Exposition of the Thirty-Nine Articles*, viewed as the manifesto of the latitudinarian party and

³² Hayton, ‘Moral Reform and Country Politics’.

³³ Atterbury, *A Letter to a Convocation-Man*, 2–3.

³⁴ See below (pp. 39–41) for a more detailed discussion of Socinianism.

accused of Socinian tendencies.³⁵ The Committee's report on Toland's work on 20 March 1701, incriminating a long series of passages denying mystery and affirming the sole use of reason in matters of religion,³⁶ was sent to the Upper House, which appointed another committee to examine the case. When it concluded that it did not have a licence to proceed against it,³⁷ the affair was quietly buried despite the Lower House's reminders, and the case against Burnet was never brought. The Lower House's continued pestering of the Upper House about heretical books, largely at Atterbury's instigation, and the continued reluctance of Archbishop Tenison and the Upper House to proceed against them while condemning irreligion are a permanent feature of the early years of the century. The High Church heresy hunt, directed immediately not only against Toland (who, according to Burnet, 'passed for a socinian, but was believed to be a man of no religion')³⁸ but also against Gilbert Burnet himself (whom Robert Harley called 'that mad Bishop of Sarum'),³⁹ shows the complicated currents running through the Church in the wake of the polemic over the Trinity in the 1690s.⁴⁰ Burnet himself, like Tillotson, was friendly with the philanthropist Thomas Firmin, who distributed works against the Trinity in the 1690s, and although he admitted in private that Firmin was a Socinian, in his memoirs he calls him an Arian.⁴¹ Atterbury's tactic was to accuse the latitudinarian hierarchy of unorthodoxy concerning the mysteries, of which the Trinity was the principal, and thus to tar them with the brush of Socinianism and irreligion.⁴² Burnet, who respected Firmin but was worried by the open Socinian campaign, wrote to Jean Le Clerc in Amsterdam in 1694:

. . . the Socinians have quitted that modest way of writing which was a great ornament to all their books. . . . The insolence of the Socinians is like to spoil all and the high men among us hope to make that an Argument to destroy the Tolleration that is settled by law among us which the farre greater part of the Clergy doe detest. But yet I hope it shall never be in their power to shake it.⁴³

Toland's reply to criticisms of his book in *Vindicius liberius* refers to the accusations made against the bishops for not acting against 'heretical, impious

³⁵ Sullivan, *John Toland and the Deist Controversy*, 10; Champion, *Republican Learning*, 77 ff; Greig, 'Heresy Hunt: Gilbert Burnet and the Convocation Controversy of 1701'.

³⁶ The copy examined by the Committee with the incriminated passages underlined in red is in Lambeth Palace Library, MSS Conv., IX/7.

³⁷ Every, *The High Church Party*, 96.

³⁸ Burnet, *Bishop Burnet's History of his Own Time*, i, 690–1.

³⁹ Historical Manuscripts Commission, *Calendar of the Manuscripts of the Marquis of Bath*, 53.

⁴⁰ See Greig, 'Heresy Hunt'. According to Holmes the suspicion that Tenison encouraged the Socinian Nye to attack Toland reinforced the belief that the archbishop was a heretic: 'Science, Reason and Religion in the Age of Newton', 170.

⁴¹ Letter to Jean Le Clerc in 1698, in Le Clerc, *Epistolario*, ii 291 and *Bishop Burnet's History*, ii, 648–9; see Rose, *England in the 1690s*, 183.

⁴² See Reedy, *Robert South (1634–1716)*, 125 ff and Sullivan, *John Toland*, 82.

⁴³ Letter, 17 Nov. 1694, in Le Clerc, *Epistolario*, ii 136–7.

and immoral books' and for protecting Toland himself 'from I know not what perillous circumstances',⁴⁴ Daniel Defoe, on the other hand, attacked the censorship exercised by Convocation, referring to

... the heretical, atheistical, deistical and other pernicious errors which have been condemn'd in that venerable Assembly, the various services done, and weighty matters dispatch, for the honour of the English church, for sixteen years past, with their formal proceedings against Asgil, Coward, Toland, and others, for reviving old Antiquated errors in Doctrine, and publishing them to the world as their own.⁴⁵

As we shall see, at least some of those revivers of 'Antiquated errors in Doctrine' were undoubtedly reacting to this charged atmosphere and to the perceived danger of a High Church victory which would impose 'priestcraft' and 'catholic' doctrines, thus undermining what they believed to be the true beliefs of primitive Christianity and an open and inclusive Church. This High Church campaign against irreligion—aimed largely at condemning perceived unorthodoxy within the Church rather than defending it against outside attacks—can be set against the background of the 1698 Blasphemy Act, passed at the height of the campaign against immorality. The motion in the Commons requesting such a bill, directed specifically against the Socinians, included an attack on the bishops' 'remissness for suffering such blasphemers to go unpunished'.⁴⁶ The committee appointed to consider the request reported on 15 February 1698 on the need to suppress 'all pernicious books and pamphlets which contain in them impious doctrines against the Holy Trinity, and other fundamental articles of our faith, tending to the subversion of the Christian religion'.⁴⁷ This apparently moved Archbishop Tenison to propose to the Lords on 24 February the 'Atheism, Blasphemy and Profaneness Suppression Bill', but on the same day as this bill was sent to the Commons they decided to bring in their own bill, and finally passed an 'Act for the more effectual suppressing Blasphemy and Profaneness'. The Archbishop of Canterbury's bill was considered to be primarily directed against atheism rather than immorality, which was the main preoccupation of the promoters of the Commons' bill; however, the Act which received the Royal Assent on 5 July 1698, although apparently much closer to Tenison's bill than to the original aim of suppressing vice, was considered to be directed against Socinianism.⁴⁸ In any case it was according to Bennett 'a dead letter from the start'.⁴⁹ The curious aspect of this episode which seems to have escaped notice is the precise nature of the doctrines against which the two bills were directed, reflected in their titles. While Tenison's bill condemned anyone that 'shall by writing, printing, teaching or advised speaking deny that there is a God, or that shall

⁴⁴ Toland, *Vindicius liberius*, 2.

⁴⁵ Defoe, *The Consolidator*, 357.

⁴⁶ See Horwitz, *Parliament, Policy and Politics in the Reign of William III*, 234.

⁴⁷ *Journals of the House of Commons*, xii, 102–3.

⁴⁸ *House of Lords Manuscripts*, iii, p. xxiv; Claydon, *William III and the Godly Revolution*, 113.

⁴⁹ Bennett, *The Tory Crisis*, 19.

deny any one of the Persons in the Holy Trinity to be God, or shall deny the Christian Religion to be true, or the Holy Scriptures of the Old and New Testament to be of Divine Authority',⁵⁰ the Act that was passed omitted the first phrase concerning the denial of God, while an amendment added 'or shall assert or maintain that there are more Gods than one'.⁵¹ It is difficult to account for the fact that the Commons' bill omitted precisely the condemnation of atheism. David Berman, who notes the omission in the law of any reference to atheism but is apparently unaware of Tenison's bill, considers this silence to be an indication of repressive denial and deduces that atheism was not seen as dangerous enough to merit open attack.⁵² This may be the case, but does not explain why it is explicitly mentioned in the Archbishop of Canterbury's bill. The difference in wording perhaps reflects the High Church concern to embarrass the episcopate, their primary target, with accusations of encouraging Socinian and heretical tendencies, while the latitudinarian bishops were keen to distance themselves from heterodox works seen as 'atheistic', which were a real source of concern. They did not however want to institute an inquisition, as can be seen from the greater leniency in punishment envisaged,⁵³ preferring action in the dioceses to improve the standards of the clergy and 'non-political remedies'⁵⁴ such as argument. It has been suggested that Tenison had a part in the original establishment of the Boyle lectures aimed at combating irreligious tendencies, and he was one of the trustees named in Boyle's will to choose the speakers who were to preach the annual sermons defending the Christian religion and manage their £50 p.a. stipend.⁵⁵ The same attitude to heterodox publications can be seen in the bishops' hesitation to act against William Coward's book as demanded by the Lower House of Convocation in December 1703. Archbishop Tenison procrastinated about taking action against Coward, claiming that the bishops had no authority to act against individual works, and declared, perhaps disingenuously, that the only way to hinder the spread of heretical works was by a law against the press. He replied to the representatives of the Lower House:

For my self I have thought that we cannot well root up this Evil without the Restraint of the Press, pursuant to that Opinion I have offer'd severall Bills in which I have been so unfortunate as to be disappointed in one place or other, not because they were faulty in matter Form or temper, but because they were Bills of Restraint. For the framing of them I had the Advice of one of the Judges.

⁵⁰ *House of Lords Manuscripts*, iii, 112.

⁵¹ *Journals of the House of Commons*, xii, 183. For the complete text, see *The Thirty-Nine Articles and the Constitutions and Canons of the Church of England*, 120–1. Hayton notes the disappearance of the reference to 'debauchery' but not atheism: 'Moral Reform and Country Politics', 58–9.

⁵² Berman, *A History of Atheism in Britain*, 35–6, 48–9.

⁵³ In the Lords' bill exclusion from office for a first offence, and three months' imprisonment was only envisaged for a third offence; in the Act a second offence was punished by three years' imprisonment.

⁵⁴ Holmes, *British Politics in the Age of Anne*, p. xxii; Rose, *England in the 1690s*, 184 ff.

⁵⁵ Dahm, 'Science and Apologetics in the Early Boyle Lectures', 173.

I have another now with me which any of you may peruse. I do not think to offer it, till I see whether there be a disposition to receive it, for I am loath to have it miscarry again.⁵⁶

Tenison is probably referring to his 1702 bill, which received lukewarm support from Harley,⁵⁷ although there was also a slightly earlier aborted attempt to control printers, in a 1699 bill which also specifically mentioned atheism.⁵⁸

While atheism was an all-encompassing accusation used to condemn one's opponents, some beliefs did seem to be clearly undermining Christian doctrine. Hobbesian materialism and a denial of the afterlife were in particular considered to constitute in fact denial of a belief in God. As Bishop Gastrell explained in his Boyle lecture of 1697, after admitting that 'By an Atheist is *commonly* meant such a one as will own *no Being* under the *Name and Title of God*':

. . . by an *Atheist*, I think, may be properly and justly meant, not only he that *absolutely denies the Being of God*, but whoever says, *there is no God that governs the World and judgeth the Earth*; there is *no God that has appointed Laws, and Rules for Men to act by*; there is *no God to whom Men are accountable for all their Actions*, and *by whom they shall be rewarded or punished in a future State, according to their Behaviour here*.⁵⁹

In the following year, Harris claimed,

It doth not at all follow, that a Man is not an Atheist, because he doth not openly profess himself to be so, at all Times, and in all Companies. There are no Writers so insincere as these Kind of Gentlemen. . . . But, in short, if they set up such a Notion of a God, as is essentially inconsistent with the *Idea* that all Mankind have of such a Being; if they make him either a necessary Agent, or a blind, idle and inactive one; if they divest him of his Providence, or cramp him in his Attributes, as those that call themselves *Deists* generally do: In a Word, if they make him such an impotent and careless Being, as either cannot, or will not govern the World, give Laws to his People, vindicate his own Honour, and punish and reward Men according to their Actions: It is plain, I say, that though in *Words* they may profess to believe and honour a God, yet in *Reality* they deny him and have no Manner of Notion of his true Nature and Perfections.⁶⁰

This shows that in addition to irreligious or immoral behaviour, specific contemporary philosophical positions implying conclusions about the nature of the divinity could also qualify as atheistic, even in the absence of an open denial 'that there is a God'. These positions included certain heretical beliefs which had grown up within reformed Christianity.

⁵⁶ Lambeth Palace Library, MSS Conv., Proceedings of the Lower House, I/2/5A, fo. 296, and Upper House, I/1/13, fo. 38. This will be discussed in more detail in Ch. 4 below.

⁵⁷ See Isaacs, 'The Anglican Hierarchy and the Reformation of Manners', 403.

⁵⁸ *House of Lords Manuscripts*, iii, 271–6.

⁵⁹ *A Defence of Natural and Revealed Religion*, i, 350–1.

⁶⁰ *A Defence of Natural and Revealed Religion*, i, 366–7.

Heterodoxy

The heresy that particularly exercised churchmen of all stripes was Socinianism, which has already been mentioned. Socinianism is difficult to define in this period as the term was used as an all-encompassing insult or mode of attack, often interchangeable with 'Arian'. Its promoters, such as the highly respected philanthropist Thomas Firmin, included various beliefs within it including Arianism, and combined an English Unitarian tradition embodied in John Biddle (or Bidle) with Socinian ideas imported from the continent.⁶¹ Charles Leslie, who denounced Biddle's works and other Unitarian tracts intended to 'poison the nation', accused the Socinians of enlisting a diverse ragbag of heretics from the 'vile puddle of our sectaries' to swell their numbers and then disowning them when accused of sharing their beliefs.⁶² In view of the later emphasis on Unitarianism (encompassing various ways of questioning the Trinity), it is sometimes forgotten that the main emphasis of Socinianism as it developed in the late sixteenth and early seventeenth centuries was the supremacy of scriptural teaching and the use of reason in religion, leading to a defence of toleration.⁶³ In general, the term was used for all those who were believed to put reason above revelation or who held unorthodox views on mystery, in particular the Trinity; although this latter point was not originally essential, it became vital in seventeenth-century England. According to John McLachlan, from the 1670s the English anti-Trinitarians increasingly referred to themselves as Unitarians, a wide term taking in those who wanted toleration and some who could accept some version of the Trinity.⁶⁴ Nevertheless the term most often used, particularly by their opponents, still seems to have been 'Socinian', a label of opprobrium. As the Arminian Jean Le Clerc wrote to Gilbert Burnet in 1695 when he was accused of Socinianism by the Huguenot refugees in England, 'there is no more atrocious insult today than that of Socinian, and they use it at any opportunity'.⁶⁵ Socinian ideas spread in England in the early and mid-seventeenth century, mainly from Holland, where they had been brought by Polish exiles, and were rife after 1689; McLachlan calls the distribution of Unitarian pamphlets, mainly by Stephen Nye, in the last decade of the century 'in a sense, the high-water mark of seventeenth-century English Socinianism'.⁶⁶ It did not go into temporary eclipse

⁶¹ See Sullivan, *John Toland*, 82–101; Firpo, 'John Locke e il Socinanesimo', 44.

⁶² Leslie, *The Theological Works*, i, 220. He includes Arians, Quakers, and Muggletonians.

⁶³ See McLachlan, *Socinianism in Seventeenth-Century England*, 11 ff.

⁶⁴ McLachlan, *Socinianism in Seventeenth-Century England*, 316 ff.

⁶⁵ Le Clerc, *Epistolario*, ii, 154. See Trowell, 'Unitarian and/or Anglican', 81, and Marshall, 'Locke, Socinianism, "Socinianism", and Unitarianism', 113–14.

⁶⁶ McLachlan, *Socinianism*, 332. See also Trowell, 'Unitarian and/or Anglican', 77–101; Firpo, 'John Locke e il Socinanesimo'.

until after the beginning of the following century. While certain High Church theologians like William Sherlock were accused of tritheism, those suspected of Arianism like William Whiston (banished from Cambridge in 1710) were accused of denying the divinity of Christ, a heresy that as we have seen excluded them from toleration.⁶⁷ Samuel Clarke, the enemy of freethinkers, was himself suspected of freethinking.⁶⁸ The Trinitarian controversy of the 1690s had important ramifications as 'the polemical possibilities that accusations of heterodoxy presented were irresistible to the high church party'.⁶⁹ Gilbert Burnet wrote to Le Clerc in Amsterdam, warning him against any contact with the English Socinians, whom Le Clerc was suspected of supplying with material; Burnet accuses them of 'insolence and raillery' claiming 'they are serving the ends of the Atheists and are much supported by them'.⁷⁰ The criticisms made against Archbishop Tenison himself can be seen in Robert Harley's letter of 1701: 'you are entirely under the influence of those who have not only discharged themselves from all obligation of religion, but also have for many years been promoting, first Socinianism then Arianism and now Deism in the state, they have propagated notions which destroy all religion and so consequently dissolve the bonds of all society'.⁷¹

Justin Champion emphasizes the 'serious and potentially revolutionary' implications of anti-Trinitarianism and suggests that the 1690s polemic 'was a crucial moment in the development of the Enlightenment idea of religion'.⁷² The large number of Unitarian pamphlets circulating in England from the late 1680s, apparently partly aimed at persuading the Church of England to abandon the Athanasian Creed,⁷³ created much anxiety and many attempts at refutation. The Socinians were accused of aiming at nothing short of overthrowing the Christian religion and spreading atheistic and Epicurean ideas, including the denial of the afterlife. Any attempt, like those of Toland and Locke, to show the reasonableness of Christianity was seen as Socinian, and both have in fact been suspected of Socinianism.⁷⁴ Here we shall look at the possible connection between Socinianism and the defence of heterodox ideas concerning the soul, which became particularly virulent as the Unitarian controversy was subsiding. To what extent could the mortalist revival be linked to contemporary doubts on the Trinity and attempts to submit Christian doctrines to the scrutiny of reason? Or, as Gilbert Burnet claimed, was Socinianism merely a disguise for 'infidelity', which Toland brought out into the open?⁷⁵ The connection between

⁶⁷ Walsh, Haydon, Taylor, *The Church of England c.1689–c.1833*, 46–7.

⁶⁸ Gascoigne, *Cambridge in the Age of the Enlightenment*, 118 ff.

⁶⁹ Greig, 'Heresy Hunt', 570. ⁷⁰ Le Clerc, *Epistolario*, ii, 136.

⁷¹ Draft or copy of a letter dated 11 Aug. 1701, in Historical Manuscripts Commission, *Calendar of the Manuscripts of the Marquis of Bath*, 53.

⁷² Champion, *The Pillars of Priestcraft Shaken*, 101.

⁷³ See Trowell, 'Unitarian and/or Anglican', 83 ff.

⁷⁴ Edwards, *A Preservative against Socinianism*; see also Higgins-Biddle's Introduction to Locke, *The Reasonableness of Christianity*, pp. xlii ff., and Marshall, *John Locke*.

⁷⁵ Letter to Le Clerc in 1698, in Le Clerc, *Epistolario*, ii, 291.

Socinianism and mortalist beliefs has often been made, at the time and since. The 'Cambridge Platonist' Henry More thought that the Socinians' 'great mistake in Divinity, is from their incapacity of conceiving any thing but Body or Matter',⁷⁶ and the Huguenot theologian Pierre Jurieu claimed that they believed in the soul's mortality.⁷⁷ The Dutch Collegiants (rational Christians influenced by Socinianism to whom Spinoza was linked) wrote texts arguing that the immortality of the soul nowhere appears in the Bible,⁷⁸ while anti-Trinitarian views were combined with a mortalist view of the soul in Milton, Hobbes, and Locke. In the 1690s the English Socinians opposed such 'Epicurean' ideas, although sometimes in a rather ambiguous way. Stephen Nye's *Discourse concerning Natural and Revealed Religion* (1696), directed against 'Atheists, Deists, and Scepticks' on the lines of the Boyle lectures, strenuously defends the afterlife but not necessarily a separate soul: after presenting the 'almost Universal' opinion that the soul is a separate substance from the body, he continues 'some others held, and still hold, that the Soul is nothing else but the Life, Temperament and Understanding of the Body and its principal parts; and therefore that in order to the judgement that shall pass on every Person, all shall again be raised from the dead',⁷⁹ which is just as easy for God to do. In 1703 Rev. Lawrence Smith claimed that Coward's denial of a separate immaterial soul was linked to Socinianism, which, according to him, taught 'an Extinction or Loss of Being in the Wicked, within a short time after the Divine Sentence of Condemnation pass'd on them at the Day of Judgment', as their punishment by hellfire affected their newly raised bodies, causing 'their Souls to dislodge from them, and to fall into Annihilation or Non-being'.⁸⁰ Although Burns claims that in England, 'Socinianism played a minor role in the development of Christian mortalism' before Joseph Priestley,⁸¹ it is surely significant that the 1690s saw a revival of both. At the very least the Socinians' insistence on reason in matters of religion and scepticism towards unnecessary doctrines encouraged a questioning of beliefs like the superstitious Catholic doctrine of purgatory used to reinforce the power of the Church. We shall consider below how the two attitudes are combined in Locke's thought, and in Chapter 4 we shall see that the defenders of the soul's natural immortality frequently linked mortalist tenets to Socinianism. But first a few more words about the heterodox Christian tradition concerning the soul.

⁷⁶ Letter to Anne Conway, 29 Aug. 1662, *The Conway Letters*, 208.

⁷⁷ Jurieu, *Le Tableau du Socinianisme*, 41–5; see also Sullivan, *John Toland*, 87, 109–40, and Marshall, 'Locke, Socinianism, "Socinianism", and Unitarianism', 158–61.

⁷⁸ For example B. J. Stol and F. Kuyper, *Den filosofherenden Boer*, 1676; see Fix, *Prophecy and Reason*, 151 ff.

⁷⁹ Nye, *A Discourse concerning Natural and Revealed Religion*, 82. Mandeville later seemed to equate Socinianism and Epicureanism, attributing to Socinians the view that matter is 'uncreated and eternal' (*Free Thoughts on Religion*, 116).

⁸⁰ Smith, *The Evidence of Things not Seen*, 2.

⁸¹ Burns, *Christian Mortalism from Tyndale to Milton*, 142.

Christian mortalism in seventeenth-century England revived Renaissance arguments against the Catholic Church's doctrine of the soul's natural immortality, affirmed at the Lateran Council in 1513 and said to be influenced by Platonism. Mortalism could take various forms, from soul-sleeping (the belief that the soul slept until Judgement Day) to annihilation, according to which the soul was reabsorbed into the universal intellect.⁸² The doctrine of soul-sleeping, generally called Psychopannychism, which drew on a long philosophical tradition, appealed to Luther as it undermined the Catholic doctrine of purgatory and the system of abuses that had grown up around it, as well as the invocation of saints. There thus developed a Protestant tradition of Psychopannychism, particularly among Anabaptists and more radical sectaries, although it was condemned by Calvin; Harold Fisch calls it 'a major current of seventeenth century protestant ideology revealed in a doctrine peculiarly adapted to the pragmatic temper of the new "popular" religions, and to the earthbound scripturalism of the day'.⁸³ In England it was defended by Tyndale in the 1530s and continued a subterranean existence among middling and lower classes, re-emerging in the mid-seventeenth century, when it seems to have been quite widespread. At the end of the century and the early years of the eighteenth it subsisted not only in the high-profile debate we shall discuss but also among some artisans, if a Huguenot minister in London called Aaron Testas is to be believed. He claimed that the soul's immortality was denied not only by the Socinians but also by many artisans who based their belief on the Bible.⁸⁴ Mortalism had generally been linked to the eschatological belief of radical Protestants emphasizing the last judgement, which was played down by the mainstream Anglican teaching that the soul would go to heaven or hell immediately on death. The most common form of seventeenth-century Christian mortalism claimed that the whole individual died and was insensible until the resurrection and judgement, when the whole individual would be resuscitated and enter on eternal life. There was no continuation of an immaterial part of the individual, no feeling, thought, or suffering before the final general resurrection. For mortalists the Bible did not teach the existence of a separate immaterial or immortal soul and the word 'soul' meant simply 'life'; the doctrine of a separate soul was said to be a Platonic importation. This English Christian tradition was apparently little influenced by the Renaissance Italian philosophers, even among those 'annihilationists' called 'Epicureans' by their enemies, who denied any separate existence of the individual after death and insisted on the pleasures of this life. As Burns remarks:

... from the Reformation to the Restoration most of England's mortalists were not pagans or atheists but Christians. Some followed the soul-sleeping ideas that Luther

⁸² See Williams, *The Radical Reformation*, 64 ff; Michael, 'Renaissance Theories of Soul'.

⁸³ Introduction to Overton, *Mans Mortalitie*, xx.

⁸⁴ *La Connoissance de l'Ame par l'écriture*, i (London: 1708), according to *Histoire des ouvrages des savants*, Oct. 1708, 472–86. I have been unable to see this extremely rare work.

had found in Scripture, but most sprang from Anabaptist seed blown over from the Continent. Their strength was among the semiliterate and illiterate poor. Seldom led by regularly ordained ministers and never by secular philosophers, these Englishmen believed mortalism to be the doctrine of the Bible.⁸⁵

Despite its appeal to Scripture and its use as a weapon against the Catholic doctrine of purgatory, mortalism remained a marginal heresy, confined to minority congregations and tainted with accusations of links to Anabaptism.⁸⁶ In mid-seventeenth-century England it came out of the shadows to be defended by *Man's Mortalitie* (generally attributed to the Leveller Richard Overton), John Milton's *Christian Doctrine*, and Thomas Hobbes, who argued from the Scriptures in the tradition of the Christian mortalists.⁸⁷ The various versions of Overton's work include numerous references to the resurrection of the whole person in both the Old and New Testaments and deny the separate existence of the soul. While Overton also provided examples of how thought depends on the state of the brain and compares human and animal faculties,⁸⁸ Milton really only developed the question on a scriptural basis in his *Christian Doctrine* and did not use philosophical arguments. In this anti-Trinitarian work he writes: 'the whole man is the soul, and the soul the man: a body in other words, or individual substance, animated, sensitive, and rational', and he claims that the whole man dies.⁸⁹ We shall look at Hobbes in more detail below, in view of his importance for the late seventeenth-century debates. During the Interregnum the different varieties of Christian mortalism entailed different opinions concerning Judgement Day, which was denied by those who believed in the soul's annihilation on death and return to the divine essence. Such beliefs have frequently been linked to radical apocalyptic thought or 'enthusiasm', but one must proceed with caution here. The doctrines of some of the more radical sectaries, such as the 'Ranters' or the Quakers, contained a strong mystical element and they believed in a separate soul; these 'enthusiasts' or 'experimental Christians' who believed in the presence of the divine spirit and rejected the resurrection of the body were, according to Burns, closer to a sort of pantheism and he insists on the complete incompatibility of soul-sleepers and annihilists with the Family of Love.⁹⁰ There is clearly a difference between those sectaries who espoused something close to pantheism (some even believing that as God was in each individual they could do no wrong)⁹¹ and the mortalists, who frequently denied the existence of anything beyond body, refusing to recognize the soul as a separate entity. However, the distinction is not always as clear-cut as Burns claims; one of the more durable and certainly 'enthusiastic' sects, the Muggletonians, with whom Milton had

⁸⁵ Burns, *Christian Mortalism*, 8.

⁸⁶ *Christian Mortalism*, 90–3.

⁸⁷ The discussion of Milton's 'vitalism' by John Rogers plays down this Christian tradition which is only mentioned in passing (*The Matter of Revolution*). For Hobbes, see especially *Leviathan*, chs. 38 and 44.

⁸⁸ Overton, *Mans mortalitie*, 20 ff.

⁸⁹ Milton, *Complete Prose Works*, vi, 318, 400.

⁹⁰ Burns, *Christian Mortalism*, ch. 2.

⁹¹ Smith, *A Collection of Ranter Writings*.

affinities, were anti-Trinitarians who believed in the mortality of the soul, the eternity of matter, and the bodily form of God.⁹² While they were clearly not pantheists and expressed hostility towards the Quakers, they demonstrate that mortalism could be associated with a certain type of eschatological ‘enthusiasm’ and that we need to look carefully at individuals’ opinions concerning God and matter. Anne Conway insisted on the need to distinguish God from his creation, as it ‘keeps us from falling into extreams on either hand, whereof the one is Ranterism, and the other gross Ignorance, by which the glory of the Divine attributes is obscured and darkened’.⁹³ The Christian mortalists seem to be somewhere between these two extremes; basing their belief on the biblical text alone, they came closer to a view of humans as wholly material and distinct from God, who had breathed life into them and could do so again at the last judgement. The late seventeenth-century mortalists, in addition to rejecting accusations of irreligion, also wanted to dissociate themselves from any taint of enthusiasm, represented mainly by the Quakers, against whom the High Church journalist Charles Leslie campaigned, particularly as opponents often tried to link the two.⁹⁴ In 1706–7 the high-profile antics of the French ‘prophets’, who recruited the Newtonian Nicolas Fatio de Duiller, were again a visible reminder of the excesses of fanaticism.⁹⁵ One may wonder why a far from new and much decried heresy came to the fore again at the end of the seventeenth century in a new and more uncompromising guise, centred essentially around the denial of the existence of the soul as a separate immaterial substance. Its proponents were perhaps linked to the Socinian campaign and were also probably moved by the need to combat tendencies within the Church of England which they considered favourable to Catholicism, including the downplaying of Judgement Day. As I have already indicated, the High Church offensive beginning in the 1690s certainly gave greater urgency to this need. In order to understand why what we see at the end of the seventeenth century is not simply a revival of the same heresy but a reworking of it shorn of ‘enthusiastic’ overtones and with new elements introduced in its defence, we also need to look at seventeenth-century philosophical developments.

The Problems of Mechanism

One important reason for the reworking of Christian mortalism at the end of the century was undoubtedly the change in the intellectual climate brought about by philosophical speculation and scientific study. We shall here discuss the first

⁹² Hill, Reay, and Lamont, *The World of the Muggletonians*, 21, 64. For a statement of Muggletonian belief, see John Saddington, ‘The Articles of True Faith’, 171–5.

⁹³ Conway, *The Principles of the Most Ancient and Modern Philosophy*, 175.

⁹⁴ e.g. John Turner, *A Phisico-Theological Discourse*.

⁹⁵ See Schwartz, *The French Prophets*.

of these developments, leaving the second for the next chapter, although as a clear-cut distinction between medical and philosophical concerns is not really possible some overlap is inevitable. In this section the discussion will be limited to those issues and works which had a bearing on the debate on the soul and the way they were perceived by contemporaries.

As the new philosophy and science were thought to present a challenge to various Christian doctrines, their defenders were concerned to show how the mechanical philosophy, far from undermining religion, could in fact become its ally, either by supporting the argument from design or by showing the limits of unaided reason to explain all natural phenomena.⁹⁶ In studies of apologetics, the precise question of the soul has attracted less attention than have the proofs for the existence of the Christian God, with which it is closely connected. Debate on the nature of the soul was given renewed vigour from the middle of the seventeenth century by the Cartesian distinction between mind and matter. Many theologians looked with suspicion on Descartes's mechanical philosophy, which seemed to exclude particular providence and reduce God to being merely the original creator who thereafter played little role in his creation.⁹⁷ The 'Cambridge Platonists' Henry More and Ralph Cudworth, who initially welcomed and were influenced by Cartesianism, came to distrust its explanation of the physical world, which was believed by many to encourage materialistic conceptions of the universe.⁹⁸ But at the same time the new definition of matter in terms of extension—what Keith Hutchison calls a 'totally barren' view of matter⁹⁹—could clearly be used to demonstrate the need for God to instill life and a spiritual soul to account for thought. As Margaret Osler writes:

In regarding the soul as the form of the person, the Aristotelians and Scholastics had been able to avoid any danger of slipping into materialism. Having eliminated the traditional concept of form and having declared matter to be inert and self-subsisting, the mechanical philosophers faced the problem of establishing the existence of an immaterial, immortal soul. Their discussions of the human soul established the limits of mechanization and provided a bulwark against the bugbear of materialism.¹⁰⁰

The Cartesian conception of the soul and its relation to the body was congenial to many theologians, including the Cambridge Platonists, who laid particular emphasis on its immaterial nature.¹⁰¹ Even Stillingfleet—who considered that

⁹⁶ Shapiro, 'Latitudinarianism and Science in Seventeenth-Century England'; Dahm, 'Science and Apologetics in the Early Boyle Lectures'; Hunter, *Science and the Shape of Orthodoxy*.

⁹⁷ Stillingfleet, *Origines sacrae*, 102 ff; Ray, *The Wisdom of God Manifested in the Works of the Creation*, 20 ff.

⁹⁸ See Popkin, 'The Philosophy of Bishop Stillingfleet'; Gabbey, 'Cudworth, More and the Mechanical Analogy'; Mandelbrote, 'Isaac Newton and Thomas Burnet', 155–6.

⁹⁹ Hutchison, 'Supernaturalism and the Mechanical Philosophy', 297.

¹⁰⁰ Osler, *Divine Will and the Mechanical Philosophy*, 179.

¹⁰¹ See Hutton, 'Ralph Cudworth, God, Mind and Nature'; Gabbey, 'Cudworth, More and the Mechanical Analogy'; and 'Henry More and the Limits of Mechanism'.

the Cartesian mechanical system of the universe and refusal of final causes to prove God's existence led to Spinoza's identification of God with infinite matter—admitted the usefulness of Descartes's demonstration of the soul's distinction from the body.¹⁰² The standard defence of the doctrine of the soul's immortality therefore came to rely on demonstrating that it was a separate immaterial substance. But this entailed certain problems, notably in relation to signs of animal intelligence; one had either to admit that material beasts could think and thus that matter could think or, in order to avoid the conclusion that beasts possessed immortal souls like humans, to claim with the Cartesians that they could not think and were machines. In England the Cartesian position was defended by the Catholic Sir Kenelm Digby, who was a member of the Mersenne circle when in exile in France in the 1640s and developed a form of 'Aristotelian atomism'.¹⁰³ In the first of his *Two Treatises* (1644) intended to demonstrate the immortality of the soul, he compared plants to a waterworks he saw in Toledo and animals to the ingenious machine at the mint in Segovia, which required outside direction; he attempted to show how the various stories told to prove animals' ability to reason could all be explained by mechanism.¹⁰⁴ The debate on animal-machines was thus parallel to discussions of the human soul, and comparisons of humans and animals were frequently used to support materialistic arguments. As Pierre Bayle pointed out in his *Dictionary* article 'Rorarius', if animals were accorded a material soul, there was no reason not to extend it to humans.¹⁰⁵ Certain authors did implicitly invite readers to draw this conclusion from discussions of the animal soul and there was a voluminous literature on the question which encouraged speculation about human souls and the different types of souls posited by Aristotelian philosophy.¹⁰⁶ Pierre Gassendi had expounded a 'Christian adaptation of Epicurean atomism' which demonstrated the soul's immortality by adopting the Aristotelian distinction of the vegetative, sensitive, and rational souls; the corporeal animal soul or *anima*, compared to a little flame, was common to humans and animals and only the human rational soul or *animus* was incorporeal and hence immortal.¹⁰⁷ The use to which this distinction could be put can be seen in a little treatise read and annotated by Locke, called *A Philosophical Discourse of the Nature of Rational and Irrational Souls*, by a certain 'M.S.' (1695). Its author rejects Cudworth's arguments concerning the immaterial soul and, in order to counter the Cartesian hypothesis of animal-machines and demonstrate the immateriality and immortality of the thinking substance, posits the existence of a material spirit distinct from the immaterial soul, quoting approvingly from the works of

¹⁰² *Origines sacræ*, 87, 93.

¹⁰³ Henry, 'Atomism and Eschatology'.

¹⁰⁴ Digby, *Two Treatises*, 205–8, 306–39.

¹⁰⁵ Bayle, *Dictionnaire*, xii, 603.

¹⁰⁶ See Rosenfield, *From Beast-Machine to Man-Machine*; Kirkinen, *Les Origines de la conception moderne de l'homme machine*; also Lennon, *The Battle of the Gods and Giants*, 314–33.

¹⁰⁷ See Osler, *Divine Will and the Mechanical Philosophy*, 63–77; for a different interpretation see Bloch, *La Philosophie de Gassendi*.

Dr Thomas Willis. This material spirit is the animal soul and the lower human soul, responsible for feeling only:

We readily acknowledge, we cannot conceive how mere matter and motion should produce sensation, but we say, 'tis no good consequence, that therefore they are incapable by the power of God to do so: shall we say, 'tis impossible for Matter and Spirit to be united, and have mutual influences upon each other, because we cannot conceive how it should be so?

The author claims that theologians who accord reason and a rational soul to animals provide arguments for the atheists.¹⁰⁸ But despite this author's belief that the separation of the rational from the vital soul provided a better defence of religious doctrine, the works of Gassendi and Willis were also used to defend the heterodox view of a single material soul in humans, as we shall see.

However, the more serious threat posed by the mechanical philosophy, and one which demanded a response, was represented by the philosophy of Thomas Hobbes, the arch-materialist.¹⁰⁹ The aspect of Hobbes's philosophy that shocked his contemporaries was his denial of incorporeal substance, as it entailed great problems for the nature of the deity and the explanation of thought in humans. In various of his philosophical works but particularly in *De corpore* he explains sense, feeling, and thought by motion in the brain, and the philosophical exposition of his materialistic conception of humans is backed up by quotations from Scripture.¹¹⁰ Without going into the vexed question of Hobbes's supposed atheism and the problems involved in his materialistic explanation of thought, we can note that in the long exposition of religious doctrines which takes up much of *Leviathan* he states that 'Soul and Life in the Scripture, do usually signify the same thing' and that immortal life does not begin until the resurrection and the Day of Judgement; he claims that the doctrine of the natural immortality of the soul and the belief that the soul is a 'Substance Incorporeal, with an existence separated from the body' are errors based on a misinterpretation of Scripture.¹¹¹ He is thus able to claim, in an appendix to the Latin edition of the work, that his philosophy in no way contradicts the teachings of Scripture.¹¹² He spelled out his views in his reply to Bishop Bramhall, where he claimed that the expression 'immortal soul' was not found in the Scriptures and that the elect enjoy eternal life from Judgement Day.¹¹³ Whatever one may believe about his sincerity and the accusations of atheism made against him, the fact remains that he linked

¹⁰⁸ *A Philosophical Discourse of the Nature of Rational and Irrational Souls*, 10, 18. On Willis, see Ch. 3 below.

¹⁰⁹ The word 'materialist' was first used by Henry More to refer to his philosophy, in *Divine Dialogues* (1668).

¹¹⁰ See Burns, *Christian Mortalism*, 190; Pacchi, 'Hobbes e la bibbia', in *Scritti Hobbesiani (1978–1990)*, 49–50; Bloch, 'A propos du matérialisme de Hobbes', in *Matière à histoires*, 218–19.

¹¹¹ Hobbes, *Leviathan*, 484, 637–8. See also Pocock, 'Time, History and Eschatology in the Thought of Thomas Hobbes', in *Politics, Language and Time*, 175–7.

¹¹² Hobbes, *Opera philosophica*, iii, 520 ff.

¹¹³ Hobbes, *English Works*, iv, 350–4.

his mechanical philosophy to the mortalist scriptural tradition. The dangers of his position were obvious to all, and the attacks on the materialism exposed in *Leviathan* have been chronicled.¹¹⁴ Thomas Tenison, the future Archbishop of Canterbury, accused Hobbes of believing in a material god who was the universe and thus of being an atheist. He linked Hobbes's mortalist conception of the soul to the mechanistic philosophy expounded at the beginning of the work, claiming 'by this means you will make of Man an excellent piece of Clock-work'.¹¹⁵ This also implied of course that humans were not free, and indeed the denial of liberty occupies an important place in the twelve-article 'Hobbist Creed' that he denounces, which includes: 'that the Soul of man is the Temperament of the body; that the Liberty of Will, in that Soul, is physically necessary; that the prime Law of nature in the soul of man is that of self-Love'.¹¹⁶ For Tenison 'if everything be Matter, each effect in the World, being the meer result of motion in Matter, will be produced by fatal impulse'.¹¹⁷ Bramhall had likewise claimed that Hobbes's doctrine

. . . destroyes liberty, and dishonours the nature of man. It makes the second causes and outward objects to be the Rackets, and Men to be but the Tennis-Balls of destiny. It makes the first cause, that is, God Almighty, to be the introducer of all evill, and sin into the world, as much as Man, yea more than Man, by as much as the motion of the Watch is more from the Artificer, who did make it and wind it up, then either from the spring, or the wheels, or the thred.¹¹⁸

In addition, 'if there be no liberty, there shall be no day of Doom, no last Judgment, no rewards nor punishments after death'.¹¹⁹ Hobbes provided a focus for mid-seventeenth-century discussion of the soul, in which theologians were reacting both to philosophical arguments against the Church's view of the soul and to the challenge from within Christianity itself. The dual nature of the problem needs to be kept in mind even when dealing with the debate on a purely philosophical level. Denunciations of Epicureanism were directed as much against heretical Christian believers in the soul's annihilation as against those who were in fact reviving Epicurean philosophy. Hobbes's materialism was attacked in Henry More's *The Immortality of the Soul* (1659), directed against the implications of universal mechanism. Despite More's own perceived unorthodoxy, which led him to be accused in his turn by the Calvinist Richard Baxter of favouring materialism, he opposed all those who cast doubts on the soul's natural immortality and attacked the Christian mortalists in his poem *Antipsychopannychia*.¹²⁰ Whatever his criticism of Cartesian philosophy and

¹¹⁴ See in particular Mintz, *The Hunting of Leviathan*, despite its weaknesses.

¹¹⁵ Tenison, *The Creed of Mr Hobbes Examined*, 75.

¹¹⁶ *The Creed of Mr Hobbes Examined*, 8.

¹¹⁷ *The Creed of Mr Hobbs Examined*, 105.

¹¹⁸ Bramhall, *A Defence of True Liberty*, 60.

¹¹⁹ *A Defence of True Liberty*, 62.

¹²⁰ See Jacob's introduction to *The Immortality of the Soul*, and John Henry, 'A Cambridge Platonist's materialism'. More's debate with Baxter will be discussed in Ch. 3.

increasing awareness of the dangers of a mechanized universe,¹²¹ More saw its usefulness in providing arguments for the immortality of the soul and Christian doctrine in general and opposing those who favoured self-moving matter. As he wrote to Anne Conway in 1662, it was 'the best Engine I can finde against such erroneous fabricks in Religion' as corporeal interpretations,¹²² but he particularly recommended it as showing the limitations of mechanical philosophy to provide a complete explanation of the universe.¹²³ The defenders of Christianity had to steer a careful course between Hobbesian mechanism, which seemed to deny the existence of incorporeal substance, and a conception of self-moving matter which dispensed with the need for a God. These two opposing points of view both provided ample philosophical arguments in favour of materialism and against an immortal soul, while the path that orthodoxy could tread seemed much narrower. The solution provided by Cartesianism, despite its dangers, was therefore attractive. By positing the separate nature of the two substances it seemed to guarantee the natural immortality of the soul postulated by the Church since the Lateran Council. The argument that matter was purely passive and impenetrable and that it was impossible to conceive of it as thinking became the standard recourse of theologians, as it founded the need for a creator and an immaterial thinking substance.

Their arguments were directed in general against the 'Epicureans', who believed in the absolute annihilation of the soul on death and were thought, like Hobbes, to be reviving the old atomistic philosophy of Epicurus or Democritus, in which the world was produced by chance encounters of physical atoms.¹²⁴ This was the target of Richard Bentley's first Boyle lectures, and Robert Boyle himself saw Hobbes as the main opponent of the soul's immortality. Among those apparently defending an 'Epicurean' conception of a material soul was Charles Blount, the first 'English deist', infamous both for his radical ideas and denunciation of 'priestcraft' and for his suicide.¹²⁵ In *Anima mundi*, first published in 1679 and reprinted in the posthumous edition of his works published in 1695 by Charles Gildon (who later abandoned his freethinking and in 1705 published a *Deist's Manual* directed against several freethinking works), he reviews ancient opinions on the soul, a favourite tactic of irreligious thinkers.¹²⁶ He expounds not only the Epicurean conception of a material soul but also the Stoic 'soul of the world' positing the existence of two eternal substances, mind and body. While he does not come down clearly in favour of one particular opinion, his presentation of

¹²¹ Gabbey, 'Philosophia Cartesiana triumphata'.

¹²² *The Conway Letters*, 204.

¹²³ Preface to *The Immortality of the Soul*, quoted by Gabbey, 'Philosophia Cartesiana triumphata', 220–1.

¹²⁴ See Pacchi, 'Hobbes e l'epicureismo'; and Paganini, 'Hobbes, Gassendi e la psicologia del meccanicismo'.

¹²⁵ Champion, 'Blount'.

¹²⁶ See Bonanante, 'Cultura classica e critica libertina in Inghilterra', and Iofrida, 'La presenza della cultura libertina in Inghilterra alla fine del '600'.

the reasons for belief in the soul's immortality is continually undermined by emphasis on the different opinions of those who doubted it and the difficulty of deciding. In the 'Account of the Deists' Religion' included in *The Oracles of Reason* (1693), the chapter on the future life is vague, stating mainly that the deist 'need not fear to trust his soul with God after death'.¹²⁷ His position was attacked by Josiah King, who claimed that only faith in Christ could lead to salvation and ridiculed any attempt to demonstrate the soul's immortality, saying that revealed religion alone assures us of it. As we shall see below, King was far from being the only one to defend this position, which may well have contributed to undermining the Church's doctrine.¹²⁸ Blount's work also contains letters on the soul, one of which, from Blount to 'Strephon' (the Earl of Rochester), dated 7 February 1679/80, 'Concerning the immortality of the soul', affirms: 'No subject whatever has more entangled and ruffled the thoughts of the wisest men, than this concerning our Future State; it has been controverted in all Ages, by Men of the greatest Learning and Parts'.¹²⁹ Blount claims that the doctrine of the soul and of rewards and punishments after death was invented by rulers for the public good. Another letter, from Gildon to Blount, declares:

I have often doubted whether there were any such thing as a pure spirit independent of all Body and Matter: And I must own, I think that there can be no such thing, as is vulgarly apprehended. . . . memory, wit and judgement, the noblest qualities of the MIND are agreed by the naturalists (as is evident from physick) to have so great a dependence on the mechanism of brain &c.¹³⁰

The main themes developed in Blount's works are Epicurean and Stoic and, despite a strong influence of both Hobbes and Spinoza, Epicureanism is described as the chief philosophy denying the existence of an immaterial immortal soul.¹³¹ Epicurean philosophy nevertheless enjoyed an ambiguous status at the time. In order to counter what was seen as Hobbes's irreligious interpretation, a more acceptable Christianized form of atomism had been developed in the circle of the Cavendish family in exile in France during the civil war. It was Hobbes's friendship with Pierre Gassendi that had brought them into contact with this philosophy and it was through them that it was introduced into England. It has been suggested that it was also anxiety over Margaret Cavendish's materialistic formulations of atomism that incited Walter Charleton, John Evelyn, and Robert Boyle to 'purify' it.¹³² Evelyn published an essay on Lucretius in 1656 while his friend Charleton, the King's physician, proposed his own improved version of Gassendian Epicureanism in *Physiologia Epicuro-Gassendo-Charletoniana* (1654), much of which is in fact translated directly from Gassendi. This work tried to

¹²⁷ Blount, *The Oracles of Reason*, 90.

¹²⁸ King, *Mr Blount's Oracles of Reason, Examined and Answered*, 209.

¹²⁹ Blount, *The Oracles of Reason*, 117 ff. ¹³⁰ *The Oracles of Reason*, 187 ff.

¹³¹ Sergio, 'Filosofia, natura e pensiero libertino'.

¹³² Kargon, *Atomism in England from Harriot to Newton*, 75–6.

free Epicureanism from all irreligious associations, particularly the claim that motion was inherent in matter or that the world was the result of chance meetings of atoms. Charleton claimed that atoms were created by God, who ‘invigorated or impregnated them with an Internal Energy, or Faculty Motive, which may be conceived the First Cause of all Natural Actions, or Motions, (for they are indistinguishable) performed in the World’.¹³³ The development of this mechanical philosophy based on an atomistic conception of nature opposed to the Aristotelian explanation had important implications for religious arguments and was used to counter Hobbes’s material philosophy of the universe and the soul. According to Cudworth in 1678, the claim that matter was composed of unthinking atoms implied the existence of an immaterial substance, as the chance encounters of insensible atoms could not produce thought. Thus ‘the *Intrinsic Constitution* of this Atomick Physiology also is such, as that whosoever admits it, and rightly understands it, must acknowledge *Incorporeal Substances*; which is the Absolute Overthrow of Atheism’. He distinguished the atomist from the atheistic ‘Hylozoick Corporealist’, who believed that matter has life and that nothing else exists.¹³⁴ Cudworth’s ‘plastick nature’ accounting for vital activities was taken up by the naturalist John Ray in *The Wisdom of God Manifested in the Works of the Creation* (1691). Ray rejected systems in which the laws of motion alone could produce and sustain the universe without the further intervention of the creator who had established them; he claimed that an external intelligent agent was necessary as matter alone could not produce sense, perception, or vital energy, and he criticized Boyle’s opinion on this point despite his admiration for the great man.¹³⁵ The celebrated chemist Robert Boyle was particularly important in the development of a mechanical corpuscular philosophy, which he likewise saw as a powerful argument for the existence of God. Recent studies have emphasized the complicated nature of the constraints within which he felt he was working and the different aims of his writings.¹³⁶ According to Boyle, the qualities and powers of matter were given by the omnipotent creator, who could even suspend these laws and operate miracles.¹³⁷ He was particularly concerned to show that the study of science, far from being incompatible with religion, in fact reinforced it against the irreligious beliefs of not only Hobbes and the Epicureans but also Spinoza. For the second danger mentioned above (the existence of self-moving uncreated eternal matter) was also represented by the philosophy of Spinoza, generally understood as a sort of atheism positing the existence of only the material world which was God.

The impact of Spinoza’s philosophy on the development of irreligious and particularly materialistic thought has been much discussed, more in relation

¹³³ Charleton, *Physiologia Epicuro-Gassendo-Charletoniana*, 126.

¹³⁴ Cudworth, *The True Intellectual System of the Universe*, i. [10]. See Ch. 3 below.

¹³⁵ Ray, *The Wisdom of God Manifested in the Works of the Creation*, 32–3.

¹³⁶ See Hunter, *Robert Boyle Reconsidered*.

¹³⁷ Boyle, *A Free Enquiry into the Vulgarly Received Notion of Nature*.

to French clandestine thought than to late seventeenth-century English works, on which opinions differ. Jonathan Israel, who has made a detailed study of the development and impact of Spinoza's philosophy in seventeenth-century Holland and its role in the Radical Enlightenment, claims that, 'When placed in a full historical context, Spinoza evidently had no real rival even in England as the chief progenitor and author of "that hideous hypothesis", . . . in other words, the Naturalistic, materialist, one-substance undercurrent culminating in La Mettrie and Diderot'.¹³⁸ Although Richard Bentley claimed in 1692 that 'There may be some Spinozists, or immaterial Fatalists, beyond seas. But not one English Infidel in a hundred is any other than a Hobbist',¹³⁹ Rosalind Colie has emphasized Spinoza's impact in England, arguing that English theologians, particularly the Boyle Lecturers, shifted their positions under the influence of his thought. It is nevertheless difficult to determine its precise impact and to distinguish it from that of Hobbes, with whom he was often coupled as she herself admits.¹⁴⁰ Spinozism was frequently seen as an extension of Hobbism, involving the same denial of free will.¹⁴¹ John Harris, for example, denounces the materialism of Hobbes and Spinoza together in his 1698 Boyle lectures as implying a lack of all freedom.¹⁴² 'Spinozism' as it circulated even outside England in the eighteenth century, identified with materialism and fatalism, contained elements from both Spinoza and Hobbes (and others).¹⁴³ Particularly important in encouraging this association was the clandestine treatise known as *L'Esprit de Spinoza* or *Traité des trois imposteurs*, which probably originated in Dutch circles close to Spinoza and was distributed by a group of Huguenot exiles, perhaps with Toland's help,¹⁴⁴ indicating that the confusion began early on. It is difficult to endorse Israel's opinion that 'it is primarily the unity, cohesion, and compelling power of his system, his ability to connect major elements of previous atheistic thought into an unbroken chain of reasoning. . . which explains his centrality in the evolution of the whole Radical Enlightenment'.¹⁴⁵ This is not the place for a general discussion of the impact of Spinoza's thought,¹⁴⁶ beyond a reminder that an important channel by which his philosophy was known was Pierre Bayle's *Dictionnaire* article (1696 and 1702). In this chapter we shall be mainly concerned with Spinoza's impact in England before Bayle's article

¹³⁸ Israel, *Radical Enlightenment*, 159.

¹³⁹ Letter to E. Bernard, 28 May [1692], in Bentley, *Correspondence*, i, 39.

¹⁴⁰ Colie, 'Spinoza in England, 1665–1730', 204.

¹⁴¹ Simonutti, 'Premières réactions anglaises au *Traité théologico-politique*', 128.

¹⁴² *A Defence of Natural and Revealed Religion*, i, 429.

¹⁴³ Stuart Brown refers to the 'curious amalgam of doctrines' that constituted Spinozism: "'Theological politics'" and the Reception of Spinoza in the Early English Enlightenment', 191.

¹⁴⁴ See Berti, Charles-Daubert, and Popkin, *Heterodoxy, Spinozism and Free Thought in Early 18th-Century Europe*, 31 ff; Champion, *Republican Learning*, 170–3, and Ch. 5 below.

¹⁴⁵ Israel, *Radical Enlightenment*, 230.

¹⁴⁶ See Vernière, *Spinoza et la pensée française avant la Révolution*, and Bloch, *Spinoza au XVIIIe siècle*.

was published, and in particular how his philosophy affected discussion of the soul, leaving Chapter 4 for John Toland's reference to Spinoza in his *Letters to Serena* in 1704. It was not primarily Spinoza's extreme rationalism and refusal of anything beyond the mechanical laws of nature which helped to encourage a material conception of humans, however dangerous such ideas were seen to be. It was his radical affirmation of a single substance (often misunderstood) that provided new arguments undermining belief in a separate immaterial soul. These arguments were based on what was seen as a different conception of matter. Materialistic interpretations of Spinoza's philosophy existed in Holland, for example in a series of letters (dated 1693) concerning the soul in Johannes Duiker's *Vervolg von 't leven von Philopater . . .* (1697), for which the author was condemned and imprisoned,¹⁴⁷ but it is not clear how much of this was known in England. Scientific circles were in contact with Spinoza through Henry Oldenburg, and Boyle became rapidly aware of the dangerous nature of his philosophy.¹⁴⁸ Richard Popkin has provided some evidence concerning the probable role of Saint-Evremond and Spinoza's friend Dr Henri Morelli in bringing knowledge of his thought to England,¹⁴⁹ where it was rapidly attacked by the Cambridge Platonists. Cudworth, who apparently considered Spinoza a hylozoistic atheist, probably intended him as one of the targets of his attack on hylozoism in the *True Intellectual System*, while Henry More wrote a confutation of the *Ethics* and Spinoza's perceived materialism.¹⁵⁰ Spinozism was thought to be a system of thinking matter that undermined Christian teaching on the soul and needed to be refuted, as did certain medical theories like those of Francis Glisson, who also aroused More's anxiety and solicited a reply from him, as we shall see in the next chapter. There were also refutations which helped to spread Spinoza's ideas, such as the one by Nicolas Aubert de Versé, a French Catholic who converted to Protestantism more than once but was excommunicated in 1669 for Socinianism. He lived for a while in Holland, where he published a series of works in the 1680s—including *Protestantisme pacifique* (1684) defending toleration which Locke apparently recommended to James Tyrrell¹⁵¹—before returning to France in 1690 and reconverting to Catholicism.¹⁵² His famous *L'Impie convaincu, ou Dissertation contre Spinoza*, published anonymously in 1684, while quoting large extracts from Spinoza ostensibly in order to refute him, in fact attacks mainly Cartesian philosophy as leading to Spinozism and atheism. He posits the existence of two uncreated eternal substances, God and matter, the second being without force, life, or awareness but able to receive

¹⁴⁷ See Hubbeling, 'Philopater: A Dutch Materialistic Interpretation of Spinoza in the 17th Century'.

¹⁴⁸ See Hutton, 'Henry Oldenburg (1617/20–1677) and Spinoza'; Simonutti, 'Spinoza and Boyle'.

¹⁴⁹ Popkin, 'The First Published Reaction to Spinoza's Tractatus', 9–12.

¹⁵⁰ See Simonutti, 'Premières réactions anglaises', 134; Jacob, *Henry More's Refutation of Spinoza*.

¹⁵¹ Marshall, *John Locke*, 343. ¹⁵² See Vernière, *Spinoza et la pensée française*, 81 ff.

these perfections from God. Doubts have been expressed as to his real aim and he was certainly used later by freethinkers, but what is interesting for our present purpose is the fact that he rejects the Cartesian conception of the soul as the only thinking substance and claims that matter can think. According to him, we cannot imagine how we can think without a brain, animal spirits, and blood.¹⁵³ Locke, who was in Holland at the time of its publication, knew of this work, which was attacked in Part II of John Howe's *The Living Temple* (1702); Howe criticizes at length Spinoza's concept of substance as expounded in the *Ethics*, and Aubert de Versé (called 'a French writer pretending to confute' the Dutch philosopher) is treated as his disciple.¹⁵⁴ Despite such denunciations, it is difficult to pinpoint the precise influence of Spinoza on arguments about the soul in England before Toland's *Letters to Serena* in 1704. But the awareness and fear of Spinoza's philosophy undoubtedly contributed to the heterodox arguments circulating in the late seventeenth century, even when the particular nature of his philosophy was not clearly understood. It helped to create a climate in which the criticism of doctrines such as the natural immortality of the soul could develop.

The spread of 'Spinozism' has sometimes been linked to the danger of 'enthusiasm' in late seventeenth-century England. It is true that Spinoza's doctrine was often interpreted as a type of pantheism, in particular by the Newtonian mathematician Joseph Raphson, who seems to have been the first to use the word, in Latin in *De spatio reali* (1697), where he distinguishes it from materialism and atheism.¹⁵⁵ However, the Dutchman's philosophy was more generally understood as an atheistic materialism and it is difficult to accept Pocock's view that the danger that materialism might become a new kind of enthusiasm increased 'as the philosophy of Spinoza became known or misunderstood in England'; he claims that 'if mind and God were reduced to infinitely tenuous material substances, neither of them distinct from the universe itself, would not mind be of the same substance as God—the very error which lay at the heart of all enthusiasm?'¹⁵⁶ Theories of the soul of the world derived from Stoicism indeed circulated in many early eighteenth-century French works, as we shall see, but in contexts far removed from any form of religious enthusiasm. In the late seventeenth century the philosophical danger seemed to lie much more in atheism (which Henry More had already equated with enthusiasm)¹⁵⁷ in the form either of universal Hobbesian mechanism in which God was seen as corporeal, or of a universe consisting of uncreated eternal matter possessing all the necessary capacities for life. These philosophical arguments, which undermined the Christian teachings on God and the soul, could combine with the Christian

¹⁵³ Versé, *L'Impie convaincu ou Dissertation contre Spinoza*, 'Avertissement' and 118–38.

¹⁵⁴ Howe, *The Living Temple*, Part II. ¹⁵⁵ Raphson, *De spatio reali*, 2, 20.

¹⁵⁶ Pocock, Schochet, and Schwoerer, *The Varieties of British Political Thought*, 178.

¹⁵⁷ See Heyd, 'Be Sober and Reasonable', 166 ff.

heterodox traditions discussed above to provide powerful arguments against a naturally immortal soul distinct from the body. Such a tendency could only be reinforced by demonstrations of the soul's immortality based on its immateriality, combined with mutual denunciations of unorthodoxy by churchmen. Here the role of Locke is interesting. The emergence of a material conception of humans at the end of the seventeenth century and the beginning of the eighteenth is often seen as the result of Locke's 'thinking matter' hypothesis—that God could 'superadd' the capacity for thought to matter. The echoes aroused by this hypothesis and by criticism of it from theologians like Stillingfleet were certainly important, and we shall see its impact in the eighteenth century. But Locke must also be seen in the context not only of the philosophical developments we have been describing (which meant that he was accused of Spinozism, by William Carroll or Bishop Stillingfleet)¹⁵⁸ but also of religious concerns. The suggestion that God had the power to make matter think had already been voiced in the course of discussions of spirit and of the 'intellectualist' theology of those like the Cambridge Platonists who limited God's freedom. Their claim that God could create only the most perfect world, which could be apprehended rationally, shocked believers in God's omnipotence.¹⁵⁹ The Calvinist divine Richard Baxter affirmed in his debate with Henry More on the notion of spirit that God had the power to endow matter with activity and that the soul's immortality depended on divine intervention:

Even of the Souls Mortality not only Arnobius, but many other Christian writers maintain, that it is mortal *naturâ*, but immortal *ex dono*, which is unfitly spoken but well meant: that is, God hath made their Natures such as have no tendency in themselves to Dissolution or Destruction, but not such as he cannot dissolve or destroy; Yea I doubt not but without a continued Divine Sustentation, all the world would in a moment be annihilated; Preservation being a continued sort of Creation.¹⁶⁰

This quotation gives an idea of the variety of views on the soul espoused by theologians, not all of whom accepted the doctrine of its necessary immateriality and immortality. Locke's hypothesis needs to be seen in the light of these disagreements and the Socinian controversy. Suspicions about Locke's supposed Socinianism were particularly fuelled by his anonymous *The Reasonableness of Christianity* (1695) and his statement of the main beliefs necessary for Christians were equated with Socinianism.¹⁶¹ He states that the result of Adam's sin and

¹⁵⁸ Carroll, *A Dissertation upon the Tenth Chapter of the Fourth Book of Mr Locke's Essay concerning Humane Understanding*; see Brown, 'Locke as Secret "Spinozist"'; Hutton, 'Edward Stillingfleet and Spinoza'.

¹⁵⁹ Henry, 'Henry More versus Robert Boyle'. I shall come back to this in the next chapter in connection with the debate over Glisson's theory of living matter.

¹⁶⁰ Baxter, *Of the Nature of Spirits*, 28–9, 76–7.

¹⁶¹ On Locke's Socinianism, see above, n. 74; Marshall, 'Locke, Socinianism, "Socinianism", and Unitarianism' discusses the link with his ideas on the soul, pp. 147 ff and 158–61. See also Nuovo, 'Locke's Theology, 1694–1704', which takes issue with his conclusions.

expulsion from Paradise was death, which could not mean ‘eternal life in misery’ but rather that man ‘should have no more life or sense, than the dust had, out of which he was made’. Christ restored humans to life ‘which they receive again at the resurrection’, when the righteous will be rewarded with immortality while the unjust receive the sentence of death.¹⁶² What is remarkable in this exposition of Christian belief, supported by biblical quotations, is that there is no mention of the soul: having forfeited immortality as a result of original sin, humans appear to be annihilated completely at death and to remain devoid of sense until God brings them back to life at the general resurrection, when only the righteous will regain immortality, the wicked returning to annihilation.¹⁶³ This is strikingly similar to the mortalist position, as are remarks in Locke’s *Reply to Stillingfleet’s Second Letter* (1699) discussing the Bishop’s claim that the same body must be raised; Locke says that ‘the dead’ are raised, not the body, without mentioning the circumstances of the soul before the resurrection. Following this, in the fourth edition of the *Essay* he replaces the reference to resurrection of ‘the body’ by resurrection of ‘the dead’.¹⁶⁴ In passages criticized by Leibniz he also defends at length his statement concerning the possibility of God’s superadding the faculty of thinking to matter, insisting that in order to be immortal the soul does not need to be immaterial.¹⁶⁵ He clearly bases his belief in the immortality of the soul on revelation, hammering home the impossibility of demonstrating it by reason. He rejects any connection with Hobbes and Spinoza, ‘those justly decried names’, and mischievously accuses Stillingfleet of being ‘a patron of the oracles of reason, so little to the advantage of the oracles of divine revelation’, implying that his excessive insistence on the need for philosophical proof encourages deism, unlike his own faith in revelation.¹⁶⁶ For Locke the soul’s materiality or immateriality is irrelevant to immortality, promised by God.¹⁶⁷ This is perfectly compatible with the mortalist position on the resurrection found in *The Reasonableness of Christianity*, and Marshall’s careful conclusion on this point is that Locke ‘constructed prose that inclined towards mortalism’.¹⁶⁸ According to Nicholas Jolley, what made Leibniz consider that Locke inclined to Socinianism was his hypothesis about thinking matter, which undermined proof of the natural immortality of the soul.¹⁶⁹ Victor Nuovo also highlights Locke’s scepticism concerning the immortality of the soul

¹⁶² Locke, *Writings on Religion*, 92–6.

¹⁶³ See also his manuscript additions, quoted by Higgins-Biddle, Introduction to *Reasonableness*, p. lxxii.

¹⁶⁴ Locke’s *Reply to the Bishop of Worcester’s Answer to his Second Letter*, in *Works*, iv, 303 ff. See Marshall, *John Locke*, 399–401.

¹⁶⁵ Locke, *Works*, iv, 456 ff, 476 ff; See Leibniz’s criticism in a paper sent to Thomas Burnet, in Leibniz, *Die philosophischen Schriften*, iii, 226–7.

¹⁶⁶ Locke, *Works*, iv, 477.

¹⁶⁷ See Yolton, *John Locke and the Way of Ideas*, 150 ff.

¹⁶⁸ Marshall, ‘Locke, Socinianism, “Socinianism”, and Unitarianism’, 150, 161. See also Arthur W. Wainwright’s Introduction to Locke, *A Paraphrase and Notes on the Epistles of St Paul*, 54.

¹⁶⁹ Jolley, *Leibniz and Locke*, 12 ff.

and refers to his 'belief that the individual is insensible after death and remains so until the resurrection of the dead'.¹⁷⁰ Isaac Newton's views on the subject of the soul are also relevant, in view of his friendship with Locke in the 1690s and the similarity of their religious opinions.¹⁷¹ James Force, who has argued strongly for Newton's mortalism, claims that the whole of Newton's theorizing is subordinate to his conception of God's absolute power and dominion; it is only God's power that reawakens sleeping souls on Judgement Day. Referring in particular to Newton's manuscript 'Paradoxical Question concerning ye Morals and Actions of Athanasius and his Followers' which reproduces several mortalist arguments, Force concludes that 'Newton is a Christian Mortalist who is also a soul-sleeper of the Psychopannychist school'.¹⁷² This variety of mortalism appears relatively moderate compared with others we have seen, and while Force's argument depends largely on the connection with William Whiston he does not take account of Whiston's 1700 sermon 'Against the sleep of the soul', which provides a very toned-down version of mortalism. Nevertheless Newton was careful to keep such ideas to himself, communicating them to only a few people including Locke.¹⁷³

In contrast, the dangerous implications of Locke's exposition of his beliefs were evident to his contemporaries. An unidentified correspondent wrote to him in May 1697 that his view concerning the future state of unbelievers 'militates against the immortality of the Soul, and against the Doctrine of the Torments of Hell'. This correspondent quotes several passages from the Bible, including the words in Matthew 10: 28 'Fear not them which kill the body but are not able to kill the soul', other passages in different gospels concerning hell, and the parable of the rich man, in order to prove that the soul's immortality is confirmed by revelation. He then invites Locke to develop his views on the subject in order to satisfy 'those who are prejudiced against your book chiefly upon this account that it seems to disarm the Terrors of Hell, and so weakens the bands of Religion'.¹⁷⁴ Locke obviously did not wish to develop his views on this point, but the subject continued to be brought up by correspondents like Edmund Elys, who published in 1697 *A Refutation of Some of the False Conceits in Mr Lock's Essays Concerning Humane Understanding* and sent Locke his own demonstration of the soul's immateriality on 16 December 1698.¹⁷⁵ Stillingfleet's demonstration was dismissed as proving nothing by Samuel Bold, to whom Locke had addressed the letter printed at the beginning of his *Second Vindication of the Reasonableness of Christianity* in 1697.¹⁷⁶ Locke's awareness of the sensitivity of such matters was also evident when he tried to prevent Anthony Collins publishing Bold's

¹⁷⁰ Nuovo, 'Locke's Theology, 1694–1704', 196.

¹⁷¹ Westfall, *Never at Rest. A Biography of Isaac Newton*, 489 ff.

¹⁷² Force, 'The God of Abraham and Isaac (Newton)', 194. See also Force, 'The Nature of Newton's "Holy Alliance" between Science and Religion', 262.

¹⁷³ Pfizenmaier, 'Was Isaac Newton an Arian?', 62.

¹⁷⁴ Locke, *Correspondence*, vi, 124–7.

¹⁷⁵ Locke, *Correspondence*, vi, 528.

¹⁷⁶ Bold to Locke, 11 Apr. 1699, in Locke, *Correspondence*, vi, 591.

Discourse Concerning the Resurrection of the Same Body, with Two Letters Concerning the Necessary Immateriality of a Thinking Substance (1705). Locke pointed out the danger of publication, writing to Collins on 21 February 1704: 'they are very touchy subjects at this time and that good man who is the author may for ought I know be crippled by those who will be sure to be offended at him right or wrong'.¹⁷⁷ We shall see in more detail later why they were touchy subjects at the time. Here I shall only observe that despite the undeniable importance of Locke's hypothesis and the arguments put forward in his second reply to Stillingfleet, they should not be seen as a starting point for speculation about the soul, but as part of an ongoing philosophical and theological discussion. While Locke's arguments probably provided a new stimulus for discussion, claims that his hypothesis constituted the sole impetus for the late seventeenth-century materialistic works ignore the preceding theological debates.¹⁷⁸

The Defence of Christianity

The large number of irreligious and 'atheistic' ideas in circulation had already long exercised minds, and numerous sermons and works of invective were directed against atheists, deists, libertines, and the irreligious in general.¹⁷⁹ Although they were mainly concerned with those who were said to reject all religion, there is evidence of the anxiety caused by unorthodox ideas from within Christianity. A sermon preached by the Bishop of Norwich before the King and Queen in 1694 is interesting in this connection. In addition to criticizing those who deny the soul's immortality from a desire to live debauched lives, the bishop provides arguments against Epicureans and Stoics, including those 'who maintain the impious doctrines of Epicurus, to the great dishonour of the Lord who bought them, and the reproach of their Holy Profession'. He refers to those who questioned the soul's immortality in Italy at the end of the sixteenth century and were condemned by the Lateran Council, but admits that they continue to have followers.¹⁸⁰ This attack indicates an awareness of the problem among some churchmen at least, at a time when the hierarchy of the Church was encouraging a counter-offensive against irreligious ideas, notably with the Boyle lectures. Boyle's bequest, to endow eight sermons a year to defend Christian doctrines against unbelievers and Jews but not to envenom disputes among Christians, reflected a latitudinarian agenda of using reason against irreligion and opposing rifts within the Church. From the outset the lecturers emphasized the need to defend the existence of God and the immortality of the soul against unbelievers,

¹⁷⁷ Locke, *Correspondence*, viii, 206.

¹⁷⁸ Pfanner, 'William Coward e il problema dell'anima mortale', 436; Yolton, *Thinking Matter*.

¹⁷⁹ See Hunter, 'Science and Heterodoxy: An Early Modern Problem Reconsidered'.

¹⁸⁰ Moore, *The Bishop of Norwich's Sermon of the Immortality of the Soul*, 22.

in particular Epicureans. The desire to argue against the possible irreligious and even atheistic interpretations of atomism was undoubtedly one of the reasons behind the establishment of the lectures, intended to show that the new science, far from being incompatible with Christian doctrine, could instead support it. But the rational defence of the fundamental tenets of Christianity against heterodox arguments went hand in hand with a defence of the revealed nature of religion.¹⁸¹ So in addition to defending Christianity on rational principles, the Boyle lectures were also a recognition of the limits of reason, the danger of falling into atheism and deism, and the need to reconcile reason with revelation. As the first Boyle lecturer Richard Bentley declared in a sermon in 1696, Scripture untempered by reason led to the danger of enthusiasm but reason alone, ignoring revelation, led to deism and unbelief; reason needed to recognize mysteries beyond reason.¹⁸² This was also probably an attack on Socinianism and perhaps a way of defending the latitudinarians against accusations of espousing Socinian tendencies. In any case, it is in line with Boyle's own concern to define the limits of reason against the Socinian threat.¹⁸³ The sermons thus seem to have been part of the tactical war between High and Low Church, as the latitudinarian upper clergy wanted to distance themselves from any taint of irreligion or 'atheism', said to be encouraged by their espousal of reason and their hostility to 'enthusiasm'. They were keen to foster the use of reason to oppose the arguments of unbelievers but also to show the limits of reason and science and thereby to reconcile them with revelation. The arguments of the Boyle lecturers are therefore varied; the early sermons appealed as much to scriptural arguments as to the new science and several (like Bishop Blackhall in 1700) defended the mysteries against a reliance on reason in all things. The lecturer who immediately followed Bentley, Bishop Kidder, devoted his sermons to a 'Demonstration of the Messiah', while Bishop Williams's twelve sermons in 1695 defended the necessity of revelation by showing that reason alone was insufficient to reach an understanding of all the truths of religion. Stanhope's arguments in 1701 were primarily directed against the Jews, despite the fact that in 1692 Bentley had claimed that such an enterprise was not only pointless, as the Jews posed no particular problem, but ill-advised as it would give prominence to their beliefs.¹⁸⁴ The Church hierarchy and the monarch were clearly worried about the rise of irreligion and scepticism concerning the basic tenets of Christianity, said to result from more tolerant attitudes towards religious difference. The libertinism and moral laxity that followed from this growing irreligion were frequently condemned.¹⁸⁵

¹⁸¹ According to Sarah Hutton this concern initially led Oldenburg towards Spinoza, 'Henry Oldenburg (1617/20–1677) and Spinoza', 115 ff.

¹⁸² Bentley, 'Of Revelation and the Messiah', 350 ff.

¹⁸³ See Wojcik, 'The Theological Context of Boyle's *Things above Reason*' and *Robert Boyle and the Limits of Reason*, esp. Part I.

¹⁸⁴ Letter to E. Bernard, 28 May [1692], in Bentley, *Correspondence*, i, 39.

¹⁸⁵ See Marshall, *John Locke, Toleration and Early Enlightenment Culture*, 128–33.

Thomas Tenison explained in a sermon preached at court in 1691 that atheism undermined society as it encouraged the rejection of authority and removed the basis of morality and respect for the law:

They who will not fear God, will not inwardly reverence man. They who scoff at Religion as Priest-Craft, will, under the name of Priest-Craft, despise Civil Government. If such universally prevail'd, they would ruin all kingdoms, by taking away all faith and trust, which is the ground of commerce. They would make all publick pacts and covenants of none effect, by removing conscience, which ties men to the performance of their words and promises; when interest, join'd with power, commands all men that have no religion to be no longer Slaves to them.¹⁸⁶

This does not mean that denunciation of irreligion was necessarily a front for a desire to prop up the existing system or that it was hypocritical; as Michael Hunter has pointed out, one should be wary of seeing the Church's reaction as unanimous or of ascribing to it a purely political aim.¹⁸⁷ The Boyle lectures were both a reaction to the wave of irreligion believed to be engulfing England and a defence of rational religion against enthusiasm and science as a path to knowledge of God. If one does not espouse the view that the Boyle lecturers were simply defending a market model of society, this does not necessarily imply a view of religion as, in Margaret Jacob's words, 'solely a matter of emotional conviction and spiritual experience devoid of social reality'.¹⁸⁸ These sermons undoubtedly reflect the ideological, political, and social currents of their time, which are more complex than has sometimes been claimed and require more subtle interpretation.¹⁸⁹

I shall concentrate here on the early lectures (before Samuel Clarke's in 1704) dealing with the soul, its nature, and its mortality, mainly in arguments against Hobbes, Spinoza, or the Epicureans. They began with Bentley's in 1692, which provoked Henry Layton to question the existence of an immaterial soul. These sermons, delivered by Stillingfleet's as yet relatively unknown protégé, were a great success and were frequently republished well into the following century. As a result, the two trustees Tenison and Evelyn wanted him to lecture again the following year, but acceded to Sir J. Rotherham's desire to appoint the Bishop of Bath and Wells. Bentley was again asked to lecture in 1694, but those lectures were never published, perhaps, it has been suggested, because their interpretation of the Scripture was thought to be unorthodox. This may be why Tenison declined to appoint him again in 1697, despite Evelyn's prompting.¹⁹⁰ Bentley's sermons were directed against atheists, who were particularly dangerous because they expounded their ideas, which Hobbes had committed to writing,

¹⁸⁶ Tenison, *A Sermon concerning the Folly of Atheism*, 26.

¹⁸⁷ Hunter, 'The Crown, the Public and the New Science'.

¹⁸⁸ Jacob, *The Newtonians and the English Revolution*, 173–4.

¹⁸⁹ See Ashcraft, 'Latitudinarianism and Toleration: Historical Myth versus Political History'.

¹⁹⁰ Dahm, 'Science and Apologetics in the Early Boyle Lectures', 174.

in taverns and coffee-houses, even in Westminster Hall and the churches.¹⁹¹ The first sermon on 7 March 1692 was entitled 'The Folly of Atheism, and (what is now called) Deism, even with Respect to the Present Life', and was on the verse 'The fool hath said in his heart, There is no God' (Psalm 14: 1). Bentley demonstrates the need for the Christian God as opposed to 'some eternal inanimate matter, some universal nature, and soul of the world, void of all sense and cogitation',¹⁹² and invokes the universality of belief in a God. He rejects the claim that true speculative atheism cannot exist, on the grounds that a denial of 'Providence, of the *immortality* of the soul, of an universal *judgement* to come, and of any *incorporeal* essence' amounts to atheism even if individuals hide behind the new name of '*Deists*, which is not quite so obnoxious'. He particularly attacks the Epicureans, claiming that Epicurus introduced a deity into his philosophy 'purely that he might not incur the offence of the magistrate';¹⁹³ according to him, they believe:

that all about them is dark senseless matter, driven on by the blind impulses of fatality and fortune; that men first sprung up, like mushrooms, out of the mud and slime of the earth; and that all their thoughts, and the whole of what they call soul, are only various action and repercussion of small particles of matter, kept awhile a-moving by some mechanism and clock-work, which finally must cease and perish by death.¹⁹⁴

Atheism is subversive of society, as atheists cannot compose a system of politics and 'No Atheist, as such, can be a true friend, an affectionate relation, or a loyal subject'.¹⁹⁵ In his second lecture on 4 April 1692, entitled 'Matter and Motion Cannot Think', Bentley's demonstration of the existence of God is based on that of the soul. His fundamental proposition is 'that the very life, and vital motion, and the formal essence and nature of man, is wholly owing to the power of God; and that the consideration of ourselves, of our own souls and bodies, both directly and nearly conduct us to the acknowledgement of his existence'.¹⁹⁶ His main argument for an immaterial soul is that matter is inert and passive, possessing only extension and bulk, and is entirely incompatible with sense and perception whichever hypothesis one adopts to account for thought arising from matter. He considers in turn different hypotheses used against the existence of a soul, arguing that matter has no inherent faculty of sense and perception; that particular sorts of matter such as the brain or the animal spirits do not have the power of sense and perception, rejecting the atheists' 'rational machine' or 'understanding piece of clock-work';¹⁹⁷ that motion in general superadded to matter cannot produce sense and perception; that no particular sort of motion, like that of the animal spirits through the muscles and nerves, can produce sense and perception; that no action and passion of the animal spirits can create sense and perception; and he finally replies to arguments pointing to animals,

¹⁹¹ Letter to E. Bernard, 28 May 1692, in Bentley, *Correspondence*, i, 39.

¹⁹² Bentley, *Works*, iii, 7.

¹⁹³ *Works*, iii, 4–5.

¹⁹⁴ *Works*, iii, 8–9.

¹⁹⁵ *Works*, iii, 25.

¹⁹⁶ *Works*, iii, 34.

¹⁹⁷ *Works*, iii, 39.

perceived to be mere matter and yet having a degree of sense and perception. Here he refers to Cartesian philosophy, but considers that it is indifferent to religion whether one considers animals as unthinking material automata or as possessing souls, the point being that 'omnipotence itself cannot create cogitative body. And 'tis not any imperfection in the power of God, but an incapacity in the subject. The ideas of matter and thought are absolutely incompatible'.¹⁹⁸ Such statements, recalling Henry More's position, shocked many who considered that to limit God's omnipotence was blasphemous and it doubtless played a role in Layton's reaction, as we shall see. The 'thinking matter' hypothesis voiced by both Baxter and Locke was directed against this view. Bentley's arguments were aimed at the Epicureans and their 'shuffling and cutting with atoms'¹⁹⁹ and at Hobbes, the reviver of Epicureanism, who is linked to the 'ridiculous nonsense' of the 'fortuitous production of worlds' by the blind concourse of atoms.²⁰⁰ For Bentley, belief in an immaterial and hence immortal soul is vital for belief in the Christian God and his providence, because the soul is necessarily created by an intelligent immaterial being, whose existence 'is so plainly and clearly deducible from the established proof of an immaterial soul, that no wonder the resolved atheists do so labour and bestir themselves to fetch sense and perception out of the power of matter'.²⁰¹ Bentley's following lectures provide arguments from design, concerning firstly the 'structure and origin of human bodies' and secondly 'the origin and frame of the world'; he consulted Isaac Newton on the questions of physics discussed in these lectures and the two exchanged letters from December 1692 to February 1693. These sermons are of less interest for our present purpose than the second lecture, which provoked Layton's reply in defence of God's power and the possibility of thinking matter.

Layton's short work (discussed in detail in Chapter 4 below), although published somewhat confidentially, did provoke rapidly at least one reaction from a Boyle lecturer. John Harris devoted his 1698 sermon to a 'Refutation of the Atheistical Objections against the Being and Attributes of a God', directed against not only Hobbes and Spinoza but also freethinkers like Blount (whose *Oracles of Reason* contained a reply to Bentley's demonstration of the existence of God).²⁰² Harris discussed the properties of matter and the denial of incorporeal substance, and although he did not specifically develop the question of the human soul, which, as he points out, was not the purpose of his sermon, there is a short passage in reply to Layton's materialistic explanation of man.²⁰³ Otherwise, although the immortality of the soul is one of the subjects treated in other early Boyle lectures, it nowhere occupies as much space as it did in Bentley's. Although Bishop Gastrell stated in his 1697 lecture on 'The Certainty and Necessity of Religion in General' that 'the supposed *Materiality* and *Mortality* of the *Soul*' is

¹⁹⁸ *Works*, iii, 45.

¹⁹⁹ *Works*, iii, 47.

²⁰⁰ *Works*, iii, 48.

²⁰¹ *Works*, iii, 47.

²⁰² Blount, *The Miscellaneous Works*, 181.

²⁰³ *A Defence of Natural and Revealed Religion*, i, 401; see also p. 397.

the ‘*principal Strength of Irreligion*’,²⁰⁴ he did not develop his arguments on this point, being mainly concerned to defend the teachings of religion as a whole against atheists and deists and not to enter into subtleties concerning points of detail. He did little more than refer to arguments for the eternity of matter by demonstrating the need for an eternally wise creator. The necessity of a future state is mainly defended on the grounds of the need for future rewards and punishments for those who observe religion. Like the other early Boyle lecturers, Gastrell was treading a narrow line and defending a religious (and political) view that was assailed from many quarters in the turbulent 1690s. On one side Hobbes’s Epicurean mechanism—which banished immaterial substance and explained everything by passive matter in motion—threatened the basic doctrines of the Christian religion while the mechanistic philosophy of Descartes was seen to run the danger of reducing God to the role of initial prime mover; and on the other the system of uncreated eternal matter which could account for all existing phenomena removed the need for a God in an even more radical way. At the same time, mortalistic interpretations of the Bible undermined the belief in a naturally immaterial immortal soul which was now considered necessary for belief in the Christian God and for the Church’s authority, in turn vital for the political and social status quo. Politically, the latitudinarian bishops put in place after the Glorious Revolution, who favoured a certain toleration and espoused the new science, needed to show their opposition to both heresy and ‘enthusiasm’. They also had to react against the accusation of favouring atheism which the High Church lower clergy were ready to throw at them. All these preoccupations came together in the Boyle lectures defending rational Christianity compatible with revelation while avoiding the opposing pitfalls of anarchical ‘enthusiasm’ and atheism. The stakes were both religious and political, and the importance of the religious preoccupations should not be underestimated. In this context, the natural immortality of the immaterial soul was a vital doctrine and its denial could undermine the whole edifice. It is not surprising that those who considered this doctrine to be a papist distortion of the true Christian teaching and were worried by the High Church assault on toleration were moved to reply. But before presenting their works and the ongoing controversy around the ‘freethinkers’, we need to look at the other important element in the intellectual climate of the late seventeenth century, namely work on physiology and its link to theology.

²⁰⁴ *A Defence of Natural and Revealed Religion*, i, 332. On reactions to Layton and to Coward see Ch. 4 below.

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Animal Spirits and Living Fibres

The interaction between medical and theological concerns, whose precise contours are not always easy to unravel, appears clearly in Thomas Browne's *Religio medici*, which went through many editions after it was first published in a pirated edition in 1642 (although apparently written around seven years earlier, for the author's own 'private exercise and satisfaction'). In this work, which 'encapsulated a concern of all physicians and medical men and women in seventeenth-century England',¹ Browne refers to 'the general scandall of my profession' as giving credence to the idea that he has no religion and proclaims his allegiance to the Church of England, to which he is a 'sworn subject'. He claims that this allegiance 'squares unto my conscience' although he opposes authority, superstition, and ceremonies and makes it clear that he follows reason and Scripture first.² In his frequently republished work against popular errors, *Pseudodoxia epidemica* (1646)—where he regrets that as a physician he follows a profession which 'leadeth us into many truths that passe undiscerned by others' but leaves little time for writing—he likewise defends the use of evidence and reason and condemns 'peremptory adhesion unto Authority' as the greatest enemy of knowledge.³ Browne was so often taken to embody the scientific spirit and sceptical temperament of physicians that when Jean Bernier replied in 1689 to accusations that the primary fault of physicians was irreligion he felt the need to add: 'As for the book called *Religion medici*, it is the complete opposite of what the ignorant think of it'.⁴ In *Religio medici* Browne admits that in his early years he adopted the heresy that he calls Arabian:

that the soules of men perished with their bodies, but should yet bee raised againe at the last day; not that I did absolutely conceive a mortality of the soule; but if that were, which faith, not Philosophy, hath yet thoroughly disproved, and that both entred the grave together, yet I held the same conceit thereof that wee all doe of the body, that it should rise againe.⁵

¹ Grell and Cunningham, *Religio medici*, 2.

² Browne, *The Prose of Sir Thomas Browne*, 5, 10. See also Cunningham, 'Sir Thomas Browne and his *Religio medici*: Reason, Nature and Religion'.

³ Browne, *Pseudodoxia epidemica*, [3], 20.

⁴ Bernier, *Histoire chronologique de la médecine et des médecins*, 275.

⁵ Browne, *The Prose of Sir Thomas Browne*, 12.

He was as a result considered by many to be a defender of mortalism. This question was highlighted in *Observations on Religio medici* (1643) by Kenelm Digby, who claimed that the soul's immortality could be demonstrated, as he himself believed he achieved in his *Two Treatises*.⁶ Browne's defence of reason in religion and of toleration is also close to that of the Socinians, and he was perhaps influenced by his Oxford tutor Thomas Lushington, who translated Socinian works. At the same time, Browne's general stance was conservative: he supported the monarchy during the civil war and believed in witches, even helping to condemn two women for witchcraft in 1664.⁷ All of this underlines the need to be circumspect when interpreting religious and political positions. Browne was of course writing in English rather than Latin, for the educated reading public not for physicians, and it has been argued that he was primarily a naturalist, a collector of facts, and was not interested in medical doctrines.⁸ However, if we turn to an important physician like William Harvey, we find here too a complex interaction of religious and scientific themes. A study of the philosophical positions behind his work reveals the influence of Michael Servetus, whose writings subordinate medicine to theological concerns rather than using medical evidence to support theological arguments. Servetus defended in particular the scriptural teaching that the soul is life, in line with his anti-Trinitarian reading of the Bible. Believing that the soul was breathed into the blood by the divine spirit, he studied the blood's movement in order to demonstrate its contact with the air and show how the divine spirit entered the blood in the lungs.⁹ He describes the blood's movement in *Christianismi restituto* (1553), showing how the vital spirit, composed of 'very subtle blood nourished by the inspired air' originating in the heart's left ventricle, is then taken to the brain, where it forms the animal spirit.¹⁰ This early example of the link between Socinianism and materialistic or mortalistic views of the soul in a medical context indicates the complex intertwining of ideas and a possible long-standing connection between heterodox Protestant doctrines and a certain type of medical approach. It has also been suggested that the Old Testament understanding of the soul as being the blood made certain people in England more open to William Harvey's theories. Such religious concerns have likewise been said to have influenced the views of the early seventeenth-century Wittenberg professor of medicine Daniel Sennert, who opposed the Cartesian conception of the soul and illustrates the complex link between certain Protestant views on the soul derived from the Scriptures and medical theories.¹¹ But links between theological and medical positions must be treated with caution, for while in these cases certain religious beliefs clearly determined acceptance of medical hypotheses, by the later seventeenth century connections between medicine and

⁶ See Henry, 'Atomism and Eschatology', 223–4.

⁷ Cunningham, 'Sir Thomas Browne and his *Religio medici*', 33 ff, 48.

⁸ Hall, 'Thomas Browne Naturalist'.

⁹ Pagel, *William Harvey's Biological Ideas*, 136 ff.

¹⁰ Quoted in Fulton, *Michael Servetus*, 37 ff.

¹¹ French, *William Harvey's Natural Philosophy*, 130, 224–6.

religion seem to be less straightforward and even contradictory. Simon Schaffer cites the case of Alexander Pitcairn, a non-juror, a believer in social hierarchy, and an enemy of Puritan fanatics, who was accused of atheism and irreligion in the 1690s because of his claim that mathematics provided certain knowledge about the world, including in medicine.¹² Thomas Willis's works were used to support heterodox positions diametrically opposed to his own theological beliefs; his work on the brain in the 1660s had an important effect on speculation concerning the soul and was used to explain how this organ could produce thought without the need for a separate immaterial substance.¹³ But just as important, if not more so, was the question of matter and its properties, with which I shall begin. Although its roots obviously go back a long way I shall, for the sake of simplification, confine myself to seventeenth-century studies of living matter and look more particularly at the role played by the speculations of both Willis and Francis Glisson, and certain physicians whose thought can be linked to theirs. Glisson is known to have attracted the attention of the 'vitalistic' Montpellier doctors in the following century,¹⁴ who in turn influenced Diderot's materialism. This filiation should also alert us to the dangers of rigid classification, as the Montpellier school's vitalism is often linked to the animism of Georg Ernst Stahl and opposed to materialism, while the works of Glisson are also considered to have influenced Leibniz's dynamism. It is useful to remember Georges Canguilhem's characterization of vitalism as 'a requirement rather than a method' — the attitude of those who see themselves as part of an organic universe, not opposed to nature¹⁵ — which is an important element in the thought of those materialists we are concerned with. Discussions of vital matter fed apparently contradictory strands of thought, and the same works could be used to support contrasting views.

My approach goes against the more common reading of intellectual traditions and their link to physiology; materialism on the one hand and animism and spiritualism on the other are said to be divergent outcomes of a rigid interpretation of Cartesian mechanism and dualism.¹⁶ It is often claimed that the mechanical philosophy of the seventeenth century, which saw matter as passive and banished God from his creation, is mainly responsible for the development of materialistic arguments by an extreme application of mechanistic physiology. There is no doubt that Malebranche's lengthy discussion of the correlation between bodily and mental states was used to support materialistic arguments,¹⁷ but evidence of the way the mind is influenced by bodily states was in itself an insufficient basis for a materialistic explanation of humans. What was needed was a view of matter as active, leading to claims that it could think and thus dispensing with the immaterial soul.

¹² See Schaffer, 'The Glorious Revolution and Medicine in Britain and the Netherlands'.

¹³ His importance is particularly emphasized in Zimmer, *Soul Made Flesh*.

¹⁴ Rey, *Naissance et développement du vitalisme en France*, 24–32.

¹⁵ Canguilhem, *La Connaissance de la vie*, 86–8.

¹⁶ See Grmek, *La Première Révolution biologique*, 138–9.

¹⁷ See Ch. 5 below.

Boyle considered that the ‘usual enemies’ of the soul’s immortality—the atheists and Epicureans—based their position on the belief ‘that it is not a true substance, but only a modification of the body, which consequently must perish, when the frame or structure of the body, whereto it belongs, is dissolved’,¹⁸ which implies a view of matter as active and living. Conceptions of active matter and discussion of occult qualities were very much alive in the seventeenth century, linked to theories generally labelled as vitalistic, and they helped to foster materialistic speculation.¹⁹ We need to heed Lester King’s advice to ‘avoid the tyranny of labels’,²⁰ not only ‘iatromechanism’ and ‘iatrochemistry’ (to which he was referring) but also ‘mechanistic’, ‘vitalistic’ or ‘materialistic’—‘materialist’ usually being taken to mean ‘mechanist’ but sometimes opposed to it.²¹ The division between the ancients and the moderns also seems less clear-cut in physiology and medicine than in some other fields. While the mechanical philosophy has generally seemed to embody scientific progress,²² the writers studied here, whose conclusions were often seen to endanger established religion, did not necessarily espouse the mechanical philosophy or they adapted it in certain important ways. So it is not particularly useful to present the issues in terms of ancients and moderns, mechanists and vitalists, or progressives and conservatives,²³ but instead to ask which developments could encourage explanations of humans which dispensed with an immaterial soul. As a result, this chapter will not be mainly concerned with Cartesian physiology as such but with attempts to resolve the difficulties resulting from mechanism. The problem was how to explain the workings of living beings once the classical paradigm had been undermined, in what has been called the ‘biological revolution’ of the mid-seventeenth century.²⁴ The radical distinction made in Cartesian philosophy and physics between mind and body, and therefore between matter and energy and between intellectual thought and feeling, meant that new attempts to explain life had to be found.²⁵ One of those who could provide a new solution was Francis Glisson, whose thought must be placed in its intellectual context.

Vital Matter

Discussion of seventeenth-century perceptions of living matter can most usefully begin with William Harvey, famous and finally admired for the discovery of

¹⁸ Boyle, *The Excellency of Theology, Compared with the Natural Philosophy*, in *The Works*, iv, 12.

¹⁹ See Henry, ‘Occult Qualities and the Experimental Philosophy’.

²⁰ King, *The Philosophy of Medicine: The Early 18th Century*, 124.

²¹ Schofield, *Mechanism and Materialism*, 15–16. See also Thomson, ‘Mechanistic Materialism vs Vitalistic Materialism?’

²² See Brown, ‘Physiology and the Mechanical Philosophy in Mid-Seventeenth-Century England’.

²³ See Cook, ‘The New Philosophy and Medicine in Seventeenth Century England’, 400.

²⁴ Grmek, *La Première Révolution biologique*, 8.

²⁵ See Giglioli, ‘Panpsychism versus Hylozoism’. For a recent reinterpretation of Descartes’s conception of humans, see Aucante, *La Philosophie médicale de Descartes*.

the circulation of the blood, whose conception of active matter was opposed by Descartes and the mechanical philosophers. He was in many ways faithful to the Aristotelian tradition, suspicious of atomical conceptions of matter whose revival gave the impulse for the new mechanical science, and preoccupied with purpose and final causes in his study of the human body.²⁶ His research into generation and embryology in the late 1630s and 1640s—in particular his experiments showing reactions to stimuli and thus life before the formation of the embryo—led Harvey to a view of the irritability of tissue fibres which probably influenced Glisson. He came to see the blood as the seat of life, denying the independent existence of spirits and affirming its primacy over the parts of the body.²⁷ Life was contained in the blood as such, not in its parts, and its properties were not a result of its constituent parts, whether elements or atoms, which the properties preceded. Walter Pagel has shown what this view of matter, which he calls vitalistic, owes to Aristotelian and Stoic ideas and also how it differs from them.²⁸ Harvey saw the vital principle informing bodies as a divine emanation. His study of generation emphasizes the fertile germ, or ‘conceptus’, which is simple and without parts and forms the embryo by epigenesis, not through the preformation of parts. The egg is the work of an inherent principle, like all living things: ‘they are primarily constituted by external and preexisting beings; but so soon as they are endowed with life, they suffice for their own nourishment and increase, and this in virtue of peculiar inherent forces, innate, implanted from the beginning’.²⁹ He describes how the embryo develops from the first pulsating point of the blood by epigenesis, ‘or addition of the parts that successively arise’. The blood exists first and pulsates by a sort of fermentation, by ‘an intimate heat or an innate spirit’, regulated by the *anima*; it is therefore the principal element in the body and the seat of the *anima*, and ‘that in which heat, the primary and immediate instrument of life, is innate’.³⁰ This view, generally seen as opposed to mechanistic theories of generation and matter, could also appeal to those defending a monistic view of the world which ascribed everything to a living matter possessing motion and sensibility, however different their understanding of matter might be. But Harvey’s epigenetical explanation was not necessarily a concomitant of theories concerning living matter, and certain of his disciples considered that the evidence pointed rather to preformation of the animal in the egg. Henry Power, one of Glisson’s students in Cambridge, while adopting Harvey’s view that plants may have sensation like animals, expresses doubts on epigenesis in 1659 in a letter to Thomas Browne, in connection with Browne’s recourse to the ‘plastick principle’ in seeds.³¹

²⁶ Pagel, *William Harvey’s Biological Ideas*; Frank, *Harvey and the Oxford Physiologists*; French, *William Harvey’s Natural Philosophy*.

²⁷ Frank, *Harvey and the Oxford Physiologists*, 38 ff.

²⁸ Pagel, ‘The Reaction to Aristotle in Seventeenth-Century Biological Thought’.

²⁹ *Exercitationes de generatio animalium* . . . , in *The Works of William Harvey*, 281.

³⁰ *The Works of William Harvey*, 372–81.

³¹ Letter, 10 May 1649, in *The Works of Sir Thomas Browne*, vi, 289–91. See below.

Harvey's conception of matter probably influenced Francis Glisson's work, which has been called 'one of the most original systems of philosophy' of the second half of the seventeenth century, 'one of the most profound attempts to develop a monistic solution to the mind-body problem',³² and 'one of the most audacious attempts to secularize the notion of life';³³ Glisson's interpretation of the activity of the blood was connected to Harvey's view of the importance of blood itself in circulation.³⁴ Francis Glisson, Regius Professor at Cambridge from 1636, developed his conception of matter in a series of works culminating in *Tractatus . . . de vita naturae* (1672), which expounds a theory of energetic matter possessing life of itself. He is often remembered for his concept of the irritability of fibres, which he started to elaborate in his works on rickets (1651) and on the anatomy of the liver (1654), before his most developed exposition of irritability in *Tractatus de ventriculo et intestinis*, published posthumously in 1677 but probably written by the early 1660s. He explained that he had put off its publication because he presupposed in it the existence of a 'general perception of nature' which first needed to be discussed; as he says, 'I attribute many parts to natural perception'.³⁵ Glisson ascribed irritability to all tissues, seeing it as a kind of 'natural perception' different from sensibility as it requires neither nerves nor sense organs. It was this work that played an important role in studies of irritability in the following century, although Albrecht von Haller, the most celebrated exponent of irritability, limited the phenomenon to muscle tissue. Its importance for materialism lies in Glisson's demonstration that the smallest organization of matter possesses life. In his 1672 work Glisson denied that matter was dead and lifeless, claiming that it possessed an energetic nature and not only the capacity to move of itself but also, most importantly, 'natural perception'. The different vegetative, animal, or sensitive functions were accounted for by differences in organization, but all bodies have natural life. Glisson thus developed a monistic view of substance as energy, a conception of *biusia* which went against the prevailing mechanistic accounts and undermined substance dualism. It is linked in the historical literature to the vitalists' opposition to the dominant mechanism, a division which is relevant to the history of medical doctrines but can lead to a misleading understanding of materialism. For this conception of living active (as opposed to dead passive) matter was, as I shall show, crucial to materialistic explanations of humans, even if Glisson himself accepted the existence of spiritual substance, including the rational soul. His underlying belief was that, 'instead of a soul that is superadded to and acts *on* the body, there is only matter that is alive and acts by virtue of the impulse inherent *in* it'.³⁶ We

³² Henry, 'Medicine and Pneumatology', 16.

³³ Giglioli, 'Anatomist Atheist?', 115.

³⁴ French, *William Harvey's Natural Philosophy*, 302–4. See also Pagel, 'Harvey and Glisson on Irritability with a Note on Van Helmont'; Frank, *Harvey and the Oxford Physiologists*, 22 ff.

³⁵ *Tractatus de ventriculo et intestinis*, in *English Manuscripts*, ii, 1. See also Giglioli, 'Anatomist Atheist?'

³⁶ Pagel, 'Harvey and Glisson on Irritability', 514.

shall see that this is what interested opponents of an immaterial soul as it could be used to support their claim that matter alone could perform everything that was ascribed to living beings, including thought.

Glisson's work owes a considerable debt to classical medical tradition, in particular Galen,³⁷ and his conception of matter can be linked to the views of Joan Baptist Van Helmont, a representative of the chemical tradition. Van Helmont's 'vitalistic monism' described the world as composed of individual units which are both matter and spirit and contain their own internal regulating idea, through the *archeus*; the motive force or vital spirit is internal, and organized matter requires no outside force to set it in motion. Van Helmont's writings influenced vital conceptions of matter, even if those who expounded them did not necessarily share the religious impulse behind his theories and tended to interpret him in a more material and less idealistic way. For Van Helmont the internal organizing principle seems spiritual and possesses an idea of the body that it forms. Pagel has shown that Harvey and Glisson shared a similar conception of natural perception in matter and that Glisson retained traces of the Helmontian conception of the *archeus*, with which he identified the natural perception of matter.³⁸ Antonio Clericuzio has demonstrated how chemical ideas became the basis of Glisson's theory of the distillation of spirits in *Anatomia hepatis* (1654), which in turn played a role in the works of physiologists like Thomas Willis, Walter Charleton, or Henry Power.³⁹ Power, who was influenced by both Cartesian mechanism and Harvey's physiology, developed in *Experimental Philosophy* (1664) and *Analogia physicochymica* (1666) a theory of animal spirits composed of an 'ætherial substance or subtle particles' existing in all bodies and providing life, sense, and motion to animals.⁴⁰ In a letter to Thomas Browne written when he was still at Cambridge, Power linked chemical experiments concerning 'the re-individualling of an incinerated plant' to the question of soul-sleeping:

'Tis not only an ocular demonstration of our resurrection, but a notable illustration of that Psychopannychy wch Antiquity so generally received, how these Formes of ours may be lulled, and ly asleepe after the separation (closed up in their Ubi's by a surer than Hermes his seale,) untill that great & generall Day, when by the helpe of that gentle heat, wch in six days hatch'd the world, by a higher chemistry it shall be resuscitated into its former selfe.⁴¹

This reference to soul-sleeping is admittedly rather odd but his use of the term 'Psychopannychy' is unambiguous, and shows a desire to find experimental

³⁷ Temkin, 'The Classical Roots of Glisson's Doctrine of Irritation'.

³⁸ Pagel, *Joan Baptista Van Helmont*, 36, 42, 122–3; see also Duchesneau, *Les Modèles du vivant de Descartes à Leibniz*, 26.

³⁹ Clericuzio, 'The Internal Laboratory: The Chemical Reinterpretation of Medical Spirits in England (1650–1680)', 59 f.

⁴⁰ Power, *Experimental Philosophy*, in *Three Books*, 61. See also Webster, 'Henry Power's Experimental Philosophy'.

⁴¹ Letter from Henry Power to Dr Browne, 10 Feb. 1648, in *The Works of Sir Thomas Browne*, vi, 280.

evidence for it. When Robert Boyle discussed the same experiments with plants in ‘Some Physico Theological Considerations about the Possibility of the Resurrection’ together with the suggestion that they support the supposition of a ‘plastick power’ in parts of dead bodies capable of re-forming a new one, he claimed that such explanations were unnecessary in view of God’s power to bring about resurrection.⁴² John Mayow, another chemical physician, used in his *Tractatus quinque* (1674) the theory of nitro-aerial particles, ‘the principal instrument of life and motion’, added to the blood in respiration to produce necessary vital heat by fermenting with saline-sulphurous particles, ‘so that we do not need to have recourse to an imaginary vital flame that by its continual burning warms the mass of the blood, much less to affirm a degree of heat in the blood intense enough to produce light, from the rays of which, transmitted to the brain, the sensitive soul is supposed to be produced’.⁴³ Theories of aerial nitrous substances had been developed in the early years of the century in several works, including Sennert’s *Epitome naturalis scientiae* (1618), which was studied in Oxford and quoted by Locke.⁴⁴ Mayow explains how nitro-aerial particles which constitute the animal spirits are pressed out of the blood in the meninges, although he was very careful to say that they do not constitute the sensitive soul, being rather its instrument.⁴⁵ Nevertheless, his explanations concerning this type of vital and subtle matter could be used to explain brain functioning in material terms. John Henry has argued that there was a clear tradition, in England at least, defending the existence of active principles in matter and that the mechanical philosophy in the late seventeenth century did not reject all occult or unknown qualities of matter.⁴⁶ The physiological study of the intimate functioning of the living body which led several physicians to deduce the existence of an inherent force in fibres is part of this tradition. Giorgio Baglivi’s *De fibra motrice et morbosa* (1702), for example, discusses the oscillation of the membranous fibres containing an inherent force.⁴⁷ The authors of medical works were apparently less reticent than many others in speculating on living matter. Interestingly, this is also true of Anne Conway’s brother John Finch and his friend Thomas Baines, pupils of Henry More who studied medicine at Padua and apparently espoused hylozoism and a materialistic conception of humans.⁴⁸

It has been suggested that the anarchic atmosphere of the 1640s favoured the development of ‘vitalistic’ ideas challenging the social and political hierarchy defended by mechanism.⁴⁹ It is however difficult to discern a clear pattern in

⁴² Boyle, *Works*, iv, 194 ff. ⁴³ Mayow, *Medico-Physical Works*, 101, 108.

⁴⁴ Frank, *Harvey and the Oxford Physiologists*, 119–20.

⁴⁵ Mayow, *Medico-Physical Works*, 259; Frank, *Harvey and the Oxford Physiologists*, 258–74.

⁴⁶ Henry, ‘Occult Qualities and the Experimental Philosophy’.

⁴⁷ Grmek, *La Première Révolution biologique*, ch. 7 ‘La Notion de fibre vivante’; Duchesneau, *La Physiologie des Lumières*, 116–26; Rey, *Naissance et développement du vitalisme*, 32–7.

⁴⁸ See Sarah Hutton, *Anne Conway*, ch. 5. Also *Conway Letters*, 204, 208.

⁴⁹ Rogers, *The Matter of Revolution*.

the unbridled speculation of the time, and the complex intertwining of political, religious, and scientific motivation has also been emphasized.⁵⁰ Among the medical writers who may have helped to encourage a dynamic view of matter we can mention Walter Charleton, who was a disciple of Harvey's in Oxford in the mid-1640s and became an adept of Van Helmont in the late 1640s before adopting Gassendi's Epicurean philosophy under the influence of Hobbes and the group around Margaret Cavendish. As we have seen, Charleton used his Christianized version of Epicurean atomism to argue against atheism. His mixture of Epicurean and Cartesian elements, similar to those of his friend Kenelm Digby, enabled him to demonstrate rationally the need for a creator and the existence of an immortal substance distinct from body. In *Physiologia Epicuro-Gassendo-Charletoniana* (1654) he details the atheistically inclined 'dross' of Epicureanism that must be rejected, including the beliefs 'That Atoms were Eternally existent in the infinite space' and 'that their Motive Faculty was eternally inhaerent in them, and not derived by impression from any External Principle',⁵¹ which he replaces with the claim that God created atoms with internal energy or a motive faculty. For Charleton, following Gassendi, there is no problem in endowing atoms with their own innate motive power, provided it was communicated to them by God at their first creation. Mobility in bodies is produced by the motive power of the atoms which compose them; spirits, including the animal spirits in the body, are concretions in which the atoms are freest to move about. Thus, however careful he was to distance himself from the 'blasphemous and absurd' Epicurean notion that all motion is caused by the inherent mobility of atoms, he nevertheless accepted an innate motive force instilled in matter at its first creation⁵² and preserved aspects of his early Helmontianism; as one historian puts it, he 'was constrained to admit some vitalistic elements into his system'.⁵³ In his demonstration of the immortality of the soul he includes a reference to Harvey's discussion of the blood, affirming that vital heat, innate and congenial to the blood, is the instrument of the soul and the cement of soul and body; the soul is 'Excited and as it were Enkindled first from the Blood' and it is in the blood, by an 'Intimate Præsence, which is yet a kind of Contact'.⁵⁴ So for Charleton as for Harvey the blood, while material, does seem to possess innate vital qualities and the precise status of the incorporeal substance of the soul seems unclear. Charleton's remark, linked to his description of the gradual extinction of the vital flame by degrees, ending in death, was later seized upon by Henry Layton to show that Charleton had no grounds for saying that this death is not 'an extinguishment of the soul'.⁵⁵ Charleton goes

⁵⁰ Brown, 'Physiology and the Mechanical Philosophy in Mid-Seventeenth-Century England'.

⁵¹ Charleton, *Physiologia Epicuro-Gassendo-Charletoniana*, 126.

⁵² *Physiologia Epicuro-Gassendo-Charletoniana*, 269–71. The same idea had been expressed in *The Darkness of Atheism Dispelled by the Light of Nature* two years earlier.

⁵³ Gelbart, 'The Intellectual Development of Walter Charleton', 157.

⁵⁴ Charleton, *The Immortality of the Human Soul*, 184–5.

⁵⁵ Layton, *Observations upon Dr. Charleton's Treatise*, 210–12.

further in *The Natural History of Nutrition, of Life and Voluntary Motion* (1659), where, under the influence of Glisson, he attributes both activity and sensation to matter.⁵⁶ A digression of several pages explains how the bile is excreted in the liver when the receptacles that contain it contract due to an excess of humour. He states that all the sensitive parts of the body are capable of irritation, and in reply to the probable objection that we are not conscious of feeling in those parts which are irritated he provides numerous examples of a 'natural sense' in all parts of the body; his claim that 'all parts of the body have a certain Naturall sense or feeling, distinct from the Animal, and wholly independent upon the brain' rejects the Cartesians' claim that all actions need an influx of animal spirits in the nerves.⁵⁷ Although here he cites only Harvey, there is a clear influence of Glisson (whose work on the liver is called a 'most elaborate and judicious book').⁵⁸ Thus despite Charleton's concern to demonstrate the immortality and immateriality of the soul and insistence on mechanical explanations, evident in his lectures on the circulation of the blood,⁵⁹ he does not exclude all vital properties in matter. At the same time his consistent scepticism concerning animal spirits probably betrays the continuing influence of Van Helmont.

These medical systems defending a view of matter as endowed with life elicited a reaction from Henry More and Ralph Cudworth, who saw them as undermining demonstrations of the soul's immaterial nature. As I shall argue in the next chapter, it may indeed have been More and Cudworth who alerted writers like Layton and Coward to the implications of medical discussions of vital matter. So before considering the impact of other seventeenth-century medical developments we shall look at the reactions to Glisson's philosophy which may have encouraged its use in arguments against the immaterial soul. The 'Cambridge Platonists' are cited by John Henry as exceptions to his general observation that anti-atheistic literature concentrated on the mechanism of Hobbes or the Epicureans and ignored medical arguments against the immaterial soul. Demonstrations of the soul's immateriality and separation from matter implied a denial of all life or vital properties to any type of matter and of a material animal soul made of ethereal matter.⁶⁰ More's *The Immortality of the Soul* (1659), directed against Hobbes's corporealism, argues that no organization of matter could account for thought; the animal spirits, composed of a thin spirituous matter, are merely the vehicle of the soul. Henry also emphasizes the importance of More's 'intellectualist theology', which clashed with the dominant voluntarism of the late seventeenth century and with Robert Boyle's experimental

⁵⁶ See Clericuzio, *Elements, Principles and Corpuscles*, 97–100.

⁵⁷ Charleton, *A Natural History of Nutrition, Life and Voluntary Motion*, 116–25.

⁵⁸ *Ibid.* 150; see also Clericuzio, 'The Internal Laboratory', 67.

⁵⁹ Charleton, *Three Anatomic Lectures*, in which he praises Glisson but shows hostility to Willis; see e.g. p. 97.

⁶⁰ Henry, 'The Matter of Souls', 99 ff. See also Gabbey, 'Philosophia Cartesiana triumphata' and 'Henry More and the Limits of Mechanism'.

philosophy,⁶¹ and helps us to understand More's particularly violent opposition to any arguments according activity to matter. His system depended on the total distinction of two substances; God could not accord any intrinsic properties to matter such as motion, let alone life and sensitivity. In contrast, for those espousing a voluntarist theology and relying on experimental rather than rational demonstration, scientific explanations of certain natural phenomena in terms of the inherent properties of matter could appear less dangerous as long as they were accompanied by the necessary safeguards. The immortality of the human soul was assured by divine revelation, which Boyle considered indispensable because the rational demonstration of immortality based on immateriality was insufficient. All-powerful God could ordain the soul's annihilation on its separation from the body.⁶² It is interesting that the brief review of Glisson's 1672 *Tractatus de vita naturae* in the *Philosophical Transactions* is perfectly neutral, mentioning without comment his account of the energetical nature of substance and view that life is essential to matter.⁶³

Glisson's work was viewed with much less hostility by theologians like the Calvinist divine Richard Baxter than by Henry More. This was one of the subjects on which Baxter and More disagreed in their exchange of letters following the latter's publication of Glanvil's work on witches and apparitions, which turned largely on the definition of spirit. Baxter quotes Glisson frequently in this exchange and partially adopts Glisson's conception of active substance for his own view of spirit. This view does not correspond to More's definition, although whether it is considered to be material depends on one's understanding of the latter term. For Baxter spirit is the means by which the soul acts on the body and thus not the same thing as the soul; he compares it to fire, which led More to call him a 'psychopyrist', a term which Baxter objected to strongly. In his reply to More he explains his view of spirit, comparing it to the theories of both More and Glisson:

You suppose all *Spirit* to be in *Matter*, but by way of composition as distinct substances. I go the middle way, and suppose that substance (simple) is *Active* or *Passive*: that the three Passive Elements, Earth, Water and Air are animated only by composition or operation of the active; but that the active substances have no composition (but intellectual) but *Substance* and *Form* are *conceptus ejusdem inadeguati*. So that what Dr. Glisson saith of every clod and stone, I say only of spirits.⁶⁴

He also brings out the implications of Glisson's views, inferring from Glisson's statement that every atom of matter has an innate motive principle that 'the *Motive virtue* is the *Form* of all Matter, as well as of *Spirit*'.⁶⁵ While distancing himself from Glisson, Baxter nevertheless appeals several times to his and

⁶¹ Henry, 'Henry More versus Robert Boyle'.

⁶² Boyle, *The Excellency of Theology, Compared with the Natural Philosophy*, in *The Works*, iv, 12.

⁶³ *Philosophical Transactions*, vii, 5076–7.

⁶⁴ Baxter, *Of the Nature of Spirits*, 7.

⁶⁵ *Of the Nature of Spirits*, 20.

Campanella's authority, despite refusing the latter's view of spirit. As John Henry has pointed out, Baxter's opposition to More's rigid dualism and dogmatism led him to claim that there was no contradiction in perceptive matter. The passage is worth quoting:

I confess I am too dull to be sure that God cannot endue *matter* itself with the formal Virtue of Perception: That you say the *Cartesians* hold the contrary, and that your Writings prove it, certifieth me not. O the marvellous difference in mens Conceptions! Such great Wits as *Campanella*, Dr. *Glisson*, &c. were confident that no *Matter* in the world was without the *una-trina Virtus*, viz. *Perceptive*, *Appetitive*, and *Motive*; I agree not with them: But you on the contrary say, that *Material qualitercunque modificata* is incapable of Perception. I doubt not, *materia qua materia*, or yet *qua mere modificata* hath no Life: But that it is *incapable* of it; and that Almighty God cannot make *perceptive living Matter* and that by *informing* it without mixture, I cannot prove, nor I think you: Where is the Contradiction that makes it impossible? Nor do I believe that it giveth a man any more cause to doubt (as you add) of the *Existence of God*, or the *Immortality of the Soul*, than your Opinion that saith, *God cannot do this*.⁶⁶

Baxter also says that he does not know whether stones fall to the ground by self-motion or whether 'God hath not made *Gravitation* and other aggregative motion of Passives, to be an Essential self-moving Principle'.⁶⁷ The influence of Glisson's views can also be seen in his claim that More has not proved 'That the God of Nature hath not put into the passive elements a strong inclination of the parts to union with the whole, and to aggregative Motion when forcibly separated; which Inclination Dr *Glisson* calleth their Essential Life; but I think is somewhat that deserveth not that name'.⁶⁸ More chose to ignore the nuances in Baxter's position, which was partly determined by his opposition to More's 'intellectualist' theology and dogmatism, and continued to claim that Baxter's shared Glisson's position. More was acutely aware of the dangers of ascribing perception to matter, which undoubtedly seemed more dangerous in the light of Spinoza's philosophy. He had criticized Glisson in 1679 in a scholium to his *Ad V.C. epistola altera*, a work which included a violent attack on Spinoza where he brought out the dangers of atheism implicit in according life to matter.⁶⁹ He now called Glisson Baxter's 'patron or rather pattern in philosophy'⁷⁰ and reacted to Baxter's accusation that he had not read Glisson's work as it was too hard and subtle for philosophers, who simply condemned it without reading it.⁷¹ More replied that on the contrary he had understood and seen the danger of Glisson's *Tractatus de vita naturae*:

For that Hypothesis, if it were true, were as safe, if not a safer refuge for Atheists than the mere Mechanick Philosophie is: and therefore you may see there, how Cuperus,

⁶⁶ *Of the Nature of Spirits*, 28–9.

⁶⁷ *Of the Nature of Spirits*, 33.

⁶⁸ *Of the Nature of Spirits*, 39.

⁶⁹ More, *Opera omnia*, ii, 604–11; see also Henry, 'Medicine and Pneumatology', 30–2.

⁷⁰ More, *Two Choice and Useful Treatises*, ii, 240.

⁷¹ Baxter, *Of the Nature of Spirits*, 5.

brought up amongst the Atheists from his very childhood, does confess, how the Atheists now-a-daies explode the Mechanick Philosophie as not being for their turn, and betake themselves wholly to such an hypothesis as Dr Glissons.⁷²

According to him Baxter's 'admired and beloved Dr. Glisson' uses the argument of self-motion in matter to prove 'that there is universally life in matter'.⁷³

In 1679 More labelled Glisson's position 'biusianism' (using Glisson's term), or hylozoism,⁷⁴ applying the name used by Ralph Cudworth in his *True Intellectual System of the Universe*, published in 1678. The closeness of the two dates indicates a common reaction to Glisson. In his Preface Cudworth explains that 'hylozoick atheism', which originated with Strato and then 'slept in perfect silence and oblivion', needs to be discussed because

of its being of late awakened and revived, by some, who were so sagacious, as plainly to perceive, that the Atomick Form could never doe their business, nor prove Defensible: and therefore would attempt to carry on this Cause of Atheism, in quite a different way, by the Life and Perception of Matter: as also that this in all probability, would ere long publicly appear upon the Stage, though not Bare-faced, but under a Disguise.⁷⁵

He probably had Glisson at least partially in mind, as can be seen when he contrasts hylozoism with the philosophy of the 'Atomick Atheists', who exclude life and cogitation from body: 'Hylozoism on the contrary makes all Body, as such, and therefore every smallest Atom of it, to have Life Essentially belonging to it (Natural Perception and Appetite) though without any Animal Sense or Reflective knowledge'. This mention of natural perception seems to be a reference to Glisson's *Tractatus de vita naturæ*. For Cudworth a hylozoist, unlike an atomist, is necessarily an atheist, and hylozoism is closely linked to corporealism:

Because, as hath been already signified, if all Matter, as such, have not only such a Life, Perception and Self-active Power in it, as whereby it can Form it self to the best advantage, making this a Sun and that an Earth or Planet, and fabricating the Bodies of Animals most Artificially; but also can improve it self into Sense and Self-enjoyment; it may as well be thought able to advance it self higher, into all the Acts of Reason and Understanding in Men: so that there will be no need either of an Incorporeal Immortal Soul in Men, or a Deity in the Universe.⁷⁶

Cudworth does admit that it is possible for a sincere believer in God and an immortal rational soul to hold that the sensitive soul in humans and animals is corporeal, then 'that there is a Material Plastick Life in the Seeds of all Plants and Animals, whereby they do artificially form themselves', and finally that all matter has 'a kind of Natural, though not Animal Life in it'; but a 'hylozoick

⁷² More, *Two Choice and Useful Treatises*, ii, 192.

⁷³ *Two Choice and Useful Treatises*, ii, 227.

⁷⁴ More, *Opera omnia*, ii, 608.

⁷⁵ Cudworth, *The True Intellectual System of the Universe*, Pref.

⁷⁶ *The True Intellectual System*, 105.

corporealists' is really an atheist.⁷⁷ Further details are provided later on in the work where Cudworth demonstrates the impossibility of producing life and understanding from 'dead and senseless matter'. After claiming that those atheists who affirm 'that Matter as such, hath no life nor understanding belonging to it' need another essentially vital and intellectual substance, he continues, 'Which point (that all life, is not meer accident, but that there is life substantial) hath been of late with much reason and judgment, insisted upon, and urged by the Writer *Of the Life of Nature*'. The 'Hylozoick Atheists' who suppose matter to be the only substance must 'attribute to all Matter as such Life and Understanding, though not Animalish and Conscious, but Natural only: they conceiving, that from the Modification thereof alone by Organization, all other Animalish Life, not only the Sensitive in Brutes, but also the Rational in Men, was derived'.⁷⁸ The reference to Glisson's work here highlights the danger it represented for thinkers like More and Cudworth and also the use to which it could be put by those who wished to dispense with an immaterial soul and explain thought by matter alone. One cannot help coming to the conclusion that the attacks by Cudworth and More could only encourage those who were less assured of the distinction between matter and spirit to use Glisson's work to draw very different conclusions concerning the soul, exploiting the problems involved in strict dualism helpfully pointed out by theologians like Baxter. And the use of Glisson's writings to undermine Christian doctrine could be encouraged by the accusations that Glisson's philosophy was the same as Spinoza's. This comparison did not seem obvious to everyone, however, and the Newtonian mathematician Joseph Raphson, despite espousing many of More's ideas, disagreed. Raphson developed his views on space as the infinite, eternal, and immutable First Cause in *De spatio reali* (1697), the first chapter of which uses Cudworth to provide a brief historical overview of theories of substance. He makes a distinction between monistic philosophies like Spinoza's, which he defines as pantheistic, and those ancient atheistic systems which recognize only matter, called panhylistic. He refers to Glisson as one of those panhylists he calls hylozoists who accord life and perception to matter and are distinguished from those like Hobbes who deny life to matter. Glisson, who recognizes the existence of a human soul, is not an atheist and his views are distinguished from Spinoza's pantheistic system.⁷⁹

Someone else who did see the danger of Glisson's writings was Robert Boyle, despite his profound disagreement with More's theology. Boyle was concerned about the threat inherent in an active thinking matter encouraged by Glisson's work, which has been identified as one of the targets of Boyle's *Free Enquiry*

⁷⁷ *The True Intellectual System*, 106.

⁷⁸ *The True Intellectual System*, 839. See also Giglioli, 'Panpsychism versus Hylozoism', 43 and 'Anatomist Atheist?', which includes a list of Cudworth's references to Glisson's theories, p. 129.

⁷⁹ Raphson, *De spatio reali*, 7–8; see also Koyré, *From the Closed World to the Infinite Universe*, ch. 8, and Copenhaver, 'Jewish Theologies of Space in the Scientific Revolution'.

into the *Vulgarly Received Notions of Nature* (1686).⁸⁰ Although Boyle was willing to attribute to atoms innate motion imprinted in them by God,⁸¹ Glisson's conception of energetical matter seemed in line with those of the chemists who, he believed, rejected purely mechanical explanations. In the *Free Enquiry* Boyle is attacking both Cudworth and More, who undermined God's omnipotence as creator and first impulse of the world, and Glisson's energetical matter, which threatened the dualism he espoused and opposed his very understanding of nature. For Boyle matter needs an outside force to set it in motion, and it is a mistake to imagine 'that what is called the nature of this or that body is wholly comprised in its own matter and its (I say not substantial, but) essential form, as if from that, or these only, all its operations must flow'.⁸² He discusses the different Ancients who have mistakenly imagined nature to be animate and intelligent, including a 'sect of men' lately sprung up and professing Christianity, who mean by God 'such a one as is not really distinct from the animated and intelligent universe'.⁸³ He considers this belief to be a revival of ancient ideas about the soul of the world. Boyle denounces a conception of nature as the principle of all motions and operations in bodies—an agent possessing intelligence—or of bodies as having aims or appetites rather than being necessarily determined to act according to laws decreed by God.⁸⁴ Glisson's energetical matter possessing natural perception could, like the plastick natures of More or Cudworth, appear to encourage such an erroneous view of nature. James McGuire has shown how Boyle's conception of nature was radically opposed to the medical philosophy of Van Helmont (who had originally influenced his work), Harvey, and Glisson, for whom nature was 'the indwelling principle of change immanent in phenomena'.⁸⁵ Harvey probably saw Glisson's elaboration of his theories in the 1670s as particularly dangerous, a view which was to receive confirmation at the end of the century. But the later materialists also put to good use the writings of Thomas Willis.

Willis, Material Souls, and Animal Brains

Boyle was also hostile to the chemistry of Thomas Willis, whose conception and use of 'spirit' in *De fermentatione* (1659) were condemned in *The Sceptical Chymist*, as a result of which Willis revised his views on the subject and on the origin of vital heat.⁸⁶ The complexity of the scientific and theological questions raised by discussions of matter and the soul are clearly seen in the case of this Oxford physician, whose works played an important role in encouraging

⁸⁰ Boyle, *A Free Enquiry*, p. xxii.

⁸¹ Henry, 'Occult Qualities and the Experimental Philosophy'.

⁸² Boyle, *A Free Enquiry*, 39.

⁸³ *A Free Enquiry*, 47.

⁸⁴ *A Free Enquiry*, 142.

⁸⁵ McGuire, 'Boyle's Conception of Nature'.

⁸⁶ Clericuzio, 'Carneades and the Chemists', 87 and *Elements, Principles and Corpuscles*, 149–50.

monistic accounts of thought production. His influential work on the brain is most obviously relevant to this debate, but according to one historian his views on matter and animal spirit ‘reinforced the belief in a substance endowed with life, motion and sensibility, and which was distinct from the soul: this belief provided an important component—hitherto undervalued—of the physiological basis of eighteenth-century materialism’.⁸⁷ Willis, a respected figure in Restoration England whose lectures were attended by John Locke among others, was one of the post-Harvey generation of Oxford physiologists who contributed in the 1650s and 1660s to the development of the new science against Aristotelian tradition. He adopted Gassendi’s atomism, which the royalist exiles got to know in France in the 1650s. He was at first mainly influenced by chemistry and conducted informal anatomy classes in the 1650s, before being appointed Sedleian Professor of Natural Philosophy in 1660 and directing a series of collective anatomical investigations, particularly on the brain.⁸⁸ While representing a different medical tradition from Glisson, being anti-Aristotelian and an atomist, in fact, as Lester King writes, he ‘shows an intermingling of different intellectual strands’ which demonstrates ‘clearly the futility of pursuing any schema of paradigms’.⁸⁹ His view of matter as living was doubtless influenced by Glisson’s discussion of spirits.⁹⁰

Willis explained animal workings by means of a dual material soul accounting for all vital functions except reason in humans. The vital soul, compared to a flame, is contained in the blood, which ‘is animate or hath life’, and ‘this Animation is in its accension or inkindling’.⁹¹ When according life and feeling to a particular organization of atoms he referred to the authority of Harvey. In *De fermentatione*, which defines fermentation as ‘an intestine motion of Particles’ in which the more subtle particles try to fly away from the more solid, thus leading to changes, he writes: ‘The first beginnings of Life proceed from the Spirit Fermenting in the Heart, as it were in a certain little punct’.⁹² Willis rethought in corpuscular terms the chemical notion of fermentation, already important for Van Helmont,⁹³ and his conception of fermentation as the internal motion in matter productive of heat instead of the result of the action of specific ferments (which was Van Helmont’s view) could encourage a dynamic view of matter. His explanation of a large number of physiological functions by fermentation, for which he was derided by Charleton (who, like others, criticized him for too much unsupported speculation), is linked to his emphasis on the spirits, ‘Substances

⁸⁷ Clericuzio, ‘The Internal Laboratory’, 72–3.

⁸⁸ See Isler, *Thomas Willis 1621–1675*; Frank, *Harvey and the Oxford Physiologists*, and Zimmer, *Soul Made Flesh*.

⁸⁹ King, *The Philosophy of Medicine*, 14.

⁹⁰ Clericuzio, ‘The Internal Laboratory’, 59–61.

⁹¹ Willis, ‘Of the Accension of the Blood’, in *Five Treatises*, 24–5.

⁹² Willis, *The Remaining Medical Works*, 9, 13. See also Debus, *Chemistry and Medical Debate*, 66–70.

⁹³ Frank, *Harvey and the Oxford Physiologists*, 165.

highly subtil and Ætherial Particles' created by God as 'the Instruments of Life and Soul, of Motion and Sense'.⁹⁴ While admitting that the origin of the animal spirits in the brain is 'very much in the dark', he explains their formation by fermentation and by the 'spirituous, volatil, and subtil Particles' of the blood being 'drunk up by the spongy substance of the Brain' and from there purified and distributed around the body by means of the nerves.⁹⁵ But he does not go into any more detail, later prudently stating simply that they come from the blood and referring to the experiments of Glisson and Wharton.⁹⁶ When Willis later developed his views on the origin of life as consisting in the fermentation of the vital spirits he was attempting to explain more clearly the 'enkindling' of the blood by chemical processes. In *Pathologiae cerebri et nervosi generis specimen* (1667), where various types of 'convulsions' are attributed to the disfunctioning of the brain and circulation of spirits in the nerves, he expounds a theory, defended by the Paracelsians, that muscular motion results from an 'explosion' of spirits in contact with nitro-sulphurous particles.⁹⁷ He expanded on the nature and function of the animal spirits in *De anima brutorum* (1672), where the influence of Gassendi is evident. He distinguished the vital soul, compared to a flame in the blood, from the animal spirits distributed by the nerves, which are compared to light. Both these material souls are in turn carefully distinguished from the rational soul, which is immaterial. He explains how the corporeal soul is transmitted and creates a new being:

Because a certain heap of animal Spirits, or most subtil Atoms, or a little Soul not yet inkindled, lies hid in the Seminal humour; which having gotten a fit cherishing or Fire-place, and at length being inkindled from the Soul of the Parent acting, or endeavouring, or leaning to it, as a flame from a flame, begins to shine forth, and to unfold it self, a little before the Foundations, or first ground-work of the body is lay'd.⁹⁸

This soul kindles the matter to form the body, in a process that is the result neither of the fortuitous concourse of atoms (thus avoiding the taint of Epicurean atheism) nor of the soul's energy, but according to the primitive types God originally ordained. Willis was a sincere believer in the orthodox faith of the Church of England (to the extent of allowing ejected Anglican clergymen to hold services in his house in Oxford during the revolution),⁹⁹ but this did not prevent him from developing ideas about the activity of matter which could encourage unorthodox speculation. He describes the sensitive soul as consisting

⁹⁴ Willis, *The Remaining Medical Works*, 3.

⁹⁵ *The Remaining Medical Works*, 14–15.

⁹⁶ *The Remaining Medical Works*, 63; see Meyer and Hierons, 'On Thomas Willis's Concepts of Neurophysiology', 148.

⁹⁷ *An Essay of the Pathology of the Brain and Nervous Stock*, 1; Debus, *Chemistry and Medical Debate*, 72.

⁹⁸ Willis, *Two Discourses concerning the Soul of Brutes*, 29. Canguilhem, one of the first modern historians to insist on Willis's importance, emphasized the great difference between Willis's and Descartes's conceptions of the spirits: *La Formation du concept de réflexe*, 62 ff.

⁹⁹ Isler, *Thomas Willis*, 13.

of the most subtle particles of matter, compared to 'Beams of Light sent from a Flame', distilled in the brain and cerebellum:

These most subtil particles are called the Animal Spirits, and first of all entering the Cortical Substances of those parts, and from thence flowing into the *Meditullia* or middle parts of either of them, and into the Oblong and Spinal Marrow, and further into all the Nerves and Nervous Fibres, dispersed thorow the whole Body, Constitute the other and more noble part of the Corporeal Soul, commonly called the Sensitive, by us the Lucid or Etherial.¹⁰⁰

He opposed the strict dualism of Cudworth and More, insisting that matter is not purely passive and only capable of being moved by an outside force. On the contrary, the atoms composing all material objects are active, self-moving, and capable of sensation; the only difference between an insensitive and a sensitive body is that is between 'a thing unkindled, and a thing kindled'.¹⁰¹ The material animal soul distributed throughout the body is not only responsible for all the living being's functions but can also perceive, learn, and form certain judgements.¹⁰² Despite insisting on the immateriality and immortality of the human soul, Willis was acutely aware of the dangers inherent in his views, particularly in his espousal of a material soul which accords activity, life, and sensitivity to matter. That is why, in his dedication of *De anima brutorum* to the Archbishop of Canterbury, Gilbert Sheldon, he admits the difficulty of what he is trying to do and the possibility of being censored by both the Church and the Schools, and appeals to Sheldon to continue his protection in the face of probable criticism. Willis's works are also interspersed with remarks emphasizing that the study of anatomy, including the brain, can only reinforce religion. In *Cerebri anatome*, for example, he points out that the dissection of animals reveals miracles, 'shewing the finger and Divine workmanship of the Deity', and thus 'a most strong and invincible Argument may be opposed to the most perverse Atheist';¹⁰³ in the dedication of the same work to Sheldon he had insisted that the study of the workings of the body could only serve to glorify their creator. Such precautions did not prevent his views on the flamey soul being attacked by Henry More as 'psychopyrism'.¹⁰⁴

According to Hansruedi Isler *De anima brutorum* 'is an attempt to make mental diseases a subject of wordly medicine in spite of the fact that "soul" is involved in these disorders; it is an attempt to enforce the competence of medicine in dealing with psychical problems'. Although Isler also says, insisting on the animism of Stahl, that it is part of a 'trend towards replacing chemical explanations by psychical and mechanistic or materialistic thinking by energetic

¹⁰⁰ Willis, *Two Discourses concerning the Soul of Brutes*, 23.

¹⁰¹ *Two Discourses concerning the Soul of Brutes*, 33.

¹⁰² See Wright, 'Locke, Willis, and the Seventeenth-Century Epicurean Soul'; Duchesneau, *Les Modèles du vivant*, 85–117.

¹⁰³ Willis, *Five Treatises*, 73.

¹⁰⁴ More, *An Answer to a Letter of a Learned Psychopyrist*.

and vitalistic thinking',¹⁰⁵ things are not quite so simple. It is not difficult to see why Willis's work should have attracted the attention of those wanting to elaborate a material account of the mind divorced from an immaterial soul which, his recent biographer says, he buried 'deep within the brain, a prisoner of its fleshy structures and weaknesses',¹⁰⁶ and it probably played some role in John Locke's view of the soul.¹⁰⁷ But far from constituting a rejection of chemical explanations, Willis's discussions of the brain and the animal soul are seen by other historians as representing 'a chemical re-interpretation of animal spirits'. In their view this reinterpretation played an important role in the physiology of sensation in the late seventeenth century and the first half of the eighteenth and provided 'a viable alternative to the Cartesian theory of sensation'.¹⁰⁸ This was, however, not the only possible model of life. John Mayow, whose *Five Treatises* have already been mentioned, criticized Willis's opinion that the blood's heat is not produced by fermentation and his description of the animal soul as a flame or light. He explained the fermentation of the blood, and therefore its heat, by nitro-aerial particles fermenting with saline-sulphurous particles, 'so that we do not need to have recourse to an imaginary vital flame that by its continual burning warms the mass of the blood, much less to affirm a degree of heat in the blood intense enough to produce light, from the rays of which, transmitted to the brain, the sensitive soul is supposed to be produced'; he concluded: 'Truly, fires of this sort and new lights, no less in anatomy than in religion, have always seemed to me vain and fanatical'.¹⁰⁹ Although Mayow was apparently not very well known at the time, he seems to have influenced William Coward, as we shall see.

But Willis is important in our story not only for his conception of active matter and material soul but also for his primary contribution to medical history, namely his study of the brain. Willis's research programme on the brain, conducted with the help of colleagues such as Richard Lower, resulted in detailed descriptions illustrated by precise drawings of dissections (many done by Christopher Wren). The results of this research were first published in *Cerebri anatome* and further developed in *De anima brutorum* after criticism that he had provided insufficiently detailed descriptions of the brain. The 1672 work thus presented a 'more accurate anatomy of Brain', revealing the 'more secret passages of the Spirits',¹¹⁰ and explained in detail the workings of sensation and perception. Willis's books were particularly important for their attempts to localize brain functions, distinguishing between the cortical substance responsible for the extraction of the animal spirits from the blood and the medullary, which serves to

¹⁰⁵ Isler, *Thomas Willis*, 172–3.

¹⁰⁶ Zimmer, *Soul Made Flesh*, 229.

¹⁰⁷ See Wright, 'Locke, Willis, and the Seventeenth-Century Epicurean Soul'.

¹⁰⁸ Clericuzio, 'The Internal Laboratory', 67.

¹⁰⁹ Mayow, 'On Sal Nitrum and Nitro-Aerial Spirit', in *Medico-Physical Works*, 105–9.

¹¹⁰ Willis, *Two Discourses concerning the Soul of Brutes*, 25.

distribute them.¹¹¹ The production of the animal spirits, compared to distillation in an alembic, takes place in the cerebellum, which is the seat of involuntary movements. He claims to have deduced from observation, analogy, and reflection 'that the Cerebel is a peculiar Fountain of animal Spirits designed for some works, and wholly distinct from the Brain. Within the Brain, Imagination, Memory, Discourse, and other more superior Acts of the animal Function are performed; besides, the animal Spirits flow also from it into the nervous stock . . .'.¹¹² He is thus said to have made a step towards the understanding of reflex action, distinguished from sensation and taking place in the cerebellum, while voluntary movements and sensation take place in the cerebrum.¹¹³ He believed he could situate the *sensorium commune* or common sensory, the centre of perception (generally understood as being the seat of the soul), in the *corpus striatum*, where the nerves converge. The images then affect the *corpus callosum*, where perception and imagination take place, and are stored in the cerebral cortex as memories.¹¹⁴ Historians have pointed out his errors and the fact that his localizations were based on a mixture of observation and pure speculation, but what is of interest here is the attempt, in itself new, to situate mental functions in particular parts of the cerebral cortex.¹¹⁵ It has been said that a new era began with Willis, who founded experimental brain psychology, or that 'more than any other individual, Thomas Willis ushered in the Neurocentric Age'.¹¹⁶ His writings could easily be used by those who wished to explain intellectual functions in terms simply of the workings of the brain. Marc Jeannerod observes that dividing up the mind into differentiated intellectual functions taking place in different parts of the brain helped to undermine the idea of the indivisibility of the soul and was a necessary condition for 'destroying the concept of soul'.¹¹⁷ Willis also insists on the similarity of human and animal brains, an important point with eighteenth-century materialists, who abandoned his belief in the intellectual human soul and used comparative anatomy to show that humans are only more elaborate animals and not radically different beings. As William Bynum points out, Willis does seem at times to be saying that the different capacities of humans are accounted for by a different organization:

. . . from the mixture of anatomy, physiology, metaphysics, and theology which constitutes his work two sometimes conflicting views of man's nervous system emerge: (1) that it is much more complicated and refined than the nervous system of any other animal, anatomical proof that God created man as a rational creature and animals as irrational creatures; (2) that the nervous systems of man and the quadrupeds are so analogously

¹¹¹ Willis, *Cerebri anatome*, 68. ¹¹² Willis, *Five Treatises*, 111.

¹¹³ See Canguilhem, *La Formation du concept de réflexe*.

¹¹⁴ Willis, *De anima brutorum*, 43–4.

¹¹⁵ See Meyer and Hierons, 'On Thomas Willis's Concepts of Neurophysiology'.

¹¹⁶ Neuburger, *Die historische Entwicklung der experimentellen Gehirn- und Rückenmarksphysiologie vor Flourens*, 6; Zimmer, *Soul Made Flesh*, 240.

¹¹⁷ Jeannerod, *Le Cerveau-machine*, 19.

constructed, so similar in form and function, that some immaterial principle in man must be postulated in order to account for the mental differences between men and animals.¹¹⁸

Bynum claims that it is Willis's linking of structure and function which creates problems as it cannot alone account for the differences between humans and animals. As Willis provided no physiological basis to account for humans' superior capacities both of his positions, once removed from his own theological context, could later be used to reinforce explanations in terms of matter alone. This contrasts with Henry More's discussion of the seat of the soul in *The Immortality of the Soul* (1659), where the animal spirits are described as the instrument of the soul, and the function of the brain and the nerves 'is to keep these *subtile Spirits* from overspeedy dissipation; and that the *Brain* with its Caverns is but one great round *Nerve*'.¹¹⁹ It is obvious why he continued to ignore Willis's research and to maintain that the brain was not complex enough for any other function.¹²⁰ Bynum also notes the difficulties of John Ray, whose natural theological arguments included a discussion of the relationship between animals and humans. In 1691, curiously, Ray lists Willis together with Descartes and Gassendi as believing that animals are machines, an opinion Ray rejects, providing examples to show that animals are 'endued with a lower degree of reason'; 'having the same members and organs of sense as we have, it is very probable that they have the same sensations and perceptions with us'. He accords them an immaterial but not necessarily immortal soul but avoids further discussion of the question, simply referring to More, Cudworth, Descartes, Willis, and others.¹²¹ In the later editions of the same work his position is further elaborated, and he uses the same argument as Willis, namely that animals like the orang-utang have the same brain as humans but not the same intellectual capacities, which can be performed only by an immaterial soul and not by a particular organization of matter.¹²² In a similar vein, when John Turner, Vicar of Greenwich, attacked Blount's *Oracles of Reason* he followed Willis's account of the two-fold sensitive soul.¹²³ He also used that 'excellent and judicious' man's work in his demonstration of the soul's immortality, quoting at length the account of the working of the brain given in *De anima brutorum* and Willis's argument that humans' superiority to animals can only be accounted for by an intellectual soul.¹²⁴ On the other hand, John Hancock criticized Willis in his 1706 Boyle lecture, *Arguments to Prove the Being of God with Objections against it Answered*, claiming that the brain, the immediate instrument of inward sensations, thought, and understanding, 'is of a clammy and unactive Nature and

¹¹⁸ Bynum, 'Anatomical Method, Natural Theology, and the Functions of the Brain', 447.

¹¹⁹ More, *The Immortality of the Soul*, 130. ¹²⁰ Henry, 'The Matter of Souls', 105.

¹²¹ Ray, *The Wisdom of God Manifested in the Works of the Creation*, 38–9.

¹²² *The Wisdom of God Manifested in the Works of the Creation*, 4th edn., 421 ff. Here he quotes E. Tyson.

¹²³ Turner, *A Phisico-Theological Discourse*, 53.

¹²⁴ *A Phisico-Theological Discourse*, 88–105.

Substance; and seems as far as we can judge of it, to be a meer passive Principle, as to the Acts of inward Sensation and Intellection'. He seems to have Willis in mind when he states: 'the Animal Spirits are not any hot and glowing Particles, nor at all of a fiery Nature, but rather a liquid Juice, of a watery Substance'.¹²⁵ As we shall see, Hancock was reacting to the arguments of people like Coward, who illustrated the dangerous use to which others could put Willis's explanation of brain function in terms of structure and recourse to a material type of soul. But before going on to look in more detail at how these medical explanations and theories were used to support a material explanation of human beings at the end of the century, we need to look briefly at some medical works published outside England. Although they were not mentioned by the English authors of the late seventeenth century, their authors were grappling with the same problems. They undoubtedly had an influence on French discussions of the soul and can help to throw light on the impact of medical debates and the factors influencing the French reception of the English works.

Lamy and Perrault

There are a certain number of similarities between Willis and his contemporary Guillaume Lamy, an Epicurean physician, disciple of Gassendi, and member of the Paris Medical Faculty, although the differences are also significant. Lamy is not in the same league as the distinguished Willis, whose contribution to the study of physiology is recognized. He deserves a place here because of the link made in his work between medicine and the debate on the soul and his contribution, in France at least, to materialistic speculation although there is no trace of his influence in England.¹²⁶ Although Lamy took part in several high-profile medical disputes (opposing ovism and blood transfusion and defending the use of antimony)¹²⁷ and expressed his opinions in an extremely polemical manner, little is known about his life beyond what he recounts in the letters which preface his *Discours anatomiques*. He denounces the machinations of his enemies to prevent him obtaining permission from the faculty to publish the work and claims he was sanctioned for publishing it at Rouen in 1675 without authorization.¹²⁸ Lamy's works subordinate medical explanations to philosophical principles, namely the refusal of any but mechanical explanations. He rejects final causes and what he considers to be hypotheses unsupported by evidence, reproaching his adversaries for having recourse to hypotheses rather than to clear mechanical explanations.

¹²⁵ *A Defence of Natural and Revealed Religion*, ii, 243.

¹²⁶ Ricuperati claims that William Coward had studied and translated Lamy, but provides no proof: 'Il problema della corporeità dell'anima dai libertini ai deisti', 381.

¹²⁷ See Metzger, *Les Doctrines chimiques en France*, 223–6.

¹²⁸ See Belgrado, 'Introduction' to Lamy, *Discours anatomiques. Explication mécanique et physique des fonctions de l'âme sensitive*.

Thus, adopting Gassendi's account of reproduction, he mercilessly mocks the theories of Harvey and after him Graaf and Swammerdam, describing ovism as an inconceivable fantasy unsupported by the evidence. He argues from form to function, asking why a woman should have two 'ovaries' and only produce one fertile egg, while hens produce several from a single ovary.¹²⁹ His principles are laid out in *De principiis rerum: liber tres* (1669), in which he describes the three main systems opposed to mystical and magical thought, namely the Aristotelian, Cartesian, and Epicurean. He comes down firmly on the side of the Epicurean and, despite denying it is contrary to Christian faith, he espouses the irreligious aspects of this philosophy that others did not, namely anti-finalism and the explanation of the world's origin by chance encounters of atoms. The appendix to this work, on fermentation, indicates an interest in chemistry, also seen in his defence of antimony, where he says that he is willing to take from Paracelsus and Van Helmont whatever seems to agree with observation and experiment.¹³⁰ His physiological explanations favoured Descartes's version of the circulation of the blood over Harvey's because it corresponded more closely to his mechanistic outlook.¹³¹ He thus often follows Descartes while rejecting his dualism.

Lamy described human anatomy and the functioning of the brain in two works. The first, *Discours anatomiques* (1675), has a preliminary letter recounting how the manuscript was found by a traveller in an inn and published without the author's permission; this stratagem, common in heterodox or 'libertin' works, seems to place Lamy's in this tradition, as do his references to the notorious Cyrano de Bergerac.¹³² The second, *Explication mécanique et physique des fonctions de l'âme sensitive*, appeared with the approval of the Paris faculty in 1677. In *Discours anatomiques*, public anatomy lectures given in Paris on a female corpse, Lamy begins by saying that he cannot believe the world was created for humans as rulers of the universe and justifies this view by comparing humans with animals and emphasizing our ignorance. He is aware, or possibly wishes to make his readers aware, that his position is generally seen as irreligious, as at the beginning of his second lecture he both claims that it can be reconciled with religion and appeals to his readers to listen to him with an open mind.¹³³ He states unambiguously that the different parts of the body are produced purely by matter and motion due to a necessity inherent in the nature of the atoms composing them, without intentionality or purpose. Their functions are the result of their existence. In his description of the functioning of the different parts of the body, which takes up a large part of the lectures, Lamy seizes every occasion to hammer

¹²⁹ Lamy, 'Dissertation contre la nouvelle opinion, qui prétend que tous les animaux sont engendrés d'un œuf', 195.

¹³⁰ Guillaume Lamy, 'De natura & modo fermentationis', in *De principiis rerum*, 326 ff; *Dissertation sur l'antimoine*, 173–5.

¹³¹ Lamy, *Discours anatomiques*, 9 ff.

¹³² See Spink, *French Free-Thought from Gassendi to Voltaire*, 48–66.

¹³³ Lamy, *Discours anatomiques*, 59.

home his point, remarking on parts of the body that seem to have no use or which can be harmful. He generally follows Cartesian physiology, particularly in his description of the circulation of the blood, but, possibly influenced by Willis, he attributes the movement of the blood also to an 'elastic virtue' in several of the heart's fibres and the arteries. The elastic virtue of nerve fibres is also used in the explanation of muscle movement in *Explication mécanique et physique*.¹³⁴ Willis's influence on Lamy is particularly evident in the description of the brain in the sixth lecture, which largely follows *Cerebri anatome*; but while adopting Willis's view that the animal spirits or material animal soul are responsible for movement and sensibility Lamy clearly implies that there is no other soul. He summarizes the different philosophical versions of an immaterial soul, about which he expresses doubts, criticizing particularly Cartesian thinking substance and animal-machines. Lamy's conclusion is that the animal spirits or soul are the same as the human soul, and he posits a material soul of the world, a fire without flame, in the Stoic tradition:

It is certain that there exists in the world a very subtle spirit or a very fine and always mobile matter, the greatest part of which and, so to speak the source, is in the sun, and the rest is distributed in all the other bodies, more or less, according to their nature and their consistency. It is certainly the soul of the world, which governs and enlivens it, and all of whose parts possess a portion of it. It is the purest fire in the universe, which does not burn of itself but, by the different movements which it gives to the particles of the other bodies in which it is enclosed, it burns and gives off heat.¹³⁵

In order to feel and perceive, this spirit must be associated with a particular organization of organs and mixture of humours. Lamy's mechanistic emphasis meant that he did not follow those who attributed activity to all matter, but despite his reference at the end of the lecture to the immaterial immortal soul taught by faith,¹³⁶ he was clearly interpreting Gassendi and Willis in a materialistic sense. When replying at length to Pierre Cressé's accusation that he had cast doubts on the soul's immortality, he affirmed, 'I am persuaded of it by faith as a Christian: I am not at all convinced of it, I admit, as a philosopher'.¹³⁷ Although some scholars have interpreted this as an expression of fideism,¹³⁸ it is not difficult to see why he was taken to be a freethinker and even an atheist. Lamy went into more detail about the material sensitive soul in his next work, claiming that it is a particular type of very subtle matter (the only type capable of perception), which constitutes the spirits in the nerves and the soul in the brain. He explained each type of sensation and passion by the traces left by animal spirits in the brain, but his description of the voluntary motion of the muscles

¹³⁴ Lamy, *Discours anatomiques, Explication mécanique et physique*, 175.

¹³⁵ Lamy, *Discours anatomiques*, 104. See Ch. 5 below for the use of this passage in irreligious works.

¹³⁶ Lamy, *Discours anatomiques*, 106. ¹³⁷ *Discours anatomiques*, 121.

¹³⁸ Matton, 'Raison et foi chez Guillaume Lamy'.

is closer to that of Willis, as the animal spirits are said to be sent out from the sensitive soul in the brain through the nerves like rays of light.¹³⁹ Although he claims to be discussing only the sensitive soul, he refers on several occasions to it as 'thinking' about present or absent objects. In addition, his indignant reference to the probable accusation made by his enemies that what he says about the sensitive soul could apply equally to the reasonable soul looks like a way of insinuating this conclusion in the mind of his readers.¹⁴⁰ This conclusion is reinforced by the similarities mentioned elsewhere between humans and animals and the reference in his sixth anatomical lecture to the way the intellect is affected by states of the body.¹⁴¹ Here again, Lamy's medical descriptions seem to be subordinated to an ever-present philosophical aim. His books provide an example of how a mechanistic physiology linked to Epicurean philosophy could draw on both Descartes and Willis in an attempt to provide, or at least to imply, a materialistic explanation of humans which could not be openly proclaimed.

It is interesting to compare Lamy's works with those of a contemporary of his who also developed Cartesian mechanism in an unexpected and in many ways opposite direction and whose theories could likewise be used to support materialistic theories, but in this case despite his clear intentions. Claude Perrault, who became in 1642 'docteur-régent' of the Paris Medical Faculty and then professor of physiology and pathology, is probably better known today for his architectural writings than for the physiological observations he presented to the Académie des Sciences, later published as *Essais de physique* (1680).¹⁴² His physiology has been interpreted as a particular reaction to Cartesian philosophy, which turns mechanism into a type of animism, accepting strict dualism but placing the soul in contact with all parts of the body. François Azouvi has analysed the difficulties Perrault perceived as resulting from strict dualism, particularly in relation to animals, as the evidence that they provide of some type of reflection excludes the animal-machine hypothesis intended to safeguard the unique nature of the immortal human soul.¹⁴³ Perrault explains in mechanical terms how the body functions by local movement which can take place invisibly within bodies under the impulsion of compression. The bodily fibres possess 'spring' or elasticity, which is the capacity of the indivisible corpuscles or particles constituting matter to join together. There seems to be an internal movement of corpuscles within the fibres which is not the result of the action of the blood or animal spirits and is said to happen due to an 'internal disposition' under an external impulsion.¹⁴⁴ In simple living organisms like plants the internal principle is merely the particular arrangement created at the beginning of the world, but in animals it is their soul, which directs the organism in the same way that an

¹³⁹ Lamy, *Discours anatomiques*, 174.

¹⁴⁰ *Discours anatomiques*, 156.

¹⁴¹ *Discours anatomiques*, 95–6.

¹⁴² For an account of his life and works, see Picon, *Claude Perrault 1613–1688*.

¹⁴³ Azouvi, 'Entre Descartes et Leibniz'.

¹⁴⁴ Perrault, *Essais de physique*, 3–4; see Rey, *Naissance et développement du vitalisme*, 38–9.

organist plays an organ (a comparison taken from Descartes).¹⁴⁵ As François Duchesneau has shown, Perrault's mechanism was developed in opposition to two alternative physiological models: faculties inherent in organized matter and recourse to purely mechanical causes.¹⁴⁶ Rather than having its seat in the brain (which simply produces the animal spirits) and receiving sensations through the nerves, the soul is in contact with every part of the body by means of the most mobile part of matter, namely the spirits. For Perrault, the theory that the nerves transmit images from the sense organs to the brain where the soul receives them leads to too many problems, particularly in connection with the way in which animals react to sensations. But as by its very nature the soul always thinks, Perrault needs to explain why we are not aware of all of this thought. To do this he makes a distinction between two types of thought, which he calls 'distincte' and 'négligée et confuse',¹⁴⁷ or in other words between conscious and unconscious activity. This allows him to attribute all motion to the action of the soul. While other dualists explained the disruptive effects on thought of illness and fevers by saying that the organs used by the soul to fulfil its functions are disturbed, he claims that the soul is busy regulating the body's heat and fighting disease, and thus cannot act outwardly in thought. To avoid absurd conclusions (for example that new-born infants who carry out their corporeal functions perfectly might be said to reason better than philosophers) Perrault also makes a distinction between reason corresponding to the internal, confused, obscure, habitual thought—which exists in animals and is responsible for basic vital functions—and external reason, which is clear, deliberate, and distinct.¹⁴⁸ Thus, although Perrault relies on mechanistic explanations and postulates a separate soul, he blurs the distinction between the two substances by insisting on the union of the soul with all parts of the body, in a way which is not explained and which is inexplicable.¹⁴⁹ In addition, his original hypotheses go beyond a simple dualism of undifferentiated matter and soul, as can be seen in his explanation of generation. Rejecting contemptuously philosophical theories which postulate 'a formative faculty' separate from God's power, he denies that animals can be created by the ordinary forces of nature, or that the soul can act directly on homogeneous matter to create organs, as it needs already created organs and thus a fully formed body to operate in. He therefore supposes the existence, disseminated inside inanimate bodies, of germs or tiny composed and organized bodies capable of receiving life. Generation is simply the opening up of their closed conduits by fermentation so that they can receive nourishment and thus life. This hypothesis supposes the existence of two types of bodies, one of which is not yet alive but is capable of life as a result of fermentation. The fermentation of male sperm is perfected by the imagination and sexual passion

¹⁴⁵ Perrault, *Essais de physique*, 329; see Descartes, 'Traité de l'homme', 165.

¹⁴⁶ Duchesneau, *Les Modèles du vivant*, 277.

¹⁴⁷ Perrault, *Essais de physique*, 273.

¹⁴⁸ *Essais de physique*, 282.

¹⁴⁹ *Essais de physique*, 518.

and leads to conception in the female.¹⁵⁰ Perrault admits that we do not know what created the subtle substance that penetrates the inanimate germs in order to give them life, but he demonstrates how his theory can explain the phenomenon of generation and also the regeneration of parts by some animals.

His system, which relies on purely mechanical models, is an attempt to solve the difficulties involved in Cartesian mechanism,¹⁵¹ but we also need to see it in the light of contemporary medical thought and the alternative explanations that we have seen for movement and sensibility in both animals and humans. He certainly knew the work of Glisson on the liver, which he discusses in connection with his own observations concerning the liver and the bile duct.¹⁵² We can therefore wonder how far he was influenced by Glisson's view of irritability and about the connections between Perrault's and Glisson's theories in general. It has been suggested that Perrault's view of the fibres as having 'spring' or a natural state of tension paved the way for the theories of both Glisson and Stahl,¹⁵³ but the chronology makes this unlikely. Claude Perrault clearly provides a partially animistic solution to the question of life, animal movement, and sensibility which runs counter to Glisson's view of energetic substance. Nevertheless his distinction between conscious and unconscious thought, his discussion of the functioning of the body by means of a confused and habitual unreflecting 'natural knowledge', and his insistence that the particles of the living body are in continual movement have analogies with certain aspects of the English works we have been discussing, however different their basic assumptions. He explains the continued beating of the heart after its separation from the body by saying that the soul is still joined to it, in the same way as it was joined to the heart in the first moments of generation when that organ alone was animated. But he attributes the contraction of separated muscles in reaction to a stimulus by the continuing disposition of the spirits, humours, and fibres; their natural 'spring' makes them return to their natural disposition as the spirits are evacuated. It is thus the natural tension in the muscle fibres which causes their contraction.¹⁵⁴ This explanation of reflex action did not contradict hypotheses concerning the inherent life in organized matter, and his recourse to the chemical notion of fermentation should also be noted. As we shall see later, despite Perrault's ascription of the life of the body to the soul, his work could be seen as supporting materialistic thinking that dispensed with an immaterial soul.

Perrault's refusal to situate the soul at the origin of the nerves in the brain was shared by another physician who published a different alternative to Cartesian physiology and dualism. Abraham Gaultier was a Protestant physician who, after

¹⁵⁰ *Essais de physique*, 482–8.

¹⁵¹ Azouvi, 'Quelques jalons dans la préhistoire des sensations internes'.

¹⁵² 'Description d'un nouveau conduit de la bile', *Essais de physique*, 142 ff.

¹⁵³ Bastholm, *The History of Muscle Physiology from the Natural Philosophers to Albrecht von Haller*, 177.

¹⁵⁴ Perrault, *Essais de physique*, 594–5.

a few years of exile in Holland, where he had written for an ephemeral learned journal, the *Mercure savant*, returned to France and to the Catholic faith in 1685, living a life of outward conformity in Niort. It was there that he published in 1714, with official approval, a rather strange work with an interminable title beginning *Réponse en forme de dissertation à un théologien . . .*; it expounded a 'sceptical' system explaining animal life in terms of matter and its properties. He particularly uses Harvey's analysis of the development of the chick embryo in the egg to demonstrate the functioning of 'radical humidity' or sap as the principle of life and to argue, against Descartes and Willis, that the soul does not have its seat in the brain.¹⁵⁵ For Gaultier, feeling in animals is the result of the action of various living but insensitive parts produced by the natural sap, such as tissues, humours, and blood, which come together to form the organs. Animal soul is nothing but the life of the animal and consists only in the functioning of their bodily organs; death is simply the cessation of that functioning. That is why he says that life and death are the same thing and 'substance, which is the subject of it, is the same whether it is dead or alive, as it conserves in life and death all its essential properties'.¹⁵⁶ His description of how the animal gradually declines by slow degrees until it dies is similar to Charleton's, quoted above. Although he discusses mainly animals, he does also ascribe human behaviour to the sap, showing how bodily changes affect feelings and habits. The whole work is rather confused and disorganized, but Gaultier clearly rejects ancient and modern atomism and the vacuum, as well as the theory of animal spirits defended by Willis or Lamy. He also attacks at some length both Malebranche and Spinoza, who, although they developed Cartesianism in different directions, both fill the universe with an infinite number of gods. Instead, Gaultier sees the 'spring' or elasticity of the air as the source of natural phenomena, including fermentation. Olivier Bloch suggests that he may have taken this notion from Lamy but his thinking is also similar to the theories of John Mayow and Henry Power.¹⁵⁷ Gaultier claims that this natural force has been deified by according it an intelligence that it does not possess and uses it to explain phenomena like winds, earthquakes, and fire: 'It also supports animal life, it begins, continues, and completes generation, it even makes other compounds: it forms their sap or essences, constructs their bodies on this basis, and gives each the qualities appropriate to them. Finally, this force is everywhere and appears to make all sublunary generations and corruptions, without exception'.¹⁵⁸ Gaultier's book contains a mixture of anatomical description, much of it taken from Harvey, and philosophical discussion. He was clearly influenced by the chemical tradition and also by Pierre Bayle's Pyrrhonism (probably the result of his involvement in journalistic circles in Holland),¹⁵⁹ despite his rejection of Bayle's Cartesianism.

¹⁵⁵ Gaultier, *Réponse en forme de dissertation*, 134–7, 150–3.

¹⁵⁶ *Réponse en forme de dissertation*, 184–5.

¹⁵⁷ *Réponse en forme de dissertation*, 175.

¹⁵⁸ *Réponse en forme de dissertation*, 177.

¹⁵⁹ See article by Olivier Bloch in Sgard, *Dictionnaire des journalistes*, i, 337–9.

The result is an eclectic work attempting to provide a materialistic conception of animals, and by implication of humans, based on active matter which possesses its own motive force. Although he avoids discussing intellectual activity, his criticism of substance dualism leads him to refute Descartes's arguments for an immaterial immortal soul, although he affirms that this belief is commanded by the Church and the word of God. He also denounces the Cartesian view of God as leading to mysticism and fanaticism.¹⁶⁰ This may place him in the Protestant tradition of hostility to a separate immaterial soul, but his denial of the existence in nature of good and evil, or justice and injustice, makes one wonder about his true aim.¹⁶¹ Despite the final section of the work reaffirming the supremacy of theology over philosophy, it was certainly read as irreligious and a version of it entitled *Parité de la vie et de la mort* circulated clandestinely in both manuscript and printed form in the eighteenth century, usually with an irreligious preface or conclusion.¹⁶² Several of the themes of Gaultier's work are discussed in the two numbers of the *Mercure savant* for which he wrote in 1684 and which report work on generation and medicine; these include a denunciation of bloodletting based on the fact that the blood is life, accounts of work by Leeuwenhoek or Boyle, and an explanation of sensation in terms of sensitive matter casting doubt on the movement of animal spirits in the nerves.¹⁶³ The case of Gaultier clearly points to the role of Huguenot circles in Holland in the elaboration of heterodox thought and the use of medical arguments in the irreligious works that circulated clandestinely in France, which we shall look at in more detail in Chapter 5.

We should, however, not forget that there were alternative uses for this medical speculation on life and intelligence. The works of Perrault and Glisson also attracted the attention of Leibniz and possibly played a role in the development of his dynamic view of matter. According to François Duchesneau, Leibniz, whose reflections on life were influenced by biological notions, transformed his version of mechanism in 1689–90 into a dynamic science based on motive force as an internal principle within bodies.¹⁶⁴ Several historians have observed that Leibniz was influenced by some of the hypotheses of active matter that we have seen, in particular the works of Van Helmont and Glisson, which contributed to the elaboration of his philosophy.¹⁶⁵ This reminds us that materialistic monism was not the only possible development of theories of living matter. Very different strands of thought, including Stahl's animism, emerged from the new type of theorization about living bodies at the turn of the seventeenth century and led to a major difference of opinion concerning the relationship between the soul and the living organism. One solution, Claude Perrault's animism (further developed in Stahl's anti-mechanism), was partially taken over by Leibniz to create a new

¹⁶⁰ Gaultier, *Réponse*, 144–8.

¹⁶¹ *Réponse*, 180–1.

¹⁶² See Bloch's edition, which includes the text of this version.

¹⁶³ *Mercure savant*, (1684), 78–82.

¹⁶⁴ Duchesneau, *Les Modèles du vivant*, 320.

¹⁶⁵ Pagel, 'The Reaction to Aristotle in Seventeenth-Century Biological Thought', 509; Henry, 'Medicine and Pneumatology', 42.

dynamic model accounting for activity and feeling in material beings.¹⁶⁶ An alternative, more subterranean, current was that which used the studies of the living organism that we have seen in this chapter to develop a purely material explanation of all animals (including humans) without recourse to an immaterial soul. Leibniz was aware of this danger and denounced it in many writings, insisting that his own system accounted for life and feeling in living bodies in accordance with Christian teaching on immortality. In his exchange with John Toland in 1702, in which the Irish freethinker emphasized how the soul's activities depended on the bodily organs, Leibniz criticized those who taught the extinction of the soul, positing instead that the whole animal composed of soul and body is indestructible. He admitted that both those who claim that the soul can think without the body and those who maintain that animals are unfeeling soulless automata laid themselves open to the arguments of materialists, but he considered demonstrations of the dependence of thought processes on bodily organs to be perfectly compatible with immortality. According to him materialism, pushed to its extremes, 'would only establish confusion and chance, and would destroy, with intelligence and order, not only the natural immortality of the soul but even the existence of the divinity'.¹⁶⁷

As we have seen, the reaction against Cartesianism seems to have been an important element in all of these discussions. On the one hand, the study of living organisms seemed to show that mechanism was insufficient to account for life, and on the other there was resistance to theological arguments based on strict substance dualism which attempted to demonstrate rationally the immortality of the soul from its immateriality and the impossibility of thinking matter. My contention is that these demonstrations in England—from Kenelm Digby through More and Cudworth to Bentley in the first Boyle lectures—led to a reaction from those who did not accept the necessary immateriality of thinking substance and refused to limit God's omnipotence by denying he could make matter think should he so desire. This reaction must not be seen as necessarily anti-Christian; it often betrayed a deep theological preoccupation. As we shall see, speculation on these subjects drew on the evidence provided by biological and physiological research. Historians have emphasized the way Newtonian physics was enrolled in the campaign against such tendencies and used to support theology, in a way that Leibniz himself pointed out in 1698:

I am glad to see that there is a retreat from the too material philosophy which tried to explain everything in bodies by simple modifications of matter, and from the extreme view of those who refused any feeling to beasts and imagined that the actions of bodies only belonged to God. Mr Locke has even retracted what he said in his Essay book 2, chap. 8 § 11, that bodies only act by impulsion, and he promises to want to change it in the first re-edition of his work, having been persuaded by reading that of the excellent

¹⁶⁶ Duchesneau, *Les Modèles du vivant*, 381–4.

¹⁶⁷ *Correspondenz von Leibniz mit Sophie Charlotte*, 181–8.

Mr Newton, that there is attraction in matter even at some distance. Which the very learned Mr Bentley also uses in his fine sermons against atheism, which he preached following the late Mr Boyle's will.¹⁶⁸

But science could be put to other uses. The different strands we have seen come together, in opposition to theological dogmatism, in the materialistic works of the late seventeenth century which defended precisely the ideas dreaded by those like Robert Boyle, who had insisted on the limits of human reason. Locke's hypothesis concerning thinking matter, vigorously combated by Leibniz, seemed to give a certain respectability to materialistic arguments but they did not originate with him; they drew their inspiration also from the Christian heterodox tradition and the wider scientific debate. It is now time to look at the works which put forward these arguments.

¹⁶⁸ Leibniz, *Die philosophischen Schriften*, iii, 228. He returns to the same question in another letter to Thomas Burnett, pp. 259–60.

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Mortalists and Materialists

In late 1702, after his discussions with John Toland in Berlin during the summer, Leibniz wrote to Pierre Bayle criticizing the belief of ‘that learned Englishman’, developed in a commentary on Bayle’s *Dictionnaire* article ‘Dicéarque’, that a particular organization of matter might produce thought.¹ He later had two of Dr William Coward’s books against the immaterial soul sent to him from London (although he says he could have done without them despite the fact that they have ‘made a lot of noise’) and condemned what he saw as the author’s adoption of Hobbes’s corporeal God, his doctrine of ideas, and his conception of matter: ‘I am surprised that he does not see that the principle of self-motion that he accords to matter must be at root an immaterial substance joined to matter; otherwise he is simply changing the terms and understanding by matter something completely different from what has been hitherto understood’.² Leibniz linked Coward’s argument to Locke’s hypothesis of thinking matter (discussed in his contemporaneous comments on Locke’s *Essay*), which had, he claims, inadvertently encouraged such writers; he also provided a summary of the debate and its protagonists, remarking that Toland had also joined in. It is this debate that will be the subject of the present chapter, beginning with the works that preceded Coward’s and Toland’s, which Leibniz was apparently unaware of. In view of the sketchy information we possess on the various protagonists, it is not always easy to situate them precisely on the political and religious spectrum. While Toland’s political purpose is not difficult to fathom and has been spelled out most recently by Justin Champion, those of the other participants are more complex, and although Champion writes that ‘each of these men in their different ways constructed a different account of the nature of the soul which authorized a set of political and religious institutions’, he does not elaborate.³ This is what I shall try to do in what follows, paying more attention to the relatively neglected figures of William Coward and Henry Layton.

¹ Leibniz, *Die philosophischen Schriften*, iii, 68; see Fichant, ‘Leibniz et Toland: philosophie pour princesses?’, and Toland, *Lettres à Serena et autres textes*, 19–60.

² Leibniz, letter to Thomas Burnett, 2 Aug. 1704, in *Die philosophischen Schriften*, iii, 298.

³ Champion, ‘The Men of Matter’.

Henry Layton

Layton (1622–1705), a country gentleman from an ancient family in Rawden in the West Riding of Yorkshire who had published some antiquarian works on coins as well as tracts against pluralities, was described by a neighbour as ‘a memorable old gentleman, . . . a good historian and accomplished gentleman’.⁴ He came late in life to the question of the soul, developing heterodox views that he seems to have discussed with friends and family. Despite the onset of blindness, he wrote a series of works probably published shortly after the end of the Licencing Act, as he explains that he attempted to publish his opinions in 1693 but did not obtain the imprimatur.⁵ The work in question was a reply to Bentley’s second Boyle lecture (*Matter and Motion cannot Think*) but Layton explains that he had been reflecting on these matters for several years, partly as a result of reading Willis’s *De anima brutorum*. He was also stimulated by a series of theological works including Henry More’s demonstration of the soul’s immortality and most recently Richard Baxter’s *Dying Thoughts*. After reflecting deeply during the summer of 1690, he had circulated his thoughts in the form of a fifteen-sheet treatise finished a week after midsummer 1691 and exchanged opinions in particular with a neighbouring clergyman before being moved to reply directly to Bentley.⁶ He also seems to have studied other older works defending the soul’s immortality as in 1694 he asked his nephew to send him book by John Jackson printed in 1612.⁷ Layton provides a case study of how the combined effect of attempts to demonstrate the immortality of the soul philosophically, polemical exchanges pinpointing the insufficiency of rational arguments for its immateriality, and claims that revelation alone could convince us of it could encourage mortalist beliefs based on biblical teaching. As Leibniz wrote to Thomas Burnett in 1701:

I believe that too many books are written in your country to prove religious truth. It is a bad sign and does not always have a good effect, or rather one becomes accustomed to it, as to remedies, without being any more affected. I have often considered, and others have agreed with me, that preachers should usually avoid this subject as, instead of removing objections, they give rise to them.⁸

He suggests that they should stick to natural theology. But the reflections of this particular devout country gentleman were also sparked off by medical arguments, which is more unexpected than in the case of a physician like William Coward.

⁴ Thoresby, *Diary*, i, 398. See Carabelli, ‘Un pio anglicano alla ricerca dell’anima materiale’; *ODNB*, xxxii, 933–4.

⁵ Layton, *A Second Part of a Treatise Intituled a Search after Souls*, 94.

⁶ See *Observations upon a Short Treatise, Written by Mr Timothy Manlove, and A Second Part of a Treatise Intituled a Search after Souls*.

⁷ BL, Stowe MS 747, fo. 25. I have been unable to identify this work.

⁸ Letter of 18 July 1701, in *Die philosophischen Schriften*, iii, 274.

Layton's various pamphlets and books, apparently printed at his own expense, were collected and republished after his death. He apparently ignored his neighbour's advice 'to forbear Publishing my Opinion, as new, singular, dangerous and false, and likely to produce great inconveniences to my self, from the ill treatment I might find from others (who) if they thought me considerable enough to be Answered, were likely to give me answer in Terms less civil, than he had used towards me'.⁹ The first work he published seems to have been his 'quarto pamphlet of two and a half sheets' called *Observations upon a Sermon Intitled, A Confutation of Atheism from the Faculties of the Soul, Alias, Matter and Motion cannot Think: Preached April 4. 1692. By Way of Refutation*. It begins by reminding his readers that Bentley attempts and fails to prove the existence of an immaterial substance or soul distinct from the body. Layton presents as more probable the view 'That the humane soul is a material spirit generated, growing and falling with the Body, and rising again with it at the sound of the voice of the Archangel, and the trump of God'. He points to the material spirits that are said to exist in plants and animals, asking why one should not also attribute human life and activity to a similar material spirit, 'for I do believe, that there is not any particular thing in Man's composition that *thinks, argues etc.* but that it is the *Man* himself, *viz.* the whole Composition of Soul and Body by a divine and admirable Contexture united, which thinks, argues, and doth all other things, which God hath given him a Power and Propensity to do'.¹⁰ To those who deny that matter can possess motion or feeling he replies that fire and wind are self-moved matter, which is perhaps a reference to Baxter's remark: 'And if voluntary motion be proper to a spirit, I think meer Fire (solar or Æthereal) is no spirit; But if all self-moving power be proper to a spirit, Fire is a Spirit'.¹¹ Thought is conducted by means of material spirits, which are 'Particles of the purest Blood Inflamed, glowing and lucid, irradiating the Brain and all the Ventricles or Concavities of it, with the appendances of Apprehension and Memory thereunto belonging'; they are the 'Active Principle of Life, Motion, Sense and Understanding in Man and Beast'.¹² This definition seems to be inspired by Willis, as is his comparison of humans with animals. He counters those like Descartes or Kenelm Digby (mentioned several times) who denied all sensation to animals, saying that their position was so absurd as to make Dr. Willis think 'such arguers' deserved no answer.¹³ Layton concludes, from the effects of disturbances of the brain on intellectual capacities, 'that the brain of man is cogitative matter, or very like it', and

that the Particles of Blood inflamed, ascending from the Heart unto the Head are there further rarified and made lucid, irradiating the Brain and the Ventricles thereof; and that

⁹ Layton, *A Second Part of a Treatise Intitled a Search after Souls*, 94. According to his nephew, Rev William Smith (in 1709), he also left other manuscripts intended for publication: Hunter, *Letters of Eminent Men*, ii, 194.

¹⁰ Layton, *Observations upon a Sermon*, 2.

¹¹ Baxter, *Of the Nature of Spirits*, 98.

¹² Layton, *Observations upon a Sermon*, 9–10.

¹³ *Observations upon a Sermon*, 6.

to these Spirits and Organs God hath imparted a discerning Faculty or Power, and that when these Organs are sound and perfect, and the flaming particles clear, bright and lucid, they work to a perfection of degrees in the Minds, Reason, and Thoughts of Men.¹⁴

Finally, Layton repeats the same argument from voluntarist theology that Richard Baxter used against Henry More, namely that God can make Matter think: 'he who made Matter out of nothing, can make any thing out of any matter, and many other things than Men can imagine'.¹⁵

Layton's work immediately attracted a reply from Timothy Manlove, a dissenting minister in Leeds with a medical training who probably knew him. Manlove claimed the work followed the philosophy of Hobbes, Epicurus, and Lucretius and denounced it as atheistic because 'That there is a God, and that the Souls of Men are Immortal, are truths so nearly linked together, that he who denies the one, may justly be suspected of a *Disposition* to deny the other'.¹⁶ Manlove used a mixture of reference to authority, reason (by showing the absurd consequences of materialistic explanations of the mind), and the Bible, comparing Hobbes's misuse of the Scriptures to that of 'the Church of Rome, Socinians and Enthusiasts'. He also insisted on the dangerous consequences of denying Church doctrine on the soul, which leads to 'Atheism, Infidelity and all manner of Licentiousness' and is contrary to public peace and tranquillity.¹⁷ Manlove's work is typical of the reactions to materialistic works, combining rational argument, ridicule, and appeals to authority and Scripture with denunciations of the danger to society, throwing in guilt by association with Hobbes and Epicurean philosophy for good measure.¹⁸ Layton continued to collect arguments against Bentley and against Rev. John Flavel's lengthy *Treatise of the Soul of Man* (1685), but said he had not published the resulting fifty-page treatise because when he sent it to London for that purpose he was told that as no one would run the financial risk of publishing the work 'of a nameless author' it would cost him about £50.¹⁹ It was only Manlove's book that moved him both to reply point by point, affirming his belief in God and the resurrection, and to publish his 'treatise', probably *A Search after Souls and Spiritual Operations in Man*. This is a detailed reply to the second edition of Richard Baxter's *Dying Thoughts* (1688), which demonstrated, against the soul-sleepers and Stoics, that the soul is a substance, although Baxter did admit our ignorance as to how the soul operates and conceded that most of the 'Old Doctors' believed it to be material in some sense.²⁰ Layton goes into much more detail here than in his pamphlet against Bentley's sermon, taking issue with Baxter's argument that the soul can subsist

¹⁴ *Observations upon a Sermon*, 15.

¹⁵ *Observations upon a Sermon*, 18. See Ch. 3 above and Henry, 'Henry More versus Robert Boyle'.

¹⁶ Manlove, *The Immortality of the Soul*, 117.

¹⁷ *The Immortality of the Soul*, 72–4.

¹⁸ Thomson, 'Epicurisme et matérialisme'.

¹⁹ Layton, *Observations upon a Short Treatise*, 4.

²⁰ *The Practical Works of Richard Baxter*, iii, 876.

and act separately from the body although he concedes that we do not know exactly how God makes the human body or automaton live and move,

how the Blood, Spirits, Nerves, Arteries, Veins, Muscles and other Vital Parts are acted or moved, nor the adequate or precise manner how they are all Excited and Actuated by that Flame and Glowing, of that which is called the *Flammula Vitalis* (not quite extinguished in Animals, but with the Life); how the Unctuous Spirits rising from the Blood, Urine, and Humours of the Body, this Flame is perpetually nourished and maintained, and fanned and kept alive by continual and lively respiration: nor how the Spirits raised and kindled in and about the Heart mount continually to the Head, where in the Brain, and the Ventricles of it, and Motion or Conveyance of the Arteries thereunto belonging, the Common Sense is furnished and excited to Act upon all Objects presented, and to Lodge them in the Phantasie and the Memory, whence they may be recalled and presented again to the common Sensorium or Judicial Power, that it may consider them better, or work with them, or upon them, as far as its own Capacity or Intellect can advance it self in the Powers and Pratices of Arts and Sciences.²¹

Our ignorance is largely due the fact that we can only dissect dead bodies in which the vital flame has been extinguished, and as we see only dead matter we imagine an immaterial principle to account for these operations. Layton challenges believers in an immaterial immortal soul (Baxter, More, Digby, or Descartes) to solve the problems it creates, including how to explain animals' faculties and reproduction. He claims that Henry More's arguments are all based on the statement 'That no Matter, or Thing Consisting of matter, can have a Principle of Motion or Activity in itself, or of moving any other Matter whatsoever', which is a 'gross Mistake'.²² This was indeed the vital question, although Layton's main answer, unlike Coward's afterwards, was to point to fire, quoting Baxter's statement that it is 'a self-moving principle' and is 'evident and eminent in the composition of the body and mind of man'. For Layton all animal faculties come from 'the motions and actings of a Material spirit, and the force and power of a Natural Flame'; so 'What hinders then, but that a Material Spirit in Man, may as well perform the same productions in Body and Mind, of those of his Kind and Species', purer and more subtle spirits producing a different degree of intellect.²³ Those who refuse this opinion contradict each other, some claiming that animals have an 'immaterial self-subsisting spirit' while others like Digby compare them to machines. Layton also denies the need for future recompenses, argued by Baxter, More, and Digby, and reaffirms God's freedom to order things as he wishes rather than having to act 'according to the Rules of Moral Congruity passing amongst Men'.²⁴

The combination of medical and theological arguments directed against defenders of the soul's immortality—who are said to tangle themselves in incoherence or inextricable difficulties, or to adopt positions inconsistent with

²¹ Layton, *A Search after Souls*, 8–9.

²² *A Search after Souls*, 33.

²³ *A Search after Souls*, 41–3.

²⁴ *A Search after Souls*, 173, 181.

the Scriptures—shows that Layton's proofs are clearly situated within a Christian framework. He answered accusations of Epicureanism in *A Second Part of a Treatise Intituled a Search after Souls*, reporting a dialogue with his clergyman neighbour, 'an eminent both scholar and teacher', in 1692–3. When told that his opinion simply follows that of his 'friend' Hobbes, he countered:

I say, I follow nothing but Common Sense and Reason in it; and that if Mr Hobbes have said the same things, I see no reason to think that strange: but proceeding in both from one Common Principle: which makes our construction obvious to the Reason of Mankind. If I ever had the knowledge of Mr Hobbes his Opinion or Writings, I know no cause to reject or refuse the owning of it: but for Truth's sake, I tell you, that I never saw the man but once, and that without changing one word; nor did I ever peruse any of his Writings (to my remembrance) nor have I received any light proceeding from him; and you are the first Discoverer to me, and the only, that his Sense and mine agree in it.²⁵

The reference to an encounter with Hobbes is intriguing, but unfortunately he provides no more details. He also reacts to accusations of endangering society, partly by citing a large number of authorities for his opinion, including not only Church Fathers like Tertullian, for whom the soul was corporeal, but also Gassendi, Melancthon, Boyle, and especially Willis. Although Layton claimed to have originally reached his position independently as a result of his own reflection, he is clearly extending Willis's 'flamey soul' to humans. He even claims that Willis, like the German philosopher 'Antonius Roccus' (probably Octavius Roccus), only maintained an immortal soul in man 'in words: for all their reasons and deductions make against it'; he attributes this hypocrisy to Willis's wariness and Roccus's fear, as a 'profest Papist', of his Church's censure.²⁶ Layton's uncompromising conclusion is:

I say then, That God created Man, endowing Matter with Motion; and the Contexture of such a Spirit or Soul, as did enable him to perform all those Actions, and was able to actuate all those Powers which God intended for him, and bestowed upon him. That God can do so at his pleasure, I believe there are few that can doubt.²⁷

The general impression that emerges from Layton's rather repetitive books is that of a Christian gentleman dissatisfied with the demonstrations of an immaterial immortal soul provided by Descartes, Digby, More, and Baxter. He finds them unconvincing and believes that they involve their authors in perplexities and incoherence (including limiting God's power) which probably undermine Christian belief. He finds the mortalist tradition more satisfying and is pleased that Willis's *De anima brutorum*, bought for him in an auction by his friend (he does not seem to know the work on the brain), provides arguments to support this position. He furnishes, I believe, evidence of a crisis among certain

²⁵ Layton, *Second Part of a Treatise*, 13–14.

²⁶ *Second Part of a Treatise*, 22–3.

²⁷ *Second Part of a Treatise*, 30.

apparently sincere Christians in the England of the 1690s,²⁸ exacerbated by theological polemics linked to political faction fighting. This impression is borne out by pamphlets such as *An Argument concerning the Human Souls Seperate Substante*, dating from the same period. This is a refutation of a work called *Spira respirans* (1694) brought to the anonymous author in December 1698 by a neighbour 'reputed a Quaker' because of his doubts concerning the soul's separate substance. The pamphlet does not, he claims, address the objections of those like him who 'do deny that there is such a spiritual Being or Substance in Man, as is utterly immaterial, or that hath any such being of itself, as that it can subsist in a state of separation from the Body'.²⁹ The breath of life breathed into Adam was not a separate soul but 'common air breathed into him in such a moderate Proportion as might kindle and inflame his Blood and Humours, and the stems of them ready and ripe for that operation and activity, which the Spirits of Blood so kindled might impart to them'.³⁰ It was precisely this question of a separate immaterial substance that exercised Dr William Coward. It is difficult to know whether there was any connection between Layton and Coward, whose mortalist works followed Layton's, adopted several of his arguments, and were lumped together with his. Intriguingly, in the preface to the *Grand Essay* where Coward criticizes William Nichols (who had attacked Coward's first work in his fifth *Conversations with a Theist*), he adds: 'But a full answer to this 5th conf. perhaps time may produce'.³¹ The answer was *Observations upon Dr. Nicholl's Book Intituled A Conference with a Theist* attributed to Layton,³² which seems to be the work Coward refers to in his *Epistolary Reply to the Reverend Mr. Broughton*.³³ But if there was any contact between the two men there is no trace of it. Nor do we know whether Coward was motivated by the same spiritual search. In any case he clearly moved in different circles from Layton: he studied in Oxford, seems to have nurtured aspirations to a literary career, and made a name for himself by his works before the scandal created by his theological books and his condemnation by the House of Commons in 1704. In contrast, Layton's confidentially published works initially only gave rise to the reactions of neighbours like Manlove before being linked to Coward's. According to Henry Dodwell, '[Layton's] Books were never so much known as to do much mischief', although he was refuted in John Harris's Boyle lectures and by Dodwell himself.³⁴ According to Layton's nephew Rev. William Smith, his discourses, 'having given

²⁸ Thoresby, who disapproved totally of his views on the soul, described him as a 'religious old gentleman' who lives piously, believing in the final resurrection (*Diary*, i, 398).

²⁹ *An Argument concerning the Human Souls Seperate Substante*, 3.

³⁰ *An Argument concerning the Soul's Seperate Substante*, 15.

³¹ Coward, *The Grand Essay*, [3].

³² Published in Layton, *Arguments and Replies in a Dispute concerning the Nature of the Humane Soul*.

³³ Bound with *The Grand Essay*, 204.

³⁴ Letter to Thomas Hearne, 1 Dec. 1705, Bodleian Library, MSS Rawl. Letters 25, fo. 12. See pp. 126–7 below.

offence to many pious persons, and not likely to benefit any by the farther publishing of them, are designed most of them to be suppressed; some few only of them reserved for public libraries and private friends, that his memory may be preserved, and his peculiar dogmata not too much propagated'.³⁵

William Coward

Coward (whose dates of birth and death are uncertain) was born into an apparently well-off family in Winchester, took his BA at Wadham College, Oxford, in 1677, and became a fellow of Merton in 1679, where he was senior lecturer from 1685 to 1689. He seems to have wanted to pursue a literary career before turning to medical study, becoming Doctor of Medicine in 1687. He resigned his fellowship in 1697,³⁶ probably when he moved to London, where he was living when he published *Alcali vindicatum* in 1698. The article on Coward in the *ODNB* states that he practised medicine in Northampton from around 1693 before moving to London, remaining there until his condemnation by the Commons in 1704 forced him to leave.³⁷ These dates do not square with the fact that in 1702 he was under the jurisdiction of the Bishop of Norwich, who instigated proceedings against *Second Thoughts on Human Soul*,³⁸ so he had probably already settled in Ipswich at this date. In 1706 the Oxford scholar Thomas Hearne, who wrote that when Coward was a bachelor he 'was reckon'd a good scholar, and translated Dryden's *Absalom and Achitophel* into Latin verse', said Coward had probably practised in Northampton but was 'obliged to leave on account of some criminal commerce with some woman' and was at the time living somewhere in the diocese of Norwich.³⁹ He is last heard of practising in Ipswich and published a book on its spa-water which includes a promotional summary of the town's attractions and commodities (the title page indicates: 'N.B. To this Ipswich Spaw adjoyns a very Convenient Cold-Bath'). It violently attacks those who affirmed the superiority of imported German spa-water and ends with a warning probably designed to drum up trade: 'You may remember that I advis'd you to consult a Physician about the Quantity and method of drinking these Mineral Waters, which, if you neglect in dubious cases, blame yourself, and not the waters, if any ill consequence happen'.⁴⁰ Coward was in contact with Sir Hans Sloane, to whom two letters are extant, one from 1706

³⁵ Letter to Ralph Thoresby, 27 Aug. 1709, in Hunter, *Letters of Eminent Men*, ii, 194.

³⁶ Information provided by Julian Reid, Archivist at Merton; see also Tyacke, *The History of the University of Oxford*, 534.

³⁷ *ODNB*, xiii, 769.

³⁸ Lambeth Palace Library, MSS Conv., Proceedings of the Upper House, I/1/13, fos. 35–8, and Lower House, I/2/5A, fo. 296; Norfolk Record Office, DN/ACT 84: bk 94, 1702, liber nonus onwards.

³⁹ Hearne, *Remarks and Collections*, i, 305. Coward's translation was published in 1682.

⁴⁰ Coward, *Hydro-Sidereon*, 128.

thanking him 'for your care in supervising my book' (perhaps *Ophthalmiatria*), and the other from 1722 proposing an epitaph on the Duke of Marlborough in order to earn the 500 guineas offered by the Countess for such a work.⁴¹ The scope of his interests can be seen from the question on heraldry which he sent to his 'old friend' Peter Le Neve, president of the Antiquarian Society,⁴² and the variety of his publications (which include poetry as well as medicine) indicates that he wanted to make a name for himself as an author. He apparently succeeded beyond his expectations with the scandal created by his series of mortalist works. We have no information as to why Coward should have chosen to compromise his reputation by publishing them and by sticking to his views despite the outcry.⁴³ He consistently presented himself as a member of the Church of England, and in reply to Broughton's accusation of atheism and heresy he repeated that he was '*known* constantly to frequent the Sacrament often, in the Year, and seldom fails Public Devotion, in the Week daies, in the Church of *England*'.⁴⁴ But he does admit that he dissents from it on the point of the immortality of the soul, adding: 'When I am truly satisfied that the Church of *England* is so entirely *pure*, and Holy in all its Principles and Doctrines, that it needs no farther Reformation, then I will, as bound in Conscience, silently and patiently acquiesce with full *assent and consent* to all it teaches, as necessary to Salvation'.⁴⁵ This criticism of official doctrines may indicate Socinian leanings, as may his condemnation of censorship: 'where Power exerts itself by a *Sic volo, Sic Jubeo* (as where a Popish Inquisition domineers, it doth) it may force an outward compliance, but never brings Conviction, and as it augments the number of Hypocrites, so *par passu* do the secret Proselytes rather encrease than diminish'.⁴⁶ William Nichols (apparently a friend although Coward attacked him as 'Rev Bombomachides')⁴⁷ described him as a member of the Church of England but espousing a dangerous opinion that could unwittingly favour atheism despite his denials.⁴⁸ In his writings Coward is consistently hostile to 'sectaries' and to any form of 'enthusiasm' or religious fanaticism, defending the use of reason and opposing prejudice. It is this attitude which may lie at the root of his opposition to the doctrine of an immaterial soul, which he saw as reinforcing obscurantism and a remnant of papist ideas that must be removed.⁴⁹ It was probably the High Church offensive, the campaign against toleration, and the emphasis placed by churchmen like Sacheverell on the importance of the soul's immortality that moved him to defend what he saw as true Protestantism. Like Layton, he

⁴¹ B.L., Harl. MS 4041, published in *The Gentleman's Magazine*, lvii, 100.

⁴² 26 June 1718, in Pfanner, 'Une lettre inédite'.

⁴³ See Iofrida, 'Alcune osservazioni sulla figura di W. Coward'; Mengal, 'Une hérésie mortaliste'; Pfanner, 'William Coward e il problema dell'anima mortale'.

⁴⁴ Coward, *The Grand Essay*, 246.

⁴⁵ Coward, *The Just Scrutiny*, 10.

⁴⁶ Coward, *Farther Thoughts concerning Human Soul*, ii.

⁴⁷ Coward, *The Just Scrutiny*, 26 ff.

⁴⁸ Nichols, *A Conference with a Theist*, ii, 169–308.

⁴⁹ Goldie sees this as a Whig position: 'Priestcraft and the Birth of Whiggism', 215.

apparently wanted to return to the ideals of primitive Christianity and defend an inclusive, tolerant Church which was under attack. Whatever his motivations, he made no attempt to hide his opinions and crossed swords with critics with what seems like a deliberate desire to provoke. While his medical works were written in Latin, he chose to write his books on the soul in English, showing he wanted to reach a larger public. His intransigence can be seen from what he wrote to Sloane in 1706, apparently in reaction to suggestions for alterations to his work:

what relates to my private opinion about the Soul cannot be altered, though I think it ought to be no bar to its licence. And should I add any thing in *commendation of the tender conscience of physicians in points of religion*, (if on that account a license be denied), it would be interpreted a droll or ridicule in the face of the world, rather than as an excusatory just plea, which I would by no means give a ground to.⁵⁰

Coward's first work on the soul, dedicated to the clergy of the Church of England, was published in early 1702 under the name of 'Estibius Psychalethes'. Unlike Layton he seems to have had no difficulty in finding a printer (David Edwards) or a publisher (Richard Basset), who sold 300 copies relatively rapidly.⁵¹ The book's complete title indicates clearly his position: *Second Thoughts concerning Human soul, demonstrating the notion of human soul as believed to be a spiritual immortal substance, united to human body, to be a plain heathenish invention, and not consonant to the principles of philosophy, reason or religion, but the ground only of many absurd, and superstitious opinions, abominable to the reformed churches and derogatory in general to true Christianity*. In his first defence, in 1703, Coward tried to dispel the false impression given by this title, insisting that the work was not directed against the immortality of the soul, his point being only to deny it is an immaterial substance.⁵² His frontal attack on received doctrine (defended by those he calls 'Psychomuthists', possibly an echo of More's 'Psychopyrist') begins with a long discussion of the danger of prejudices caused by education, citing thinkers and scientists who had suffered for their new ideas. He criticizes especially the papists, but his attack includes 'Sectaries now adays, especially those called Quakers', who

esteem it the first Principle of their Religion, to be deaf to all arguments of Reason, resolving all into the *inward Dictates and impulses of the Spirit*; and as that directs, and upon no other account will believe, which is as much as to say, they are resolved to be convinced of their error, when the spirit within them shall so guide them to be convinc'd, which spirit is nothing else, but their own strong prejudic'd opinion settled by education.⁵³

Later in the work he denounces 'that monstrous sect called Muggletonians' for their false religious beliefs.⁵⁴ This joint condemnation of sects and papists for

⁵⁰ Letter, 28 May 1706 (*The Gentleman's Magazine*, lvii, 100).

⁵¹ *Journals of the House of Commons*, xiv, 379–80.

⁵² Coward, *Farther Thoughts*, 8.

⁵³ Coward, *Second Thoughts*, 19–20.

⁵⁴ Coward, *Second Thoughts*, 126.

their emphasis on unreasoning faith and belief in divinely inspired prophets can be compared to Hobbes's attitude to the same sects, as Pocock has described it.⁵⁵ In general, Coward condemns all 'indiscreet zeal for religion', such as that of the 'fanaticks' who had provoked a civil war, destroyed churches, and led to 'the most unparalell'd, barbarous Murder of their Lawful Prince, by a prosperous Villany'.⁵⁶ These outbursts are probably motivated by the connection generally made, as we have seen, between mortalist ideas and radical Protestant sects espousing eschatological beliefs who undermined authority and produced political upheaval. The Muggletonians apparently tried to take advantage of the debate on the soul in these years by republishing seventeenth-century works such as *Joyful News from Heaven* (in 1706), which contains a long first section entitled 'The Soul's Mortality against all Gainsayers, proved'.⁵⁷ Thomas Tomkinson's *The White Divell Uncased*, written in November 1704, states that 'the soule is mortall and doth dye with the bodye till the Reserection day' and that the immortality of the soul originated with the heathen philosophers.⁵⁸ In *Tale of a Tub*, published in 1704, Jonathan Swift lumped together fanatics and systems casting doubt on an immaterial soul, including theories of a world soul.⁵⁹ It is not surprising that Coward was keen to dissociate himself from all such associations, and even more so with the activities of the 'French Prophets' in 1706–7. He clearly believed in judging for himself in religion and only accepting what is compatible with reason and taught by his senses. He explains that he had originally believed in the immaterial soul as he had been 'bred up with the notion' of it, but that he had been taught by 'Dr Brown' to examine the true foundations of belief and stick to those that are unquestionably good and not derogatory to religion, rejecting those originally 'imbib'd without Judgement, Examination or Deliberation'.⁶⁰ His whole attitude to religion, including his suspicion of fanaticism, seems strongly marked by Thomas Browne's influence and he refers to *Pseudodoxia epidemica* in several places. His defence of reason in religion, appeal to one's own judgement, and use of Scripture rather than the Church Fathers in defence of mortalism may be evidence of Socinian leanings and can be compared to the stance of John Toland, who removed all traces of 'enthusiasm' from his edition of Edmund Ludlow's *Memoirs* in 1698.⁶¹

Coward links his position to a refusal of party and faction. In the first chapter of *Second Thoughts* he attacks the Stamp Act, condemns a courtier's defence of it, and mocks an alderman who preferred to vote along party lines instead of following reason and sense.⁶² Similar ideas are expressed in 'A Political Essay'

⁵⁵ Pocock, 'Time, History and Eschatology in the Thought of Thomas Hobbes', 180 ff.

⁵⁶ Coward, *Second Thoughts*, 21.

⁵⁷ Reeves and Muggleton, *Joyful News from Heaven*, 3–33.

⁵⁸ Muggleton, *The Acts of the Witnesses*, 190.

⁵⁹ See Lund, 'Strange Complicities'.

⁶⁰ Coward, *Second Thoughts*, 84.

⁶¹ See Blair Worden's Introduction in Ludlow, *A Voyage from the Watch Tower*.

⁶² Coward, *Second Thoughts*, 14.

(printed as an appendix to *Licentia poetica Discuss'd, or The True Test of Poetry* in 1709), directed against the spirit of party and faction motivated not by principle but by corruption and competition for places. Place-seekers are endangering the nation and the Constitution:

There is nothing more ridiculous, than to suppose, the *Whig Party* Enemies to the *Church of England*; nothing more unfair, than to suppose the *Church Party* Favourers of a *French* or *Jacobite* interest.

The plain Truth is, Both Parties are Favourers of their own Interest; and, finding their Forces pretty equal, Those, likely to be *Generals* in the War, promote it, and a few *Juglers*, as they are justly call'd, of either Side, introduce and encourage all that foul Play, by which the Nation is brought into the utmost Hazard.⁶³

Both Tories and Whigs have either renounced or suspended their principles, and he even insinuates that the present Tories are preferable to the old ones, while the present Whigs are worse. His praise for the old true Whigs seems to reflect his personal opinion:

What Principle more Noble, what Practice more Heroic and Upright, than that of the Old Whigs, Champions for Public liberty, struggling, as *Jacob* with the Angel, against King and Ministers, and their Arbitrary Proceedings, at the Hazards of their Lives and Fortunes, not to be stop'd or slacken'd, by any Preferments or Rewards. . . . Then were chosen those *Whiggish Heroes*, to be remembered for ever with Veneration. Then Great Men cou'd afford to spend, for once, Incredible Sums, only in the View of opposing Court-Measures, and keeping the Government on its old Foundation; then it was easie to distinguish the true Patriots, and the Nation had a suitable Dependance on them.⁶⁴

The Glorious Revolution involved a compromise of those principles by accepting triennial instead of annual Parliaments. Coward seems to be close to those old Whigs who defended the rights of Parliament against encroachment by ministers. He speaks the language of unity against faction in both Church and State, denouncing the Occasional Conformity Bill and attacking the Church hierarchy, motivated only by self-interest, the search for preferment, and subordination to political faction. He wants unity but not 'Monopolies in Religion, as well as Trade', which he says are condemned by the laity.⁶⁵ This can be linked to an interesting passage at the beginning of *The Just Scrutiny* expounding his project for reuniting the dissenters with the Church of England on the basis of 'joint-interest' in terms which liken the direction of a church to the management of a commercial company and link intellectual freedom to free market economics.⁶⁶ In the same work Coward shows his tolerant spirit when discussing Henry Dodwell's view of baptism; Dodwell, the notorious non-juror who believed that immortality was accorded by baptism, had claimed before 1689 that dissenters could only be saved by coming back into the fold of the Church of England. Coward points out the

⁶³ Coward, *Licentia poetica Discuss'd*, 90.

⁶⁵ *Licentia poetica Discuss'd*, 85.

⁶⁴ *Licentia poetica Discuss'd*, 96–7.

⁶⁶ Coward, *The Just Scrutiny*, 9 ff.

difficulty with the Anabaptists, who were opposed to infant baptism, and proposes adult baptism in order to enable them to unite with the Church of England.⁶⁷ Coward's political, religious, and economic position, which undermines certain historical interpretations of how battle-lines were drawn up, doubtless qualifies him to be included among the 'Real Whigs' described by Caroline Robbins.⁶⁸ He refers several times to Hugo Grotius, the natural law theorist and campaigner for a minimalist religion, Erastianism, and Christian unity, considered by many to be a Socinian, and mocks Oxford University for condemning Grotius's principle of self-preservation as 'highly pernicious' and 'amongst those Common-wealth Principles, which have been the ruine of *Monarchy*'.⁶⁹ His attack on belief in the soul as an immaterial substance should not be seen as irreligious but as part of the campaign against priestcraft, whose power was based on superstition and mysteries like purgatory, heaven, and hell.

We know nothing about philosophical influences on Coward, and if his studies in Oxford brought him into contact with Locke there is no trace of it. Locke's brief reference to him gives no indication that he might have known him personally.⁷⁰ As to his medical opinions, he apparently ended his studies at Merton with a public disputation arguing that hypochondria was the effect of the nerves,⁷¹ thus showing an early interest in psychical disturbances which he later used as evidence against an immaterial soul. He was influenced by Oxford's chemical tradition and arguments for animated matter. The title page of one of his first books, *De fermento* (published in 1695 under the auspices of Merton College, where he was still a fellow), includes a quotation from Van Helmont's *De ortu medicinae* on fermentation. This work, discussing mainly digestion and how the fermentation caused by food produces heat, betrays the influence of Thomas Willis, whose definition of fermentation is given at the beginning of the first chapter, although Glisson and Mayow are also mentioned approvingly.⁷² In 1698, *Alcali vindicatum: or, The Acid Opiniator not Guilty of Truth* discussed the effects of alkali and acids in causing disease and defended alkaline remedies against John Colbatch's *Physico-Medical Essay* (1696), which recommended acids.⁷³ It again shows him to be a follower of Willis and Robert Boyle, and includes reflections on the use of hypotheses in medicine which define the corpuscularian hypothesis as the most probable.⁷⁴ When

⁶⁷ Coward, *The Just Scrutiny*, 162 ff. On Dodwell see p. 127 below.

⁶⁸ Caroline Robbins, *The Eighteenth-Century Commonwealthman*. I do not agree with Manlio Iofrida's characterization of Coward as a Tory: 'Per una rilettura delle *Lettere a Serena*', 245.

⁶⁹ Coward, *Second Thoughts*, 39; see also pp. 146 (on right reasoning) and 156 (on punishment). On Grotius, see Tuck, *Philosophy and Government*, 154–201. He is attacked in Leslie, *Theological Works*, i, 249.

⁷⁰ Letter to Collins, 28 Feb. 1704, in Locke, *Correspondence*, viii, 217; see below, p. 117.

⁷¹ Tyacke, *The History of the University of Oxford*, 534.

⁷² Coward, *De fermento volatili nutritio conjectura rationalis*, 1.

⁷³ See Debus, *Chemistry and Medical Debate*, 125–30.

⁷⁴ Coward, *Alcali vindicatum*, 145–6. Coward also published *Remediorum medicinalium tabula generalis* (London: 1704).

the same subject is broached in *Second Thoughts* six years later, although seeming to say that ‘atomical philosophy’ is too speculative and unable to answer certain questions, he concludes that ‘in all insensible Actions of Nature, this Philosophy far better explains the *Phenomena* thereof, and with more Satisfaction abundantly, than the word *Forme* could do, or its Signification’.⁷⁵ The consistency of his inspiration can be seen in *Hydro-Sidereon* (1717), whose discussion of the chemical composition of spa-water and its effects on the body sticks closely to the chemical principles enunciated by Willis in *De fermentatione*. He praises Mayow, reports experiments on the water following Boyle’s *Observations*, and makes fun of those Helmontian chemists he calls ‘Chymistuli’ for using learned-sounding and meaningless names, including ‘gas’ instead of ‘spirits’.⁷⁶ Coward’s chemical orientation and allegiance to Willis, Mayow, and Boyle undoubtedly grounded the conception of matter underlying his materialistic arguments even when they are not cited.

In *Second Thoughts*, after defending individual judgement based on evidence and reason, Coward indulges in a detailed criticism of Aristotelian philosophy and scholastic arguments for the soul’s immateriality and immortality, pausing only to mock those who place it in the mouth of the stomach, the pineal gland, or the heart. His presentation of ‘the true notion of human soul’ begins provocatively:

If I approve of or concur in the Opinion of the Learned Mr *Hobbs* of *Malmesbury*, that it is a very odd Notion to call any created Being an *Immaterial Substance*, I know I shall be received upon the very account of his Name both with Censure and Prejudice; yet, that there are *Spiritual Beings*, whose constituent Parts (as I may so call them, in order to be the more plainly understood, without any Philosophical Cavil about the word Part) are very difficult to be comprehended by our weak Understandings, I make no more doubt of than that there is a *Sun* and *Moon* in the *Firmament*. Altho’ again I must plainly declare, that my Sentiments differ very much from the learned Dr. *Hen. More*, who tells us that the Notion of Spirit is as easy to be comprehended, as that of Matter.⁷⁷

This passage is important for identifying Coward’s targets: like Layton’s, his work was directed against those whose theology was based on the necessary existence of an immaterial substance, in other words people like Kenelm Digby, Henry More, and Ralph Cudworth. He shared Hobbes’s belief in the resurrection and last judgement, which removed the need for an immaterial soul continuing after the body’s death, partly because such notions seemed both to run counter to Scripture and to be incapable of demonstration. Coward’s own definition of soul is supported by biblical quotations: ‘The Soul is a Breath originally infus’d by God into insensible Matter, by which it lives and exerts Sense and Reason’.⁷⁸ It is simply life or ‘a continued Circulation of the Blood’,⁷⁹ a conception which is consistent with the power of an omnipotent creator, as ‘Life is and can only be the

⁷⁵ Coward, *Second Thoughts*, 348.

⁷⁷ Coward, *Second Thoughts*, 82.

⁷⁹ *Second Thoughts*, 107.

⁷⁶ Coward, *Hydro-Sidereon*, 82.

⁷⁸ *Second Thoughts*, 90.

Product of an Omnipotent Power'. The mind is not a substance but 'a thinking, reasoning faculty', and thought occurs in the brain by means of the animal spirits, the purest part of the blood, but not a material soul (here he cites Sennert and Charleton).⁸⁰ Coward refers to the discussion between More and Baxter and defends those who believe the soul to be fire, although 'it is not my Opinion that the Soul is active Fire, but an *Afflatus* or *Spiritus*, or Breath, or Power actuating Matter as briskly (if you please) as Fire would do, were it in the Body'.⁸¹ Coward accepts in advance the probable accusation from the 'Psychomuthist' that he has made man 'a meer piece of Mechanism, a curious Frame of Clock-Work, and only a Reasoning Engine': this 'shews only an Almighty Power could be the first and sole Artificer'.⁸² This was seized on by William Nichols, who entitled one of his sections of his fifth *Conversation with a Theist* 'Man is not a Machine'.⁸³ Like Layton, Coward frequently bases his demonstration on the similarities between humans and animals, giving many examples of animal intelligence to show that they are not essentially different from humans. He even implies that animals possess all human intellectual capacities, having 'the Power of forming Ideas and immaterial Conceptions, and also exerting Reflex Actions' and will.⁸⁴ To explain their inferior reasoning capacities he adopts Locke's argument that speech is necessary for thought, concluding that 'Perfect Ratiocination seems to be not the natural result of an Immaterial Soul, but only the product of Conversation, necessarily attending Creatures wherein is the Breath of Life, and improvable to the utmost degree, where such Creatures are capable of Speech and Conversation'.⁸⁵ Unlike Layton,⁸⁶ Coward does not refer here to Willis, who does not even appear in the list of 'names of such persons and books as the author had an occasion materially to recite or consult' at the end of the work. This omission can perhaps be explained by his refusal of a material soul, but it did not prevent William Nichols linking his theory to the opinions of Gassendi and Willis on the material animal soul; Nichols calls it a 'fancy' and enquires, 'what can a brisk fiery part of the blood contribute to sensation?'⁸⁷ Nor did the fact that Layton differed from Coward on this point prevent him from seeing the doctor as an ally and from coming to his defence. In his reply to John Broughton in 1703, when discussing the circulation of the blood and the spirits which constitute life, Layton denied that there is a particular thing in humans that thinks:

I am not apt to conceive that Matter thinks, or that a System of Matter put together can do so; but rather that when Life is produced in the Person, which by that means becomes

⁸⁰ *Second Thoughts*, 103–5, 112.

⁸¹ *Second Thoughts*, 249.

⁸² *Second Thoughts*, 123.

⁸³ Nichols, *A Conference with a Theist*, ii, 213 ff. See below, p. 122.

⁸⁴ Coward, *Second Thoughts*, 165 ff.

⁸⁵ *Second Thoughts*, 2 inserted between pp. 176 and 177.

⁸⁶ See 'Reply to a Letter dated Aug. 15. 1702' in Layton, *Arguments and Replies*, 11, quoting *De anima brutorum*.

⁸⁷ Nichols, *A Conference with a Theist*, i, 257.

Living, Intellect in Man springs out of the Fountain of that Life, as the Properties of other Living Creatures spring out of theirs; all of them deriving Strength and Power, from the Original motion of Blood, in proper Bodily Organs, fitted by the great Creator to such purposes.⁸⁸

The discussion of matter and life does not take up the major part of Coward's work because, like Overton's *Man Wholly Mortal* (included, like *Leviathan*, in the list of works consulted), he also demonstrates that his position agrees with 'the whole tenour of the Holy Scriptures'. His argument is supported by numerous references to both Testaments and a discussion of the meaning of 'soul' and 'spirit' as they are used in the Bible. Here he relies on the work of divines like Henry Hammond, whose *Paraphrase and Annotations* explaining the New Testament (1653) is quoted by both sides in these arguments, and unlike Henry Layton he hardly refers to Church Fathers like Tertullian. His historical review of opinions on the soul demonstrating that immateriality and immortality are heathen doctrines adopted by the Catholic Church may draw on Charles Blount, but he prefers to cite respectable authorities like Dodwell or Thomas Stanley's *History of Philosophy*.

In view of the work's mixture of physiological, philosophical, and theological arguments and aggressive attacks on his opponents (in particular Henry More), it is hardly surprising that it immediately aroused widespread opposition. Coward certainly expected it, expressing in the conclusion his hope that 'I shall not be branded, or stigmatiz'd with the Name of a Broacher of Atheistical Principles, and an Enemy to Christianity because I endeavour to represent the Naked Truth to Mankind in relation to the Spiritual Substantiality of Soul'.⁸⁹ He can hardly have helped matters by accusing in advance his opponents of being illiterate and ignorant or natural fools, or else papists. He replied to criticisms with *Farther Thoughts concerning Human Soul, in Defence of Second Thoughts* (1703). In the 'Epistle Dedicatory to the Prejudic'd Zealot' he insists, as he was to do many times afterwards, that he is not concerned with the immortality of the soul but with its substantiality, 'i.e. whether it be an *Immaterial Substance*, as Heathen Philosophers have told us, which Doctrine he conceives inconsistent with the true principles of Christianity'. He accuses his critics of papism or of being hypocrites only concerned with their own interests 'for *great Gain*': 'These are Christians in Masquerade, and *Socinians preaching up that God-head in Publick, which in private they deride*, who under the cloak of Religion undermine our Common Peace, and become the very *Hornets* of all Civil Societies, only to make their own party uppermost'.⁹⁰ This attack on Socinians as closet atheists may be directed against particular individuals or a tactic to cover his own back, but the tone is consistent with his general hostility to party strife. In late 1703 or

⁸⁸ Layton, *Observations upon a Treatise Intitl'd Psychologia*, 14.

⁸⁹ Coward, *Second Thoughts*, 417.

⁹⁰ Coward, *Farther Thoughts*, [3], [8].

early 1704 Coward published *The Grand Essay, or A Vindication of Reason and Religion, against Impostures of Philosophy*, partly in answer to the most important attack on his first work, John Broughton's *Psychologia* (1703). *The Grand Essay* was condemned by the House of Commons together with *Second Thoughts* in March of that year, by which time the publisher Chantry said he had sold 500 copies.⁹¹ The book's subtitle is, if anything, even more provocative:

Proving according to those Ideas and Conceptions of Things Human Understanding is capable of forming to it self, 1. That the Existence of any *Immaterial Substance* is a Philosophic Imposture, and impossible to be conceived, 2. That all Matter has Originally created in it, a principle of Internal Self-Motion 3. That Matter and Motion *must* be the Foundation of *Thought* in Men and Brutes.

He demonstrates the contradiction inherent in the idea of immaterial substance, derided as an '*Unextended, Indivisible, Penetrable, Sole-Sensible, Invisible, Untangible, Non-Locomotive in succession of Time or Place, Independent Entity*', and exclaims '*Bone deus, in quæ Tempora reservamur, who do and will believe this Notion of Immaterial Substance to be comprehensible by a Rational Nature?*'⁹² He provides definitions of substance, including that of the '*Democritical Tribe, or Atomists*', described as men who 'I believe may be made good Rational Philosophers with a little Divinity superadded to them and recurring sometimes to the **Power of God**, which perhaps Leucippus or Democritus never would, to explain some Phenomena's in Nature'.⁹³ The notion of substance he defends is 'taken from the judicious Dr Glisson', although he cannot in such a short treatise develop what Glisson means in *De substantiæ vi energetica* by asserting '*Omnes Substantias vivere*', and simply quotes Glisson's short proof that substance moves by an internal principle, which 'will give me some light into that Philosophical Doctrine I shall hereafter insist on viz. *That all substance, or Materia informata, has in it a principle of self-motion, and would always exert it self, did not the Almighty restrain it to Preserve the Due frame and order of the Universe*'. But he criticizes Glisson's distinction between spiritual and material substance as 'manifestly erroneous' metaphysical notions which involve him in conceptions 'out of the reach of Human Understanding'.⁹⁴ Coward then provides a 'full Philosophical Essay concerning the Production of *Thought* which perhaps may please the Curious, tho' some may dislike the verity of it'. He describes the motion of the brain (seen in someone who is trepanned), which produces 'effluviiums' which cannot all be exhaled through the skull, and so defines '*Thought to be the Result of certain Effluviiums from the Brain, raised and continued by a perpetual Circulation or Rotation of Ideas thereon impressed, as by God originally so ordained*'.⁹⁵ If this motion is hindered or disturbed, mental disorders result, so that 'were the whole

⁹¹ *Journals of the House of Commons*, xiv, 380. This presumably stimulated public interest, as a 'second edition' of *Second Thoughts* was published by Baldwin in 1704.

⁹² Coward, *The Grand Essay*, 37.

⁹³ *The Grand Essay*, 41.

⁹⁴ *The Grand Essay*, 43–6.

⁹⁵ *The Grand Essay*, 128–9; emphasis Coward's.

stasis of animal spirits totally depressed, man must dye and all thoughts perish'. In reply to Broughton's questions as to how the material animal spirits can produce thought Coward compares the violent motion of the spirits shut up in the skull, which prevents the motion being exhausted, to that of

Pyrotechnical preparations of spirit of wine, which altho' highly Rectified, yet if it be contained closely in a Circulatory Vessel, or Bolt-head Hermetically Sealed, shall not appear to have wasted, or exhaled the 100. Part by the agitation of the Fire. Thus the scull, and exterior Ligaments of it, wrap up, and so envelop the Brain that but very few Animal Spirits exhale through the Porosities of it, so as to make any considerable *dispendium*, or loss, but they pass and re-pass, by a continual Circulation of the Blood, and when so exhaled by Perspiration as to cause a *Weariness* or *Weakness*, they are and may be renewed by fresh Aliments, and especially Spirituous Drinks (to whose Nature the Animal Spirits are somewhat Analogous) and then Man will be able to carry on his Invention with new vigour, and activity.⁹⁶

His description resembles Willis's in *De fermentatione*,⁹⁷ but instead of a material soul he adopts the more nebulous idea that matter thinks by a particular organization in the brain using the motion of the spirits. He writes, in a passage which elicited a reaction from John Toland:

excepting the Original Motion at the first Creation of *Chaos* out of nothing, *I assert that God has given all Matter, as now created, and informed, a Power to move itself*; and were there not some latent and unknown Reasons of the Divine Wisdom concealed from us, it should always exert that Power. But perhaps to preserve the Order and Frame of the Universe, which, should all Matter start up into Self-motion, would necessarily be destroy'd, God has thought fit to restrain it.⁹⁸

Motion is inherent in all matter, which when apparently dead and motionless is simply prevented by God from exerting this power. Coward cites powder of coral and oil of Vitriol, in themselves quiescent, which when 'conjoynd' will both move 'with great Violence and Ebullition'.⁹⁹ We see once again the influence of both his chemical background and Glisson's philosophy of active matter. He had already drawn on the physiological tradition of living or sensitive matter in *Second Thoughts*, where he discussed seminal matter: insensible matter into which God has breathed life and which 'is actuated thereby and formed into suitable Organs, capable of exerting those various Operations perceived to be done by man', by which he means not only the limbs, brain, skull, and viscera but also the 'just Temperament of the blood'.¹⁰⁰ He says that Harvey's work on generation revealed in the ovaries shortly after conception a little animal wrapped up in matter, 'So I make no doubt but that in the Seed of Man there is *Homunculus delitescens*, (i.e.) a little Man lying in the Bosom of Seminal Matter

⁹⁶ *The Grand Essay*, 133.

⁹⁷ Willis, *The Remaining Medical Works*, 14–15.

⁹⁸ Coward, *The Grand Essay*, 153–4.

⁹⁹ *The Grand Essay*, 159–60.

¹⁰⁰ Coward, *Second Thoughts*, 101–5.

which in process of Time attains to his full perfection'.¹⁰¹ Thus man propagates the original 'afflatus or power in seminal matter' from one generation to the next, but reason appears only as the animal develops, infants being simply like 'Machines'.¹⁰²

In *The Grand Essay* Coward also draws on theological discussions of God's omnipotence and freedom to create thinking matter, although he does not refer specifically to Locke. He claims that to call God an immaterial substance is derogatory to his true nature, as in the Bible he is 'An **Eternal, Omniscient, Omnipotent, Omnipresent, Power, or Spirit**, which is the same thing', and we are ignorant as to the nature of this power.¹⁰³ Here he goes further than he had in *Farther Thoughts*, where immaterial substance was said to be 'the very conception, or Idea we form of a God', although this was because 'the very expression is as incomprehensible in its meaning as the Nature of God himself is'.¹⁰⁴ Coward's position has been called pantheistic,¹⁰⁵ but in my opinion we should be wary of this label; he quotes biblical texts to show that God endows created beings with a proportion of his supereminent divine power, not that he is present in them. God seems to remain above his creation. In created beings spirit is 'A Supereminent Power implanted in Matter, to enable it to act under certain limitations from the supream Power, of All, above the Power of Human Nature',¹⁰⁶ an idea probably inspired by Locke's discussion of active power.¹⁰⁷ Although Coward's conception of God seems to exclude the Trinity he pre-empts accusations of Socinianism, which he 'utterly' denies:

when I speak of God's Essence consisting in *Power*, I refer it to every Person in the Trinity, as God, and I use the word *Person* to them all, because we must use some one or other to be understood by, tho' *personality* in a strict sense I imagine can be no more appropriated to an Omnipresent Being, than *Substantiality* or *Substance*.¹⁰⁸

But the question is dismissed rapidly with a prayer to be forgiven or corrected if he is mistaken. We can conclude that the subject remains open. Coward's emphasis on God as omnipotent power whose main role is to breathe life and self-motion or power into humans follows Layton, who goes even further in *Observations upon a Treatise Intituled Psychologia*, saying that Broughton's denial that God could produce thought and intellect in man smacks much more of atheism than does Coward's view. This criticism is extended to Bentley's sermon:

I think that the Bounds which he thus puts upon God's Power, and the Pretence which he makes, that God may or will deceive Mankind, are each of them so pregnant with

¹⁰¹ *Second Thoughts*, 101–2. ¹⁰² *Second Thoughts*, 109.

¹⁰³ *The Grand Essay*, 59 (emphasis Coward's).

¹⁰⁴ *Farther Thoughts*, Epistle Dedicatory, [17]–[18].

¹⁰⁵ Iofrida calls him a 'vitalistic pantheist': *La filosofia di John Toland*, 113–16.

¹⁰⁶ Coward, *The Grand Essay*, 77.

¹⁰⁷ Locke, *Essay*, ii, 8, 21. See also Heimann and McGuire, 'Newtonian Forces and Lockean Powers', 248.

¹⁰⁸ Coward, *The Grand Essay*, 82–3.

Atheism, and so apt to produce it, that I think nothing can be produced out of the later Materialists Writing, that may be compared to these Tenets for giving advantage to Atheism.¹⁰⁹

As Broughton claimed to be defending Sherlock's arguments against Locke, Layton retorted that the Bishop was offended by Bentley's claim that 'Omnipotence it self cannot create Cogitative Body', which was probably the reason why the expression 'hath never been repeated or revived . . . by any Maintainers of the separate subsistence' and shows how the opinion of the soul's separate subsistence leads into absurdities.¹¹⁰ Coward also refers to God's omnipotence in connection with the resurrection of the dead in the conclusion to *Second Thoughts*; he approves of 'the opinion of some learned men', '*That God will raise Man consisting of Matter, tho' not of the same numerical Matter* (as Metaphysicians speak) *of which he was actually compounded when he died*'.¹¹¹ He may be referring to Locke's arguments against Stillingfleet, but the hotly debated question of the resurrection of the same body was also discussed by Tenison's chaplain Humphry Hody, Regius Professor of Greek at Oxford, in a work (mentioned by Coward) arguing that the rising body must consist of 'the same numerical particles' as the dissolved body, which was denied by the Socinians.¹¹² For Coward the whole man dies and is resurrected by God, in accordance with his own reformulation of mortalism using the physiological tradition of living matter:

I do not say the *Soul sleeps, but Man*, or Material Man, as I oft call Flesh and Blood with that exterior Form we bear, without Life, will lie in the Grave and in a state of Insensibility until the Day of a General Resurrection as in a deep Sleep; whence he shall be rais'd again by the last Trump unto a general Judgment.¹¹³

In his various replies to critics, Coward goes into ever more theological detail and defends his right to do so against theologians who objected to his meddling:

I cannot forbear telling you that the little study of Divinity I have lately applied my self to, is the Pleasure and Delight of my declining Years, and I launch out, as it were, into an immense satisfaction that I find something even beyond my Reason to terminate my daily Inquisition, *viz. Faith*, which makes other Sciences appear but *Delicetule nugandi artes*, a pleasant way of trifling.¹¹⁴

This again raises the question of his true aims and attitude towards the Church of England, whose hierarchy he did not hesitate to criticize, whose doctrines he reserved the right to subject to his own reason, and whose practice he proposed to reform.

¹⁰⁹ *Observations upon a Treatise Intituled Psychologia*, 99.

¹¹⁰ *Observations upon a Treatise Intituled Psychologia*, 103.

¹¹¹ Coward, *Second Thoughts*, 431.

¹¹² Hody, *The Resurrection of the (Same) Body Asserted*, 218, 113.

¹¹³ Coward, *Second Thoughts*, [12]–[13]. ¹¹⁴ Coward, *Farther Thoughts*, [13].

Although Coward, like Layton, was adopting Locke's view that to be immortal the soul did not need to be immaterial, Locke did not react favourably to Coward's work. His close friend Antony Collins announced the publication of *The Grand Essay* in a letter to Locke in February 1704:

Dr Coward has publish'd a book to show that no such thing as Immaterial substance exists in nature and that all matter has originally a principle of self motion in it. his arguments are very far from proving either and are too mean to give you any account of. Mr Toland has a book in the press upon these subjects. The power of prejudice. The History of the Immortality of the Soul. The Original of Idolatry. An answer to Spinoza's system of Philosophy and a discourse to prove that motion ought to be part of the definition of matter.¹¹⁵

Locke, who seems to have read *Second Thoughts*, agreed with Collins's opinion of Coward: 'by what I have seen of him already I can easily think his arguments not worth your reciting'.¹¹⁶ But he did not have a higher opinion of Broughton: he had written to Collins on 9 July 1703 concerning the fifth section of *Psychologia* 'he has there argued very weakly against his adversary but very effectually against himself'.¹¹⁷

John Toland

As we can see, like Leibniz, Collins linked Toland's *Letters to Serena* to Coward's work. Toland himself made the connection clear by referring in his Preface not only to the factional disputes within the Church of England and the attacks on *Christianity not Mysterious* but also to Coward's *Grand Essay*, from which he carefully distanced himself, claiming he had no knowledge of it when he wrote his book. In the absence of any information on possible contacts between the two authors, we have no way of knowing whether he knew about Coward when he discussed thinking matter in Berlin with Leibniz—who considered that Toland cared little for the truth, was not cut out for philosophy, and should stick to erudition, but observed that he wanted to be an author.¹¹⁸ Leibniz's opinion was shared by many contemporaries, who generally described Toland as untrustworthy and ambitious. While his political position is clear, interpretation of his religious beliefs and motivation is difficult. As several studies have been devoted to him I shall not go over this ground again, beyond pointing out that his primary interest was political and that his intervention in the debate on the soul

¹¹⁵ Locke, *Correspondence*, viii, 198.

¹¹⁶ *Correspondence*, viii, 217.

¹¹⁷ *Correspondence*, viii, 33.

¹¹⁸ Letter to Sophie, 7 Sept. 1702, quoted by Fichant, 'Leibniz et Toland', 426. See also Champion, 'The Men of Matter', 130 ff; Brown, 'Toland's Clandestine Pantheism'; Iofrida, *La filosofie di John Toland*.

seems mainly motivated by its political implications.¹¹⁹ Toland's first reference to Coward criticized the latter's claim that the doctrine of the soul's immortality came from the heathen philosophers, saying instead that it was 'first taken up by the mob, popular traditions often becoming the doctrines of philosophers'.¹²⁰ More significant is his discussion of Coward's view that God does not always allow matter to exert its power in order to preserve the frame of the universe, which implies motion is not essential to matter. Toland replies:

When he considers my Arguments, he'll find no such danger in the Universe, as he apprehends, from Matter's constant Exercise of its essential Action: and indeed it would be a Contradiction that Motion was essential to Matter, and yet that only some Parts of Matter, and on certain occasions, were endow'd with a power of moving themselves; whereas Matter may as well be sometimes without Extension as without Motion, if there be any weight in my Allegations; tho' neither this, nor that, nor any other particular Direction of its Motion be essential to it, but left to the ordinary Determinations of the mutual Action of Bodies on one another, or to the immediate Power and most wise purpose of Almighty God. But to say that God may take Motion from Matter, tho' it were essential to it, is to say that he may deprive it of Extension or Solidity, and this is to say, that he can make it no Matter.¹²¹

Like Coward, Toland begins his work with a condemnation of prejudices, in a chapter that is closer to Coward's investigation of the different reasons for prejudice (mainly education and religious zeal) than it is to Blount's attack on unscrupulous rulers. Toland shows how at each point in an individual's life prejudices are reinforced not by Machiavellian policies but by education, 'the irresistible Tyrant Custom',¹²² religion, political faction, and individual weakness. But his whole tone is more openly irreligious than Coward's. In Letter Three, called 'The Origin of Idolatry, and the Reasons of Heathenism', Toland slyly attacks Christian priests' intolerance, pleading for the subordination of the Church to the civil authorities, condemning priestcraft, and defending natural religion.¹²³ In Letters Four and Five, he develops his fundamental argument that motion is essential to matter and that there is no matter without motion, also called 'moving force' or action, internal energy, autokinesy, or internal motion of its particles, distinguished from local motion. Letter Four criticizes Spinoza's conception of one undifferentiated substance in the universe, one continued being whose inseparable attributes include extension and cogitation. Toland takes Spinoza to task for nowhere insinuating that motion is one of matter's attributes and denies that every portion and particle of matter always thinks, which, he says, is contrary to reason and experience, 'both of which demonstrate

¹¹⁹ See Giuntini, *Panteismo e ideologia repubblicana*; Sullivan, *John Toland and the Deist Controversy*; Cherchi, *Pantheisticon: eterodossia e dissimulazione nella filosofia di John Toland*; Champion, *Republican Learning*.

¹²⁰ Toland, *Letters to Serena*, Pref., §11 (pages not numbered).

¹²¹ *Letters to Serena*, Pref., §14. ¹²² *Letters to Serena*, 15.

¹²³ See for example *Letters to Serena*, 115–16, 123–30.

the Extension of Matter. Whatever is the Principle of Thinking in Animals, yet it cannot be performed but by the means of the Brain'. He does not develop this latter point beyond referring to the evidence of the link between thinking and the brain, nor try to explain how the brain could produce thought, and makes no use of medical data or biological theories.¹²⁴ Even in the longer passage on thought in *Pantheisticon* (1720), he adds little, saying that the spinal marrow and nerves are the seat of the soul and produce thought by means of the ethereal fire running through them, repeating that the corporeal brain is the organ of thought, and quoting Hippocrates.¹²⁵ Much of the fourth letter to Serena is taken up by quotations from Spinoza's correspondence demonstrating that he would not or could not define motion, and thus that his system 'is not only false, but also precarious, and without any sort of foundation'.¹²⁶ Toland also opposes all systems which define matter as inactive and need some other being intimately joined to it to account for motion. Letter Five elaborates on his demonstration 'that all the Matter in Nature, every Part and Parcel of it, has bin ever in motion, and can never be otherwise'.¹²⁷ There is no vacuum and matter is infinite and homogeneous. Its constant motion means that forms are perpetually changing into other forms, so that 'to die is only to cease to be what we formerly were' and 'to be born is to begin to be something which we were not before'.¹²⁸ Toland claims that the study of nature supports his opinion and quotes Newton's doubts as to whether any body is ever in absolute rest.¹²⁹ Humphrey Ditton, mocking this passage, wrote that if Toland was not 'in jest', then he was a fool and 'that *Infinite necessarily-self-moving Matter* may serve to entertain an Atheist, as well as *Almighty Space*'.¹³⁰ This last remark was a reference to Toland's discussion of the unorthodox Newtonian Joseph Raphson's identification of space with God. For Toland, Raphson's denial of the infinite extension of matter and deification of infinite, incorporeal, immutable, and eternal space amount to atheism, as he makes God 'mere Nothing' and 'Nature or the Universe to be the only God'.¹³¹ As this view seems rather to amount to something like pantheism (which, as we saw, Raphson discussed in connection with Spinoza), Toland's comment rather undermines his definition of his own position as pantheism.

Toland's explanations are characterized by eclecticism, bringing together diverse elements from various systems in order to demonstrate the innate mobility of matter, which seems more important than the denial of an immaterial soul. Despite Toland's appeal to 'our common Friend, who alone philosophizes at Court' to continue the discussions,¹³² Leibniz condemned what he saw as

¹²⁴ Toland, *Letters to Serena*, 138–9.

¹²⁵ *Pantheisticon*, 22–6.

¹²⁶ Toland, *Letters to Serena*, 135.

¹²⁷ *Letters to Serena*, 167.

¹²⁸ *Letters to Serena*, 191.

¹²⁹ *Letters to Serena*, 201.

¹³⁰ Ditton, *The General Laws of Nature and Motion*, Pref.

¹³¹ Toland, *Letters to Serena*, 219–20; see also Koyré, *From the Closed World to the Infinite Universe*, ch. 8.

¹³² Toland, *Letters to Serena*, 238.

Toland's reduction of living beings to mere matter and considered him to be pushing Locke's philosophy in a materialistic direction.¹³³ As Paolo Casini has shown, Toland's view of matter was very different from Leibniz's and remained profoundly mechanistic,¹³⁴ as he was wary of attributing sensation to the smallest parts of matter. In 1702 Toland had emphasized the dependence of consciousness on physical organs and refused to discuss the nature of matter and the production of thought, and only after this debate did he defend the inherence of motion in matter.¹³⁵ Leibniz insisted that only God could put force in matter and objected to Toland's claim that the brain alone thinks; in an unpublished reaction to Toland's fourth letter he writes:

If Spinoza understood by a thinking being what we understand by this word, which is a reflecting being, he was wrong to attribute thought to all bodies, but if he meant generally any sort of perception, then he was right.

But M. Toland's argument against Spinoza, where he claims that there is no thought without a brain, has no force, for we should not judge the whole of nature according to the characteristics of the bodies around us.¹³⁶

Toland was only interested in movement while Coward's medical descriptions of living organisms emphasized life.¹³⁷ Although Toland includes examples taken from living beings among his illustrations of matter's activity, he does not develop them. He says that the hypotheses of 'the modern Hylozoicks', who taught 'that the Particles of Matter had Life, and also a degree of Thought, or a direct Perception without any Reflection'—to which Heraclitus and Spinoza added reflection—give rise to too many difficulties and he compares them to Cudworth's 'plastic life'.¹³⁸ This seems to be an unsympathetic reference to Glisson's ideas understood through Cudworth. He also appears to deny that matter in motion alone could produce living beings without a presiding intelligence.¹³⁹ His argument is thus significantly different from those of Layton and Coward and owes little to medical discussions of living matter. Sullivan considers that Toland's debt to Hobbesian mechanism is partially offset by certain hylozoistic emphases taken from Giordano Bruno,¹⁴⁰ but this interpretation is not really justified, and Bruno's influence can mainly be seen in Toland's conception of infinite inherently active matter.¹⁴¹ Although Toland's was reacting

¹³³ See Fichant, 'Leibniz et Toland'.

¹³⁴ Casini, *L'universo-macchina*, 230–1; see also Tognon, 'Leibniz, Toland et Spinoza: une lettre inédite à propos des *Lettres à Serena*', 6.

¹³⁵ See Casini, *L'universo-macchina*, 215–23.

¹³⁶ Hanover, LBrw. 445, 40', in Tognon, 'Leibniz, Toland et Spinoza', 10–11.

¹³⁷ Iofrida also points out the difference from Coward in this connection: *La filosofia di John Toland*, 127.

¹³⁸ Toland, *Letters to Serena*, 210–11.

¹³⁹ Toland, *Letters to Serena*, 234–6.

¹⁴⁰ Sullivan, *John Toland*, 191–204; see also his curious remark: 'Despite his materialism, he resisted making a decision against vitalism' (p. 179).

¹⁴¹ See Giuntini, *Panteismo e ideologia repubblicana*; Ricci, *La fortuna del pensiero di Giordano Bruno 1600–1750*. On Bruno see Védérine, *La conception de la nature chez Giordano Bruno*.

to Coward's work, his aim, emphasis, and approach are different, his philosophy is not situated within the Christian mortalist tradition, and he does not claim to believe in the resurrection. Despite his contradictory statements and links to Socinianism, he has generally been seen as irreligious¹⁴² and was immediately accused by William Wotton of attempting to destroy all religion,¹⁴³ while for Justin Champion Toland's work was part of a practical political aim 'to establish the grounds for rethinking the purpose and function of politics'.¹⁴⁴ Whether or not he was an atheist is open to debate. He denies that the activity of matter removes the need for a presiding intelligence, rejects the Epicurean belief that the world could come about by chance, and closes his Fifth Letter with the statement: 'And as for the Infinity of Matter, it only excludes; what all reasonable and good Men must exclude, an extended corporeal God, but not a pure Spirit or immaterial Being'.¹⁴⁵ I shall not go any further into this vexed question, which has no direct bearing on my main point. Toland's works were translated into French by d'Holbach in 1768 and used in *Le Système de la nature*, the main eighteenth-century propaganda vehicle for atheism and materialism, which has obscured the vitally important medical tradition represented by Coward, and even by Layton, but ignored by Toland. This tradition fed into the materialistic conception of humans elaborated in France by La Mettrie and Diderot, as it was vital for any coherent explanation of humans in terms of matter alone. But before looking at how this came about, we need to discuss in more detail the uproar caused by the works we have been discussing, whose violence ensured that its echoes reverberated beyond England's borders.

Reactions

Coward quoted Toland's work in *The Just Scrutiny* (published probably in 1706) to back up his own claim that the doctrine of the soul's immortality was an invention of the heathens, but he did not mention the more fundamental criticisms of his notion of matter.¹⁴⁶ His eagerness to enlist whatever writings could support his view, even turning criticism to his own advantage, was doubtless sharpened by the barrage of attacks and refutations he faced. Quickest off the mark was the indefatigable John Turner, the relentless defender of an immaterial immortal soul, whose *Phisico-Theological Discourse* (1698) had included a long discussion of the soul with frequent references to Willis to prove the superiority of human to animal souls, and a defence of human freedom against Hobbes.¹⁴⁷

¹⁴² But see Lurbe, 'A Free-Thinker Strikes Back against his Detractors', 266–8.

¹⁴³ Wotton, *A Letter to Eusebia*.

¹⁴⁴ Champion, 'The Men of Matter', 138.

¹⁴⁵ Toland, *Letters to Serena*, 236.

¹⁴⁶ Coward, *The Just Scrutiny*, 178–88.

¹⁴⁷ Turner, *A Phisico-Theological Discourse upon the Divine Being or First Cause of All Things*, letter III.

His reply to Coward tried to show that Coward's biblical references proved in fact the separate existence of an immortal soul.¹⁴⁸ Coward's immediate response to 'the weak efforts of the reverend Mr Turner and other less significant writers' was *Farther Thoughts*, followed by *The Grand Essay*, which sparked off more attacks, including a second one from Turner.¹⁴⁹ Coward's tone in the preface to *Farther Thoughts*, part of which has already been quoted, is even more violent than his critics':

These are a kind of mongrel *Church-breed*, who feed plentifully on the Revenues thereof, but still retain in them the rancour and venom of Fanaticism which they imbib'd perhaps from Education, or a temporizing Patron. These Men Toil and *Row in Religion* (pardon the Expression) look one way as if they intended *all Godliness*, but generally Act another way for *great Gain*.¹⁵⁰

He also came in for much personal vituperation and accusations of irreligion. William Nichols accused him of following the method used by atheists and infidels to undermine the Christian religion, which was, instead of launching an outright attack, to destroy part of it, so that the rest would collapse:

And thus Hobbs and Spinosa, who I am fully satisfied were two of the most absolute atheists, that ever were in the world, left a great deal of Christian phraseology in their writings, which they industriously turned into a ridiculous cant, to make our religion more odious; but I am verily persuaded that they believed no more of God, or Devil, or Heaven or Hell, or Virtue or Vice, or any thing we call religion, either revealed or natural, than the Grand Senior believes, that he shall be saved by Jesus Christ.¹⁵¹

The critics mainly argued that matter was passive and incapable of thought, that the soul's immortality was a scriptural doctrine, that punishments and rewards after death were necessary, and that to deny the soul's immortality entailed dangerous consequences for society. Lawrence Smith, Rector of South Warmborough in Hampshire, makes this point in various ways in the Preface to *The Evidence of Things not Seen*, repeatedly asking what could have been Coward's motive for wanting to destroy such an evident and useful belief which, even if it is an error, is 'an harmless innocent Error'; he could have denounced the false popish doctrine of purgatory without denying the separate existence of the soul.¹⁵² Coward was also attacked from the pulpit; he himself refers to two sermons preached by William Reeves before the Company of Apothecaries

¹⁴⁸ Turner, *A Brief Vindication of the Separate Existence and Immortality of the Soul*. The main immediate reactions to Coward were: *Vindiciæ mentis*; Assheton, *A Vindication of the Immortality of the Soul and a Future State*; Nichols, *Fifth Conference with a Theist*; Smith, *The Evidence of Things not Seen*; Broughton, *Psychologia*; Norris, *An Essay towards the The Theory of the Ideal of Intelligible World. Part II*; Alethius phylopsyches, *ψυξηλογια or Serious Thoughts on Second Thoughts*.

¹⁴⁹ Turner, *A Farther Vindication of the Soul's Separate Existence and Immortality*.

¹⁵⁰ Coward, *Farther Thoughts*, [8].

¹⁵¹ Nichols, *A Conference with a Theist*, 247.

¹⁵² Smith, *The Evidence of Things not Seen*, pp. xv–xvi.

in September 1704 and 1705.¹⁵³ In his 1704 *Sermon concerning the Natural Immortality of the Soul* Reeves argued that the soul must be immaterial, although he was careful not to limit God's power by denying he could make matter 'either Sensible, or Cogitative' and he claimed that if the mind was produced by the brain or was the result of the movements of animal spirits, then there could be no freedom.¹⁵⁴ While he seems to have had mainly Hobbes in mind when commenting on the text from Matthew 'fear not them which kill the body . . .', he remarked:

I cou'd wish, that a certain *Physician* had not practic'd upon this Text against the Soul, for he is not reflected upon here, I dare say, *as one of the Killers of the Body*; however we are commanded not to fear him, and indeed He is a very inoffensive Person at Argument; but I am in hopes, that if He goes on writing against the Soul after this manner, in a short time, we shan't have one Infidel left; tho' I wonder, why that which made *Galen* a Believer, shou'd make any of his Sons an Atheist.¹⁵⁵

As these works tend to be rather repetitive, we can take as typical the most heavyweight of them, namely John Broughton's *Psychologia*, directed against both Coward and Locke. Broughton, the Duke of Marlborough's chaplain, claims that the other replies, based mainly on the Scriptures, are insufficient but his reply, from natural religion, is based on natural reason. He accuses Coward, a follower of Hobbes, Democritus, and Lucretius, of introducing 'universal corporealism . . . Which is neither better nor worse than atheism' and of subscribing to the doctrine of the soul of the world, quoting Blount's *Anima mundi*.¹⁵⁶ His fundamental argument against both Coward and Locke is that thought must be based on immateriality and he demonstrates the need for an immaterial substance in the universe, claiming that Locke's thinking matter hypothesis is an 'an *Apparatus* to Atheism'.¹⁵⁷ As belief in the soul's immateriality is the best foundation for the doctrine of its immortality and the resurrection, to deny it implies atheism:

The *Atheistic Tribe*, tho' differing with it self in many Particulars, is intirely engag'd with its utmost Force against us in this Point. And these, tho' inconsiderable in themselves, become more formidable when joyn'd by a very large Body of the *Deists*; who, admitting a God but not his Judgments, are but too nearly concern'd to subvert, if possible, the true Foundation of Rewards, and Punishments.¹⁵⁸

In the second part of *Psychologia* he examines *Second Thoughts* point by point, comparing Coward's criticism of prejudice resulting from education to 'all the learned Works of *Spinoza, Hobbs, Blount, Le Clerc, L—k, and Toland*'.¹⁵⁹ He

¹⁵³ Coward, *The Just Scrutiny*, 20–1.

¹⁵⁴ Reeves, *A Sermon concerning the Natural Immortality of the Soul*, 5, 10.

¹⁵⁵ *A Sermon concerning the Natural Immortality of the Soul*, 16. The second sermon, *Concerning the Wisdom of God in the Works of Nature*, does not name Coward but insists it is the physician's duty to glorify God.

¹⁵⁶ Broughton, *Psychologia*, 75.

¹⁵⁷ *Psychologia*, 53.

¹⁵⁸ *Psychologia*, 131–2.

¹⁵⁹ *Psychologia*, 139.

likens Coward's opinions to those of 'his friend' Hobbes, the 'Arabian heretics' (the soul-sleepers), the 'Democritic and Epicurean atheists', or Lucretius, and insists that believing in a soul is a necessary concomitant of believing humans to be free moral agents and liable to reward and punishment. In reply to Coward's claim that the words 'immortal soul' are not found in the Bible, he lists the places in both Testaments which mention saving the soul and takes Coward to task for his confusion of the Hebrew words for soul and breath.¹⁶⁰ Like many others he discusses Christ's words on the cross promising the thief that he would be with him in Paradise immediately.¹⁶¹ But his central point is the necessary passivity of matter and immateriality of the thinking substance or soul: 'Motion communicated to Matter by an immaterial Agent, is unintelligible in the *Manner* of it; but that a Body shou'd move it self, is unintelligible not only in the *Manner* of being perform'd, but that it shou'd ever *be performed*'.¹⁶²

A joint discussion of Coward's and Toland's works, together with those of noted 'deists' was published in 1705 by Charles Gildon, the former editor of Blount's works, who had by now allied himself with the High Church propagandist Charles Leslie. In the dedication of *The Deist's Manual* to the Archbishop of Canterbury, he refers to 'two extraordinary paradoxes, lately published, one is, That Motion is essential to matter, and the other, That Matter and Motion think'. Despite claiming there is no need to refute them, he devotes the fourth of his debates between believers and unbelievers to proving the soul's immortality against several works, including Blount's and Coward's. He claims that although Coward ostensibly defends the resurrection his aim is really to deny it, and insinuates that he wants to promote irreligion like Blount and others. His unbeliever 'Pleonexus' declares for example:

I confess to you, that I have very great Doubts, whether I have any Soul at all distinct from the Body? And if so, the Evidence of your Eyes, and daily Experience, will bear no manner of Arguing upon. For we see the Body Perish every Day, and if the Soul be only the Life, as a Learned Gentleman of the Faculty of Physicians, has lately prov'd in his book of *Second Thoughts of the Soul*. If the Soul be no more, and our thinking Substance is dissipated in our Corporeal, let me tell you, it affords a strong Presumption, that when we Die, there is an end of us for all Eternity. I know the Doctor says indeed, we are to rise again, and be Judg'd, and so our Bodies Transported to Heaven or Hell: But if I think his Arguments for that weaker, than for the Mortality of the Soul, I must beg his Pardon if I believe one, and not the other.¹⁶³

Similarly, Thomas Wise's *Confutation of the Reason and Philosophy of Atheism* (1706), drawn largely from Cudworth, associates Coward with his refutation of Toland's claim that motion is essential to matter.¹⁶⁴ More importantly, John Hancock's 1706 Boyle lectures entitled *Arguments to Prove the Being of God. With*

¹⁶⁰ *Psychologia*, 255 ff.

¹⁶¹ *Psychologia*, 318–21.

¹⁶² *Psychologia*, 399.

¹⁶³ Gildon, *The Deist's Manual*, 180–1.

¹⁶⁴ Wise, *A Confutation of the Reason and Philosophy of Atheism*, 642–9.

Objections against it Answered, directed mainly against the systems of ‘atheists’ such as Hobbes, Spinoza, and the Epicureans, denounced ‘a late Author that (being to prove the Mortality of the Soul, or rather that there is no such thing as a Soul in Man, distinct from the Body) throws off this Argument, by ridiculing the Notion of Soul or Spirit, as an old Heathenish and Popish Notion’. Hancock asks whether matter can account for thought, as ‘some late Authors that pretend to believe there is no such thing as a thinking Substance in Man, distinct from the Body; but that Reason and Understanding is only an Emanation from Life’, and denies that the internal self-moving principle can be merely the motions of the organs, the animal spirits, or the substance of the brain which, following Henry More, he calls ‘a Lump of Curds’.¹⁶⁵

Coward was undismayed by the outcry raised against him and replied to attacks with increased vigour, countering accusations of atheism with numerous biblical quotations. His assurance can be seen in *The Just Scrutiny*, where he declares *Second Thoughts* ‘impossible to be satisfactorily answered by any Priest, Jesuit, Calvinist, or Person of any Sect whatever. Which has been very frequently and publicly said to my Face, by Men of great Learning and Ingenuity, tho’ at the same time, they avowedly profes’d they must not espouse it against the stream of Popular Clamour’.¹⁶⁶ But the counterblast was not confined to refutation. As we have seen the High Churchmen in the Lower House of Convocation tried to have *Second Thoughts* condemned, apparently sending a paper to the Upper House on 8 December 1703 at the height of the battle over the Occasional Conformity Bill asking the bishops to act against certain ‘impious and Heretical Books’ including Coward’s. In his reply Archbishop Tenison specifically refers to Coward’s work ‘against the immortality of the soul which tho it is a weak yet it is a very wicked Book’.¹⁶⁷ The lower clergy’s manoeuvres are mentioned by Coward in the ‘Dialogue between a Substanimist [Turner] and a Vitanimist [Coward]’ included in *Farther Thoughts*:

SUBST: I hope the Convocation will take it under their Cognizance, and publicly condemn it of Atheism and Irreligion.

VIT: Truly if all the Convocation were made up of such passionate men as you, I do not doubt, but that right or wrong, they would [. . .] vote the Author an *Atheist* and his Book an *Heretical Pasquil*. But I hope, Mr Substanimist, you mistake the temper and Genius of Men, plac’d in that Dignity and Station; They’d examine first whether it be the *Foxe’s Ears* that appears, before they rashly pronounce them to be *Horns*. Such as you indeed may.¹⁶⁸

Coward’s optimism seems to have been well placed, for the bishops procrastinated, claiming to prefer action in the dioceses such as that taken against Coward

¹⁶⁵ *A Defence of Natural and Revealed Religion*, ii, 234–9.

¹⁶⁶ Coward, *The Just Scrutiny*, 26 (emphasis Coward’s).

¹⁶⁷ Lambeth Palace, MSS Conv., Proceedings of the Upper House, I/1/13, fo. 37; the Lower House’s paper does not seem to have survived.

¹⁶⁸ Coward, *Farther Thoughts*, 10–11.

by the Bishop of Norwich, and after proroguing Convocation until 4 February Tenison put off a reply from session to session.¹⁶⁹ The Lower House did not give up and a year later they reminded the bishops of the request to take action against certain ‘ungodly books’ whose publication had been encouraged by the Upper House’s refusal to take action against Toland’s *Christianity not Mysterior*, and did then more particularly point at a scandalous Book in which the immortality of the Souls of men was openly deny’d, but sufficient notice was not taken of such Books, by reason whereof the Honble House of Commons brought this matter under their organizance and pass’d a censure upon one of the Books by your Clergy complained off to the great honour of that Body, and not without reproach upon the Convocation then sitting.¹⁷⁰

Indeed in the mean time, following Atterbury’s usual tactic when thwarted in Convocation,¹⁷¹ a committee of the House of Commons had been appointed on 10 March 1704 to investigate a complaint against both *Second Thoughts* and *The Grand Essay*. Coward was summoned and declared:

He never intended any thing against religion; and that there is nothing contained in those books contrary either to Morality, or Religion.

That he does not deny himself to be the Author of those Books; and, if there be any thing therein, against Religion or Morality, he is heartily sorry, and is ready to recant the same.

The Commons resolved on 17 March ‘That the said books do contain therein divers Doctrines and Positions contrary to the Doctrine of the Church of England, and tending to the subversion of the Christian religion’ and condemned them to be burned the next day by the common hangman.¹⁷² Although the increased notoriety conferred by this condemnation led to a second edition of *Second Thoughts* in 1704, it perhaps gave Coward pause for reflection, for he seems to have lain low for a while until apparently stung by the accusation in Henry Dodwell’s *Epistolary Discourse* (1706) that he and Layton had misinterpreted the Bible. Dodwell was a noted biblical scholar and non-juror who had left the Church of England and been expelled from his Oxford chair in 1691. He is said by his biographer to have written the ‘Letter concerning the *Immortality of the Soul*, against Mr. Henry Layton’s Hypothesis’ included in the volume of pamphlets published by Layton in 1703.¹⁷³ This must be the anonymous letter dated 15 August 1702 at the beginning of the collection; while agreeing that the soul is mortal, its author denies ‘that the Blood and Spirits produce thought’,

¹⁶⁹ Lambeth Palace, MSS Conv., Proceedings of the Upper House, I/1/13, fos. 37–8. As for the action taken by the Bishop of Norwich, although Coward’s name appears several times in the Consistory Court records (Norfolk Record Office, DN/ACT 84, book 94, 1702 liber 9 onwards), I have found no other trace of the case.

¹⁷⁰ Lambeth Palace, MSS Conv., Lower House, I/2/5A, fo. 296 (1 Dec. 1704).

¹⁷¹ Bennett, *The Tory Crisis*, 73. ¹⁷² *Journals of the House of Commons*, xiv. 373, 379–80.

¹⁷³ Brokesby, *The Life of Mr Henry Dodwell*, ii, 329.

claims that there must be an immortal soul, and criticizes Layton's interpretation of the Scriptures.¹⁷⁴ In 1706 Dodwell published an *Epistolary Discourse, Proving from the Scriptures and the First Fathers that the Soul is a Principle Naturally Mortal*, a dangerous title as he was aware, for he wrote to Hearne in November 1705 about a 'Disc. conc. Soul and Spirit', saying: 'I must be very wary in the Title because I see Prejudices imbibed, as if it were in defence of Dr. Coward &c'.¹⁷⁵ His fears were justified but the resulting outcry moved him to write other works in defence of his views, which he had already expressed in 1702 in a sermon against marriage outside the communion (the 'Peculium' or Holy Seed or City of God), which alone benefits from God's particular favour, namely the possession of the Divine Spirit.¹⁷⁶ The *Epistolary Discourse* explains that since the Fall the soul has been naturally mortal, an *afflatus* or breath of God even though a separate substance from the body, and only baptism by a bishop confers immortality, which God maintains so that the soul continues after death in a separate state.¹⁷⁷ Dodwell's *Preliminary Defence*, which refers to his work as *The Epistolary Discourse, Concerning the Distinction between Soul and Spirit*, is at pains to distance his thesis from those of Coward and Layton¹⁷⁸ and shows how it is an integral part of his attack on those outside the episcopal communion descended directly from the apostles. Only those 'true priests' receiving their power in direct descent from Christ (by which, as John Turner pointed out, he presumably meant the non-juring bishops)¹⁷⁹ had authority and deserved obedience.¹⁸⁰ Far from having an irreligious purpose or attacking priestcraft, his work was part of the non-jurors' campaign against the latitudinarian hierarchy and the Revolution Settlement and his true aim, according to Turner, was: 'to doom all those Christians who are out of his Episcopal Peculium, to an eternal Condemnation of Torments'.¹⁸¹

Dodwell's work elicited a reply from Samuel Clarke, 'the Cambridge latitudinarians' theological spokesman'.¹⁸² Clarke had already touched on the soul in his 1704–5 Boyle lectures published as *A Discourse concerning the Being and Attributes of God, the Obligations of Natural Religion, and the Truth and Certainty of the Christian Revelation* 'in answer to Mr Hobbs, Spinoza, the author of the Oracles of Reason and other deniers of natural and revealed religion'. When discussing the nature of matter he attacked Toland and Spinoza, 'the most celebrated patron of atheism in our time',¹⁸³ Hobbes's 'prodigiously absurd supposition, that all matter as matter is endowed not only with figure and a

¹⁷⁴ Layton, *Arguments and Replies*, 1–6.

¹⁷⁵ Letter to Hearne, 1 Dec. 1705: Bodleian Library, MSS Rawl. Letters 25, fos. 11, 12.

¹⁷⁶ Dodwell, *A Discourse concerning the Obligation to Marry within the True Communion*, 244 ff.

¹⁷⁷ See Almond, *Heaven and Hell in Enlightenment England*, 60–7.

¹⁷⁸ Dodwell, *A Preliminary Defence of the Epistolary Discourse*, 98–9.

¹⁷⁹ Turner, *Justice done to Human Souls*, 116–17.

¹⁸⁰ Dodwell, *An Epistolary Discourse*, Præmonition.

¹⁸¹ Turner, *Justice Done to Human Souls*, 6.

¹⁸² Gascoigne, *Cambridge in the Age of the Enlightenment*, 117.

¹⁸³ Clarke, *A Demonstration of the Being and Attributes of God*, 19, 20.

capacity of motion but also with an actual sense or perception, and wants only the organs and memory of animals to express its sensation', and Descartes's 'impossible and ridiculous account' of 'how the world might be formed by the necessary laws of motion alone'.¹⁸⁴ His defence of an immaterial soul was further developed in his reply to Dodwell, whose High Church opinions he tried to liken to the very different ones of Layton or Coward. He argues that the soul cannot be a material substance, denies that the Church Fathers had believed it material, and insists on the dangerous consequences that follow from refusing immaterial substance. He criticizes Dodwell's 'imprudent Title', from which many 'will conclude that you suppose the Soul to perish at the dissolution of the Body',¹⁸⁵ and reminds him that the Epicureans also deny the bad consequences of their philosophy. He calls opinions similar to those of Coward and Layton 'very pernicious':

He that will affirm that there is no other Substance in the World but *Matter*; and at the same time supposes *Matter* capable of all the same Powers and Attributes, which we ascribe to *Spirit*; may likewise with the same Reason pretend that no ill Consequence can be drawn from his Opinion: And yet no Body can doubt but such an Opinion leads directly to Atheism.¹⁸⁶

Coward replied to both Dodwell and Clarke in a letter to Clarke insinuating that his arguments were hypocritical: 'I remember in an Occasional Discourse with you about the Nature of the *Soul* of all living Creatures in general, you seemed then to have more elevated Flights concerning the *Souls of Brutes* than you here express in this *Letter to Mr. Dodwell*'.¹⁸⁷ This implies that he knew him personally, which is not surprising as Clarke was at the time chaplain to the Bishop of Norwich. Coward claims that both Clarke and Dodwell are wrong as 'by our Saviour's coming into the world, Man was restored to a Capacity of obtaining and enjoying Immortality of Life, which *Adam* by Original Sin had forfeited, and that there was no change in the *Nature of Man*, by the addition of a Baptismal Spirit, to entitle him to Immortality'.¹⁸⁸ Opponents nevertheless took delight in lumping Dodwell and Coward together as Dodwell had feared. The lawyer F. Oldfield's *Mille Testes: Against Atheists, Deists, and Scepticks* (1706), a compilation of the arguments for God, Providence, and the soul's immateriality and immortality found in a large number of authorities of all persuasions, associates Dodwell and Coward both on the title page and in the text itself, in a violent denunciation of soul-sleepers (likened to atheists and deists), Epicureans, and Spinozists.¹⁸⁹ John Turner also underlined the false impression given by the book's title, asking 'Is here my old Friend Dr. C—come abroad

¹⁸⁴ *A Demonstration of the Being and Attributes of God*, 43–4; see also Vailati's Introduction, pp. xxvii–xxx, for a summary of Clarke's views on the soul.

¹⁸⁵ 'A Letter to Mr Dodwell', in Clarke, *Works*, iii, 721.

¹⁸⁶ Clarke, *Works*, iii, 741.

¹⁸⁷ Coward, *The Just Scrutiny*, 97.

¹⁸⁸ *The Just Scrutiny*, 106.

¹⁸⁹ Oldfield, *Mille Testes*, 105–99.

again, with so celebrated a Champion for his Second?'¹⁹⁰ Edmund Chishull, who did not mention Coward, emphasized Dodwell's schismatic aims and discredited him by demonstrating that his opinion was simply a revival of Socinus's.¹⁹¹ Probably the most interesting reaction to Clarke's reply to Dodwell was that of Antony Collins, a master of irony, who seized with glee on the case of an undoubted believer 'attacking the received Opinion of the *Natural Immortality of the Soul*', thus demonstrating 'the Consistency of Zeal for Religion with Liberty of Thinking'.¹⁹² To counter Clarke he invoked both Locke's hypothesis that God could superadd the power of thinking to matter and the comparison with animals; either animal consciousness shows that they have an immortal soul like humans or they are mere machines, a dangerous conclusion 'For if the Operations of Brutes are not sufficient to distinguish them from Clocks and Watches, the Operations of Men will not prove *them* to be superior to Machines'.¹⁹³ Clarke and Collins exchanged a series of pamphlets in 1707 on the nature of matter, its possible possession of the power of thought, and the question of consciousness.¹⁹⁴ In reply to Clarke's claim that for any system of matter to possess consciousness the parts composing it must be conscious, Collins argued that organized matter could possess powers that the individual particles of it did not. Matter can be made sensitive by motion; he points out:

That the Matter of which an Egg consists, doth intirely constitute the young one, and that the Action of Sensation began under a particular Disposition of the Parts by Motion, without the Addition of an Immaterial and Immortal Soul, as the Powers of Vegetation, Gravitation, of producing the Sensation of Heat, Cold, Red, Blue, Yellow, are performed without the Addition of an Immaterial and Immortal Soul.¹⁹⁵

Thought is produced by matter organized in the brain. But instead of discussing how the brain functions or could produce thought, he sticks to the way intellectual functions are altered by the state of the brain and states that consciousness 'is a real Quality, truly and properly inhering in the Subject itself, the Brain, as Modes of Motion do in some Bodies, and Roundness does in others'.¹⁹⁶ Collins defends a materialistic conception of humans largely divorced from its theological context, for while paying lip-service to the Christian doctrine of immortality taught by faith he seems little concerned with the mortalist tradition and does not quote the Bible. Instead he discusses human liberty, which is hardly mentioned by the mortalists. In his 'Third Defence' Clarke writes:

¹⁹⁰ Turner, *Justice Done to Human Souls*, 12.

¹⁹¹ Chishull, *A Charge of Heresy, Maintained against Mr. Dodwell's Late Epistolary Discourse*. Dodwell was defended by Pitts, *The Holy Spirit the Author of Immortality*.

¹⁹² 'A Letter to the Learned Mr Henry Dodwell', Clarke, *Works*, iii, 749–50.

¹⁹³ Clarke, *Works*, iii, 753.

¹⁹⁴ See Vailati, *Leibniz and Clarke: A Study of their Correspondence*, 54–62.

¹⁹⁵ Collins, 'A Reply to Mr Clarke's Defence of his Letter to Mr Dodwell', in Clarke, *Works*, iii, 768.

¹⁹⁶ Collins, 'Reflections on Mr Clarke's Second Defence', in Clarke, *Works*, iii, 818.

If the *Mind* of Man, were nothing, but a certain *System of Matter*; and *Thinking*, nothing but a *Mode of Motion* in that System: It would follow, that, since every *Determination* of Motion depends *necessarily* upon the *Impulse* that causes it, therefore every *Thought* in a Man's Mind must likewise be *necessary*, and depending wholly upon external Causes; And there could be no such thing in Us, as *Liberty*, or a Power of *Self-determination*¹⁹⁷

and we would be merely clocks or watches. In reply, Collins denies firstly that to refuse a power of self-determination would destroy religion and then goes on, in a passage clearly inspired by Locke, to define liberty as 'a Power to do as we will, and forbear as we will'. After admitting that 'the Doctrine of *Necessity* is too generally supposed to be irreligious and atheistical', he mischievously remarks that Calvinists and Jansenists accept it and that Clarke had affirmed that God's will was determined.¹⁹⁸ Collins went on in 1717 to publish a *Philosophical Inquiry concerning Human Liberty* in which, adopting Hobbes's definition of liberty, he claimed that man is a 'necessary agent, determined by pleasure and pain'.¹⁹⁹ We shall see in a later chapter the emphasis on determinism among eighteenth-century materialists and the role played by Collins's arguments in this connection. He certainly pushes the argument against an immaterial soul towards a secular position and has as a result generally been perceived as a deistic (or atheistic) enemy of Christianity.²⁰⁰ It is not surprising that he enjoyed a high reputation later in France.

The English debate was prolonged by John Asgill's expulsion from the House of Commons in 1707. Asgill was a lawyer who had engaged in various financial ventures, including the founding of the first land bank in 1695, and written books on financial matters before going bankrupt. In 1700 he had published a strange 'enthusiastic' work entitled *An Argument Proving, that According to the Covenant of Eternal Life Reveal'd in the Scriptures, Man may be translated from hence into that Eternal Life, without passing through Death*. Although it seems to have aroused mainly derision at first, it led to his expulsion from the Dublin Parliament shortly after his election to it in 1703. He returned to England and, after taking up his previous seat at Westminster in 1705, entered a plea for discharge from debt, as a result of which he was expelled from Parliament and the work was condemned to be burned as it had been in Dublin. He returned to the King's Bench prison, where he continued to practise law and publish books until his death in 1738.²⁰¹ His book claimed that the 'law of death' was taken away by Christ's resurrection, which gave humans eternal life without the need to die first. His doctrine of 'translation' is based on a mortalist view of humans, whose bodies are dissolved into other forms when they die. For Asgill the New Testament contains no reference to the separate existence of the soul and St Peter

¹⁹⁷ Clarke, *Works*, iii, 851.

¹⁹⁸ Clarke, *Works*, iii, 872–4.

¹⁹⁹ Collins, *A Philosophical Inquiry*, 11.

²⁰⁰ O'Higgins considers him to be a sincere Christian (*Anthony Collins: The Man and his Works*), while Berman and Taranto argue that he was an atheist.

²⁰¹ *ODNB*, ii, 597–9.

believed the doctrine to be erroneous, the word ‘soul’ merely meaning the whole human life:

God first formed the Figure of Man’s Body in common Earth (from whence Men also form Figures of one another).

Then to this Figure God added Life, by breathing it into him from himself, whereby this inanimate Body became a living one.

But in this Composition the Spirit is so perfectly mixed with, and diffused through the whole Body, that we can’t now say which is *Spirit*, nor which is *Earth*, but the whole is *one intire living Creature*.²⁰²

It is difficult to know what to make of Asgill, a Tory anti-Jacobite generally seen as ‘Mad, an Enthusiast, an Atheist’, an opinion with which Defoe disagreed²⁰³ as did Samuel Taylor Coleridge, who wrote copious notes on his copy of the work in 1827 and doubted whether he was serious, claiming ‘Asgill was a thorough Humorist’.²⁰⁴ In any case, the doctrine of ‘translation’ and claim that Asgill himself would not know death seem to have attracted mainly mockery, despite which he continued to defend his positions vehemently. His biographer concludes that ‘he was either serious about translation or defending the right to espouse unorthodox ideas’.²⁰⁵ Asgill’s expulsion from the London and Dublin Parliaments was commented on in Charles Leslie’s High Church political paper *The Rehearsal*; after dismissing Asgill as a ‘silly monster’, Leslie produced ‘another monster’ in the shape of ‘one Doctor Coward’.²⁰⁶ Although summarizing *Second Thoughts* and *Farther Thoughts* relatively faithfully, indicating that Coward quoted Scripture extensively, Leslie claimed that Coward in fact denied the resurrection like Asgill as he did not believe in the resurrection of the same body. Leslie concludes:

That since Dr Coward do’s deny . . . that any Human thing or person is rais’d again, he do’s utterly deny and takes away the Resurrection. And consequently all future Rewards and Punishments; unless one person shou’d be rewarded or punish’d, for what another had done in the Flesh.

And therefor his Design in setling the Soul to Sleep after Death, was to let her Sleep for Ever.²⁰⁷

Coward also considers God to be material, which is equivalent to denying him. His work encourages ‘deists’ (by which Leslie seems to mean libertines, young gentlemen who love pleasure) and is particularly pernicious as at first sight it appears to support the resurrection and eternal life,

that he might not at once seem to flie in the face of all received Christianity; which they think may be better under-mind by appearing to write in its defence, but then betraying

²⁰² Asgill, *An Argument*, 66–8. See Almond, *Heaven and Hell in Enlightenment England*, 54–60.

²⁰³ Defoe, *An Enquiry into the Case of Mr Asgill’s General Translation*, 1.

²⁰⁴ Flyleaf of the copy in the British Library, shelfmark C.126.d.2.

²⁰⁵ *ODNB*, ii, 599. ²⁰⁶ *The Rehearsal*, 204 (30 Apr. 1707), 3.

²⁰⁷ *The Rehearsal*, 205 (3 May 1707), 5.

its strength, and the whole foundation of it; the method of late taken up by many of its adversaries, as I have shew'd in Asgill and several others.²⁰⁸

Leslie devotes several issues to Coward's views on the resurrection and misuse of the Scriptures, reflecting the High Church emphasis on the resurrection of the same body (the subject of Locke's debate with Stillingfleet). According to him, heresies and blasphemies like Coward's which undermine government and society, leading to 'the Rebellion and confusion which once overturn'd this Church and nation', were already to be found in Asgill's works, in *Man's Mortalitie*, and in Layton's pamphlets, from which Coward copied whole passages.²⁰⁹ Leslie's articles elicited a reply from a certain Evan Lloyd of Clonlanluyid, whose tone is indicated by its title: *A Muzzle for a Mad Dog*. He claims that attacks like Leslie's only help to spread irreligious ideas:

If you, and such as you would leave off Railing and Scurrility both out, and in the Pulpit, the world would not take Notice of those you call *Heterodox* Opinion. 'Tis such Public Raillery puts many Ignorant People upon Enquiry about Books and Opinions, which would otherwise dye neglected. And you make the Authors of them Odious, Write or Preach Notorious Lyes sometimes, to support your Calumnies, and Publick Base Reflections, telling the world such an Author justifies abominably Irreligious, or Atheistical Opinions, when in Reality he do's not.²¹⁰

Coward's opinion is in line with Christian belief and Lloyd wishes that all Christians would reject belief in immaterial souls as this would 'add Lustre to *our Reformation*' and help to subvert popery by extirpating that 'Philosophic Heathenish Notion'.²¹¹ This solicited even more violent replies, including *A Serpent and no Sting*, probably by Leslie himself, which refers to Coward's condemnation by the House of Commons for '*Irreligious, Unchristian and Atheistical Principles*'.²¹² Leslie also received support from a certain Le Wright in a pamphlet refuting Coward's interpretation of the Bible, linking his opinions with Asgill's and describing them as monsters and atheists.²¹³

These scurrilous exchanges reflect the interest aroused by the question and its link to political battles. Defoe's *The Consolidator* mocks Asgill and Coward together with Jonathan Swift's *Tale of a Tub* as indulging in flights of extravagant imagination, talking of things they do not understand, and he devotes a number of pages to deriding the debates on the soul. After a passage possibly inspired by Willis describing the soul 'like a Prince, in his Seat, in the middle of *his Palace the Brain*', sending out messengers to control the body,²¹⁴ Defoe goes on to mock Coward's *Second Thoughts*, insisting that the soul is a representation of God and thus 'incapable of dissolution'.²¹⁵ Swift himself, on a visit to England in

²⁰⁸ *The Rehearsal*, 211 (24 May 1707), 1.

²⁰⁹ *The Rehearsal*, 218, 219, 220 (14, 21, 25 June 1707).

²¹⁰ Lloyd, *A Muzzle for a Mad Dog*, 8–9.

²¹¹ *A Muzzle for a Mad Dog*, 27.

²¹² *A Serpent and no Sting*, 6.

²¹³ Le Wright, *The Soul the Body at the Last-Day*.

²¹⁴ Defoe, *The Consolidator*, 33.

²¹⁵ *The Consolidator*, 92–6.

1708, referred contemptuously in *An Argument against Abolishing Christianity in England* to ‘the Trumpery lately written by Asgill, Tindall, Toland, Coward, and forty more’,²¹⁶ and his *Remarks on The Rights of the Christian Church* attacked its author Tindal together with Toland, Asgill, Coward, and Gildon as modern enemies of Christianity and the successors of Socinus, Hobbes, and Spinoza.²¹⁷ It must have been very galling for Coward to be linked, from both sides of the political spectrum, to an enthusiast like Asgill. More directly political was Swift’s article in *The Examiner* in 1711, directed against attempts to repeal the Test Act; he imagines:

A Petition of Tindal, Collins, Clendon, Coward, Toland, in Behalf of themselves and many Hundreds of their Disciples, some of which are members of the Honourable House, desiring, that Leave be given to bring in a Bill for qualifying Atheists, Deists and Socinians, to serve their Country in any Employment, Ecclesiastical, Civil, or Military.²¹⁸

As we can see, expressing doubts about the immateriality of the soul attracted accusations of irreligion, deism, or even atheism, and had profound political overtones. High Church pamphleteers used these works to show the danger of toleration of any unorthodox opinions, which undermined the very bases of society and government, while the embarrassed Whigs and latitudinarians were keen to dissociate themselves from such opinions. The motives of these authors were diverse, but one may wonder about the real reasons for Coward’s insistence. He seems to have shared the broad lines of Toland’s political position, and while it is tempting to suppose that he did in fact have an irreligious agenda and wished to undermine the Church, such a conclusion cannot be substantiated. It is at least as probable that his defence of rational belief and a broad tolerant Church based on what he saw as authentic Protestant doctrines was motivated by the intolerant campaigns of the high churchmen defending beliefs smacking of popery. This interpretation may be supported by one rather enigmatic reaction to Coward’s works, from the Cambridge mathematician Joseph Raphson mentioned by Toland in *Letters to Serena*. In addition to *De spatio reali* (1697), from which Toland probably borrowed the term ‘pantheism’,²¹⁹ Raphson published a demonstration of the existence of God, the second part of which includes a letter dated 1709 discussing Coward’s ideas on the soul. Raphson reproduces extracts mainly from *The Grand Essay* alongside quotations from Lucretius in order to show their similarity. He nevertheless agrees that Coward’s views can be reconciled with Christianity and considers justified his opinion that incorporeal substance is a philosophical imposture.²²⁰ Raphson is an enigmatic and rather

²¹⁶ Swift, *Bickerstaff Papers*, 29.

²¹⁷ Swift, *Bickerstaff Papers*, 72.

²¹⁸ Swift, *The Examiner*, 55, 71; John Clendon was the author of *A Treatise of the Word Person* (London: John Walthoe, 1710), directed against Charles Leslie, which discussed the Trinity in relation to the 1698 Blasphemy Act.

²¹⁹ Raphson, *De spatio reali*. See Ch. 3 above.

²²⁰ Raphson, *Demonstratio de Deo*, 53–61.

mysterious figure, apparently one of the few whom Newton allowed to see his manuscripts, although dissociating himself from Raphson's view of God.²²¹ Raphson clearly did not see Coward's views on the soul as incompatible with his own demonstration of the necessary existence of an infinite and omnipotent God, perhaps because of Coward's definition of God as power. But Raphson's seems to have been an isolated and idiosyncratic opinion, and denials of the soul's immateriality were increasingly interpreted as part of an irreligious agenda. For most contemporaries Coward was a 'deist' and an enemy of religion.

The English debate does not come to an end with Dodwell, Clarke, and Collins but its most acute phase was over.²²² The extent to which the question continued to exercise thinkers can be seen from David Hume's discussion of the soul's immortality, which summarizes many of the same arguments and devotes much space to the moral implications of the question. He also claims that the physical arguments 'are really the only philosophical arguments, which ought to be admitted with regard to this question, or indeed any question of fact'.²²³ The fact that he withdrew his essay from publication indicates the continuing sensitivity of the issue, which was revived in the 1750s. By that time the discussion had surfaced in France in a very different context. Indeed, Hume himself was very possibly influenced by some of the irreligious French writings which will be studied in the next chapter, and which he probably read when he was at La Flèche in 1735–7.²²⁴ To understand their link with the works discussed in this chapter I shall now look at the echoes of the English materialists' arguments across the Channel and we shall see that, despite its neglect by historians, this debate was far from ignored on the Continent. The next chapter will trace the channels through which knowledge of these works was disseminated and how the argument took on a new edge in a different religious context.

²²¹ Copenhaver, 'Jewish Theologies of Space in the Scientific Revolution', 530–1.

²²² Further pamphlets were: Hampton, *The Existence of the Human Soul after Death*; Ditton, *Discourse concerning the Resurrection of Jesus Christ and Matter not a Cogitative Substance*; Brampton Gurdon's Boyle lectures of 1721–2, *The Pretended Difficulties in Natural or Revealed Religion no Excuse for Infidelity*.

²²³ Hume, 'Of the Immortality of the Soul', 95.

²²⁴ See Wootton, 'Hume's "Of Miracles"', 210–11.

5

Journalism, Exile, and Clandestinity

The English fascination with theological debate, remarked on in Basnage de Beauval's *Histoire des ouvrages des savants* in March 1698,¹ aroused much more interest abroad than is sometimes realized. We have already seen how Leibniz followed the English discussion on the soul, read some at least of the books, and held conversations with Toland which sparked off the latter's work on the question. Toland himself probably helped to spread heterodox ideas by his own travels and contacts with the European republic of letters.² But many English works were known even more rapidly and widely in France thanks mainly to the echoes in French-language periodicals published by Huguenot refugees in Dutch towns like Amsterdam, The Hague, or Rotterdam. The exiled French Protestant community in both the British Isles and the Netherlands increased in size after the Revocation of the Edict of Nantes in 1685, and they were naturally interested in the theological debate in Protestant countries. Their role in transmitting ideas and knowledge of English intellectual activity to French readers is well known, even though a detailed study of precise issues has not always been made. Their mediation was important as, according to Jean Le Clerc, few people outside the British Isles knew the English language. Le Clerc himself, whose unorthodox theology had led to his exile from Geneva, taught at the Remonstrant seminary in Amsterdam and had visited England and mastered the language. Thanks to this, his British contacts, and the journals he edited, he became 'a prominent middleman between English scholarship and that of the continent'.³ As we shall see, he was not the only one and there is abundant evidence that the learned French-language journals published in Holland were widely read in France. According to the Dutch publisher Du Sauzet in 1717, citing the opinion of several of the most distinguished members of the Court, La Roche's *Bibliothèque angloise* was 'highly esteemed in France' and Veissière, Chancelier Daguesseau's secretary, was of the same opinion in 1718.⁴ The exiled

¹ *Histoire des ouvrages des savans* (Mar. 1698), 134. See Reesink, *L'Angleterre et la littérature anglaise*.

² See Champion, *Republican Learning*.

³ Bellemare and Raynor, 'Berkeley's Letters to Le Clerc (1711)', 15; Bots, 'Jean Leclerc as Journalist of the *Bibliothèques*', 55.

⁴ Letters to Des Maizeaux, 28 May 1717 (B.L., Add. MS 4287, fo. 356) and 14 May 1718 (Add. MS 4288, fo. 207).

communities campaigned against the Roman Catholic Church and its doctrines, but they were also riven by polemics and bitter disputes and affected by the tumultuous intellectual life of the Dutch Republic despite their ignorance of the language, which meant that much of the Dutch debate was a closed book to them.⁵ They transmitted English ideas, coloured by their own preoccupations, to the French-speaking world and it has long been known that their periodicals and the heterodox works they printed and distributed 'sous le manteau' in France played a vital role in the early French Enlightenment.⁶ The most obvious contribution of these exiles (some of whom were pastors) to the diffusion of heterodox English thought was in providing news about and extracts from specific publications, but there is also a vaguer connection, more difficult to grasp, namely the way in which the continuation of the English debate in the French Protestant cultural sphere (including refutations of materialistic ideas) had an impact on French thought. The information they provided may have confirmed Leibniz's fears about the unintended consequences of apologetic works and, despite the religious convictions of some at least of them, they helped to spread heterodox and even irreligious arguments.

There are many reasons why a significant segment of the reading public in France was open to these new ideas and their potential for undermining religious doctrines. As has been frequently charted, France in the last twenty years of Louis XIV's reign was prey to economic and social misery and increasing unease at the injustice and privileges of the absolutist régime supported by the Church.⁷ In addition, as Laurence Brockliss has shown, the large number of colleges and universities throughout France provided what he calls the liberal professional élite with a grounding in the new science and its epistemological basis which made them 'a susceptible target' for the critical examination of accepted ideas.⁸ He is particularly referring to the success of the French Philosophes' subversive enterprise from the mid-century, but this situation undoubtedly also contributed to an earlier sympathetic reception for intellectual developments in the Protestant world and their doctrinal debates. In France much more than in Britain this critical examination often took the form of a rejection not only of certain doctrines, but of religion altogether, no doubt at least in part because of the role played by the Catholic Church, in particular the Jesuits, in supporting absolutism,⁹ and the repression of dissenting voices; these included not only the Protestants but also the Jansenists associated with Port-Royal Abbey,

⁵ Cerny, *Theology, Politics and Letters at the Crossroads of European Civilization*. See also Israel, *The Dutch Republic*, Part III.

⁶ See Rétat, *Le Dictionnaire de Bayle et la lutte philosophique au XVIIIe siècle*, although it deals mainly with Bayle's influence on the 'English deists'.

⁷ Mornet, *Les Origines intellectuelles de la Révolution française*, 39 ff; Rothkrug, *Opposition to Louis XIV*.

⁸ Brockliss, *French Higher Education in the Seventeenth and Eighteenth Centuries*, 454.

⁹ See Van Kley, *The Religious Origins of the French Revolution*, 15–58.

followers of the teaching of the Flemish theologian Cornelius Jansenius, who were accused of subscribing to Calvinistic doctrines due to their emphasis on original sin and predestination. They were influential in the Paris Parlement, often in dispute with the crown, and looked on by Louis XIV as republican enemies.¹⁰ The King's campaign against the Jansenists led to their expulsion from the Abbey at Port-Royal (destroyed in 1710) and condemnation by the Papal Bull *Unigenitus* in 1713. There ensued a stubborn clandestine resistance on their part during the Regency and the reign of Louis XV with the support of many Church members, who were systematically hunted down by Cardinal Fleury from 1726. This encouraged criticism of royal power and Church authority, voiced from 1728 onwards by their widely circulated clandestine periodical *Nouvelles ecclésiastiques*. It also led to the meetings of 'convulsionists', most notably in Saint-Médard Cemetery in Paris, where scenes of religious hysteria including crucifixions of women attracted crowds of onlookers and may possibly have helped to push some critical minds in the directions of religious scepticism.¹¹ In 1746 Diderot made the connection between the events at Saint-Médard and the French Prophets in London who had been the occasion for Shaftesbury's *Letter on Enthusiasm*, a connection already made by the Jansenist Dr Philippe Hecquet, who refers to Shaftesbury's *Letter* in one of his pamphlets against the convulsionists.¹² Theological debate in France, dominated by the confrontation between Jansenism, Thomism, and Molinism, was complicated by rivalries between the different religious orders and disputes in the universities between Aristotelians and Cartesians (accused of links to the Jansenists).¹³ The marquis d'Argens denounced the violence and intolerance of Jansenists and Molinists which forced everyone to take sides,¹⁴ and it has been suggested by Alan Kors that such rivalries and polemics—notably picking holes in their opponents' proofs for the existence of God and mutual accusations of atheism—encouraged the development of unbelief.¹⁵ According to Brockliss, problems with both Cartesian and Thomistic teaching on the soul and its union with the body meant that many professors of metaphysics in the early eighteenth century adopted Nicolas Malebranche's occasionalism despite doubts about his orthodoxy.¹⁶ Kors also insists on Malebranche's influence and believes that 'his legacy was unbelief'.¹⁷ He is referring to the debate about the proof of God, but as we shall see below Malebranche played a significant

¹⁰ See Van Kley, *The Religious Origins of the French Revolution*, 58–74; McManners, *Church and Society in Eighteenth-Century France*, ii, Part V; Cottret and Michel, *Jansénisme et puritanisme*.

¹¹ See Roche, *La France des Lumières*, 330–9; Maire, *De la cause de Dieu à la cause de la nation*, and 'Les querelles jansénistes de la décennie 1730–1740'. Argens called them 'fanatical, cunning, dangerous, and cheats' (*Lettres juives*, ii, [10]).

¹² Diderot, *Pensées philosophiques*, in DPV, i, 5; Hecquet, *Le Naturalisme des quatre requestes*, 83.

¹³ Clarke, *Occult Powers and Hypotheses*, 28–34.

¹⁴ Argens, *Lettres juives*, ii, 146–9.

¹⁵ Kors, *Atheism in France, 1650–1729*, esp. ch. 8.

¹⁶ Brockliss, *French Higher Education*, 213–14.

¹⁷ Kors, *Atheism in France*, 357.

role in French discussions of the soul, as *De la recherche de la vérité* (1674–5) provided numerous examples showing the dependence of the mind on the body.

Censorship meant of course that possibilities for public discussion were extremely limited and, as Argens put it, philosophers had to adapt their thinking to state policy and the imaginings of monks.¹⁸ This situation, frequently contrasted with the freedom of debate in Holland and England, could not however prevent private speculation. The clandestine circulation of the Epicurean materialistic arguments espoused by the seventeenth-century ‘libertins’ has attracted the attention of historians, and the important contribution of this tradition, or of pyrrhonism inherited from Montaigne, to irreligious arguments in the early eighteenth century is now recognized.¹⁹ Alongside this tradition, I contend, we need a greater awareness of the role played by echoes of English theological debates which have been obscured by the emphasis placed on the influence of irreligious ‘English deists’. Abbé André Morellet, who studied at the Sorbonne from 1748, recounts in his *Mémoires* that he devoured books not only by Locke, Bayle, Leibniz, Spinoza, Voltaire, or Buffon, but also by Le Clerc, Clarke, and Cudworth.²⁰ The imposition of a single religious and political orthodoxy and the impossibility of public debate on so many issues meant that a number of different groups could not voice their opinions openly, thus encouraging the existence of unofficial networks for the distribution of unauthorized works, more or less tolerated by the authorities.²¹ Theological opinions which were aired publicly in Britain or Holland could only circulate privately or clandestinely alongside more radically subversive ideas, thus pushing many towards a more radical rejection of orthodox ideas. The resulting situation and the delicacy of theological issues can be seen in the reaction to the thesis defended at the Sorbonne by the abbé de Prades in November 1751. Although it was initially received favourably, criticism of his discussion of miracles began to circulate rapidly and it was rumoured that among other things he had claimed the soul might not be spiritual and was suspected of materialism. At the end of January 1752 the Faculty of Theology officially condemned the thesis, and the first of the ten propositions incriminated was the claim that all knowledge comes from sensation and that we need to examine carefully the nature of the principle which thinks in us, seen as favouring materialism. The Archbishop of Paris’s *mandement* which followed immediately again singled out the expression ‘fiery soul’, used by the materialists, and denounced a concerted irreligious campaign to spread dangerous religious and political principles; and the Bishop of Auxerre’s *Instruction pastorale* criticized Prades’s reference to Locke, accused of doubting

¹⁸ Argens, *Lettres juives*, i, 22.

¹⁹ Pintard, *Le Libertinage érudit dans la première moitié du XVIIe siècle*; Bloch, *Matière à histoires*, 225–87.

²⁰ Morellet, *Mémoires*, 58.

²¹ See Birn, ‘Religious Toleration and Freedom of Expression’, 274–80.

the soul's immateriality.²² This was in part a campaign against the *Encyclopédie*, to which Prades had contributed, and it led to the condemnation of the first two volumes on the same day that papers were issued for Prades's arrest. The abbé himself sought refuge at the court of Frederick II of Prussia, and Diderot wrote a pamphlet in his defence. The fact that an inoffensive thesis in theology could provoke such a reaction and stoke fears of a concerted irreligious campaign also reflects the growth of irreligious ideas in the first half of the century. To understand these developments and the contribution of the English debate to this situation, this chapter will begin by looking at the Huguenot and Dutch connection and the echoes of English works and will re-evaluate the role played by Pierre Bayle. Following this, I shall study the specifically French-language debates, particularly the clandestine circulation of heterodox ideas on the soul in the early eighteenth century. We are entering a shady world, where information is not always available, authorship is disputed, and the true motives of the actors are often difficult to fathom. The debate did not, as across the Channel, take place openly on the public stage and cannot be treated in the same way. Recent work devoted to French 'clandestine philosophy' has revealed the diversity of its philosophical and scientific inspiration, but the extent to which heterodox speculation was, as in England, fuelled by theological controversy is not always realized. The respected Dijon intellectual Jean Bouhier privately expressed ideas on the soul similar to those of the English mortalists, probably influenced by reading accounts of the English debate in learned journals, but did not let his opinion be known publicly despite his belief that it could be reconciled with revelation.²³ He knew that the immateriality of the soul could not be openly questioned. Here I take issue with the view of John Spink, whose pioneering study contributed to a much greater understanding of free thought in the period; he noted a reference to Coward's heterodox opinions in the *Journal des savants's* review of *Ophthalmiatria* and discussions of *Second Thoughts* in *Nouvelles de la République des Lettres*, as well as echoes of Locke's thinking matter hypothesis, but he considered that Locke's suggestion aroused no hostility in the early years of the century comparable to Spinoza's conception of a single substance. He believed that it was only with the establishment of Cartesianism in France in the 1730s that such positions became scandalous.²⁴ Brockliss, however, has demonstrated the dominance of Cartesian mechanism in colleges and scientific circles in France from the 1690s.²⁵ By looking at the wider ramifications of the debate on the soul—namely the difficulties seen to arise from Cartesian

²² Spink, 'Un abbé philosophe: l'affaire de J.-M. de Prades'.

²³ See his letter to Louis Bourguet, 4 Dec. 1737 (B.N., MS f. fr. 22409, fo. 248^v) and his letters to Caspar Cuenz discussed below; he instructed Cuenz not to divulge his authorship of a letter to Louis Bourguet which Cuenz published (B.N., MS f. fr. 24410, fo. 304).

²⁴ Spink, *French Free-Thought from Gassendi to Voltaire*, 221–5.

²⁵ Brockliss, 'Aristotle, Descartes and the New Science', 33–69; Brockliss and Jones, *The Medical World of Early Modern France*, 411 ff.

dualism, the theological and political discussions around these issues, and medical speculation—we have already seen that its dangerous implications were only too obvious, as was the need for circumspection when referring to them. In the early years of the century opposing philosophical and theological positions, often in defence of religion, combined to produce irreligious speculation linked to arguments in favour of a material conception of humans. We shall see that knowledge of the English debate played a role in its elaboration, often reinforcing the irreligious use made of Montaigne or of the philosophy of Malebranche and Gassendi.

Informing the Republic of Letters

Intellectual exchanges between England and France were helped by the existence of networks among English and French Protestants and the fact that some French exiles took up residence in England, like Pierre Des Maizeaux, who settled in London in 1699. In addition, certain Whigs had established contacts with French Protestants during their exile in Holland in the years preceding the Glorious Revolution. For example, John Locke and Gilbert Burnet both befriended Jean Le Clerc, who published an extract from Locke's *Essay* in his *Bibliothèque universelle et historique* in 1686.²⁶ These contacts and the resulting important exchanges of letters, news, and information meant that events in England were followed closely by intellectual circles in Holland, who made them known to readers in France. It was possible to publish much more freely in Holland than in France, and the role of works printed in Holland (and elsewhere) and smuggled across the borders to France is well known. But this does not mean that writers were completely free, as these refugees often depended financially on teaching posts paid for by various churches and were at the mercy of doctrinal disputes, especially the attempts to suppress Arminian ideas. Jacques Bernard, the director of *Nouvelles de la République des Lettres*, wrote to Pierre Des Maizeaux in London in May 1700 asking him to be careful when sending him news about English books for inclusion in his periodical:

I must admit that we live in a country where we are not as libertine as you are in England, so I beg you to be careful lest in the news you write for me, you innocently include something that, if I use it, might cause me problems. I could not, for example, use the extract from M. Burnet's book as you sent it. That is why I wrote in my first letter to you that if you want me to use it, you must let me make any changes I think appropriate.²⁷

²⁶ Bots, 'Jean Leclerc as Journalist of the *Bibliothèques*', 57.

²⁷ 'je dois vous avouer, que nous vivons dans un Pays, où nous ne sommes pas si libertins, que vous l'êtes en Angleterre; ainsi je vous prie de prendre garde qu'innocemment dans les nouvelles que vous m'écrirez, vous n'en marquez quelcune, qui, si j'en faisais usage, pût me susciter des affaires. Je ne pourrois, par exemple, faire usage de l'Extrait du Livre de M. burnet, tel que vous me l'avez

Even so, more could be written in Holland than in France, and the doctrinal disputes among the theologians encouraged debates similar to those in England, with which they were connected in many ways. One of those who was particularly attentive to intellectual developments across the Channel was Pierre Bayle, the erudite Huguenot exile who exercised considerable influence. Much has been written about his scepticism and the encouragement, inadvertent or otherwise, given to heterodox or even irreligious thought by his *Dictionnaire* (first published in 1696, but whose second edition in 1702 included many important additions), in which the most important discussions are found in the copious notes.²⁸ As he was a particularly subtle thinker, one must be wary of oversimplifying his thought. My discussion will be confined to his contribution to the debate on the soul and its link to the English debate. Bayle held an essentially Cartesian position and like others was concerned with the implications of mechanism and dualism. While careful to defend the necessary immateriality of thinking substance, he repeatedly rehearsed the difficulties it entailed and his dialectic discussions of alternative explanations of thought, derived from the sceptical tradition, certainly encouraged doubts in his readers' minds. Bayle's complex analyses of atomistic philosophy and theories of active matter show his refusal of any compromise between the dualist position and complete materialism.²⁹ He states on several occasions that if the thinking substance is not separate from the body, then all bodies are thinking substances, or in other words sensation and thought are innate properties of matter.³⁰ His arguments are mainly metaphysical and apart from criticism of Spinoza he refers rarely to contemporary debates, but he does mention Locke's exchange with Stillingfleet in a remark added in 1702 to the article 'Dicéarque'. After replying (remark L) to an anonymous correspondent's objections to what he had written about this philosopher's opinion of the soul and the need for there to be a separate thinking substance, he goes on to discuss (remark M) 'a dispute that has made a lot of noise in England'. Citing the account of the debate given in *Nouvelles de la République des Lettres* in November 1699, Bayle insists on Locke's admission that the notion of a thinking body is incomprehensible. After repeating that the need for an immaterial soul is philosophically 'orthodox', he ends by saying that as Locke is convinced of the soul's immortality on the faith of scriptural teaching his position is admirable.³¹ A similar reference is given in his article 'Perrot' where the discussion is continued; he again distinguishes between philosophical and religious orthodoxy, saying that while Cartesian philosophical orthodoxy is that one can demonstrate the soul's

envoyé. Ainsi vous écrivois-je dans ma première lettre, que si vous vouliez que je m'en servisse, il falloit me permettre d'y apporter les changemens, que je jugerois à propos', B.L., Add. MS 4281, fo. 86.

²⁸ The main work on Bayle is still Labrousse, *Pierre Bayle*.

²⁹ Paganini, *Analisi della fede e critica della ragione nella filosofia di Pierre Bayle*, 390–404.

³⁰ For example, 'Dicéarque', remark C, in Bayle, *Dictionnaire*, v, 507.

³¹ Bayle, *Dictionnaire*, v, 512–15; Bayle directs the reader to this article in 'Jupiter', remark G, concerning the absurd conclusions that follow from saying that matter can think (viii, 537).

immortality from its immateriality, theological orthodoxy consists in submission to revelation. Bayle quotes a long passage from Locke's reply to Stillingfleet justifying the fact that he bases his belief in the soul's immortality on revelation.³² It is significant that Bayle refers to the extract from the Locke–Stillingfleet debate given in a periodical, for this was how news of English intellectual life was rapidly brought to the attention of French-speaking readers. Locke's translator Pierre Coste published two long articles in *Nouvelles de la République des Lettres* in October and November 1699 giving a detailed account of the exchange; the one to which Bayle refers includes a long translation of Locke's arguments on the soul and Stillingfleet's reply, and ends by advising readers to consult the imminent French translation of Locke's *Essay* containing additions to the first English edition.³³ So even though the pamphlets exchanged by Locke and Stillingfleet were never published in French, the arguments Locke developed there against the necessary immateriality of thinking substance were known thanks to this extract, which circulated quite widely. Over fifty years later, when Dr Jean Astruc was defending the soul's immateriality and immortality against Locke's hypothesis (which according to him the freethinkers considered to be the most certain proof of their opinion of the soul), he quoted Stillingfleet's objections to Locke as given by Coste in 1699, admitting he had not read the original works.³⁴

It was shortly after Coste's articles that the news from England given by Bernard's *Nouvelles de la République des Lettres* started to be provided by Pierre Des Maizeaux. Soon after settling in London in 1699 he became one of the most active of the French Huguenots there and was eventually elected a member of the Royal Society. He was the centre of a group which met regularly at the Rainbow Coffee House and was in contact with the leading English intellectuals, including Locke, Addison, Shaftesbury, and Saint-Evremond, whose works he edited. He was particularly involved in posthumous editions of Bayle's works and published his letters. His reputation can be seen from the fact that David Hume asked Des Maizeaux's opinion of his own 'system of philosophy' in 1739.³⁵ He was a friend of Pierre Coste and Anthony Collins, and conducted a vast correspondence with intellectuals and publishers in various parts of Europe but particularly in France and Holland. One of his contacts in the Netherlands was Locke's Quaker friend Benjamin Furly, whose house was a meeting-place for freethinkers, who borrowed books from his vast library. Des Maizeaux was part of an extended network which circulated books and organized the translation of particularly interesting works, and he was asked by many European intellectuals,

³² Bayle, *Dictionnaire*, xi, 646. The source for the Locke quotation is given as both Le Clerc's *Parrhasiana* and the article in *Nouvelles de la République des Lettres*. I shall come back to this below.

³³ *Nouvelles de la République des Lettres* (NRL) (Nov. 1699), 484–513. Large extracts from Locke's *Essay* were given in many periodicals.

³⁴ Astruc, *Dissertation sur l'immatérialité et l'immortalité de l'âme*, 96–103. See also Thomson, 'Locke, Stillingfleet et Coste'.

³⁵ Hume, *Letters*, 29–30.

publishers, and journalists to provide information on English intellectual life. He contributed regular newsletters about publications in England to several French-language journals in Holland and elsewhere, in which he gave details of all sorts of recent publications and theological controversies.³⁶ He contributed to *Nouvelles de la République des Lettres*, *Nouvelles littéraires*, and the *Bibliothèque raisonnée*, as well as mainstream journals like the *Journal des savants*, published in France (and pirated by Dutch publishers), and the Jesuit *Journal de Trévoux*, in both of which he had to be much more circumspect. There is disagreement as to whether Des Maizeaux was a deist: Joseph Almagor writes that 'it is not always clear to what degree he himself was a convinced deist', while Elisabeth Labrousse considers that he was a deist as early as 1699.³⁷ It is at least clear that he sympathized with free thought and certain heterodox ideas, and that he deliberately used his contacts to help spread them. This does not necessarily mean irreligious ideas; he was anxious to write about latitudinarian churchmen such as Gilbert Burnet, despite some Dutch journalists' hesitations.³⁸ However, he certainly played an important part in helping to translate and distribute Collins's works³⁹ and provided irreligious works for French correspondents. The importance of intellectual networks in circulating information and books, even across religious and political divides, should not be underestimated. For example, in 1722 abbé Camusat sent him several letters requesting detailed information about Toland and his works for the maréchal d'Estrées, whose librarian Camusat was; apparently d'Estrées was very keen to obtain *Pantheisticon*.⁴⁰ Also, interestingly, after Locke's death Des Maizeaux apparently informed Jean Barbeyrac in Berlin that Locke was convinced of the unity of substance, drawing the following remark from his correspondent (22 December 1706):

What you say about the late Mr. Locke's Spinozism surprises me very much. As you have 'very good reasons to believe that Mr. Locke held that thought', this must appear in one of his posthumous works or in private conversations in which he expressed his opinion on it. I do not think one can conclude anything of the sort from his *Essay* and I have not read anything on it in the Extracts of diverse letters by Mr. Bernard. What he said on our ignorance of the nature of substances in no way seems to me to authorize attributing to him anything smacking of Spinozism.⁴¹

³⁶ See Almagor, *Pierre Des Maizeaux (1673–1745)* and Sgard, *Dictionnaire des journalistes*, i, 301–3.

³⁷ Almagor, *Pierre Des Maizeaux*, 268–9; Labrousse, *Pierre Bayle*, 302.

³⁸ See the letter already quoted above, and: 'Je n'ai encore fait aucun usage de votre Extrait du Livre de M. de Salisburi, parce que je ne saurois l'employer tel qu'il est, & que pour le changer, j'ai voulu avoir votre consentement. On n'ose pas parler en ce Pays, comme au lieu où vous êtes, & il y a toute apparence, qu'après un pareil Extrait je n'en ferois jamais d'autre' (letter from Bernard, 6 Apr. 1700, B.L., Add. MS. 4281, fo. 82).

³⁹ See Collins's letters to Des Maizeaux, B.L., Add. MS 4282, fos. 112–247.

⁴⁰ Add. MS 4282, fos. 23–31.

⁴¹ 'Ce que vous dites du Spinozisme de feu Mr Locke, me surprend beaucoup. Puis que vous avez de très bonnes raisons de croire que Mr Locke avoit cette pensée, il faut que cela paroisse ou

Des Maizeaux employed various ruses to get accounts of heterodox works published in the most unlikely places; for example, reviews of refutations allowed him to summarize the arguments that were being refuted. His task was made easier by the sustained interest in the various English works on the soul, beginning with the one by Asgill, who aroused considerable curiosity as can be seen from Bernard's question to Des Maizeaux in 1701: 'They say here that Mr. Asgill the immortal man is dead; try to find out and if he is please let me know, it's a piece of news worth printing'.⁴² *L'Histoire des ouvrages des savants* had given quite a long summary of Asgill's book with no comment beyond the introductory remark that, in view of the fact that he has against him past experience over the centuries, 'the public will therefore be very obliged to him for dissipating an error whose consequences are so grave'.⁴³ This contrasts markedly with the *Journal de Trévoux*, which provided a long summary and even a quotation, together with refutations of this 'monster' and lamentations on the irreligion prevailing in a Christian country, said to be caused by 'the dangerous freedom given to anyone to explain Scripture as he imagines' in a Protestant country like England.⁴⁴ There was also a long review in *Nouvelles de la République des Lettres* which explains that this work should be exempted from the general rule that one should avoid speaking of dangerous errors because Asgill will certainly not convince anyone. After providing a detailed summary of Asgill's arguments the journalist then highlights those of his doctrines that are much more dangerous than his main theses, namely the belief that the resurrection does not necessarily need the same body, and that the soul, which is simply like breath, returns to the infinite divine essence as a river is lost in the ocean; thus the resurrection is the creation of a body like that of the living person and not the resurrection of the same person. The article concludes: 'religion cannot accept such ideas'.⁴⁵

The controversy surrounding Coward attracted even more attention. Des Maizeaux's summary of *Second Thoughts* in *Nouvelles de la République des Lettres* quoted Coward's definition of the soul as life, denial of any spiritual and immaterial substance distinct from the body, comparison of humans and animals, and claims that 'the soul dies with the body and resuscitates with it'. Des Maizeaux reminds readers that similar opinions were held by some of the Church Fathers, quoted by Coward.⁴⁶ The journalist repeats Coward's

par quelcun de ses Ouvrages posthumes, ou par des conversations particulières où il aît déclaré ses sentimens là-dessus. Je ne crois pas qu'on puisse rien conclurre de tel de son Essai sur l'Entend. & je n'ai rien lû encore là-dessus dans les Extraits des div. Lett. de Mr Bernard. Ce qu'il a dit sur l'ignorance où nous sommes de la nature des Substances, ne me paroît nullement autoriser à lui attribuer quoi que ce soit qui sente le Spinozisme', B.L., Add. MS 4281, fo. 20.

⁴² 'On a dit ici que M. Asgill l'homme immortel étoit mort, tâchez de le savoir, & s'il l'est faites moi la grace de me le marquer, c'est une nouvelle digne d'être imprimée', 8 July 1701, B.L., Add. MS 4281, fo. 108^v.

⁴³ *Histoire des ouvrages des savans* (Apr. 1700), 148.

⁴⁴ *Journal de Trévoux* (Nov. 1701), 79–89.

⁴⁵ *NRL* (Nov. 1700), 546–54.

⁴⁶ *NRL* (Oct. 1702), 469–71.

identification of the soul with life when discussing a reply written by a clergyman called Mesnard.⁴⁷ In the same volume he announces briefly the publication of Coward's defence of his view that the soul is corporeal and will only revive at the resurrection, together with the titles of some attacks on it.⁴⁸ So although Coward's books were never translated, French readers knew his main arguments almost immediately. It was probably not Des Maizeaux who was the source of the brief announcement in the literary news from London published in the February 1703 issue of the *Journal de Trévoux*: 'a doctor called Couvard has published a book against the soul's immortality (there is scarcely any essential truth of Religion that has not been publicly attacked in England since the usurpation)'.⁴⁹ A further announcement appeared in December of the same year informing readers equally inaccurately that Coward had 'dared' to publish a defence of his book against the soul's immortality, while in March 1705 his book of remedies was announced.⁵⁰ In June 1707 the literary news from England (now provided by Des Maizeaux) included the publication of *Ophthalmiatria*. Each piece of information was accompanied by a reminder that Coward had dared to put his name to books against the soul's immortality or that he was too well known on account of his 'impious views on the soul's mortality'.⁵¹ Des Maizeaux was able to print much more in *Nouvelles de la République des Lettres*, where he reminded readers of Coward's work when announcing Nichols's fifth *Conference with a Deist*, announced the publication of *The Grand Essay* defending 'the soul's materiality', and informed readers that both of Coward's works had been burned a fortnight earlier by order of the House of Commons. On this occasion Bernard, the editor of the *Nouvelles*, prudently added a note criticizing the impudence of those who attack one of the most fundamental articles of religion and even dare to call the books in which they do so a 'defence of reason and religion', and commented: 'It's a rather crude trap which has been known for a long time. Therefore only dupes, or people who are happy to be provided with weapons against religion, fall into it'.⁵² Even later, in November 1710, Des Maizeaux seized the opportunity provided by *La Connoissance de l'âme par l'écriture* by Aaron Testas, minister of the French church in London, to remind readers of the arguments of Coward and other soul-sleepers, who include 'some French artisans in a part of London'.⁵³ We can see from all these references that while Des Maizeaux defines Coward's beliefs more precisely than do other journalists, explaining his refusal of a distinct thinking substance and identification of the soul with life, he gives the impression that Coward defended a material soul.

⁴⁷ *NRL* (July–Dec. 1703), 201 ff; the title of Mesnard's book is given as *La Doctrine de l'écriture sainte sur la nature de l'âme. 2. sur son origine. 3 et sur son état après la mort* (London: 1703).

⁴⁸ *NRL* (July–Dec. 1703), 229.

⁴⁹ *Journal de Trévoux* (Feb. 1703), 362.

⁵⁰ *Journal de Trévoux* (Dec. 1703), 1220; (Mar. 1705), 903.

⁵¹ *Journal de Trévoux* (June 1707), 1118. In Aug. 1707 the second edition of Coward's *De fermento* was announced without this reminder.

⁵² *NRL* (May 1704), 595 ff.

⁵³ *NRL* (July–Dec. 1710), 598–9.

He refers to Coward's work more frequently than to Toland's *Letters to Serena*, whose publication is announced in July 1704 together with a list of its chapters. Des Maizeaux does however use the announcement of Wotton's *Letter to Eusebia* to develop Toland's ideas, in particular his argument that movement is essential to matter. The French public therefore knew of Toland's argument long before d'Holbach's translation of *Letters to Serena* in 1768.⁵⁴

But these summaries of Coward's and Toland's arguments against the immaterial soul were overshadowed by the attention paid to Dodwell's works and the ensuing polemic. Dodwell's *Epistolary Discourse* and the replies by Clarke and Turner were announced in the news from England in the same issue of *Nouvelles de la République des Lettres* in 1706,⁵⁵ followed by Coward's *The Just Scrutiny*, and the difference between Coward's and Dodwell's opinions was indicated. Later more attacks on Dodwell were listed and his book was summarized.⁵⁶ Collins's anonymous letter to Dodwell was announced in the next issue, indicating his main argument on thinking matter, and the journalist remarks that Clarke has attempted to defend his argument in a subsequent pamphlet, 'as best he can'. Both pamphlets are said to show that their authors are solidly grounded in metaphysics, all of which amounts to a favourable presentation of Collins's arguments.⁵⁷ Soon afterwards, Dodwell's *Preliminary Defence* is summarized and Milles's attack announced, together with the information that Dodwell is working on a second volume in his own defence. And this was not the only journal to devote so much space to the row surrounding Dodwell's book. Immediately after Des Maizeaux started corresponding with the abbé Bignon, editor of the *Journal des savants*, in March 1708, he sent information about the affair. In October 1708 the journal carried a review of Dodwell's *The Scriptural Account of the Eternal Rewards or Punishments of all that Hear of the Gospel*, which began by explaining the story so far, summarizing Dodwell's *Epistolary Discourse* and highlighting his use of the Bible and belief that the soul is simply the breath of life. When listing the various replies to Dodwell, the journalist regrets that Chishull showed no respect for the theologian's age, piety, or learning. Des Maizeaux indicates that Dodwell's true aim was to defend episcopacy but concluded that his use of ambiguous scriptural texts has laid him open to the refutations he received.⁵⁸ Coward is referred to as a 'doctor distinguished by his particular views on the nature of the soul' and the reader is helpfully referred to the critical review of Coward's *Ophthalmiatria*, which had mentioned his denial that the soul is an immaterial substance.⁵⁹ Des Maizeaux also corresponded with Henri Basnage de Beauval, editor of *Histoire des ouvrages des savants*, which started to publish news from England in 1705. A review of Dodwell's *Epistolary Discourse* in January 1706 began provocatively: 'Here is a

⁵⁴ *NRL* (Dec. 1705), 689–90.

⁵⁶ *NRL* (July–Dec. 1706), 109–10, 695.

⁵⁸ *Journal des savants* (1709), 587–95.

⁵⁵ *NRL* (Jan.–June 1706), 590–1.

⁵⁷ *NRL* (Jan.–June 1707), 95–6.

⁵⁹ *Journal des savants* (1708), 66–71.

delicate and scurrilous proposition. It is strange that it comes from a famous theologian. Few laymen would want to hazard it. Yet Mr Dodwell claims it conforms to Scripture'. The article summarizes Dodwell's opinion, insisting that the soul's natural mortality is the only solution to the difficulties involved in Christian doctrine.⁶⁰ When Turner's reply to Dodwell is reviewed in September of the same year the journalist remarks that Dodwell has sacrificed the public interest to his 'excessive attachment to the Anglican Church', which ignores his non-juring position. The article also emphasizes conflicting interpretations of the Scriptures and remarks that Turner's triumphant tone is perhaps more due to the righteousness of his cause and the strangeness of his opponent's views than to the strength of his arguments.⁶¹ Two months later several pages are devoted to a review of Clarke's reply to Dodwell, describing the alarm that Dodwell's book has caused among theologians as his name and reputation could give credence to an opinion which undermines the bases of religion: 'the weak are embarrassed and the profane triumph'. The article emphasizes the Church Fathers' contradictions and the support Dodwell's opinion gives to the 'libertins', and concludes with reflections on the fact that most theologians insist on an immortal soul so that sinners can be eternally punished, which supposes an implacable God. The journalist slyly remarks that they would do well to reflect on the fact that they are perhaps pronouncing their own condemnations.⁶² Unbelievers are provided with even more arguments in a review of Testas's work on the soul in the same periodical. The article also refers to 'many artisans' in England who are apparently soul-sleepers, giving more details here than in *Nouvelles de la République des Lettres*; they claim to have Scripture on their side and defend their right to interpret it themselves, saying that this is the reformed tradition, and otherwise they could return to the infallible Catholic Church. It is also said that although they read no books apart from the Bible they were mistakenly thought to be followers of Dr Coward, described as a doctor of the Anglican Church. As the journalist pays more attention to the objections raised by Testas's adversaries, in particular Coward, the overall effect is once again to demonstrate the difficulties involved in the doctrine of the soul's immateriality and immortality and the contradictory teachings of the Bible.⁶³ As we shall see, this did not escape the notice of irreligious writers, but it also attracted the attention of those like Jean Bouhier who wanted to solve the problems posed by an immaterial soul in a way compatible with revelation.⁶⁴

All the newsletters and articles that we have quoted use the same technique of surreptitiously instilling doubts into the readers' minds by providing information about heterodox opinions on the soul's immortality, the authority of the Scriptures, the Church Fathers, or contemporary theologians' arguments, without

⁶⁰ *Histoire des ouvrages des savans (HOS)* (Jan. 1706), 39–52.

⁶¹ *HOS* (Sept. 1706), 416–22.

⁶² *HOS* (Nov. 1706), 514–20.

⁶³ *HOS* (Oct. 1708), 472–86.

⁶⁴ See below (p. 169).

openly approving of these opinions.⁶⁵ The fact that the heterodox arguments came from both suspect authors like Dr Coward and eminently pious churchmen like Dodwell could only help to undermine belief. In addition, the use to which the arguments, shorn of their theological context, could be put by ‘libertins’ and unbelievers is helpfully pointed out. This technique is also used in the numerous reviews of Sherlock’s work on the soul’s immortality. Its French translation is discussed in Basnage’s *Histoire des ouvrages des savants* in 1709, where the emphasis is placed on the dangers of attempting to defend the soul’s immortality with purely philosophical arguments, and the need to submit to revelation alone.⁶⁶ In general, thanks largely to Pierre Des Maizeaux, French readers were kept abreast of the English debate on the soul, the main arguments against its immateriality, and the difficulties encountered by its defenders. He provided information not only to Dutch periodicals but also to some highly respectable French ones like the Jesuits’ *Mémoires de Trévoux*, although only from 1712.⁶⁷ Before that, nevertheless, the paper published regular news from England, given a particular slant and accompanied by criticisms of the irreligion reigning in that Protestant country. For example, the announcement of Locke’s death referred to the probable publication of his works on the Scriptures, adding: ‘*The book on human understanding* made him known as an impious Sadducee who denies any immaterial substance; such a man was hardly apt to comment on the Scriptures’.⁶⁸ As for Dodwell’s work, this journal insisted, not surprisingly, on his claim that baptism by ‘schismatics’ was invalid and did not confer immortality rather than on the soul’s natural mortality. The news from England in July 1706 explained his non-juring position, praised his faithfulness to the ‘legitimate sovereigns of Britain’, and demonstrated that his position on baptism should lead him logically to abandon Protestantism and join the Catholic Church.⁶⁹ The announcement of Testas’s *La Connoissance de l’âme* in April 1709 was the occasion for a reminder of the whole debate on the nature of the soul ‘which has been exercising several English writers for some time’, mentioning Coward’s work and summarizing Dodwell’s ‘error’, as ‘extravagant’ as Coward’s.⁷⁰ This criticism therefore helped to spread information about heterodox opinions.

Dodwell’s ideas also received a belated but copious treatment in a series of articles in Jean Le Clerc’s *Bibliothèque choisie* in 1713. In the first, on the 1706 edition of Clarke’s Boyle lectures, Le Clerc explained that he had wanted to

⁶⁵ Similar techniques could be used by translators: Armand de La Chapelle’s translation of Humphrey Ditton’s *Discourse concerning the Resurrection of Jesus Christ* added a footnote explaining that Ditton was attacking Toland’s *Letters to Serena*, whose materialistic arguments he then helpfully summarized (Ditton, *La Religion chrétienne démontrée par la résurrection*, 456).

⁶⁶ *HOS* (Feb. 1709), 73–4.

⁶⁷ *Almagor*, *Pierre Des Maizeaux*, 12.

⁶⁸ *Journal de Trévoux* (June 1705), 1090. Echoes of the English debate in other countries also need to be investigated. The Leipzig *Acta eruditorum*, for example, reviewed the fifth part of Nicholls’s *Conference with a Theist*, giving details about Coward’s work which Nicholls was attacking (1705, pp. 81–95).

⁶⁹ *Journal de Trévoux* (July 1706), 1260–1.

⁷⁰ *Journal de Trévoux* (Apr. 1709), 733–4.

discuss the work and the replies to it for a long time but that would have meant giving his opinion of Dodwell's defence of the soul's natural mortality and led to a quarrel with that 'learned man' whose erudition he respected despite disagreeing with his views. Le Clerc had been in sporadic contact with Dodwell, who had sent him two books, including his work on the soul, in February 1706, together with a brief explanation of the book's purpose.⁷¹ Now, after Dodwell's death he was free to say how much he approved of Clarke's reasoning.⁷² Le Clerc had already refuted Dodwell's interpretation of Saint Irenæus in the previous year, explaining that Dodwell's erroneous belief that the Fathers considered the soul to be naturally mortal came from an over-literal interpretation of certain imprecise expressions in their writings,⁷³ an opinion he repeated in 1713. He provides a long summary of the second edition of Clarke's *Demonstration of the Being and Attributes of God: A Discourse concerning the Unchangeable Obligations of Natural Religion*, and replies to Dodwell and Collins, insisting on the refutation of Spinoza; he calls it incomprehensible that Spinoza and his philosophy—a 'galimathias'—had been esteemed in Holland. He does not go into as much detail about Dodwell's book as it had 'made so much noise' not only in England but even in France, where usually English books hardly penetrate. By his opinions, first put forward in his book on marriage, Dodwell (whose good faith he recognizes) had hoped to attract nonconformists to the episcopal church but instead had scandalized several pious members of the Church of England and been criticized by the nonconformists.⁷⁴ By basing his argument on dubious second-century Church Fathers who contradict the Scriptures, Dodwell encouraged doubts about the Bible.⁷⁵ Le Clerc refers to an unnamed 'English author' who had drawn very dangerous conclusions from Dodwell's opinion but does not bother to summarize Collins's pamphlets, concentrating on Clarke's replies instead. Le Clerc even claims, incredibly, not to know the anonymous author of the pamphlets and surmises that he must be a friend of Dodwell's trying to help him out by making the public believe the dispute is about unimportant metaphysical niceties. Collins's replies are dismissed as consisting simply of ambiguous expressions or changing the meaning of words, and the exchange is said to have ended because he had no more arguments.⁷⁶ This long discussion is an example of the outstanding role played by Le Clerc in arousing interest in English intellectual life.⁷⁷ He wanted to popularize the rational arguments of the theologians he approved of, but one may wonder about the effect on French readers. By insisting on

⁷¹ Letter from Dodwell to Leclerc, 26 Feb. 1706, in Le Clerc, *Epistolario*, iii, 2–3.

⁷² *Bibliothèque choisie*, 26, Part II, 280.

⁷³ *Bibliothèque choisie*, 25, Part II, 311, 317.

⁷⁴ *Bibliothèque choisie*, 26, Part II, 365–6.

⁷⁵ *Bibliothèque choisie*, 26, Part II, 374–5.

⁷⁶ *Bibliothèque choisie*, 26, Part II, 386–417.

⁷⁷ See Bots, 'Jean Leclerc as Journalist of the *Bibliothèques*', 53 ff.

the use made by unbelievers of unorthodox interpretations of patristic opinions by pious if misguided Christians, he was providing readers with heterodox arguments.

Le Clerc's desire to publicize English apologetic works had been evident from the first issues of *Bibliothèque choisie*, which contained a detailed summary of Cudworth's *True Intellectual System* published twenty-five years earlier. The most likely explanation as to why Le Clerc chose to devote so much space to this work, according to Stefano Brogi, is that he believed it provided the best demonstration of the necessary existence of immaterial substance in reply to Bayle, and he used the opportunity provided by the 1701 publication of the botanist Nehemiah Grew's *Cosmologia sacra*, summarized in the first two volumes of the *Bibliothèque choisie* alongside Cudworth's work. Grew tried to show by natural theology, against the 'Antiscripturists', 'That there is nothing contained in the Holy Scriptures, concerning God or Man, the Visible or Invisible World, but what is agreeable unto Right Reason'.⁷⁸ Le Clerc himself was suspected of Socinianism and had been thought unorthodox for adopting Locke's opinion that immortality could not be demonstrated from the immaterial nature of the soul but only believed from God's goodness, as he had explained in *Parrhasiana* (1699), which included a translation from Locke's third reply to Stillingfleet.⁷⁹ By detailing Cudworth's arguments against atheists together with the highly respected Grew's defence of religion (dedicated to the King, Tenison, and the Archbishop of York) he was replying to attacks on himself. Le Clerc compares Cudworth's plastic natures to Grew's vital substance or directive principle: Grew's '*Vegetative and sensitive lives* seem to be the same thing, and Mr Grew accords them the same functions, as Mr Cudworth gives his *Plastick Nature*'.⁸⁰ Bayle replied in *Continuation des pensées diverses* in 1704 that the theory of plastic natures supposed active agents which could exist independently of God and encouraged belief that matter could possess its own motive force; by abandoning strict dualism it undermined the Cartesian proof of the existence of God who set matter in motion, and gave arguments to the atheists.⁸¹ His criticism is directed not only at More and Cudworth but also at chemical theories like those of Van Helmont. For Bayle, the Cartesians alone can counter the atheists effectively, as all others admit some type of secondary causation in nature, which leads them towards Strato's atheism. As the 'Stratoniciens' claim that unfeeling nature can create in some inexplicable way material feeling animals, nothing prevents them saying it can also create thinking humans. For Bayle the fundamental problem for all philosophical systems is to explain humans, impossible without the help of revelation, which he calls Ariadne's

⁷⁸ Grew, *Cosmologia sacra*, Pref., [1], [2]. See Brogi, 'Nature plastiche e disegni divini: la polemica tra Bayle e Le Clerc'.

⁷⁹ Le Clerc, *Parrhasiana*, 387 ff. This was a different extract from the one given by Coste.

⁸⁰ *Bibliothèque choisie*, 2, p. 371. ⁸¹ Bayle, *Œuvres diverses*, iii, 217.

thread to guide us out of the labyrinth.⁸² He denounced Cudworth's plastic natures more violently in Basnage de Beauval's *Histoire des ouvrages des savans* in August 1704,⁸³ initiating a polemic with Le Clerc in the columns of this journal and the *Bibliothèque choisie*. While this was part of Bayle's dispute with the rational Christians, in the course of which he accused Le Clerc of Socinianism,⁸⁴ it should also be seen as an extension of the English debate which gave greater urgency to the question of the properties of matter and the danger of according it motive force and feeling. The English works arguing against the soul's immateriality, based on a vital conception of matter, form the crucial background to the arguments of Bayle and Le Clerc. The interrelated issue of God's power, which Bayle accuses Le Clerc of limiting,⁸⁵ complicates matters and explains his problem with Locke's hypothesis, to which he returns several times in connection with proofs for the soul's immortality. His discussion of the difficulties involved in explaining the immaterial soul's relationship to the body meant that his generally hostile presentation of Locke was somewhat ambiguous. In *Réponse aux questions d'un provincial* he refers to Sherlock's claim that the rational proofs for the soul's immateriality are unconvincing, particularly in view of its evident subordination to bodily states. He then goes on to object to Locke's view that as the nature of substance is unknown it is impossible to deny that thought could be an accident of matter. Despite his final exclamation 'How much more favourable to religion it would be to stick to the Cartesians' principle that extension and matter are simply one and the same substance!', insisting on the darkness that falls when we abandon it,⁸⁶ his rehearsal of the different arguments about the soul's immortality provided ammunition for irreligious thinkers. This is also the case for his *Dictionnaire* articles on the soul mentioned above in which, despite Bayle's espousal of Cartesian dualism,⁸⁷ his detailed analysis of its difficulties and own final reliance on revelation meant that they were ransacked for arguments in favour of materialism.⁸⁸ He contrasts the 'absurd' Cartesian solution of animal-machines to the dangerous one of according animals an immortal soul, insisting on the materialistic danger of comparing humans to animals. In his notorious article on Rorarius he admits the difficulties of the Cartesian doctrine but shows that the Peripatetics' position creates just as many problems. The animal-machine hypothesis avoids the very

⁸² *Œuvres diverses*, iii, 340–4.; see Simonutti, 'Bayle and Le Clerc as Readers of Cudworth'.

⁸³ *HOS* (Aug. 1704), 381–92. The debate is analysed in greater detail in Brogi, 'Nature plastique e disegni divini'.

⁸⁴ See Devolvé, *Religion, critique et philosophie positive chez Pierre Bayle*, 313 ff.

⁸⁵ Bayle, *Œuvres diverses*, iii, 884–5; Labrousse quotes Bayle's early *Objections* to Poiret, in which he seems to say that divine omnipotence could make matter think: *Pierre Bayle*, 176–7.

⁸⁶ Bayle, *Œuvres diverses*, iii, 941–2. He refers here to his quotation from Sherlock in Part II, ch. cxxxi, which came from *Nouvelles de la République des Lettres* (Apr. 1705).

⁸⁷ See Labrousse, *Pierre Bayle*, ch. 6.

⁸⁸ Lennon, 'Bayle and Late Seventeenth-Century Thought'.

grave religious difficulties caused by accepting even purely sensitive animal souls, which would mean that animals suffer despite being innocent of original sin. In addition the Aristotelians cannot prove that animals necessarily have a different soul from humans. The conclusion is either that human souls are material and mortal like the animals' or that animals have spiritual and immortal souls like men, both of which are unacceptable.⁸⁹ He returns to the question in 'Charron', admitting that the proof of the soul's immortality provided by the 'new philosophy' (Cartesianism) presents us with an alternative between two 'abysses': either animal soul is immortal or animals are machines.⁹⁰ This pyrrhonism, which leads Bayle to the conclusion that revelation is the strongest basis for belief in the soul's immortality, could clearly provide ammunition for the unbelief of those who rejected his conclusion. In his article on Pomponazzi Bayle says that while only Cartesian philosophy provides a clear proof of the soul's immortality, which Aristotelian philosophy cannot do, revelation is the surest basis for belief. Therefore those who claim it is impossible to prove but who believe it on the basis of scriptural teaching should not be criticized or accused of irreligion.⁹¹ He is referring to the dispute within the Huguenot community in Holland between the theologians Pierre Jurieu and Elie Saurin. Jurieu accused Saurin and the English latitudinarians of Socinianism because of their belief in the use of reason to demonstrate religious truths. In the passage to which Bayle refers, Jurieu denied that we have a clear perception or distinct idea of the difference between body and soul, and claimed that what he saw was confused and indistinct: 'I cannot clearly draw the line separating thinking from extended substance'.⁹² Saurin accused him of incoherence, irreligion, and Epicureanism, charges against which Bayle defended his erstwhile adversary.⁹³ This passage throws light on the background to a discussion which has too often been taken out of context, in view of the use of Bayle's works in the eighteenth century which has encouraged speculation as to his possible irreligious intentions. When his position on the soul's immortality is seen against the background of discussions in Protestant circles in Holland and England, it is more difficult to doubt the sincerity of Bayle's belief that Cartesian philosophy was the only rampart against materialism and the only defence of the soul's immortality against 'libertins', while revelation provided the answer to the insoluble problems which remained. He opposed the rational Protestants' belief that they could demonstrate everything by reason, particularly as they seemed perilously close to the Socinianism that he consistently opposed. His rational undermining of proofs for the soul's immortality went hand in hand with his

⁸⁹ 'Rorarius', remark C, D (*Dictionnaire*, xii, 591–601).

⁹⁰ 'Charron', remark O (*Dictionnaire*, v, 104).

⁹¹ 'Pomponace', remarks B, F, G. (*Dictionnaire*, xii, 228–32, 235–41).

⁹² Jurieu, *La Religion du latitudinaire*, 393.

⁹³ 'Pomponace', remark F; the passage from Saurin's *Justification* is quoted in Bayle, *Dictionnaire*, xii, 237–8.

acceptance of revealed mysteries.⁹⁴ Bayle, who was in contact with Toland, provides a bridge between the English and French debates on the soul and helps us to understand its theological context. At the same time his particular linking of reason and faith meant that, removed from that theological context, his writings could be used as a source for irreligious arguments against the soul's immortality.

Bayle was not the only intermediary whose writings were used to defend positions that they themselves did not always accept. Another was Des Maizeaux's friend Thémiseul de Saint-Hyacinthe, who left France for obscure reasons, spent time in Holland, and was in England for much of the 1720s, although he defended the soul's immortality from a deistic rather than a Christian standpoint. He began his career by contributing to various periodicals and in 1713–15 was at the head of a group which ran the *Journal littéraire* in The Hague, by which time he was apparently displaying unorthodox views. In 1718–20 he directed *L'Europe savante*, also in The Hague, which devoted quite a lot of space to England, and in the 1720s he regularly sent news about British intellectual life to Dutch journals. The most famous of his many works, *Le Chef d'œuvre d'un inconnu* (1714), was a publishing success and established his reputation. Two years later he published *Mémoires littéraires*, a collection of articles on a variety of subjects which begins with a defence of the the soul's immortality as an essential component of belief in God, but is characterized by its freedom of tone and defence of toleration and English freedom. His modern biographer remarks that, despite the strong links with Holland and his stay in England, where he became a member of the Royal Society in 1728, he was essentially part of the French intellectual scene.⁹⁵ But we should not underestimate his role as an informant about what was going on in England, mentioned frequently by Pierre Des Maizeaux's correspondents in the 1720s, while his own letters to Des Maizeaux in the 1730s provide evidence of the books sent to him from England.⁹⁶ The stay in England was clearly an important stage in his intellectual development, thanks largely to Des Maizeaux, and his membership of the Royal Society developed his interest in natural science. The work which brings all of these strands together, his 'testament spirituel',⁹⁷ is *Recherches philosophiques sur la nécessité de s'assurer par soi-même de la vérité; sur la certitude de nos connoissances, et sur la nature des êtres* 'by a member of the Royal Society', published in Holland in 1743 and distributed clandestinely in France. This work, which has a quotation from Bacon on its title page, is directed against pyrrhonism and defends a 'positive deism'⁹⁸ or what Alain Niderst calls a 'parachristian deism'⁹⁹ opposed to materialism. Saint-Hyacinthe undertakes a

⁹⁴ See Labrousse, *Pierre Bayle*, ch.10; Moreau, 'La Foi, la raison, l'expérience dans les *Pensées diverses*'. For a different interpretation see Mori, *Bayle philosophe*.

⁹⁵ Carayol, *Thémiseul de Saint-Hyacinthe*, 82–3.

⁹⁶ B.L., Add. MS 4284, fos. 142–63.

⁹⁷ Carayol, *Thémiseul de Saint-Hyacinthe*, 162.

⁹⁸ Carayol, *Thémiseul de Saint-Hyacinthe*, 144.

⁹⁹ Anon., Introduction, *Examen critique des apologistes de la religion chrétienne*, 29.

systematic study of knowledge in the search for truth, providing quite detailed accounts of the principal philosophical systems together with extracts from each philosopher's works. He devotes a lot of space to Spinoza, whose system is compared to that of Strato and Hobbes and defined as pantheistic (which means simply atheist), and its fatalistic character is emphasized: 'According to Spinoza, man does everything like a clock, which marks the hours and minutes, days and months of the moon or only some of them according to the way it is made, and marks them more or less regularly according to the quality and exactness of its springs'. The individual is not free to act virtuously or wickedly or to be happy or unhappy. As nothing is good or wicked in itself and things can only be called good or evil according to their effect, laws exist to punish the results of our actions. Saint-Hyacinthe links this position with that of Hobbes, 'an Englishman who was a dangerous enemy of liberty and religion'.¹⁰⁰ His conclusion that although criminals are unjustly punished it is right to punish them, although a Spinozist would not agree, was later used by La Mettrie.¹⁰¹ While Saint-Hyacinthe was by no means the first to provide a critical exposition of Spinozism, what is more unusual is his inclusion of the works of Toland (an 'English atheist'), which he had probably obtained through Des Maizeaux during his stay in England. He first refers to Toland's *Pantheisticon*, said to defend a new type of pantheism in the form of the liturgy of a sect, which he claims was in fact a group of friends meeting in a 'cabaret'. Saint-Hyacinthe gives the complete title and some relatively long extracts in both French and Latin; although he approves of several of their doctrines, in particular free thought and toleration, he condemns them for sapping the foundations of religion by denying the soul's immortality and attempting to prove that motion is essential to matter. He also claims that they showed excessive zeal by publishing an English translation of Giordano Bruno, a book generally considered to be 'as contemptible as it is rare'.¹⁰² Saint-Hyacinthe also quotes *Letters to Serena*, again emphasizing its claim that motion is essential to matter, and refers to Raphson's *De spatia reali*, where Spinoza's opinion is compared to the mystical works of the Egyptians, Persians, and Cabalists.¹⁰³ He was clearly very well informed and had probably seen these books. So, despite his belief in the soul's immateriality and immortality (which he defended in a private letter to Jean L vesque de Burigny in 1727),¹⁰⁴ he clearly contributed to the spread of arguments against them in France. He probably obtained English works for his friend L vesque de Burigny, whose history of pagan philosophy was a source for unorthodox opinions on the soul, as we shall see, and who was part of a group which may have produced

¹⁰⁰ Saint-Hyacinthe, *Recherches philosophiques*, 53–61.

¹⁰¹ La Mettrie, *De la volupt *, 65. See Ch. 6 below.

¹⁰² Saint-Hyacinthe, *Recherches philosophiques*, 72–9.

¹⁰³ *Recherches philosophiques*, 357, 383. Raphson is called 'Raphon' on p. 357.

¹⁰⁴ Carayol, *Th miseur de Saint-Hyacinthe*, 113.

some clandestine antireligious manuscripts which Saint-Hyacinthe seems to have helped to distribute.¹⁰⁵

Underground Passages

The clandestine philosophical works which circulated, often in manuscript form, from the early part of the century onwards show how a reading of theological works, periodicals, histories of philosophy, or Bayle could combine to provide arguments against religious orthodoxy. They vary in content, some simply criticizing the Church's intolerance, others undermining fundamental Christian doctrines, and some defending atheism; discussion of the soul is an important theme in many of them. Some circulated widely in manuscript form, others were printed abroad or secretly in France, and some were apparently written for an individual's own reflection without circulating, all of which makes their study extremely complex. There is even disagreement as to which works enter this category.¹⁰⁶ There has been much, not always enlightening, debate about authorship, complicated by the fact that works were often recopied, altered, and partially reused, and printed books were sometimes recopied in manuscript form. Many of the works appear to have been the result of a collaborative effort, both in their composition and distribution, and they are to some extent a result of early Enlightenment sociability, perhaps linked to Freemasonry but certainly involving groups of like-minded friends in cafes.¹⁰⁷ As the extant works represent a common pool of irreligious arguments it is difficult to pinpoint their dates of composition or estimate the extent of their distribution. Many of the existing copies appear to be from relatively late in the century as there was an increase in the circulation of irreligious works from the mid-1760s onwards, when many earlier works were recycled or printed. But there is no doubt that some of them were already in circulation at the beginning of the century, when the importance of irreligious debate in cafe society has often been noted. A 1702 work recording discussions in Paris cafes reports a dispute between an Aristotelian, a Cartesian, and a Gassendist in which Cartesian 'sectataires' are accused of irreligion and said to claim that all human actions can be explained by the machinery of the body without any need for a soul 'which in a word is to say that man is only a machine or automaton, as Descartes said of beasts'. This is said to be Descartes's

¹⁰⁵ Carayol, *Thémiseul de Saint-Hyacinthe*, 142–6. Niderst, 'L'Examen critique des apologistes de la religion chrétienne: les frères Lèvesque et leur groupe', wonders whether this group was responsible for *L'Âme matérielle*, discussed below.

¹⁰⁶ See Thomson, 'Qu'est-ce qu'un manuscrit clandestin?'; Wade, *The Clandestine Organization and Diffusion of Philosophic Ideas*; Benitez, *La Face cachée des Lumières*.

¹⁰⁷ On involvement of Freemasons or proto-Freemasons see Berkvens-Stevelinck, 'Les Chevaliers de la jubilation: maçonnerie ou libertinage?'; and Jacob, Introduction to *Radical Enlightenment*, rev. 2nd edn. (New York: 2003).

real opinion, which he did not dare admit openly (an argument repeated by La Mettrie in the middle of the century). The Cartesians are thus said to go further than the 'libertins', who denied the immortality of the soul, as they remove any soul and reduce humans to animals.¹⁰⁸

Such dangerous speculation was certainly encouraged by echoes of the English debates, as can be seen from a manuscript called *L'Ame matérielle*, dating probably from the mid-1720s. Although only one copy of the complete work exists, in the Arsenal Library in Paris, there is a long extract in a manuscript treatise in the Mazarine Library called *L'Ame mortelle* and it bears similarities with other manuscript works. It is essentially a patchwork of quotations from writings dating from the early years of the century, the most important sources being Bayle (*Dictionnaire*, *Pensées diverses* and its *Continuation*, and *Réponse aux questions d'un provincial*), philosophical dictionaries, periodicals, and the very Cartesians against whose dualism the work is directed, in particular Malebranche. Among the passages lifted directly are pages from Le Clerc's summary of Cudworth in the *Bibliothèque choisie* and the reviews of Dodwell's and Testas's works in *Histoire des ouvrages des savants*.¹⁰⁹ The summary in chapter 1 of the opinions of ancient and modern philosophers and the Church Fathers, showing that they all believed the soul corporeal, comes from Jean Lévesque de Burigny's *Histoire de la théologie des païens* (1724), but it is interesting that, while Tertullian or St Irenæus are mentioned in various other works available to French readers, including Bernier's summary of Gassendi's philosophy and Malebranche (who attacks Tertullian directly),¹¹⁰ details about Tertullian are copied from articles on Dodwell. Another indication of the role played by echoes of the English debate on the soul is the fact that among the list of modern believers in the soul's materiality and mortality with which the first chapter ends we find 'le médecin Couvard', copying the spelling given in the *Journal de Trévoux*.¹¹¹ The other chapters of the treatise are devoted to demonstrating the soul's mortality and comparing human and animal souls. In chapter 2 the demonstration of the insufficiency of proofs of the soul's immortality are taken mainly from Bayle and include an argument from Sherlock, while arguments concerning the impossibility of immaterial substance and the difficulties inherent in the union of an immaterial soul with the body also come from Lucretius, Cartesians like La Forge (the source of a quotation from Hobbes), or Dilly.¹¹² But the compiler also copied some of the materialists' questions mentioned in the review of Testas's book in *Histoire des ouvrages de savants*, while objections to the Cartesians also come from Le Clerc's summary of Cudworth and Bayle's replies.¹¹³ The discussion of animals in chapter 3 uses

¹⁰⁸ *Les Entretiens des cafés de Paris*, 341–2.

¹⁰⁹ See *L'Ame matérielle*, 46, 60.

¹¹⁰ Malebranche, *De la recherche de la vérité*, i, 62; ii, 188–9.

¹¹¹ *L'Ame matérielle*, 48.

¹¹² *L'Ame matérielle*, 53–4.

¹¹³ *L'Ame matérielle*, 66–70.

mainly French sources (Bayle, Montaigne, travel accounts, or reviews of Father Daniel's objections to Descartes) and much of the explanation of sensation in the fourth chapter is copied from Malebranche, Lucretius, and Bayle. Malebranche's description of how the animal spirits transmit sensation to the brain and affect the imagination is used to demonstrate that the mind is determined by the body, so that humans are naturally good or evil and everybody 'wears their destiny written on their forehead'.¹¹⁴ The compiler apparently followed Bayle's advice in his *Dictionary* article 'Dicéarque' and looked up Locke's arguments against Stillingfleet in the *Nouvelles de la République des Lettres* for 1699, from which a long passage is directly copied.¹¹⁵ *L'Ame matérielle* ends with a nine-point list of the author's main theses, which all come down to the explanation of thought by the functioning of the brain, finishing with the uncompromising statement: 'it is the matter composing the brain which thinks, reasons, wishes, feels, etc'.¹¹⁶ The arguments (none of the which are developed) thus draw on the difficulties arising from Cartesian attempts to explain the union between soul and body, including Malebranche's discussion of physiology, the Epicurean and Stoic tradition, and the English debate, which together make up a serious case against the immaterial soul for the general reader tempted by unbelief. The volume at the Arsenal Library which contains *L'Ame matérielle* also includes *Nouvelle philosophie sceptique*, a manuscript version of *Parité de la vie et de la mort*, the clandestine work drawn from Abraham Gaultier's book discussed in Chapter 3 above, which used Bayle as a source of both information and arguments.¹¹⁷ Another work bound with them is *Préface du traité sur la religion de M****, which, it has been argued (not entirely convincingly), is like *L'Ame matérielle* part of a voluminous irreligious treatise written by a priest called Etienne Guillaume who was arrested in 1728.¹¹⁸ It provides a wide-ranging criticism of religions from the Egyptians onwards, with lists of those who doubted the prevailing orthodoxy. A paragraph discusses the 'deists in England', said to be the most numerous and formidable party of those writing freely on religion, who overthrow doctrines like the Trinity, the divinity of Christ, and the immortality of the soul. This shows a certain familiarity with English theological debates. Those named are 'un Asgil, un Tyndal, un Toland, un Coward',¹¹⁹ an interesting list because while Asgill, Toland, and Coward were often linked together in England as mortalists it is rarer to find Matthew Tindal's name coupled with theirs (although he is often linked with Toland as an enemy of priestcraft). One work which did provide exactly this list was Swift's *Argument against Abolishing Christianity*, translated into French in 1721

¹¹⁴ *L'Ame matérielle*, 178–222.

¹¹⁵ *L'Ame matérielle*, 142–8.

¹¹⁶ *L'Ame matérielle*, 236.

¹¹⁷ *Parité de la vie et de la mort*, 188–90, 197.

¹¹⁸ Mori and Mothu, '*L'Ame matérielle: de la conduite qu'un honnête homme doit garder pendant sa vie, préface du traité sur la religion de M****: Trois manuscrits, un seul auteur?'

¹¹⁹ Arsenal, MS 2239, iii, 28.

by Justus Van Effen, a Dutch journalist and prolific translator,¹²⁰ and it seems probable, particularly in view of the spelling, that the author of the manuscript copied from this work. Someone else who certainly copied from Swift was Denis Diderot when protesting, in his introduction to *Essai sur le mérite et la vertu* in 1745, against Berkeley's association of Shaftesbury with such bad Christians and worse authors. He omitted Coward's name, perhaps because he also copied out a second longer passage which does not mention Coward.¹²¹ These examples provide further proof that echoes of the English debate reached French readers thanks to the journalists, translators, and publishers in Holland.

The last chapter of *L'Ame matérielle* is largely copied from another eclectic treatise called *Essais sur la recherche de la vérité*, a reference to Malebranche's work. It uses a variety of sources, including Malebranche and probably Bayle, to argue for the soul's mortality and materiality, linked to arguments denying free will similar to those of Collins.¹²² It compares human and animal souls, ridicules the theory of animal-machines, and emphasizes the problems with the Cartesian explanation of the link between body and soul. It describes brain functions by the movements of the animal spirits, 'the most subtle parts of the blood and liquids and the highly rectified and purified essence of all the different matters which make up the human body'.¹²³ This is reminiscent of Willis's description, as is an explanation of reproduction in chemical terms by the action of the spirit or 'quintessence', one of the five spirits, in perpetual activity or fermentation—although the immediate source is perhaps a French chemist like Lémery.¹²⁴ The work, which also includes a passage, echoing Toland's *Letters to Serena*, which claims that movement is essential to matter and that both are eternal, is also used in yet another single-copy clandestine work called *Dissertation sur la formation du monde*. Its modern editor dates it from before 1740 although the only extant copy, in the Mazarine Library, dates from after 1743.¹²⁵ It provides an atheistic and materialistic hypothesis of how the world and sentient beings could have been formed by the organization of matter alone without any immaterial substance. Matter, said to be eternal, is defined as extension and Toland's thesis that movement is inherent to matter is refuted.¹²⁶ The author provides a hypothesis rather than a demonstration to explain how movement could emerge in the world and how feeling could result from organized bodies, and quotes *Parité de la vie et de la mort*.¹²⁷ The work is another example of how the nature of matter and the origin of life are at the heart of irreligious speculation, in which elements from the chemical

¹²⁰ Swift, *Le Conte du tonneau*, ii, 168; see also ii, 183–4. This translation was frequently republished.

¹²¹ Diderot, DPV, i, 299. Berkeley targeted Shaftesbury in the third dialogue of *Alciphron*.

¹²² *Essais sur la recherche de la vérité*, 56, 60.

¹²³ *Essais sur la recherche de la vérité*, 52.

¹²⁴ *Essais sur la recherche de la vérité*, 81–2.

¹²⁵ *Dissertation sur la formation du monde*, 20.

¹²⁶ *Dissertation sur la formation du monde*, 18, 80, 90. Toland is not named here, but only mentioned in connection with another clandestine work falsely attributed to him.

¹²⁷ *Dissertation sur la formation du monde*, 119 ff; see also Stancati's discussion, p. 53.

tradition are mixed with metaphysical arguments. This manuscript is bound with a *Dissertation sur la résurrection de la chair* (perhaps by the same author although Stancati dates it from between 1735 and 1747), according to which the Old Testament provides enough material for a complete treatise of materialism.¹²⁸ It casts doubt on the evidence of the Bible and denies God the power to act against the nature of things, in order to reject the resurrection; it claims that the elements composing the body go to make up new bodies after their death, that there is no soul to be resurrected, and that the sensibility of bodies only results from their form and is not inherent in matter as such. These two atheistic works taken together seem to be refuting many of the arguments that we have seen used in England against an immaterial soul, in particular the claim that matter is inherently mobile or sensitive and belief in the resurrection. They raise many of the same issues as the English discussion on the soul and human nature but removed from its theological framework—which may indicate that the works date from a later period. They provide further evidence of the way irreligious works echoed the English debates from sometimes contradictory standpoints.¹²⁹

It is difficult to draw too many firm conclusions from these works in view of their diversity and the gaps in our knowledge. Discussions did not take place openly on the public stage as in England and many works or copies of works and reactions to them have probably not come down to us, which means that although we know that irreligious works circulated regularly among the élite it is difficult to measure the circulation of individual works. In the extant texts, discussion of the soul is a significant theme, although less important than attacks on priestcraft and the Church as a political institution. Certain irreligious texts, following English works from Blount onwards, survey the history of opinions on the soul, highlighting those who believed it to be material, and often discuss the origin of belief in immortality. A brief passage on the subject is included in the most famous of all the clandestine irreligious manuscripts, *Traité des trois imposteurs* or *Esprit de Spinoza*.¹³⁰ But there is much more in *L'Ame matérielle* and in works like *Sentiments des philosophes sur la nature de l'âme*,¹³¹ or *Opinions des anciens sur la nature de l'âme* published under the name of Jean Baptiste de Mirabaud, perpetual secretary of the Académie française. They point to both the ancient philosophers and Church Fathers, who believed the soul to be material and hence mortal, and state that belief in its immortality and later spirituality, derived from Plato, only developed gradually to become established with 'modern' (Cartesian) philosophy. Here again, while the reference to Tertullian and Irenæus could have

¹²⁸ 'Examen des preuves théologiques de la résurrection', in *Dissertation sur la formation du monde*, 183.

¹²⁹ See also *Examen critique des apologistes de la religion chrétienne*, dating from the 1730s, which Voltaire helped to distribute in the late 1760s.

¹³⁰ For the different versions of this work, see *Le Traité des trois imposteurs et L'Esprit de Spinoza*.

¹³¹ Published in *Nouvelles libertés de penser*; several manuscripts are extant.

been taken from many sources, emphasis on the distinction between natural immortality and immortality accorded by the grace of God may reflect echoes of Dodwell's argument.¹³²

Otherwise discussion is more varied and while some works confine themselves to a history of opinions of the soul, others like *L'Âme matérielle* also demonstrate its materiality and mortality using various and often conflicting arguments. Guillaume Lamy's account of a material fiery soul in *Discours anatomiques* is reproduced in *Traité des trois imposteurs* and Fontenelle's *Histoire des Ajaouiens*¹³³ as well as in *Sentiments des philosophes sur la nature de l'âme*, where it is given as Spinoza's opinion,¹³⁴ while in *L'Âme matérielle* it coexists with a demonstration that it is simply the brain that thinks, an alternative hypothesis to the material soul.¹³⁵ In general the discussion centres around the question of whether matter could think (Locke's name sometimes appears here), with examples of the way thought depends on bodily states and of animal intelligence, drawn from a variety of sources including Lucretius. The short works in the collection entitled *Nouvelles libertés de penser* prefer simply to cast doubt on religious arguments for the afterlife and soul and to insist on the force of prejudices inculcated in childhood. *De l'Âme et de son immortalité* answers Bayle's argument concerning the absurd consequences that would result from attributing feeling to matter by explaining that feeling and thought are not attributes of all matter but only a particular organization of it. Precise medical examples and descriptions of the brain's functioning are rare and often taken from Malebranche, whose *La Recherche de la vérité* (1674) demonstrated how the soul of fallen man is subjected to his body and thus deceived by his senses. To support his doctrine that God is the true cause and other causes are only occasional he goes into great detail about the way the mind and the will are determined on the occasion of particular dispositions of the brain and describes the functioning of the nerves, the way they transmit sensations to the brain, and how the animal spirits affect individual characters and even ideas.¹³⁶ His influence and that of other occasionalists like Geulincx mean that discussions of human liberty in French works refer more often to the dependence of thought processes on physical changes in the brain and the animal spirits than do English works. Malebranche's system, which Tournemine compared to Spinozism¹³⁷ and was considered to

¹³² *De l'âme et de son immortalité*, 126–7; published in a volume with *Le Monde, son origine et son antiquité*, whose sixth chapter, 'Sentiments des anciens sur la nature de l'âme humaine', is almost the same text.

¹³³ Fontenelle, *Œuvres complètes*, ix, 1023–4. See Niderst, 'Fontenelle et la littérature clandestine', and Ch. 3 above.

¹³⁴ *Nouvelles libertés de penser*, 90.

¹³⁵ *L'Âme matérielle*, 172–4. See also Vartanian, 'Quelques réflexions sur le concept d'âme dans la littérature clandestine'; Thomson, 'Encore l'âme matérielle'; I shall return to this question in the next chapter.

¹³⁶ Malebranche, *De la recherche de la vérité*, Bk. I, ch. 10; Bk. II, passim; Bk. V, ch. 3.

¹³⁷ Kors, *Atheism in France*, 378.

be only 'a type of fatalism',¹³⁸ may therefore have encouraged deterministic conclusions.

The most extreme example of the way Malebranche's work could be used to support materialistic arguments is found in the voluminous *Mémoire* left by a village priest called Jean Meslier on his death in 1721. Although his three original copies were rapidly put into a safe library, extracts (including an edulcorated one produced by Voltaire) circulated for much of the century. Meslier's original work is atheistic, materialistic, and politically and socially radical, even communistic. In view of his isolation he did not have access to many books, and much of his argument consists of reactions to Malebranche's philosophy reworked from a materialistic standpoint; but he also uses Montaigne (his source for quotations from Lucretius) and quotes the Biblical evidence for a material and mortal soul which is simply the blood. Meslier argued, against the Cartesians, that matter possesses movement of itself and thought could be a modification of matter, and he countered the theory of animal-machines with examples of the similarity between humans and animals. He defended a material soul composed of subtle matter and seems to have had no knowledge of scientific writings on matter and life, his references to fermentation being taken from Malebranche.¹³⁹ His work provides yet further evidence of how the problems raised by Cartesian philosophy encouraged attempts to explain thought in humans by matter alone, while the limited nature of Meslier's explanation demonstrates how important medical speculation was in providing others with detailed arguments and evidence. In Meslier, we also see how a thoroughgoing atheistic materialism exploiting the problems of Cartesianism and drawing support from the Bible (the same combination which was at the basis of the English mortalist works) was exacerbated by his revolt against religious, political, and social oppression and the misery of the peasants. The figure of a devoted hard-working village priest who came to doubt the fundamental truths of the religion he taught naturally struck his contemporaries, and edited extracts from his huge work circulated throughout the century alongside other irreligious books and sometimes combined with them, although the true extent of Meslier's atheism was not generally known. He was in many ways a special case, as he seems to have had no contact with intellectual circles and his manuscript was a very personal production inspired by his own experiences of injustice and knowledge of theological arguments and the Bible. But he provides further evidence of the unease felt in these years in all classes of society.

Meslier's radicalism, if little else, was shared by an Italian nobleman who was forced into exile and spent some years in England before dying alone and almost forgotten in Holland. Count Alberto Radicati di Passerano is an

¹³⁸ Letter from Caspar Cuenz to Bouhier in 1738, quoted by Wade, 'Notes on the Making of a *philosophe*', 100.

¹³⁹ Meslier, *Œuvres complètes*, ii, 474, iii, 44, 89 ff.

interesting example of a radical exile expounding extreme materialistic views which resonated throughout the century even if what he actually wrote was not necessarily known directly. In his work we see many of the strands we have been discussing, in particular the influence of English works such as Toland's *Letters to Serena*. One might even say that his agitated wandering life and his changes of religion resembled Toland's despite his very different origin. He experienced numerous problems in his native Piedmont, falling foul of the Inquisition partly because of his attraction to Protestantism; he went to England in 1728 but left in 1734 or 1735 for Holland, where he died in October 1737. While in England he published his most shocking work, *A Philosophical Dissertation on Death. Composed for the Consolation of the Unhappy* 'by a friend to Truth'. Its defence of suicide was considered so outrageous that Radicati (who knew no English), his translator Joseph Morgan, and his publisher William Mears were thrown into prison as a result of pressure from Edmund Gibson, the Bishop of London (Radicati and Morgan were released quite quickly).¹⁴⁰ Radicati's justification of suicide was based on a materialistic philosophy clearly influenced by Toland's, as can be seen from the definition of the universe with which he begins:

By the *Universe*, I comprehend the infinite Space which contains the immense Matter, sowed, or interspersed throughout with most exiguous Vacuities, wherein, with an eternal variation, are moved to and fro its most tenuous Particles; which Particles, or Atoms could not be at all capable of the least Motion, if the whole was completely filled. This Matter, and this motion are inseparable: For it is a thing no less impossible, that Motion should be found where Matter is not, than to find Matter destitute of Motion: Because we are to understand, that all Matter is compounded of a Diversity of Contraries, which, being intermingled, cannot in any wise be in Repose.¹⁴¹

Despite some differences his insistence that motion is essential to matter is clearly derived from Toland, as is his view that death does not mean annihilation but simply the dissolution of a particular organization of matter in order to create another being from the corporeal particles. One should not fear death, which is simply a passage into another state 'since we only cease to exist in one sort, in order to begin to exist in another'. The fear of death is not innate but inculcated, like ideas of good and evil, by religions created by unscrupulous men in order to control the people; there are no virtues or vices and everything is natural and good, including homosexuality and incest.¹⁴² Radicati is not primarily interested in providing a materialistic explanation of humans and does not go into details concerning thought or the soul, confining himself to general

¹⁴⁰ See Venturi, *Saggi sull'Europa illuminista, i: Alberto Radicati di Passerano*, 209–15; Thomson, 'Joseph Morgan et le monde islamique'.

¹⁴¹ Radicati, *A Philosophical Dissertation on Death*, 5.

¹⁴² Radicati, *A Philosophical Dissertation on Death*, 14.

statements that there are no punishments after death and that nothing exists but eternal matter:

This *Matter*, modified by *Motion* into an infinite Number of various Forms, is that which I call NATURE. Of this the Qualities and Attributes are, *Power, Wisdom and Perfection*, all which it possesses in the highest Degree. By Means of the *First*, she has always been able to form whatsoever she pleased, and what she knew to be requisite. With Assistance of the *Second*, she has been capacitated to distinguish what was convenient for the formed Beings, and to know how to provide the same. By Help of the *Third*, she has been perpetually employing herself in the Formation of a numberless Infinity of Species, all not only necessary and perfect, but inimitable and eternal.¹⁴³

This seems something like pantheism, which indicates a certain ambiguity in Radicati's view. Despite his claim that good or evil have no real existences, he sees the goddess Nature as essentially good, which is why all our natural impulses are good. He defines his belief as a form of deism, claiming elsewhere that there are no atheists, only deists, for everyone believes in a first cause, whether they call it God, nature, or a universal soul.¹⁴⁴ This was in *Discourses concerning Religion and Government, Inscribed to all Lovers of Truth and Liberty*, originally written in Italy in the mid-1720s and published first in English and then in a more developed form in French in the 1730s.¹⁴⁵ While praising the English system the political philosophy he expounds here is clearly republican, democratic, and egalitarian, rejecting private property and saying that everything should belong to the republic, thus removing misery and superfluous wealth.¹⁴⁶ In a 1730 edition of this work containing only the first discourse, called *Christianity set in a True Light, in XII Discourses, Political and Historical*, 'by a Pagan Philosopher newly converted', he insists that this egalitarian democratic society and government are in line with the true teachings of Christ although, given that he refers several times to Antony Collins's *Discourse of Free-Thinking*, one may wonder about his sincerity. He also published a French version of one of the twelve discourses under the title *Sermon prêché dans la grande assemblée des Quakers de Londres, par le fameux frère E. Elwall*, with the motto 'The Religion of the Gospel is the true original Religion of Reason and Nature'. Here he repeated that the true teachings of Christ were equality, poverty, and the re-establishment of a state of nature in which everyone was equal and there was no private property, and he condemned the family which had introduced inequality. The choice of title and mouthpiece is significant, and Franco Venturi considers that Radicati's defence of nature and refusal of sin were a transposition of the ideas defended by radical 'enthusiastic' sectarians like the Ranters or the Family of Love, from whom he took his democratic ideal of a return to primitive natural

¹⁴³ Radicati, *A Philosophical Dissertation on Death*, 10.

¹⁴⁴ Radicati, *Recueil de pièces curieuses*, 24.

¹⁴⁵ Venturi, *Saggi sull'Europa illuminista*, 221.

¹⁴⁶ Radicati, *Recueil de pièces curieuses*, 186–9.

innocence.¹⁴⁷ This tradition and Radicati's egalitarian democratic ideal were not those of republicans like Toland although they both attacked priestcraft. The materialism he seems to have inherited at least partially from Toland was placed in a different setting, dominated by a radical vision of a new society. Radicati gained a reputation all over Europe as an enemy of religion, and manuscript copies of some of his works seem to have circulated.¹⁴⁸ Among those who used Radicati's name was Voltaire, despite the huge difference in their philosophy and outlook. Voltaire has a place in our story both for his contribution to the interest shown by the French in their insular neighbours and for his role in encouraging materialistic speculation. His *Lettres philosophiques* (the first version of which was called *Lettres anglaises*), the result of his stay in England, celebrate English liberty through discussions of religion (in the first seven letters, the first four of which concern the Quakers), politics, and trade, as well as scientific, intellectual, and literary developments. Voltaire devotes his seventh letter to the 'Socinians or Arians or Anti-Trinitarians' and the disputes of the early years of the century. He is particularly interested in Samuel Clarke, whom he calls 'the most sanguine stickler for Arianism', but claims that sectarian disputes no longer interest anyone.¹⁴⁹ More influential was his thirteenth letter on Locke, in which he used Locke's hypothesis on thinking matter and defence of it against Stillingfleet to cast doubt on the immortal soul, presumably using the new version of Coste's 1699 extract which had recently appeared in the second edition of the French translation of the *Essay* in 1729.¹⁵⁰ Voltaire rejected Cartesian philosophy, including the hypothesis of animal-machines, saying all he knew on the subject was: 'I am a body and, I think'.¹⁵¹ The letter, which circulated separately,¹⁵² certainly helped to give credence to the belief that Locke was a materialist and a freethinker, and his name appears at the end of the letter in the company of Montaigne, Bayle, Spinoza, Hobbes, Shaftesbury, Collins, and Toland as enlightened thinkers opposed to theological obscurantism. Although Voltaire did not develop the arguments against an immaterial immortal soul, this letter certainly helped to remove the debate from its theological context and situate it firmly within a freethinking although not atheistic one. It probably focused attention on Locke's hypothesis as the main impulse for materialistic speculation in opposition to Cartesian dualism; it may also have helped to push into the background both the theological and medical facets, unlike his discussion of liberty in the 1740 *Eléments de la philosophie*

¹⁴⁷ Venturi, *Saggi sull'Europa illuminista*, 260–1.

¹⁴⁸ A copy of the *Sermon* is to be found in the B.N. and a French version of the *Philosophical Dissertation on Death* in Helsinki: see also *Dissertazione filosofica sulla morte*.

¹⁴⁹ Voltaire, *Letters concerning the English Nation*, 48.

¹⁵⁰ Thomson, 'Locke, Stillingfleet et Coste'.

¹⁵¹ Voltaire, *Letters concerning the English Nation*, 103.

¹⁵² Manuscripts are found under the title both of 'Lettre sur Locke' and of 'Lettre sur l'âme'.

de Newton, which draws largely on the arguments of Collins in a theological context.¹⁵³

Voltaire's approach was continued by another Philosophe who, while less well known, played a leading role in his time thanks to semi-journalistic writings which seized on intellectual fashions and popularized new ideas. Jean-Baptiste de Boyer, marquis d'Argens, who was in exile in Holland for personal not religious reasons, lived from hand to mouth by his pen, making a name for himself by the best-selling works that make up his 'correspondance philosophique'.¹⁵⁴ He was in contact with the Huguenot circles that helped to publish and distribute many irreligious works, mainly through Prosper Marchand, a French publisher who had been forced to flee to the Hague in 1709 after having incurred the authorities' displeasure. Marchand was responsible for the posthumous editions of Bayle's works and probably for the distribution of certain irreligious texts, some of which he probably supplied d'Argens with¹⁵⁵ (unless it was the other way round). D'Argens was the first person to mention the famous *Examen de la religion*, extracts from which are included in the erotic best-seller *Thérèse philosophe*, frequently attributed to him.¹⁵⁶ His freedom of tone made it dangerous to live in a Catholic country, and he finally found an asylum at Frederick II's court in Prussia. He is best known for the long series of letters written by a variety of fictitious travellers, in imitation of Montesquieu's *Lettres persanes*, mixing titillating romanticized stories, information on latest ideas and fashions, philosophical discussion, and a critique of social mores. The most famous of them, *Lettres juives*, went through countless editions. He also wrote more straightforward 'philosophical' works for the fashionable reading public, such as *La Philosophie du bon-sens* (1737), 'à l'usage des cavaliers et du beau-sexe', which reviews the chief philosophical issues and systems, emphasizing the 'uncertainty' of our knowledge in different fields and betraying a profound influence of Bayle's writings. In his introduction d'Argens declares himself a follower of Locke, 'true in most of his principles, just in his consequences, precise in his demonstrations'.¹⁵⁷ D'Argens wrote about England most directly in 1735–6 in *Lettres juives*, in which a group of Jewish travellers exchange their impressions and accounts of their adventures in different countries of Europe and the Mediterranean. One of them, Aaron Monceca, visits England, about which d'Argens knew little as he had never been there; he relied for information on writers like Voltaire, and some of what he wrote was corrected by his publisher Prosper Marchand. The opinion of the English Church expressed in this work is apparently his publisher's, because Marchand wrote to inform d'Argens that he had altered the marquis's praise for the episcopalian Anglicans and attack on the Presbyterians. Marchand explained that the most estimable

¹⁵³ Voltaire, *Eléments de la philosophie de Newton*, 213–17.

¹⁵⁴ Larkin, *Correspondance entre Prosper Marchand et le marquis d'Argens*, 30–2.

¹⁵⁵ See Berkvens-Stevelinck, *Prosper Marchand*.

¹⁵⁶ McKenna, 'D'Argens et les manuscrits clandestins'. See below, p. 171.

¹⁵⁷ Argens, *La philosophie du bon sens*, 18–19.

Protestants were the Mennonites (who were Anabaptists) as they were closest to the 'simple unified practice of the Acts of the Apostles', and the Quakers would be even better but for their incomprehensible 'inspiration', which contradicted their talk about reason.¹⁵⁸ Purified Christianity can thus be reconciled with free thought but not episcopacy or enthusiasm. In general d'Argens reiterates both in these letters and elsewhere the admiration for English liberty he inherited from Voltaire; for example, he breaks off from a discussion of the physics of Empedocles in *Mémoires secrets sur la République des Lettres* to praise England, which, like that philosopher's native island Sicily, respects, honours, and protects science.¹⁵⁹

In *Lettres juives* and even more in *La Philosophie du bon sens* and *Mémoires secrets sur la République des Lettres* (a hugely detailed free-thinking survey of many branches of thought which devotes a lot of space to theological controversy) d'Argens discusses the soul, a central theme in his philosophical reflections; the major part of the long section of *La Philosophie du bon sens* on the uncertainty of metaphysics is devoted to the materiality of the soul.¹⁶⁰ His opinion is similar to Voltaire's, defending the existence of God while casting doubt on the soul's immortality, and he remarks that he has no objection to Montaigne's doubts about the soul's immateriality but cannot agree when he extends his pyrrhonism to God's spirituality.¹⁶¹ When dealing with the question of whether God had accorded a purely material being the faculty of thinking, d'Argens's Jewish traveller provides a long quotation from Locke's *Essay*;¹⁶² elsewhere 'Aaron Monceca' discusses at length Locke's claim that the soul does not always think, quoting both from Locke and from the summary of Locke's philosophy in d'Argens's own *La Philosophie du bon sens*.¹⁶³ In *Mémoires secrets* there is an imaginary dialogue between Lucretius and Descartes on the nature of the soul, ending with the statement that we have no proof of its spirituality and immortality, backed up by a quotation from Locke;¹⁶⁴ later d'Argens provides a summary of Locke's debate with Stillingfleet in which he reproduces in its entirety the note in the 1729 edition of Coste's translation of the *Essay*.¹⁶⁵ But d'Argens does not confine himself to Locke's arguments and, like so many of the works we have seen, reviews the different opinions expressed throughout history and in the Bible, drawing on sources like Bayle or André-François Boureau-Deslandes's history of philosophy, which provided much information on those who questioned the soul's immortality.¹⁶⁶ Argens reminds readers that

¹⁵⁸ Letter from P. Marchand to d'Argens, 14 Feb. 1737, in Larkin, *Correspondance*, 110.

¹⁵⁹ Argens, *Mémoires secrets de la République des Lettres*, iii, 479.

¹⁶⁰ Argens, *La philosophie du bon sens*, 348–424.

¹⁶¹ Argens, *Mémoires secrets*, iii, 676–9.

¹⁶² Argens, *Lettres juives*, iv, 175–7.

¹⁶³ *Lettres juives*, iv, 309–26.

¹⁶⁴ Argens, *Mémoires secrets*, ii, 420.

¹⁶⁵ *Mémoires secrets*, iv, 957–70. A shorter version is in *Lettres juives*, iv, 322–3; see my 'Locke, Stillingfleet et Coste'.

¹⁶⁶ Boureau-Deslandes, *Histoire critique de la philosophie*; see for example i, 351–74.

a certain number of Church Fathers believed, like Tertullian, that the soul was material, and his first mention in *Lettres juives* of beliefs that the soul was material quotes Tertullian's words that the soul is a body.¹⁶⁷ He claims that the least unreasonable of the ancient philosophers believed the soul was part of the body, destined for death and destruction, because the mortality of the soul was the most reasonable opinion, however false and 'condamnable' it might be.¹⁶⁸ He considers the idea of a world soul to be ridiculous and claims that the Epicureans reasoned more precisely and consequently than the other philosophers on this subject. Much of his criticism is directed against Malebranche, ridiculed at length in *Lettres juives*, and he also frequently criticizes Spinoza's philosophy, from which he cites several passages in Latin.¹⁶⁹ As Jean Molino has observed, the main thrust of his argument is anti-Cartesian like so many that we have seen, a development of Locke with the addition of Epicurean and sceptical themes taken from La Mothe le Vayer, Montaigne, or Bayle.¹⁷⁰ He says it is impossible to prove the soul immaterial and immortal, and God could have created thinking matter. The echoes of the English debate, mainly relayed by Bayle, are clear. Like Bayle he remarks that if one claims that animal soul is material there is nothing to prevent us saying the same thing of human soul: 'As soon as matter is capable of receiving some perception and sensation in the lowest of these four degrees, it is easy to understand that by rarifying, purifying and organising it, one can rise to the highest degree'.¹⁷¹ These discussions of the soul are theoretical with little recourse to natural science; matter is discussed in the section on physics in *La Philosophie du bon sens*, mainly devoted to the opposition between Cartesian and Gassendist theories and the question of the vacuum, and the presentation of natural philosophy in *Mémoires secrets* mainly concerns Newtonian physics. But he does raise the question of sensitivity and intelligence in animals and humans in *La Philosophie du bon sens*, claiming that while animals possess only the material sensitive soul or animal spirits, which are the principal of life mainly to be found in the blood, humans have a rational soul in a particular part of the body (it does not matter whether it is in the brain or the heart). This indivisible rational soul, which depends on the animal spirits for knowledge and awareness, may be material although faith teaches us that it is immortal and leaves the body to go 'where God calls it' when it is deprived of life by the cessation of the animal spirits. This immortal soul which plays no part in the life of the body has therefore a strange status, particularly as d'Argens claims afterwards that we are obliged to believe it is immaterial.¹⁷² All of d'Argens's writings cast doubt on the existence of a separate immaterial immortal soul by rehearsing at length the different opinions and philosophical arguments but

¹⁶⁷ Argens, *Mémoires secrets*, i, 212; *La Philosophie du bon sens*, 362; *Lettres juives*, i, 291–2.

¹⁶⁸ *Mémoires secrets*, ii, 308–9. ¹⁶⁹ *Mémoires secrets*, ii, 409.

¹⁷⁰ Molino, 'Le Bon Sens du marquis d'Argens', 764.

¹⁷¹ *Mémoires secrets*, iii, 852; also *Lettres juives*, v, 252–4.

¹⁷² Argens, *La Philosophie du bon sens*, 374 ff.

without appealing to medicine or chemistry for support: he prefers to remain in the field of hypotheses. He continues to refer to Patristic opinions like those of Tertullian and, like Bayle, bases belief in immortality on faith (although his sincerity is perhaps more dubious). Argens devotes considerable space to serious discussions of theological topics which alternate with more frivolous concerns. The continuing theological background to his discussion of the soul can also be seen in a letter written by one of his Jewish travellers denying the general resurrection of the same body. As he remarks, belief in the resurrection of the same body is common to Jews, Christians, and Muslims and is based on claims concerning the power of God, 'who, having created the world from nothing, will find no more difficulty in giving a piece of matter back the same form it had before'. His criticism of this belief is very similar to that of *Dissertation sur la résurrection de la chair* discussed above; after specifying the restrictions on divine power, he exposes the same practical difficulties posed by the doctrine of the resurrection, due to the fact that matter is recycled into different bodies.¹⁷³ The resemblance between the two texts is striking, although we have no way of knowing whether d'Argens could have read the manuscript or indeed whether he had a hand in it. He concludes that we do not know how the resurrection will come about and we should not try to explain mysteries we cannot understand, and his immediate purpose seems to be the denunciation of priestcraft not the propagation of atheism like the clandestine treatise. His arguments against an immaterial soul remain within a strongly irreligious but deistic framework, using some elements from the English debate, in particular Locke's hypothesis concerning thinking matter,¹⁷⁴ but he probably did not know Locke's arguments against the necessary resurrection of the same body. He uses the thinking matter hypothesis in a context marked by Malebranche's Cartesianism, very different from that of the English debate on the soul, about which he seems to have known nothing beyond Locke's hypothesis. But his use of Bayle means, as we have seen, that certain of its facets nevertheless fed into his thinking and discussions.

A different combination of similar elements is found in a strange work dating from the same period. A certain Caspar Cuenz (or Künz) from Neuchâtel, a respectable man of letters who defined himself as a 'metaphysician', developed a bizarre system attempting to explain human thought without an immaterial soul while avoiding the danger of Spinozism or atheism, which he claimed to combat effectively. His *Système nouveau* (1742–3), describing how God breathed life into material beings, is based on Locke's principles and quotes from Locke's works, including the extract from the debate with Stillingfleet found in Coste's translation of the *Essay*, and comments and elaborations on Locke's

¹⁷³ *Lettres juives*, v, 392–8.

¹⁷⁴ It is difficult to justify Jonathan Israel's inclusion of d'Argens in the 'radical Enlightenment' if by that is meant an espousal of atheism and Spinozism (e.g. *Enlightenment Contested*, 43).

arguments.¹⁷⁵ He probably knew about the English debate on the soul and many of his formulations are reminiscent of those of the mortalists; like them he refers to the Church Fathers and Councils, and claims that the Bible does not contain a single word in favour of the soul's immateriality. In 1738 he had sent an outline of his system to Jean Bouhier, President of the Dijon Parlement and member of the Académie française, with whom he seems to have been put in contact by the Leibnizian scientist Louis Bourguet; from his letters we can see that his system, intended to defend revelation, was developed due to his dissatisfaction with both the Cartesian and Leibnizian teachings on the soul.¹⁷⁶ In his comments on Cuenz's denial of inextended substance, Bouhier pointed out the contradictions in Cuenz's system, suggesting he adopt the system of the Fathers, who believed the soul material, and the theory defended by Henry Dodwell. Bouhier provided Cuenz with the references to the articles on Dodwell and Turner in Basnage's *Histoire des ouvrages des savants* and suggested that he reflect on their arguments.¹⁷⁷ His own view was that as revelation teaches us what will happen to our soul after death, speculation as to its precise nature is unnecessary, but he repeatedly pointed out to Cuenz the philosophical and theological advantages of Dodwell's opinion.¹⁷⁸ He clearly had no problem with a material soul, as he explained to Louis Bourguet.¹⁷⁹ Bouhier's letters show that the reverberations of the English debate relayed by the Huguenot journalists went further than has hitherto been suspected and played a role in French reflection on the soul. Cuenz also combined theological arguments with scientific and medical evidence. In a letter to Jean Henri Samuel Formey, the Huguenot secretary of the Berlin Science Academy, Cuenz refers to the description of fire in François Quesnay's *Essai physique sur l'économie animale*, which he seems to understand as the material principle of life. While denying that his system was a form of materialism, which he saw as necessarily implying atheism, he attempted to provide a purely material explanation for human beings according to his 'theorem' that 'immaterial substances are pure beings of reason' and God, like the soul, is extended.¹⁸⁰ He claimed to reconcile these opinions with religious teaching, arguing against Toland that the sole cause of movement is God while quoting a passage from *Letters to Serena* (probably translated by his friend Saint-Hyacinthe, with whom he stayed in London in 1740).¹⁸¹ He provides long extracts from Voltaire's letter on Locke,¹⁸² and the 'Reasoning of an anonymous freethinker against the common system of the soul's immateriality',

¹⁷⁵ Cuenz, *Essai d'un système nouveau concernant la nature des êtres spirituels*, ii, 76–438. See also Yolton, *Locke and French Materialism*, 76–84.

¹⁷⁶ B.N., MS f.fr. 24410, fos. 242–5. On Bourguet, see below, pp. 190–1.

¹⁷⁷ B.N., MS f.fr. 24410, fo. 304. ¹⁷⁸ B.N., MS f.fr. 24410, fos. 314–16.

¹⁷⁹ B.N., MS. f.fr. 22409, fo. 248^v.

¹⁸⁰ Letter to J. H. S. Formey, 1 Dec. 1746, Nachlass Formey, Cuenz fos. 3, 4, 1, 2.

¹⁸¹ Cuenz, *Essai d'un système nouveau*, i, 92–6; Carayol, *Thémiseul de Saint-Hyacinthe*, 138–9.

¹⁸² *Essai d'un système nouveau*, i, 144–55.

which seems to be taken from *Sentiments des philosophes sur la nature de l'âme*; his extract claims the brain thinks in both humans to animals and defends a theory like Guillaume Lamy's of a world soul, attributed to Spinoza.¹⁸³ Cuenz believed that his system alone could refute such arguments. He adopts most of the freethinkers' physiological arguments, including the claim that the only difference between humans and animals resides in their organization, but insists that this organization was created by God, who had breathed into it the capacity of thought for a specific purpose. Cuenz's rambling work includes a series of exchanges with various critics, and even the somewhat contemptuous opinion of the Royal Society (to which he had submitted his system) advising him to abandon his hypotheses, apply himself in future to truths which could be demonstrated, and prefer the study of mathematics to metaphysics devoid of solidity.¹⁸⁴ Cuenz lobbied energetically in favour of his system, which he believed to be an answer to irreligion, pyrrhonism, and Spinozism, defending it against those who accused him of proposing a material soul like the freethinkers:

To say that our soul is indefinitely material only revolts minds convinced of the opposite opinion and provides a pretext to cry that we are making the soul like the visible and palpable, and hence divisible, perishable and mortal matter we know. To avoid this misunderstanding, I think it is therefore better to say simply that the soul is extended in its manner of being; a proposition from which it in no way follows, as I have shown at length in my Apology for Mr Locke, that it is like the coarse matter we know.¹⁸⁵

His attitude towards openly irreligious materialistic works was ambiguous and he quoted their arguments at some length. He was particularly interested in La Mettrie's *Histoire naturelle de l'âme*, published shortly after his own work, writing to Formey that it was 'a detestable work in one way, and very clever and judicious in another'.¹⁸⁶ Cuenz apparently also wrote an *Essai sur la formation . . . de l'être humain* explaining his system more clearly and asked Formey to publish an extract or a summary of it in the *Bibliothèque germanique*. What did appear was another letter explaining more directly his system, based on the 'divine breath', which gave all beings, 'more or less, according to the needs of final causes, self-consciousness, a capacity to feel and think and everything that depends on it'.¹⁸⁷ Despite his energetic efforts, he does not seem to have convinced his contemporaries of his good faith. Apparently, according to a friend, the general belief was 'that my system entails dangerous consequences and it is to be feared that it may produce bad effects on minds';¹⁸⁸ he told Formey that all the philosophers in

¹⁸³ *Essai d'un système nouveau*, i, 177–88.

¹⁸⁴ *Essai d'un système nouveau*, i, Part 2, 43.

¹⁸⁵ *Essai d'un système nouveau*, iii, 12.

¹⁸⁶ Letter to J. H. S. Formey, 14 Jan. 1747, Nachlass Formey, Cuenz, fo. 8.

¹⁸⁷ 'Extrait d'une Lettre de l'auteur de l'*Essai d'un système nouveau concernant la nature des êtres spirituels*, à Monsieur S. de C. touchant la différence qu'il y a entre la nature des corps & celle des esprits', *Nouvelle Bibliothèque germanique* (Jan.–Mar. 1748), 78.

¹⁸⁸ *Nouvelle Bibliothèque germanique* (Jan.–Mar. 1746), 162.

Europe were against him.¹⁸⁹ In 1756 a certain Dom Sinsart, abbot of Münster, centred his whole refutation of materialism around Cuenz's opinions, explaining that as Cuenz had assembled all the most specious arguments against the soul's immateriality and as no one could go any further than he had, 'if this author is overthrown, he will bring down with him all those who think like him'.¹⁹⁰ In fact Sinsart was attacking not only Locke but also Spinoza and the Epicureans, whom Cuenz claimed to be refuting. However idiosyncratic Cuenz's views were and however little impact they had (he complained he had not even sold twenty copies of his work,¹⁹¹ but Sinsart's attack may have belatedly attracted readers), he provides further evidence of the presence of the English arguments in French-language discussions. The theologico-political turmoil of the years following the Glorious Revolution was followed outside the country, largely thanks to the Protestant exiles, and many of the theological arguments were reformulated in France in an irreligious context marked by both Epicureanism and the works of Malebranche. Cuenz provides more evidence that unorthodox views of the soul were not necessarily irreligious but they were absorbed into and confused with 'libertin' arguments, often going under the name of 'Spinozism' in several clandestine works where they took on an irreligious and even atheistic colouring.

These irreligious works circulated clandestinely alongside erotica and, together with politically subversive books, were subject to the same repression. There is even a certain overlapping of categories, most obviously in the notorious *Thérèse philosophe*, in which philosophical arguments for 'Spinozistic' determinism, mainly taken from the widely circulated deistic clandestine work called *L'Examen de la religion*, are framed in an erotic tale inspired by a contemporary scandal involving a priest and a gullible young woman. It was printed in 1748 and circulated clandestinely for much of the century, although its notoriety was doubtless at least as much due to its graphic sexual descriptions and engravings as to its philosophical content. It justifies the enjoyment of natural pleasures by claiming that as we are not free, we cannot sin, and that 'a deranged vessel or fibre in the brain can turn the most intelligent man in the world into an imbecile'.¹⁹² The inclusion of such arguments in an erotic work of fiction certainly helped to gain an audience for them, but the conjunction was doubtless not only commercial. Both La Mettrie and Diderot (who will figure prominently in the next chapter) were earthy hedonists, and Diderot's *Bijoux indiscrets*, also published in 1748, is another novel which frames philosophical discussion in an erotic tale. His most important works are both informal and personal, the materialism being reflected also in the physicality and sensuality of the writing. We have clearly entered a new arena for discussion, which is no longer confined to

¹⁸⁹ Letter to Formey, 1 Dec. 1756, Nachlass Formey, Cuentz, fo. 3^v.

¹⁹⁰ Sinsart, *Recueil de pensées diverses sur l'immatérialité de l'âme*, 6–7.

¹⁹¹ Letter to Bouhier, 9 Oct. 1744 (B.N., MS f.fr. 4410, fo. 385^v).

¹⁹² Argens, *Thérèse philosophe*, 139; see also Du Marsais, *Examen de la religion*, 199, which borrowed in turn from Fontenelle's anonymous *Traité de la liberté*.

treatises reserved for the educated thinker. It is now directed at the refined general reader, 'les chevaliers et le beau sexe', in the new daring irreligious materialistic syntheses which emerged in the 1740s, and in view of the difficulty of publishing or openly defending subversive opinions it is difficult to draw a clear dividing line between the more high-profile works and the shady world we have been discussing in this chapter. Both d'Argens and Saint-Hyacinthe were involved one way or another with clandestine manuscripts, and La Mettrie and Diderot were not only readers but also authors of clandestine works. Several of their books were printed clandestinely: *L'Histoire naturelle de l'âme* (whose title page presented it as translated from the English of 'Mr Charp') was printed on a secret press in the centre of Paris in 1745, seized by the authorities immediately after publication, and burned together with Diderot's *Pensées philosophiques*, likewise secretly printed and sold. Manuscript copies of *L'Homme machine* (published in Holland) also circulated.¹⁹³ Denis Diderot never printed the more daring of his speculations after his spell in Vincennes prison following the publication of *Lettre sur les aveugles* in 1749, preferring to circulate them privately among friends or the select subscribers to Grimm's *Correspondance littéraire*. All of these constraints need to be remembered when we move on in the next chapter to study the mid-eighteenth-century works in which materialism was openly voiced. The debate was probably also carried on in conversations in cafes or salons, but unfortunately, although the main protagonists seem to have known each other, the precise details of their contacts remain obscure, the first half the century being less well documented than the period of the 'coterie d'Holbach' in the 1760s or 1770s.¹⁹⁴ In the absence of detailed information or documents about their early years it is difficult to know why La Mettrie and Diderot rejected religion so completely, La Mettrie apparently becoming an atheist earlier than Diderot. Both seem to have known religious fervour in their youth: La Mettrie was probably involved in Jansenist circles in Saint-Malo and Diderot wanted to enter holy orders. They both frequented bohemian circles in Paris, Diderot from the time of his studies in the late 1720s, about which practically nothing is known, and La Mettrie on his return to Paris in the early 1740s. By the time he published his first philosophical work in 1745, La Mettrie was already known for proclaiming his irreligious views 'dans tout Paris', and similar reports were made about Diderot from 1747.¹⁹⁵ As we have seen, Diderot was steeped in what scholars have called 'the English model', and English debates certainly played a formative role in his development.

¹⁹³ Thomson, *Materialism and Society*, 34, and 'La Mettrie et la littérature clandestine'; Wilson, *Diderot*, 55–8.

¹⁹⁴ Kors, *D'Holbach's Coterie: An Enlightenment in Paris*; Tate, *Petit de Bachaumont*, 97–160. Goodman, *The Republic of Letters*, concentrates mainly on those women who ran salons. Many of the myths about salons are exploded in Lilti, *Le Monde des salons*.

¹⁹⁵ See Thomson, *Materialism and Society*, 5–10, 59–62; Venturi, *Jeunesse de Diderot (1713–1753)*, 13–45; Wilson, *Diderot*, 22–36, 62.

Some feeling of the intellectual ferment of these years can be gleaned from the reports of police spies preserved in the Bastille Archives or from private correspondence. The 1740s were years of political agitation and conflict, due to the government's financial demands dictated by the costs of foreign wars and the continuing conflict over *Unigenitus*.¹⁹⁶ Things got worse after the unpopular Treaty of Aix-la-Chapelle in 1748, with sporadic popular unrest exploding into riots and hostility towards the monarchy, students circulating pamphlets against the King, and many arrests. The 1750s saw a long-running political crisis with the revival of the Paris Parlement's protests against the repression of the Jansenists and the refusal of the last sacraments by priests, spreading to several provincial Parlements.¹⁹⁷ Against this background, the intellectual ferment of the early eighteenth century led to the publication in the middle of the century of important works by Montesquieu, Buffon, Diderot, and Rousseau, and the launching of the *Encyclopédie*; this provoked a reaction comparable to the hysteria over atheism in England in the late seventeenth century and an atmosphere in which, as the Prades affair shows, certain ideas could no longer be voiced.¹⁹⁸ In the first volume of the *Encyclopédie*, published with official approval in 1751, there was a long article on the soul written by Prades's close friend abbé Claude Yvon. While ostensibly sticking to orthodox views on the soul, Yvon provided a long review of different opinions concerning its origin, nature, and destiny, in the style of those to be found in irreligious works, showing how many thinkers, including not only Epicurus, Hobbes, or Spinoza but also theologians, had considered it to be material. This was followed by a discussion, written by Diderot, of the brain and the way in which thought processes depend on its functioning, and finally an examination of the problem of animal soul.¹⁹⁹ The article, with its borrowings from Bayle, could only help to convince the authorities of the existence of a concerted plot to undermine religion. The authorities and right-thinking circles believed that a wave of irreligion was submerging the country, or at least Paris, and morals were being corrupted, as 'libertinage' in manners and in erotic literature was connected with 'libertin' philosophical ideas.²⁰⁰ These fears were to some extent justified by the number of works calling into doubt, more or less directly, basic religious principles about human nature, the afterlife, and even on occasion the existence of a deity, leading to a dramatic increase in the number of apologetic works published after 1750.²⁰¹ In France as in England, heterodox speculation

¹⁹⁶ See Rogister, *Louis XV and the Parlement of Paris*, 32–61.

¹⁹⁷ Roche, *La France des Lumières*, 417–19; Van Kley, *The Jansenists and the Expulsion of the Jesuits from France*, chs.1–2.

¹⁹⁸ Spink, 'Un abbé philosophe', 168.

¹⁹⁹ AME, in *Encyclopédie*, i, 327–53. The reader is also directed to the article IMMATÉRIALISME, which shows more clearly that the Greeks and the Church Fathers did not consider spirit to be immaterial, but vol. viii, which contained this anonymous article, did not finally appear until 1765.

²⁰⁰ See Salatin, *L'Ordre des mœurs*.

²⁰¹ Laplanche, 'Conclusion: crise de l'apologétique et crise de la vérité au temps des premières lumières', 120.

also drew its inspiration from medicine and reflection on the nature of matter, stimulated by new scientific discoveries. These factors combined to produce the materialistic syntheses of the mid-eighteenth century, which cannot be divorced from the underground currents which nourished them. They have too often been seen in a purely national context which ignores the echoes of foreign, particularly English, debates brought by international networks, and despite studies of the influence of English thought on individual writers such as Voltaire, Montesquieu, or Diderot, the wider picture is rarely seen. In the next chapter we shall see further evidence of the importance of these echoes from across the Channel. Keeping in mind the background we have sketched, we can now turn to a discussion of the French materialistic works which drew on the heterodox speculation we have been describing.

6

Mid-Eighteenth-Century Materialism

Eighteenth-century French materialism has too often been looked at in terms of later preoccupations rather than from the point of view of what these thinkers were actually trying to do, which has led to misunderstandings. Although certain misconceptions have been dispelled by recent research, the title of La Mettrie's famous *Homme machine* still continues to encourage an emphasis on machines, industrialization, and social regimentation.¹ While such interpretations are interesting and perhaps comprehensible, they give a false impression of what was really going on and the true concerns of eighteenth-century thinkers.² When La Mettrie said man was a machine he meant humans were material beings determined by their organisms, a position seen as Spinozistic and not necessarily very original. We have seen earlier, less radical formulations of this idea, but we now need to go back to the question of living matter, the starting-point for mid-eighteenth-century materialistic theories, to see how they were grounded in international scientific debates on matter and generation and built on the contributions of the previous century.³ This will show the continuity of preoccupations and the way the English debate was both prolonged and transformed. This chapter begins by picking up the thread from where we left off in Chapter 3, starting with the attack on materialism by the idealist philosopher Bishop George Berkeley, whose *Siris* (1744) underlines the way theories of living matter were used to support materialistic conceptions of humans.

Mechanism and Living Matter

Berkeley was a consistent enemy of the materialists, and David Berman has argued that his conception of time as consisting simply in the succession of our ideas provided him with an answer to William Coward's objections to the soul's separate existence. If we have no ideas between death and resurrection then there

¹ Mayr, *Authority, Liberty and Automatic Machinery in Early Modern Europe*, 78–80; Schaffer, 'Enlightened Automata', 139–42.

² Thomson, 'L'Homme-machine, mythe ou métaphore?'

³ My approach differs from that of Peter Reill, who sees a reaction, beginning around 1750, against the 'mechanical natural philosophy' of the early part of the century (*Vitalizing Nature in the Enlightenment*, 5–7).

is no interval, and resurrection follows immediately upon death, thus refuting certain of Coward's arguments.⁴ In *Siris* Berkeley moves into the medical field to counter arguments favouring materialism, explaining to Thomas Prior, 'If physicians think they have a right to treat of religious matters, I think I have an equal right to treat of medicine'.⁵ He had already shown how physiological arguments could be used to deny human liberty in *Alciphron* (1732), where the minute philosopher explained that everything unavoidably follows from the structure of the world and the laws of motion. The will is the result of corporeal objects striking the sense-organs, 'whence ensues a vibration in the nerves, which, being communicated to the soul or animal spirit in the brain or root of the nerves, produceth therein that motion called volition'. This in turn affects the spirits, which produce actions necessarily by the laws of mechanism. As human actions are mechanical, there is no foundation for praise or blame, reward or punishment, or religion; man is a puppet in which the strings are the rays or filaments composed of particles issuing from all sensible objects which 'actuate every part of the soul and body of man'.⁶ In *Siris* Berkeley provides a long discussion of medical and chemical views of matter, using many of the chemical writings on active matter against Newtonian ether theories among other things. Berkeley denies 'that the minute particles of bodies have real forces or powers, by which they act on each other, to produce the various phænomena in nature',⁷ demonstrating how matter is subordinate to mind, the only true mover. Berkeley refers to Willis's vital flame, 'actually kindled, nourished, and extinguished like common flame, and by the same means', and elements of his discussion of the world spirit—the 'active fiery ethereal substance of light'—bear similarities with the views of those who opposed an immaterial soul, but for him the world spirit or vital flame is the vehicle for the soul.⁸ Thus, as his French translator pointed out, Berkeley had deprived the Spinozists and other freethinkers of the authority of ancient philosophers like the Stoics; for the Huguenot pastor David-Renaud Boullier (who had written in defence of animal soul)⁹ those who had endowed matter with all sorts of properties created uncertainty as to what it was and favoured materialism: 'After having thus made matter into spirit, we should not be surprised if many of these Gentlemen believe our soul material, and if they include thought and feeling among so many other marvellous operations or properties which, according to them, nothing prevents matter being capable of'. Berkeley provides an answer to all these materialists by showing that mind alone possesses these qualities: 'Far from according matter forces and faculties that it does not have, its different phenomena are for him only so many signs and

⁴ Berman, *George Berkeley: Idealism and the Man*, 61–70.

⁵ Letter dated 19 June 1744, quoted by Marina Benjamin, 'Medicine, Morality and the Politics of Berkeley's Tar-Water', 170–1.

⁶ Berkeley, *Works*, iii. 309–10.

⁷ Berkeley, *Works*, v. 112.

⁸ *Works*, v. 91, 101.

⁹ Boullier, *Essai philosophique sur l'âme des bêtes*. See also Popkin, 'David-Renaud Boullier and Bishop Berkeley', 355–62.

expression of the eternal power and intelligence of a simple, immaterial, infinite Being'.¹⁰ Here Boullier shows the importance of the discussion of matter and its properties, derived from a study of chemistry and physiology, and emphasizes the way it was used to favour materialism and deny the immortal soul and even the existence of God. Berkeley knew the enemy he was facing.

One of his main medical references was the leading medical teacher of the day, Herman Boerhaave, professor of botany, medicine, and chemistry and twice Vice-Chancellor of the University of Leiden, whose fame was said to extend throughout the world. Boerhaave's importance has long been recognized, and although he is frequently seen merely as the chief proponent of iatromechanism, it has been claimed that his influence was responsible for the less dogmatic and more eclectic character of French iatromechanism from the 1730s.¹¹ Berkeley was obviously interested in Boerhaave's view of the divine nature of fire as an active principle in the universe, which has been likened to Newton's ether.¹² Early in his career Boerhaave was accused like his teacher De Volder of Spinozism,¹³ an accusation dismissed by La Mettrie.¹⁴ Boerhaave himself affirmed his belief in a separate immortal soul characterized by thought and distinct from bodily functions, refusing to speculate about what is not observable, insisting on the distinction between mind and body, and condemning theories of a material soul.¹⁵ Rita Knoeff considers that on fundamental points of natural philosophy and theology Boerhaave, an admirer of the Boyle lectures, was very far from Spinoza and defended a physico-theology specifically embedded in Dutch Calvinist teaching.¹⁶ Andrew Cunningham emphasizes his eirenic Christianity on the lines of Boyle, with whom many similarities can be found.¹⁷ Nevertheless Boerhaave's physiology has been linked to arguments in favour of a material conception of humans. Historians have pointed to his insistence that the physician is only concerned with the corporeal and mechanical workings of the body, described as a hydraulic machine worked by the interaction of solids and fluids, whose vital functions continue independently of the soul once set in motion. He rejected attempts to look for a non-mechanical principle for the functioning of the human being, including the mind's power over the body, as no one has ever located 'the secret of this marvellous relationship in any constitutive part of either mind or

¹⁰ Berkeley, *Recherches sur les vertus de l'eau de goudron*, pp. xvi–xviii.

¹¹ Brockliss and Jones, *The Medical World of Early Modern France*, 424.

¹² Heimann, 'Nature is a Perpetual Worker', 11–13 and 'Ether and Imponderables', 68–70. This is one of what Knoeff calls his forgotten ideas: *Herman Boerhaave (1558–1738): Calvinist Chemist and Physician*, 3. See also Benjamin, 'Medicine, Morality and the Politics of Berkeley's Tar-Water', 190–1.

¹³ Lindeboom, *Herman Boerhaave: The Man and his Work*, 45–7; Knoeff, *Herman Boerhaave*, 21–53.

¹⁴ La Mettrie, *Traité de l'âme*, 167*.

¹⁵ See Wright, 'Substance versus Function Dualism in Eighteenth-Century Medicine', 241; Boerhaave, *Orations*, 204.

¹⁶ Knoeff, *Herman Boerhaave*, 116.

¹⁷ Cunningham, 'Medicine to Calm the Mind'; See also Boerhaave, *Orations*, 187.

body'. Indeed, 'as soon as the capacity of thinking influences our body, every effect it brings about therein is wholly corporeal, and so, subject to mechanical laws'.¹⁸ This has led some historians to conclude that 'From Boerhaave and Haller's insistence that all medical explanations and treatments be mechanical, it is a very small step to the materialism espoused by Julien Offray de La Mettrie'.¹⁹ Boerhaave's vigorous defence of mechanism in medicine goes with an admiration for Newtonian science and praise for Bacon, Newton, and Boyle as defenders of a scientific method founded on observation and experience. From his first lecture in 1701, at the beginning of his university career, he repeatedly condemned Cartesian principles established a priori.²⁰ There is some disagreement among historians as to the extent of Boerhaave's mechanical convictions and espousal of Newtonian ideas as, despite the extravagant praise for Newtonian science in his orations, his explanations are not always exempt from the type of a priori reasoning he criticizes.²¹ Boerhaave meditated all his life about the mind and its connection with the body, and generally adopted a Cartesian model of the workings of the brain. In his *Institutes*—the medical textbook based on his lectures that was read all over Europe and went through numerous editions from 1708 onwards—the discussion of the nerves and the brain take up a certain amount of space,²² and at the end of his life in the early 1730s he lectured on the nervous system. While reaffirming that humans are composed of a soul and a body, substances of different natures, he looked at their interaction and at changes in the body corresponding to mental events. He changed his view of the *sensorium commune* or common sensory where the nerves meet in the brain, generally taken to be the seat of the soul: in his early lectures he considered it to be a single point but he later described it as covering different parts of the brain, the centre of what he called the 'machina nervosa'.²³ He invoked Hippocrates' *impetum faciens* (the original elemental force which preserves life) to account for the way the mind and body affect each other through the *sensorium commune* but he did not claim to know how this came about, and some historians have considered that he finally adopted something close to occasionalism to explain the link.²⁴ But whatever Boerhaave himself may have believed, his discussion of the 'nervous machine' and his examples of how physical

¹⁸ Boerhaave, *Orations*, 114.

¹⁹ Wright, 'Substance versus Function Dualism in Eighteenth-Century Medicine', 243.

²⁰ Boerhaave, *Orations*, 78–80.

²¹ See Duchesneau, *La Physiologie des Lumières*, 106 ff. Schulte emphasizes his increasing Cartesianism: 'The Concepts of Boerhaave on Psychic Function and Psychopathology'.

²² The first edition of the *Institutiones* was in 1708, while the *Praelectiones* published by Albrecht von Haller in 1739–44 (the basis for La Mettrie's translation) are also based on notes from later lectures, which alter some of Boerhaave's earlier positions. See Lindeboom, *Bibliographia Boerhaaviana*.

²³ Boerhaave, *Praelectiones de morbis nervorum*, 256; see also pp. 386–8.

²⁴ Boerhaave, *Orations*, 239; *Institutiones*, §xxvii; Lindeboom, *Herman Boerhaave*, 265, 275; Sassen, 'The Intellectual Climate in Leiden in Boerhaave's Time', 14; Schulte, 'The Concepts of Boerhaave on Psychic Function and Psychopathology', 99 and 'Commentaar' in *Praelectiones de morbis nervorum*, 385–6.

and mental states are connected could be used to demonstrate the dependence of the latter on the former and provide arguments for the materiality of the thinking principle.

Boerhaave's defence of the new mechanical science in medicine, in particular dynamics, and his attacks on iatrochemists did not necessarily indicate a view of matter as devoid of all active principles. During his career he developed a greater awareness of the complication of the body's workings and came to show less confidence in mechanics than he had in 1703 and 1709, when he declared human life to be much simpler than was generally imagined.²⁵ He consistently emphasized observation and experience and denounced reasoning from general principles as the source of error; but by 1715 he was laying greater stress on the impossibility of knowing the first principles of nature that are 'entirely hidden from us' and 'completely unknown and obscure' like the seeds of things or seminal principles by which bodies propagate themselves, which develop in a form innate to their own nature by a power that is beyond observation.²⁶ His chemical textbook explained 'That all power for propagating is contained in the seminal matter alone, which converts every crude thing it takes, into its own form and assimilates it to itself'.²⁷ The minute study of botany and reproduction seems to have given him a greater awareness of the incomprehensibility of nature's functioning, as the difficulty of explaining generation seemed to point towards hidden powers in nature. He adopted preformation against those who fell back on blind chance, explaining that the first beginnings of animals are present in eggs or semen and each species has its own principle so that it reproduces itself according to inviolable laws.²⁸ This new emphasis has been ascribed in part to Boerhaave's study of the microscopical research of Leeuwenhoek and Swammerdam, which revealed the greater complexity of nature and the difficulties of truly knowing it and its workings.²⁹ In his later orations he increasingly emphasized the power of nature and the need to observe and follow it in healing while preserving humility. These developments are particularly evident in Boerhaave's chemistry textbook, which expounds ideas which may seem surprising on the part of a defender of mechanical principles. He mocks those who look for universal causes and refers favourably to the ancient alchemists who had attempted to lay down a general body of philosophical principles based on the nature of things, as hoped for by Bacon. Boerhaave describes the powers conferred by God, such as: universally present elementary fire, 'that wonderful cause, which the Creator has lodged in the universe, with a power of exciting such motions in bodies, as are necessary for effecting those great alterations, every where found throughout the world';³⁰ attraction, an unknown entity, the cause of motion, the only source of changes in bodies, which is not

²⁵ Boerhaave, *Orations*, 109, 129–30.

²⁷ Boerhaave, *A New Method of Chemistry*, i. 201.

²⁹ Knoeff, *Herman Boerhaave*, 163–81.

³⁰ Boerhaave, *A New Method of Chemistry*, i. 378.

²⁶ *Orations*, 155–6, 165.

²⁸ *Orations*, 166–8.

mechanical;³¹ and ‘menstrua’ which transform bodies by a form of attraction or an ‘an appetite of union’, due to affinity.³² He therefore attributed latent powers to bodies and did not limit the workings of nature to mechanical causes:

I have been led to doubt, whether the air which contains oils, salts, spirits, and other menstrooms, ever acts in a mere mechanical manner upon the bodies it dissolves; especially since such bodies can scarce ever be found perfectly pure and simple: whereas, I have learnt from experience, that different parts, of different properties, are mix’d in with all such bodies; whilst these parts have respectively their own peculiar powers of attracting, repelling, and changing themselves many other ways. We must not, therefore, attribute more to mechanical power, than the author of nature has given to natural bodies; nor extend this power beyond its proper bounds, in accounting for chemical operations. This declaration is forc’d from me, by the regard I bear to truth; and may clear me from the imputation of pretending to explain chemical operations upon mechanical principles.³³

He was, it is true, profoundly opposed to iatrochemistry and rejected explanations based on fermentations, denouncing their use as a general explanatory principle as they only existed in vegetables and should not be extended to animal bodies.³⁴ His increasing emphasis on the powers of particular bodies and the use of chemistry to reveal them thus coexisted with mechanistic explanations in anatomy based on observation and a refusal of reasoning from general principles or recourse to imaginary entities. Boerhaave, an enemy of sects, was thus less dogmatic and more pragmatic than implied by his reputation as the leading defender of iatromechanism, reminding us again of Lester King’s advice to avoid the tyranny of labels.³⁵ Boerhaave ascribed the particular powers of matter to God’s action, as the active life and natural vigour of living bodies needed an outside impetus to set them going; but both his anatomical descriptions and some of his chemical ideas could be used in a different context to support a view of nature as possessing powers of its own. His conception of fire was particularly influential, for example, in studies of electricity in the 1740s, when it was seen as an active principle in nature devoid of any reference to divine intervention.³⁶ But the main link between Boerhaave’s teaching and materialistic thought is generally considered to be La Mettrie.

La Mettrie

Julien Offray de La Mettrie (1709–51), a doctor from Saint-Malo, was the most outspoken and deliberately provocative of the eighteenth-century materialists.

³¹ See Cantor and Hodge, *Conceptions of Ether*, 24–6.

³² *A New Method of Chemistry*, i. 493

³³ *A New Method of Chemistry*, i. 511; see Lindeboom, *Herman Boerhaave*, 329–30; Love, ‘Herman Boerhaave and the Element-Instrument Concept of Fire’, 551–2.

³⁴ Boerhaave, *A New Method of Chemistry*, ii. 105–20. See also Knoeff, *Herman Boerhaave*, 201; Debus, *Chemistry and Medical Debate*, 184–207.

³⁵ King, *The Philosophy of Medicine*, 124.

³⁶ Heimann, ‘Nature is a Perpetual Worker’, 14–15.

His medical satires and *Histoire naturelle de l'âme* (1745) meant that he had to leave France for Holland, which he was again forced to flee after the publication of *L'Homme machine* in 1747. He found an asylum at Frederick II's court in Potsdam, where he died prematurely in 1751.³⁷ He spent a short period in Leiden in 1733–4 after buying his medical degree from Rheims University, as a result of which he presented himself as Boerhaave's disciple; he translated several of his teacher's works, beginning with extracts from Boerhaave's chemical textbook in Desfontaines's *Observations sur les écrits modernes* in 1737 and 1738. These extracts concerned fire, water, and air, the first of which plays a role in *L'Histoire naturelle de l'âme*.³⁸ While La Mettrie's philosophy is clearly rooted in his study and practice of medicine, it is not easy to determine whether he was led to materialism by Boerhaave's physiology or whether he merely used aspects of Boerhaave's teaching to further a materialistic agenda at which he had arrived independently. His annotated French edition of the master's anatomy lectures has to be used with precaution, particularly when interpreting his attitude towards Boerhaave, as the notes which he presents as his own are in fact a mixture of Boerhaave's and Albrecht von Haller's comments with La Mettrie's own additions.³⁹ Furthermore, his claims to have followed Boerhaave's lectures must be viewed with a certain scepticism. In his detailed edition of *L'Histoire naturelle de l'âme* Theo Verbeek's shows precisely what La Mettrie borrowed from Boerhaave and what he misunderstood, and doubts whether La Mettrie's materialism was indeed derived from Boerhaave's doctrines.⁴⁰ In *L'Homme machine* some of the illustrations and evidence come from Boerhaave, from whom is clearly derived the description of the human body as an example of perpetual motion in which each of the parts contributes to the working of the whole. It was undoubtedly La Mettrie's medical background and experience that determined his materialism. The story of a fever suffered at Freiburg in 1744, which supposedly convinced him of the subordination of mental faculties to bodily states,⁴¹ may be taken with a pinch of salt as it dramatizes what was probably a gradual conviction rather than a sudden conversion. He practised in the poor region of Brittany for eight years, including during a terrible cholera epidemic, before going to Paris and becoming a military doctor. His early medical works such as *Lettres . . . sur l'art de conserver la santé et de prolonger la vie* (1734) or *Traité de vertige* (1738) already show an interest in the interaction of bodily and mental states, which may also have been

³⁷ See Lemée, *Julien Offray de La Mettrie*; Vartanian, *La Mettrie's L'Homme machine*, 1–12; Thomson, *Materialism and Society in the Mid-Eighteenth Century*, 5–20; Wellman, *La Mettrie: Medicine, Philosophy and Enlightenment*.

³⁸ *Observations sur les écrits modernes*, x, letter CXLVI; xi, letter CLIII; xiii, letter CLXXXIX. See *Traité de l'âme*, ch. 1.

³⁹ Thomson, 'La Mettrie, lecteur et traducteur de Boerhaave'.

⁴⁰ La Mettrie, *Traité de l'âme*, ii, 13–43. *Traité de l'âme* is the revised version of the work as published in La Mettrie's *Ceuvres philosophiques*.

⁴¹ Frédéric II, *Éloge du sieur La Mettrie*, 8–9.

provoked by his presence at Jansenist ‘convulsionist’ meetings.⁴² In Paris he moved in fast-living and freethinking circles and apparently read irreligious works casting doubt on the immortality of the soul, although it is difficult to know precisely when he read which ones.⁴³ In general, the arguments used to support his material explanation of humans and denial of an immaterial and immortal soul are characterized by eclecticism, and his appeals to experience and observation are accompanied by denunciations of systems and hypotheses. While this is in line with Boerhaave’s principles, it is more difficult to conclude that La Mettrie was led to his position by adopting Boerhaave’s mechanism, however much his translation of *Institutions* tried to push the master’s teaching in a materialistic direction. He hinted that Boerhaave favoured a materialistic stance despite his apparently dualist position and added comments emphasizing possible interpretations or underlining problems; for example he pointed out the similarity between humans and animals, insinuated the materiality of the thinking principle, or referred to Locke’s thinking matter hypothesis.⁴⁴ According to La Mettrie, not only did Boerhaave never describe the soul as spiritual and immortal but in addition he presented it as a sort of internal sense like all the others, being simply the sum of the senses. He himself explained all the faculties of the reasonable soul, including the most metaphysical and intellectual thought, by the laws of motion⁴⁵ and took from various medical works what seemed to support his materialistic position, not hesitating to criticize Boerhaave on several occasions.

La Mettrie’s first philosophical work, *L’Histoire naturelle de l’âme*, describes the functioning of the brain and the nerves in a relatively systematic manner, adopting the theory of the three types of soul and claiming to accept religious teaching concerning the immortal immaterial intellectual soul, while in fact ascribing all intellectual functions to the brain. The more openly polemical and unsystematic *Homme machine*, the main basis for his scandalous reputation, dispenses with any type of soul. La Mettrie also discussed issues resulting from his basic position in *L’Homme plante* (1748), *Le Système d’Épicure* (1750), and *Anti-Sénèque* (1748–51). He begins both *L’Histoire naturelle de l’âme* and *L’Homme machine* with a discussion of the nature of matter, to show how matter, or rather a particular organization of it, can account for thought. The question that was to dog Diderot—whether sensitivity, or even intelligence, is an attribute of the smallest parts of matter or the result of a particular organization—was not one to which La Mettrie devoted a lot of space. In *L’Histoire naturelle de l’âme* he says he is concerned with the ‘motive principle’ in bodies, generally called the soul, which he calls ‘an ideal being, disproved by all our knowledge’, and admits

⁴² Thomson, *Materialism and Society*, 61.

⁴³ Thomson, ‘La Mettrie et la littérature clandestine’.

⁴⁴ Boerhaave, *Institutions de médecine*, i. 104; see also Thomson, ‘La Mettrie, lecteur et traducteur de Boerhaave’.

⁴⁵ La Mettrie, *Traité de l’âme*, 167*.

'that we do not know whether matter has in itself the immediate faculty of feeling or only the power of acquiring it through the modification or forms of which it is susceptible. For it is true that this faculty only appears in organised bodies'.⁴⁶ He thus in a sense side-steps the question by discussing only organized matter, as he does in *L'Homme machine*, which begins with a reference to Locke's hypothesis pointing out that the issue was badly put, for 'to ask whether matter, considered only in itself, can think is like asking whether matter can indicate the time'.⁴⁷ He never discusses atoms or molecules but only fibres, conscious of the danger of what he calls 'spiritualising matter' or of laying himself open to the objection that to attribute thought to matter would make each atom God. In *L'Histoire naturelle de l'âme* La Mettrie tried to demonstrate that matter contains motive power and thus a sensitive faculty, referring to both classical philosophy and the Bible; the first person he refers to approvingly is Tertullian, who as we have seen was a frequent reference in irreligious works.⁴⁸ La Mettrie seized on whatever might reinforce belief in an essentially active matter and did not hesitate to combine disparate theories. He quotes his fellow Malouin and benefactor Pierre-Louis Moreau de Maupertuis, President of the Berlin Science Academy (who afterwards brought him to the attention of Frederick II and arranged for him to go to Prussia): a passage from Maupertuis's *Dissertation physique à l'occasion du nègre blanc* (1744) is used to show the existence of an 'innate force in each fibrous element, in each vascular fibre' which exists after death.⁴⁹ In *L'Homme machine* he provides a list of examples (taken from medical works such as Boerhaave's) of how parts of the body retain their capacity to react to stimuli when separated from the whole, which leads to the conclusion 'that each tiny fibre or part of organised bodies moves according to its own principle, whose action does not depend, like voluntary movements, on the nerves'. There is an innate force which exists in all of the parts of the body under the direction of the Hippocratic *ἐνορμῶν* or *impetum faciens*.⁵⁰ While La Mettrie refers to Leibnizian motive force, he is undoubtedly also looking back to Glisson, mentioned in his translation of Boerhaave's *Institutions* where, after Haller's remarks concerning the irritability of muscular fibres based on numerous experimental instances, we find the comment: 'Glisson exposed these things very well and knew about the irritability of fibres, even when separated from the nerves'.⁵¹ On 8 February 1747, shortly before the publication of *L'Homme machine* (in circulation by late 1747), La Mettrie had apparently

⁴⁶ La Mettrie, *Machine Man and Other Writings*, 51.

⁴⁷ *Machine Man*, 3. ⁴⁸ *Machine Man*, 43.

⁴⁹ La Mettrie, *Traité de l'âme*, 69*. *Dissertation physique* was the first version of Maupertuis's *Venus physique* (see below, p. 194).

⁵⁰ La Mettrie, *Machine Man*, 27–8; Wright's argument that while La Mettrie rejects substance dualism he preserves function dualism does not affect my point: 'Substance versus Function Dualism in Eighteenth-Century Medicine', 237–54.

⁵¹ Boerhaave, *Institutions de médecine*, v. 209.

attended in Leiden a lecture, *De regimine mentis*, given by Jerome Gaub, a student of Boerhaave's. Gaub discussed the *ενορμωον*, which is two-fold, being a power of arousal in the mind and a corporeal agent of arousal in the body; the latter, which he equates with life, is described as: 'the principle of motion of all parts of body, from which all of those movements spontaneously carried out by the body in the absence of awareness of the mind are derived; it seems also to cause the residual twitching seen in the parts of living creatures cut off or torn away'. Its seat is at the origin of the nerves which distribute it throughout the body, and it constitutes what Gaub calls 'the neural man' or the intermediary through which the mind and body communicate. Although distinguishing an immaterial power in the mind from the corporeal principle, he insists that they act together. The inspiration for this seems to have come from Boerhaave, but Gaub's modern editor also links this physical principle of movement to Glisson.⁵² All of this must have interested La Mettrie, and Gaub, embarrassed by the connection, later accused him of using in *L'Homme machine* Gaub's own examples of how the states of the body influence the workings of the mind.⁵³ La Mettrie's discussion of irritability has frequently been linked to Albrecht von Haller's irritability principle, which he is said to have anticipated or improved upon,⁵⁴ but it seems La Mettrie did not really grasp the essence of Haller's principle, which was confined to muscles. Like Glisson and unlike Haller, La Mettrie did not accord muscular tissue any specificity as he was mainly concerned, like several of the people we have already seen, to defend an active conception of matter. For Haller the distinction between sensibility and irritability (the capacity to react to stimuli which only muscular tissue possesses) was a rampart against materialism because only the soul could be aware of sensations brought by the nerves, a point later emphasized by his translator Tissot in order to dissociate him from La Mettrie.⁵⁵

La Mettrie makes several references to Willis, whose observations on animal brains are cited to prove that there is no essential difference between them and humans. This is one of his constant themes, and he uses arguments similar to those discussed by Bayle.⁵⁶ In a particularly interesting passage on the powers of matter La Mettrie claims that, in contrast to Boerhaave, who refused to accept the principle of what he calls 'the oscillation of organised bodies',

Willis and Perrault, who were lesser minds but careful observers of nature (which the famous Professor from Leiden really only knew from the writings of others and almost from second-hand information), seem to have preferred to posit a soul generally spread throughout the body rather than the principle which we are discussing. But in their hypothesis—which was Virgil's and that of all the Epicureans, and which the history of

⁵² *De regimine mentis*, §38–42, in Rather, *Mind and Body in Eighteenth-Century Medicine*, 64–6.

⁵³ Rather, *Mind and Body in Eighteenth-Century Medicine*, 115–17.

⁵⁴ Vartanian, *La Mettrie's L'Homme machine*, 82–9, 234–7.

⁵⁵ Haller, *Dissertation sur les parties irritables et sensibles des animaux*, p. xlv.

⁵⁶ La Mettrie, *Machine Man*, 10–11.

the polyp seems at first sight to support—the movements which survive after the death of the subject in which they are found come from a remnant of the soul, preserved in the parts which contract although they are no longer irritated by the blood and the spirits. From which we can see that these writers, whose solid works easily eclipse all the fables of philosophy, were only mistaken in the same way as those who accorded matter the faculty of thought; I mean that they expressed themselves badly, using obscure and meaningless terms. For what is this remnant of the soul but the Leibnizians' motive force, badly conveyed by such an expression, but which Perrault in particular really had an idea of. See his *Animal Mechanics*.⁵⁷

This paragraph, immediately following a refutation of Stahl's philosophy, is the culmination of a discussion of the principle of activity in organized bodies, which La Mettrie calls 'oscillation'. Here he is deliberately placing himself in the medical tradition of those who accepted some sort of activity inherent in matter, however they accounted for it, although he did not personally accept the theory of subtle fluids or a material soul. He could draw upon quite a large body of discussions of animal movement and muscle physiology, such as that of the mathematician Alfonso Borelli's *De motu animalium* (1680), to which he refers favourably and whose 'harmony' he adopts.⁵⁸ Borelli, a vociferous champion of iatromechanism, was in fact much more eclectic in his explanations and explained muscle contraction by the fermentation of the animal spirits in the porous nerves when mixed with blood or lymph; this fermentation, defined in Willis's terms as the internal motion of the particles, is compared to an explosion.⁵⁹ Giorgio Baglivi also posited a *vis innata* (innate force) in the muscle fibres which oscillate:

the muscles would be in incessant movement if the antagonist muscles did not keep them in check and it is only when this force is surmounted by animal spirit that muscular contraction results in visible muscular movement. Muscles which have no antagonists, such as the sphincters, the circular muscle bundles of the intestine and the musculature of the heart, are therefore in movement all the time and without our will and without that movement reaching our consciousness.⁶⁰

But La Mettrie probably took the idea of oscillation more directly from Philippe Hecquet (1661–1737), whom he mentions just before his criticism of Stahl.⁶¹ Hecquet, a famously pious Jansenist doctor, was a vigorous champion of mechanism against chemical explanations like fermentation, which led him into a dispute on digestion with Drs Astruc and Vieussens.⁶² He campaigned for a simple vegetarian lifestyle and advised drinking only water in order to preserve the natural oscillation of the body fibres, which depend on water to maintain

⁵⁷ *Machine Man*, 32. ⁵⁸ *Machine Man*, 30.

⁵⁹ See King, *The Philosophy of Medicine*, 102–9.

⁶⁰ Baglivi, *Opera omnia* (1828), ii, 51, in Bastholm, *The History of Muscle Physiology*, 185. See also Duchesneau, *La Physiologie des Lumières*, 116–26.

⁶¹ La Mettrie, *Le Traité de l'âme*, ii, 35–8. Verbeek's interpretation differs slightly from mine.

⁶² See Debus, *Chemistry and Medical Debate*, 154–63.

their 'ton' and to recreate our natural state as intended by God before the flood. He explains in *Médecine théologique* (1733) that God has created the body's fibres to oscillate for several hundred years, just as a watchmaker constructs the movements of a watch to continue vibrating for months, but the human lifespan is reduced by the ageing of the fibres and by an inappropriate lifestyle. Here he refers to Bellini but was possibly also influenced by Newton's *Opticks*.⁶³ The aim of natural medicine, an art created in and with the human body, is to conserve

that force which is innate or attached by creation to the organs and fibres which must move them or make them act to exercise their functions. It is in particular in each part of the human body and in each fibre of each of these parts, that spring, that tonic movement, that systaltic virtue with which organs are born, and which constitutes their power and mechanism.⁶⁴

In a similar vein La Mettrie writes:

The natural oscillation, a property of our machine, possessed by every fibre and, so to say, every fibrous element, is like that of a clock in that it cannot always function. It must be renewed as it is depleted, given strength when it languishes, weakened when it is oppressed by too much strength and vigour. That is what constitutes the only true medicine.⁶⁵

It is surprising that he should turn to the austere Jansenist doctor who defended medicine as a form of theology. He also cites Hecquet with sympathy in other works, including his satire *L'Ouvrage de Pénélope*, probably because in works such as *Brigandage de la médecine* (1733) Hecquet campaigned like himself against charlatans and those who profited from medicine. La Mettrie was in general sympathetic towards the persecuted Jansenists, with whom he had been connected in his youth,⁶⁶ and could only have approved of Hecquet's naturalistic explanations of convulsions as hysterical manifestations of a sexual nature.⁶⁷ Nevertheless he criticized Hecquet for being an 'enthusiast' and the founder of a sect, called his repetitive works a bizarre mixture, and claimed he saw the human body as nothing but 'a clock and its oscillations',⁶⁸ which did not prevent La Mettrie from using the image himself and attracting the same criticism. He seems to have objected mainly to Hecquet's systematic defence of mechanism in medicine,⁶⁹ and to the exclusive, 'enthusiastic' and dogmatic way he applied his theory. But the advantage of using Hecquet's discussion of innate force

⁶³ Hecquet, *La Médecine théologique*, 147–50. See also Brockliss, 'The Medico-Religious Universe of an Early Eighteenth-Century Parisian Doctor'.

⁶⁴ Hecquet, *La Médecine théologique*, 205–6. ⁶⁵ La Mettrie, *Machine Man*, 31.

⁶⁶ See Thomson, *Materialism and Society*, 60–9.

⁶⁷ For example Hecquet, *Le Naturalisme des convulsions dans les maladies de l'épidémie convulsionnaire*.

⁶⁸ La Mettrie, *Ouvrage de Pénélope*, 92–3.

⁶⁹ See Brockliss and Jones, *The Medical World of Early Modern France*, 422 ff.

in the fibres is clear: by implying that such a religious writer supported his materialistic conclusions La Mettrie was enrolling him under his banner, despite Hecquet's specific condemnation of materialism, denial that matter alone or chance could account for the admirable workings of humans, and belief that the study of medicine was a theological study.⁷⁰ La Mettrie's reference to Perrault in the passage quoted above serves the same purpose and it is significant that it is linked to an attack on Stahl, whose animism had some similarities with Perrault's views. The same technique was used when he claimed that Descartes secretly held a position like his own and expected his theory of animal-machines to be extended to humans.⁷¹ La Mettrie's adoption of this long-standing claim is more of a tactical move than a serious argument as his model is not that of animal-machines, animals being described as material beings like humans with less perfect organs producing less developed functions. The same passage from *L'Homme machine* also refers to Abraham Trembley's discovery of the fresh water polyp in 1740, although surprisingly linked to theories of a material soul. This discovery, often seen as decisive for La Mettrie's conception of active matter, caused a great stir in scientific and intellectual circles, as the polyp's method of reproducing itself by section posed many theological problems; Aram Vartanian claims that 'more than any other biological phenomenon, the polyp exerted a powerful influence upon the genesis of French evolutionary materialism in the Eighteenth Century'.⁷² La Mettrie not surprisingly seizes on it, using it to counter the deistic argument from design put forward in *Pensées philosophiques* by the person he calls 'le médecin Diderot': 'We do not know nature at all; causes hidden deep within her may have produced everything. Look in your turn at Trembley's polyp! Does it not contain inside it the causes of its own regeneration?' From which he concludes: 'there may be something else which is neither chance nor God; I mean nature'—which one can probably interpret as meaning that nature itself possesses the active powers necessary to produce everything we see.⁷³ La Mettrie did not need the polyp to develop an active conception of matter in view of the long-standing medical tradition which he drew on, but its discovery could be used as evidence in its support. La Mettrie's insistence on active matter shows that his explanation of humans is not simply a development of Cartesian physiology and that his man-machine bears little resemblance to Cartesian animal-machines.⁷⁴ Nor does he follow the model of a material soul despite referring approvingly to Guillaume Lamy in several places, mainly for the latter's anti-finalism, inaccurately attributed to Gassendi.⁷⁵ In the

⁷⁰ For example *La Médecine théologique*, 275.

⁷¹ La Mettrie, *Machine Man*, 35.

⁷² Vartanian, 'Trembley's Polyp, La Mettrie and Eighteenth-Century French Materialism', 286. See below, p. 191.

⁷³ La Mettrie, *Machine Man*, 24; see also Thomson, 'La Mettrie et l'épicurisme'.

⁷⁴ Thomson, 'L'Homme-machine, mythe ou métaphore?' and 'Mechanistic Materialism vs Vitalistic Materialism?'

⁷⁵ La Mettrie, *Machine Man*, 25.

chapter on the sensitive soul in *Histoire naturelle de l'âme*, after a reference to François Quesnay's *Traité du feu* and the role played by ether in the formation of bodies, he continues:

Doctor Lamy did not think he had to limit thus the influence of ether; he explains the formation of the souls of all bodies by this same cause. Ether is an infinitely subtle spirit, a very fine matter which is always in motion, known by the name of pure celestial flame because the Ancients placed its source in the sun, from which, according to them, it is projected into all bodies to a greater or lesser extent according to their nature and consistency.⁷⁶

Before going on to discuss the sensitive soul and the role of the brain and animal spirits, he quotes a slightly adapted version of Lamy's passage on the material soul, which he links to the theory of reproduction expounded in Boerhaave's chemical work. This may be a reference to Boerhaave's theory of fire, an idea developed by Quesnay and perhaps linked to Newton's ether. In *L'Homme machine*, however, he rejects a material or any other type of soul:

the soul is merely a vain term of which we have no idea and which a good mind should use only to refer to that part of us which thinks. Given the slightest principle of movement, animate bodies will have everything they need to move, feel, think, repent and, in a word, behave in the physical sphere and in the moral sphere which depends on it.⁷⁷

His description here of the brain's working is no longer that of *L'Histoire naturelle de l'âme*, which had relied on Boerhaave's descriptions and the Cartesian model of how sensation is brought through the nerves by the impact of spherical globules on one another. This was used to demonstrate that the seat of the soul, situated at the nerve-endings in the brain, cannot be in a single spot and different parts of the brain are responsible for different sensations so that the *sensorium commune* is spread over the whole brain. He was unable to go any further into its workings and was mainly interested in its role as the receiver of outside impressions, in order to demonstrate that thought depends on the nerves and the brain. *L'Homme machine* also includes a series of examples of how thought depends on the state of the body, many of which are also in the fifth volume of his translation of Boerhaave's *Praelectiones*, published in the same year.⁷⁸ He also compares the brains of humans and different animals, with several references to Willis, but he presents a much more 'dynamic' view of the brain, emphasizing the imagination and 'internal senses'. The brain is no longer simply a processor of external stimuli but also a producer of its own ideas influenced by its structure, which in turn affect the body, demonstrating the 'material unity of man'.⁷⁹ Instead of a clear description of the brain's workings, he now only provides metaphors, comparing the brain to a musical instrument whose chords vibrate as a result of external

⁷⁶ *Machine Man*, 53; see also *Traité de l'âme*, i. 27–9.

⁷⁷ *Machine Man*, 26; see also Thomson, 'La Mettrie et l'épicurisme'.

⁷⁸ Boerhaave, *Institutions*, v. 120–2. ⁷⁹ La Mettrie, *Machine Man*, 30.

stimulation or a magic lantern on which images are projected.⁸⁰ He also seems to have abandoned the Cartesian model of animal spirits, which are now called 'an invisible legion of fluids moving quicker than a flash'.⁸¹ It is no longer clear what model he is adopting, particularly as he insists that thought is a property of organized matter like impenetrability, extension, and the faculty to move, but also electricity.⁸² He concentrates on demonstrating that organized matter can account for thought without describing how, beyond rejecting any form of subtle matter, spirits, or ether. The deliberately provocative statement that humans are purely material beings or simply better organized material animals was La Mettrie's claim to fame from the 1740s. The two main aspects of his demonstration are firstly that matter possesses its own inherent life or force which, given the right organization, makes it capable of feeling and thought; and secondly that thought is produced by the nerves and the brain (which means that humans are not free but determined by their bodily organization). These were the questions that agitated thinkers in the middle of the eighteenth century, when the microscope was opening up new discoveries, speculation on the life sciences was no longer confined to medical circles, and materialistic speculation emerged from the shadows, stimulated by the study of reproduction. The debate, while still conducted in clandestine or semi-clandestine works, also included actors with established institutional positions like Maupertuis or Buffon, who naturally showed much greater caution than did La Mettrie, forced into exile. But we can surmise that in private things were different.

The Debate on Life and Reproduction

The middle years of the century saw experimental collaboration in the study of natural history, whose precise details we unfortunately do not always know. While the links between Maupertuis, Buffon, and Diderot or between Maupertuis and La Mettrie are well established, there is no evidence of any personal contact between La Mettrie and Diderot, although they conducted a dialogue through their works during the middle years of the century. It is difficult to believe that, moving in the same bohemian and freethinking Parisian circles in the first half of the 1740s and sharing the same interests, the same publishers, and some friends like the poet Baculard d'Arnaud, they did not know each other.⁸³ In this period La Mettrie was publishing his works in Paris and Diderot was scraping a living by translating from English books (including James's *Medical Dictionary*) and feeling his way, through the irreligious but deistic *Pensées philosophiques* (1746), to the more clearly atheistic stance of the *Lettre sur les aveugles* (1749). The 1746 work, condemned by the Paris Parlement together with La Mettrie's

⁸⁰ *Machine Man*, 14, 15.

⁸¹ *Machine Man*, 30.

⁸² *Machine Man*, 35.

⁸³ See Vartanian, 'La Mettrie and Diderot revisited'; Venturi, *Jeunesse de Diderot*, 29, 41–2.

Histoire naturelle de l'âme, betrays the influence of thinkers like Cudworth and Shaftesbury. Diderot's reply to avowed atheists and materialists like La Mettrie draws largely on natural history, including the pre-existence of germs, despite some sympathy for the Epicurean claim that the world was formed by chance.⁸⁴

Indeed, one question, inseparable from discussions of the properties of matter, that particularly exercised minds throughout the first half of the eighteenth century was generation. This is a vast subject and here we shall only look at the relevant aspects of it.⁸⁵ In the early eighteenth century, encouraged by Leeuwenhoek's microscopical investigations revealing the 'animalcules' in semen, there were various schools of thought about reproduction which were opposed to irreligious speculation about spontaneous or 'equivocal' generation: those who believed offspring existed totally in the eggs or sperm, either from original creation or formed from the parent's body; and those who believed that there was a mixture of substance from both of the parents' bodies. The issues at stake were both scientific and theological. The Newtonian Dr George Cheyne's demonstration of religion from natural philosophy used reproduction to argue, against the Epicureans, that matter could not be self-existent and self-moving:

No Body now-a-days, that understands any thing of Nature or *Philosophy*, can so much as imagine, that any Animal, how abject soever, can be produc'd by an Equivocal Generation, or without the conjunction of Male and Female parents, in the same, or in two different Individuals. And very few, who have consider'd the Matter, but own, that every Animal proceeds from a pre-existent Animalcul; and that the Parents conduce nothing but a convenient Habitation, and suitable Nourishment to it, till it be fit to be trusted with the light, and capable of receiving the Benefit of the Air.⁸⁶

Both plant and animal organisms are too complicated to have been produced by the laws of mechanism alone. This was the position adopted by Diderot in *Pensées philosophiques*, where the terms he uses to claim that the discovery of 'germs' provided a reply to atheism indicate that he may have been influenced by the theories of the scientist Louis Bourguet from Neuchâtel.⁸⁷ Bourguet, who had studied in Italy, corresponded with Buffon in the 1730s and probably inspired some of the latter's theories.⁸⁸ He was a disciple of Leibniz and argued in favour of pre-existence, largely for theological reasons; it seems to have been his attempt to convert his friend Caspar Cuenz to Leibnizian philosophy that excited the latter's

⁸⁴ Diderot, DPV, ii. 25–30. See Venturi, *Jeunesse de Diderot*, chs. 3 and 4; Proust, *Diderot et l'Encyclopédie*, 284 ff.

⁸⁵ See Roger, *Les Sciences de la vie dans la pensée française du XVIIIe siècle*.

⁸⁶ Cheyne, *Philosophical Principles of Natural Religion*, i. 129–31.

⁸⁷ Diderot, DPV, ii. 25–6. He repeated the argument, emphasizing its use against atheists, in *Suite de l'Apologie de l'abbé de Prades* in 1752 (DPV, iv. 359–60). Here I differ from both Dixon, *Diderot, Philosopher of Energy*, 8–15, and Stenger, 'L'Atomisme dans les *Pensées philosophiques*', who emphasizes the influence of Gassendi on Diderot. For interesting remarks on the difference between Diderot and Gassendi, see Joy, 'Interpreting Nature'.

⁸⁸ Jacques Roger, *Buffon*, 176–7.

interest in metaphysics.⁸⁹ Bourguet also believed that movement was essential to matter but, as he argued in private letters, in a very different way from Toland's fifth *Letter to Serena*.⁹⁰ His volume of *Lettres philosophiques* (dating from 1723–4 but published in 1729) uses scientific theories to counter the materialistic danger which, as he argued forcefully in his private letters to Bouhier in 1737, could only be effectively opposed by the system of pre-established harmony.⁹¹ One 'Lettre philosophique' reviewed in detail the three main theories of reproduction accepted in his day, which were, he said, internal moulds, plastic natures, and God's immediate intervention. He discussed the debate between Bayle and Le Clerc on plastic natures, accusing Bayle of being blinded by Stratonism, in language which led to protests from Des Maizeaux and La Croze.⁹² He concluded that the only answer to all objections was to accept, with Malebranche, that everything was originally created once and for all by God.⁹³ He then expounded his theory that generation was simply the development, by an organic mechanism, of pre-existing beings whose organs exist in both semen and eggs. Only divine providence could produce organized beings as it is obvious, unless one is blinded by Stratonism or Epicureanism, that molecules of matter alone are incapable of creating anything but non-organic lumps. He claimed that his system, which helped to understand Leibniz's monads, was the only religiously acceptable challenge to 'the Naturalists, Materialists, Spinozists and all those who claim to be freethinkers',⁹⁴ and he even demonstrated how his system could explain both how offspring resemble both parents and the existence of monsters, a fruitful subject of speculation in the early eighteenth century.⁹⁵

The debate was given a new urgency by the discovery of the regenerative powers of the freshwater polyp. This discovery encouraged theories of epigenesis and 'equivocal' or spontaneous generation, which changed Diderot's view of the powers of matter.⁹⁶ Caspar Cuenz, who found the question of reproduction difficult and explained to Bouhier that despite his close friendship with Bourguet they would never agree on metaphysics,⁹⁷ seized on what he called 'this wonderful discovery' of the 'singular and surprising multiplication of a certain aquatic worm', which he apparently did not hear about until after he published his *Système nouveau*; these phrases come from a long letter about the discovery published in both the *Journal helvétique*, for which he wrote regularly, and

⁸⁹ See Wade, 'Notes on the Making of a *Philosophe*', 108.

⁹⁰ See his letter to Pierre Des Maizeaux, 10 Oct. 1731 (B.L., Add. MS 4281, fo. 303^v).

⁹¹ B.N., MS f.fr. 22409, fos. 243–54.

⁹² Bourguet, *Lettres philosophiques*, 115–16; B.L., Add. MS 4281, fo. 304.

⁹³ Bourguet, *Lettres philosophiques*, 132.

⁹⁴ *Lettres philosophiques*, 142 ff, 168. See also Roger, *Les Sciences de la vie*, 364–85 and 'La notion du développement chez les naturalistes du XVIIIe siècle', 121–2.

⁹⁵ See Roger, *Les Sciences de la vie*, 392–418; Tort, *L'Ordre et les monstres*; Curran, *Faces of Monstrosity in Eighteenth-Century Thought*.

⁹⁶ Mazzolini and Roe, *Science against the Unbelievers*, 8 ff.

⁹⁷ B.N., MS f.fr. 24410, fo. 288^v.

Formey's *Nouvelle Bibliothèque germanique*. Cuenz showed how Trembley's discovery validated his own system, the only one both capable of explaining it and countering the arguments of the unbelievers and Spinozists.⁹⁸ He explained the polyp's capacity to regenerate itself when cut up by a 'principle of life' breathed into matter by God at the creation, which gave feeling and life to all animals, and he wrote to several scientists, including Charles Bonnet, to try to convince them of the error of defending pre-existing germs and convert them to a sort of epigenesis.⁹⁹ He also asked Formey to publish a second letter on the polyps addressed to Bouhier, but without success.¹⁰⁰ Bonnet was convinced that epigenesis undermined religion, on which point he disagreed profoundly with John Turberville Needham, the first Catholic priest to be elected fellow of the Royal Society, whose microscopical observations encouraged by Trembley's discovery were published in 1745¹⁰¹ and rapidly translated into French. Needham's suggestion that animalcules in semen were not true animals led to a collaboration with Buffon (to whom Needham was recommended by the President of the Royal Society) on experiments and observations to disprove the pre-existence of germs. They conducted these experiments over several months in 1748 using the most perfect microscope available at the time and decided that Leeuwenhoek had been mistaken in seeing animalcules in semen, although they disagreed on the interpretation of their results.¹⁰² In a paper first read to the Royal Society in December 1748 and published as *Nouvelles Observations microscopiques* in 1750, Needham claimed that animalcules were generated by the decomposition of matter due to the vegetative force in the smallest particles, a conclusion mocked by Voltaire but later used as an argument in Diderot's *Rêve de d'Alembert* (1769). Diderot's thought developed from the ambiguous stance of *Pensées philosophiques* to an acceptance of the materialistic claim that 'an internal agitation of the molecules' could produce living beings; in 1769 he rejected preformation and put approval for Needham in the mouth of the dreaming d'Alembert, who describes the development of a living being from nothing, after the appearance of a 'living point'.¹⁰³ Despite the obvious support his theories provided for materialistic arguments, Needham continued to deny he was defending spontaneous generation, claiming that his experiments only demonstrated the functioning of laws laid down by God and invoking Leibniz's conception of matter to defend his own.¹⁰⁴ After initial agreement, Albrecht von Haller changed his mind and criticized Needham. Despite Bonnet's own

⁹⁸ *Nouvelle Bibliothèque germanique* (Jan.–Mar. 1746), 136–72.

⁹⁹ Bonnet, *Mémoires autobiographiques*, 91–2.

¹⁰⁰ Cuenz, letter to Formey, 1 Dec. 1746 (Nachlass Formey, Cuenz, fo. 4).

¹⁰¹ Needham, *An Account of some Microscopical Discoveries*.

¹⁰² See Roger, *Buffon*, 195–201; Sloan, 'Organic Molecules Revisited'; Roe, 'Buffon and Needham'.

¹⁰³ Diderot, *DPV*, xvii. 127, 117.

¹⁰⁴ Roger, *Les Sciences de la vie*, 494–520; Mazzolini and Roe, *Science against the Unbelievers*, 15–22; Roe, 'John Turberville Needham and the Generation of Living Organisms'.

demonstrations of pre-existence and criticism from Spallanzani, Needham stuck to his defence of epigenesis and staunchly denied that his theory undermined religion, thus constituting according to Shirley Roe an anomaly in the debates over generation and materialism.¹⁰⁵ In fact, the lines are not as clear-cut as one might think, for contrary to what is sometimes claimed,¹⁰⁶ La Mettrie did not favour epigenesis despite the support it would have provided for his arguments, and his remarks on reproduction are ambiguous. He writes in *L'Homme machine* in connection with polyps: 'I am sorry for the way this affects the naturalists' theory of reproduction'.¹⁰⁷ It is not clear precisely what he means and this remark has been interpreted as a criticism of preformationism;¹⁰⁸ but a few pages later he states that animalculism is demonstrated by observation and also refers rather dubitatively to Maupertuis's hypothesis on generation, admitting our ignorance concerning this mystery. Like Maupertuis in *Vénus physique* he discusses the growth of the foetus in the womb, remarking on how the brain and the origin of the nerves develop first; referring to Malpighi's *punctum saliens*, the palpating point which becomes the heart, he describes the growth of the limbs as 'striking vegetative growth'.¹⁰⁹ All of this is difficult to reconcile with preformationism but not with some form of pre-existence. In *L'Homme-plante*, published the following year, La Mettrie claimed human 'animalcules' were contained in male sperm and commented 'I do not know why Needham tried to deny what is so easy to see',¹¹⁰ although he had probably not done any microscopical investigations himself and generally used experimental data taken from others. In this work, arguing for the similarity of the whole of nature (of which humans are part), he seems to be defending animalculism against ovism, perhaps due to Boerhaave's influence, and the doubt expressed a year earlier has become a categorical denial. What is also curious is his decision to publish, probably in late 1749, *Réflexions philosophiques sur l'origine des animaux*, which, with the addition of new reflections, became *Le Système d'Epicure* in 1750. This work expounds the Lucretian theory of the chance creation of the world and the formation of living beings by the seeds or germs floating in the air, which are then developed in the testicles; when ripe for generation these animalcules grow in the fertilized egg. Animals are the result of chance formations and trial and error over a long period, which explain monsters.¹¹¹ He also refers to Benoît de Maillet's theory, developed in *Telliamed* (1748), that all beings originally came from the sea.¹¹² It is difficult to know how serious La Mettrie was, as he insists that we know nothing about these questions and can only invent systems like this one, which can teach us nothing and perhaps

¹⁰⁵ Roe, 'John Turberville Needham', 160.

¹⁰⁶ Mazzolini and Roe write that both La Mettrie and Diderot 'used the polyp as a central motif in their materialist theories of epigenesis', *Science against the Unbelievers*, 10.

¹⁰⁷ La Mettrie, *Machine Man*, 27.

¹⁰⁸ Vartanian, *La Mettrie's L'Homme machine*, 233–4.

¹⁰⁹ *Machine Man*, 36.

¹¹⁰ *Machine Man*, 80.

¹¹¹ *Machine Man*, 92–5.

¹¹² *Machine Man*, 98. See also Maillet, *Telliamed*; Benitez, 'Benoît de Maillet et l'origine de la vie dans la mer'. This work also circulated clandestinely in manuscript form.

lead us astray. At this point he refers to Buffon's 'ingenious new hypothesis'.¹¹³ These references (he also mentions Diderot's *Lettre sur les aveugles*) show that La Mettrie, by then in exile in Potsdam, was keeping abreast of the French intellectual scene but, instead of coming to grips seriously with scientific issues, he contents himself with an irreligious work against natural theology which emphasizes our ignorance. One might have expected him to use Needham's defence of 'equivocal generation' to defend the chance creation of beings, but even while refusing to take sides, he remains faithful to some form of pre-existence, for reasons which are not altogether clear. He seems to have been less excited by the scientific discoveries of these years than were his contemporaries, sticking with the evidence for living matter provided by his medical education. He remained in many ways a polemicist trying to shock his readers with a provocative hypothesis.

The reactions of Maupertuis and Buffon were very different from those of both La Mettrie and the pious Needham. Despite their outward conformity to Christian doctrine they were not afraid of drawing dangerous conclusions from their investigations. Pierre-Louis Moreau de Maupertuis, the respected mathematician and President of the Prussian Academy of Sciences from 1745, was keen to be seen as religiously orthodox, but the works he wrote anonymously indulged in speculation which was anything but orthodox.¹¹⁴ *Vénus physique* first outlined Maupertuis's theory of generation based on a form of attraction (which, he pointed out, the chemists had already accepted) contained in the different parts of matter in the 'semen' of both parents.¹¹⁵ It was published anonymously in 1745 as a development of his *Dissertation physique à l'occasion du nègre blanc*, written after the presentation of an albino boy to the Royal Society. Maupertuis gave an account of Harvey's observations and used the polyp to cast doubt on theories of pre-existence. In order to discredit preformation he also discussed the effect of maternal imagination on the foetus, a subject of great debate on which his brother Moreau de Saint-Elier had written a book.¹¹⁶ His theory was further developed in *Dissertatio inauguralis metaphysica de universali naturæ systemate*, published in 1751 at Erlangen under the pseudonym of 'Dr. Baumann' and afterwards as *Essai sur la formation des corps organisés* (1754). After criticizing the various systems invented to account for living beings, including preformation or animalcules, plastic natures, and occasional causes, Maupertuis presents his own system in more detail. He supposes that the smallest parts of matter, which he calls elements, possess 'something like what we call *desire, aversion, memory*', which has been seen as a reminiscence of Glisson.¹¹⁷ The elements which form the foetus are found in the semen of both mother and father, each with a memory

¹¹³ *Machine Man*, 101–2.

¹¹⁴ See Terrall, *The Man who Flattened the Earth*.

¹¹⁵ Maupertuis, *La Vénus physique*, 76–81.

¹¹⁶ *Traité de la communication de la maladie et des passions*.

¹¹⁷ Maupertuis, *Ceuvres*, ii. 146–7; French, 'Ether and Physiology', 131.

of the part of their body from which it came, which enables them to form the same part in the newly created body. Maupertuis's system explains both how the child resembles both parents and how monsters and even in certain cases new animal or plants are formed.¹¹⁸ He admits the danger of allowing thought in matter but points out that most theologians attribute intelligence to material animals¹¹⁹ and insists that matter alone could not have formed the universe. He takes pains to deny the Epicurean theory of the chance meeting of atoms devoid of feeling or intelligence, and insists on the need for a creative intelligence and the human soul, which accounts for a much higher degree of intelligence. But these precautions could not mask the danger inherent in his attribution of not only activity or attraction but even some sort of perception to the smallest parts of matter. It was Denis Diderot who spelled out the dangerous implications of his theory in *Pensées sur l'interprétation de la nature* after the two men met during Maupertuis's visit to Paris in 1753. Diderot undertook to push Dr Baumann's hypothesis 'as far as it could go' and to bring out what he called its 'terrible consequences', namely the materialistic conclusions that could be drawn from it. If each molecule possessing feeling and perception melts into the whole animal to form a single consciousness, then in the same way, the world forms a single whole, a 'tout', and is one great animal, with a soul which is God.¹²⁰ This was considered to be Spinozism. Maupertuis added to the new version of his work called *Système de la nature*, a 'Réponse aux objections de M. Diderot' in which, after lavish praise for Diderot, he quoted the relevant paragraphs from *Pensées sur l'interprétation de la nature*, adding: 'If one were less persuaded of religion than the author of the interpretation of Nature, one might suspect that his aim is less to destroy this hypothesis than to draw out the consequences which he calls *terrible*'.¹²¹ In other words, Diderot was espousing precisely the materialism that he accuses Maupertuis of favouring. In his own defence, Maupertuis insists that Dr Baumann's proposal is only a 'conjecture', refuses Diderot's analogy between the elementary perceptions of certain bodies and the whole universe, and rejects the meaning of the word 'all' employed by Diderot. He also claims that the sort of elementary perception which he sees in the smallest particles is the same thing as the 'obtuse and dull sense of touch' which Diderot says exists in matter.¹²² This exchange, with its wide-reaching implications and subversive hints, highlights the issues at stake in the debate on living and sensitive matter and shows how admitting vital properties in matter opened the way to a totally material conception of humans. In 1753 Diderot was still working towards this conception and was wary of attributing intelligence to the smallest molecules. Although he did

¹¹⁸ *Œuvres*, ii. 158–9, 170.

¹¹⁹ *Œuvres*, ii. 147–50.

¹²⁰ Diderot, DPV, ix. 76, 82.

¹²¹ Maupertuis, *Œuvres*, ii. 197.

¹²² *Œuvres*, ii. 203–16; see also Terrall, *The Man who Flattened the Earth*, 340–8.

not formulate his materialism fully until much later, a new understanding of living beings was opened up by Maupertuis's theory, combined with his recent reading of Buffon, whose 'organic molecules' seemed to correspond to Maupertuis's elements.

Georges-Louis Leclerc, Count Buffon, the universally admired member of the Paris Science Academy and head of the Royal Botanical Institution, apparently worked closely with Diderot during the middle years of the century while exchanging views on generation with his friend Maupertuis, who referred approvingly to his experiments with Needham.¹²³ Needham and Buffon had differed on the conclusions to be drawn from their microscopic experiments in 1748, Buffon believing they demonstrated the existence of primitive indestructible active 'organic molecules' contained in the mass of inactive matter. These molecules can be liberated by infusion in water, which decomposes matter and separates the molecules from the oily saline particles preventing them from being active, so that they can produce organized beings by fermentation.¹²⁴ Buffon's theory of generation, developed in the second volume of his monumental *Histoire naturelle* (published in 1749 but written by 1746), is based on these organic molecules. He explains that there exists throughout nature an infinite number of tiny organized beings like the large ones we see, composed of living organic parts common to animals and plants, 'that these organic parts are the primitive and incorruptible parts, that these parts coming together form organized visible beings, and that consequently reproduction or generation is only a change of form which operates by the simple addition of similar parts, as the destruction of organized beings comes about by the division of these same parts'.¹²⁵ Buffon took from Bourguet the idea of 'moules intérieurs' or internal moulds forming the organism. Each interior mould only takes in those organic molecules absorbed into the body in food that are appropriate to itself, while the leftover molecules are sent to one or more reservoirs in the body where they form little organized bodies like the original one, only lacking the means to develop. It is these bodies in the male and female 'semen' which come together in reproduction to form a new human being.¹²⁶ The similarities with Maupertuis's system are obvious, and Buffon refers approvingly to his friend as the first who had begun to approach the truth.¹²⁷ Buffon posits the existence of imperceptible forces within matter, an idea he probably owes to Newton. These forces are responsible for pushing organic matter to penetrate the interior mould of the body, so that there is 'an organic animated matter, spread universally in all animal or vegetable substances, which also serves for their nutrition, development and reproduction'.¹²⁸ Unlike

¹²³ *Œuvres*, ii. 312–14; Roger, *Buffon*, 178.

¹²⁴ Roger, *Buffon*, 201–3; Buffon, *Œuvres philosophiques*, 287–8.

¹²⁵ Buffon, *Œuvres philosophiques*, 240.

¹²⁶ *Œuvres philosophiques*, 248–52.

¹²⁷ Roger, *Buffon*, 178.

¹²⁸ Buffon, *Œuvres philosophiques*, 288. See also Rey, 'Buffon et le vitalisme', 400–2.

Maupertuis's molecules, Buffon's organic molecules do not possess desire, aversion, feeling, and thought and thus, as Diderot points out in *L'Interprétation de la nature*, avoid the danger of 'the type of most seductive materialism' inherent in Maupertuis's system.¹²⁹ We can, like Maupertuis, question Diderot's sincerity although he was still only elaborating his own system. He was certainly worried about attributing something like thought to molecules and preferred to accord these organic molecules what he called in 1753 an obtuse sense of touch. Nevertheless to admit any form of organizing power or life in molecules made it possible to dispense with any other organizing principle and elaborate a materialistic interpretation of humans. Which is why Needham and Buffon differed in their interpretations of what they had observed. The dangers were spelled out by Albrecht von Haller, who had originally been convinced by Needham before changing his mind. In his introduction to the German edition of Buffon's work he refers to those members of the clergy who believe that to attribute self-organizing powers to matter allows one to dispense with a creator. Instead he claims that matter alone cannot contain the forces needed and that Buffon's 'moulds' are provided by God.¹³⁰ Buffon himself, who held an official post and wanted to protect his career, consistently rejected accusations of freethinking and was careful in his *Histoire naturelle* to distinguish humans from animals by their immortal soul. This was perhaps not his true belief, at least in the 1730s when there is evidence that he doubted the immateriality of the soul. Two letters from Buffon to his friend Etienne-François Du Tour de Salvert in Riom in early 1739 refer to a 'Traite sur l'ame' written by Du Tour and sent to Buffon, who advised him not to publish it as it would be too dangerous. Buffon wrote on 6 January 1739 that 'many people believe like you that the soul is material and thought is the result, like sensation, of a particular organization', and in February that he had been unable to find 'Toland's Dissertations'; he advised his friend to have them sent from England.¹³¹ At that time, then, Buffon was interested in the freethinking works published in England and was sympathetic to arguments against the immaterial soul, including Toland's.¹³² Ten years later Diderot and Buffon were close friends as the first volumes of Buffon's *Histoire naturelle* were being published and Diderot was in the process of elaborating his materialism. Buffon's defence of an innate force in matter indicates that he still favoured a materialistic position, and Jacques Roger believes that 'Buffon's thought in 1749 is incomprehensible if it is not based on a materialistic and atheistic philosophy'.¹³³ Although Buffon's great work begins with a discussion of the soul based on an impeccable Cartesian dualism, the fact that this is included in a work of natural history that discusses humans together with animals (while insisting

¹²⁹ Diderot, DPV, ix. 84.

¹³⁰ Haller, *Réflexions sur le système de la génération de M. de Buffon*, 52–65.

¹³¹ Bertin, Bourdier *et al.*, *Buffon*, 190–2. He is probably referring to *Letters to Serena*.

¹³² Roger, *Buffon*, 70–2.

¹³³ Roger, 'Diderot et Buffon en 1749', 236.

on the difference between them) seems to Roger to indicate that Buffon was disguising his true materialistic philosophy based on Lockean epistemology.¹³⁴ Buffon differentiates organic living matter from the mass of inert matter from which it needs to be freed in order to exercise its activity, and says that nature tends to produce organic living matter except when something prevents it. Thus instead of distinguishing organized and unformed ('brut') matter we should talk about living and dead matter; the latter has been destroyed or its organic parts separated, but they can be brought together again to form new living beings.¹³⁵ This type of living matter has affinities with various intermediate active principles discussed in these years such as fire or ether. It is therefore difficult to know how far Buffon was hiding his true beliefs, but in any case his attribution of activity to a material substance and claim that life is a physical property of matter could, as Shirley Roe emphasizes, be used to support materialistic ideas.¹³⁶

Diderot's Early Works

The question of Buffon's true opinions becomes even more intriguing when seen in the context of his friend Denis Diderot's early thought, particularly as expressed in the *Lettre sur les aveugles* (1749), which, coming after his 1745 translation of Shaftesbury's *Inquiry Concerning Virtue or Merit*, *Pensées philosophiques* (1746), and *Les Bijoux indiscrets* (1748), landed him in prison. In this work the daring opinions are put in the mouth of an English scientist, providing further proof of the role England played in the elaboration of his thought (of course the *Encyclopédie*, which he and D'Alembert had already agreed to direct, was originally conceived as a translation of Chambers's *Cyclopaedia*). The type of materialism expressed in the 1749 book and its importance for the gradual elaboration of Diderot's atheistic and materialistic philosophy have been the subject of debate. Certain Lucretian themes concerning the world and the formation of animals are expounded in the blind mathematician Saunderson's dying speech, which rejects arguments from natural theology and 'the God of Clarke and of Newton'. His description of 'matter in fermentation' and the chance origin of the world, a succession of beings which appear and are destroyed and in which monsters are common,¹³⁷ may have prompted La Mettrie to develop the same themes in *Système d'Epicure*. It reflects a materialistic position based on a dynamic view of nature often called vitalistic, but does not provide evidence of serious scientific reflection on matter and its properties. It has been suggested that Diderot was

¹³⁴ Roger, *Buffon*, 211–12.

¹³⁵ Buffon, *Œuvres philosophiques*, 245–6; see also French, 'Ether and Physiology', 118.

¹³⁶ Roe, 'Buffon and Needham', 449.

¹³⁷ Diderot, *Lettre sur les aveugles*, 60–1. See also Bourdin, 'Le Matérialisme dans *La Lettre sur les aveugles*'.

reacting to La Mettrie's criticism of the deistic arguments in his own *Pensées philosophiques*.¹³⁸ Diderot's discussion of how a blind person feels attempts to relate the question of knowledge to that of physiology and the workings of the brain (later a fundamental aspect of his materialistic explanation of humans in the *Rêve de d'Alembert*).¹³⁹ He refers to the question which the Irish scientist William Molyneux had asked Locke: whether someone who had been blind from birth and was suddenly able to see would be able to distinguish by sight a sphere from a cube. Both Locke and Molyneux said he would not, a reply apparently confirmed some time later when the English surgeon Cheselden cured a blind man by removing his cataract. Cheselden's detailed account in the *Philosophical Transactions* in 1728 was used in Voltaire's *Eléments de la philosophie de Newton* (1738), and Berkeley claimed that it confirmed the theory he had proposed in *Essay towards a New Theory of Vision* (1709).¹⁴⁰ But La Mettrie disagreed in *Histoire naturelle de l'âme*, the third of whose 'stories confirming that all ideas come from the senses' is about 'Cheselden's blind man'. After following Voltaire's account, La Mettrie explains that the blind man could not *not* be able to recognize a sphere which he already knew by touch once his eyes were physically capable of seeing correctly. Cheselden's patient had been unable to distinguish them because either his eyes had not been given enough time to adjust or the witnesses had influenced him by their conviction that Locke's answer was correct. He needed time to open his eyes and look at the world as a whole.¹⁴¹ According to Marjolein Degenaar, 'by drawing attention to the physiological condition of the eyes immediately following the operation and to the nature of the questioning of the patient La Mettrie gave a new boost to the discussions surrounding Molyneux's question'.¹⁴² Diderot must have been aware of La Mettrie's work, which was burned together with his own *Pensées philosophiques*, attributed to La Mettrie. In *Lettre sur les aveugles*, although he refers only to Condillac's *Essai sur l'origine des connoissances humaines*,¹⁴³ his critique of Cheselden's experiment is probably inspired by La Mettrie's brief discussion; he too doubts that sense data can allow us to know the real nature of external objects, which for La Mettrie shows that our sensations are created by material organs and that our ideas depend on the body. Diderot refers in his discussion to an 'internal sense', seat of memory and imagination, in connection with the imagination of people born blind, all of whose ideas come from touch.¹⁴⁴ This 'internal sense' has generally

¹³⁸ Curran, *Sublime Disorder*, 36–7.

¹³⁹ See Duflo, *Diderot philosophe*, 79–99; Glauser, 'Diderot et le problème de Molyneux'; Stenger, 'La Théorie de la connaissance dans la *Lettre sur les aveugles*'.

¹⁴⁰ On all these texts, see Degenaar, *Molyneux's Problem*.

¹⁴¹ La Mettrie, *Traité de l'âme*, 119*–120*; see also Glauser, 'Diderot et le problème de Molyneux', 395 ff.

¹⁴² Degenaar, *Molyneux's Problem*, 67.

¹⁴³ Condillac (*Œuvres philosophiques*, i. 59) adopts La Mettrie's point of view although he changed his mind in the *Traité des sensations* in 1754.

¹⁴⁴ Diderot, *Lettre sur les aveugles*, 41.

been interpreted as meaning the *sensorium commune*, to which La Mettrie gave a materialistic interpretation in *Histoire naturelle de l'âme*. However, Diderot goes on to claim that a person born blind and deaf would place the soul in the fingertips, and he doubts that the nerves are the cause of sensation and originate in the brain; this amounts to denying the existence of the *sensorium* as it is normally understood. Diderot's example of how, when we press our index finger against our thumb and close our eyes, the feeling in our fingers lasts for a long time after the pressure has ended indicates that he borrowed the 'internal sense' from Buffon's *Discours sur la nature des animaux*. In this work (written long before its delayed publication in 1753 at around the same time that Diderot was writing his *Lettre sur les aveugles* and the two men were in close contact)¹⁴⁵ Buffon describes the animal's brain as an 'interior general sense that receives all the impressions which the external senses transmit to it', which can both be affected by external senses and organs and conserve the impression for a long time.¹⁴⁶ Jacques Roger, who calls this internal sense 'a sort of sensorial memory', points out that in 1758 Buffon placed it in the diaphragm instead.¹⁴⁷ It differs from the external senses in that it is affected by all the different impressions and can preserve these received sensations. Humans also possess this material organ but they have a superior sense, the soul, entirely different in essence and action, which distinguishes them from animals. Diderot's reference here to Buffon's material internal sense reinforces his attempt to explain sensation in purely material terms and show how perceptions are influenced by the state of the organs. Buffon's notion may also be linked to La Mettrie's claim that Boerhaave understood the soul as an internal sense in which the other senses meet.¹⁴⁸ But Diderot is not following La Mettrie, for whom the *sensorium commune* was the material seat of thought and who referred disparagingly to the theories of the Stoics and of some 'Moderns' who 'thought that the soul felt in all parts of the body', which is exactly what Diderot is suggesting. One of those quoted by La Mettrie is Claude Perrault, who had highlighted the sense of touch, the basis of all the other senses; for La Mettrie the soul does not feel in the place where it believes it does and if Perrault was correct, the whole animal would not have any knowledge of these sensations.¹⁴⁹ Diderot seems here tempted to follow a theory like Perrault's, in which 'the soul which is united to all parts of the body, is affected by the impressions of objects in the organs and not in the brain; which has no other role than to prepare the spirits which the organs need in order to be capable of feeling'.¹⁵⁰ Was Diderot coming down in favour of a material soul spread throughout the body as in certain clandestine works? It might seem more consistent with the tone of Saunderson's

¹⁴⁵ Grinevald, 'Les Éditions de l'*Histoire naturelle*', 633; Roger, 'Diderot et Buffon en 1749'; see Thomson, 'Medicine and Materialism'.

¹⁴⁶ Buffon, *Œuvres philosophiques*, 323.

¹⁴⁷ Roger, *Buffon*, 322, 329. See also Baertschi, *Les Rapports de l'âme et du corps*, 323 ff.

¹⁴⁸ La Mettrie, *Traité de l'âme*, 167*.

¹⁴⁹ La Mettrie, *Machine Man*, 55.

¹⁵⁰ Perrault, *Essais de physique*, 267.

speech and his apparent hesitation to deny the existence of a soul. In *Lettre sur les aveugles* Diderot's attempt to explain sensation and the formation of ideas in material terms by integrating physiology also borrowed partly from La Mettrie's explanation of the imagination in physical terms. He was groping his way towards a material explanation for mental phenomena but his arguments were as yet relatively confused and he lacked a clear physiological basis for sensation. He seems not as yet to have gone far beyond the position of Voltaire, to whom he wrote approvingly shortly afterwards about 'the opinion you share with Locke, that thought might well be a modification of matter'.¹⁵¹ In his addition to the *Encyclopédie* article on the soul published in 1751, his account of disagreements as to the seat of the soul is heavily ironical and concludes with examples showing its dependence on the body and the interaction between the two; like La Mettrie he writes that however humiliating it may be, experience shows the connection between the soul's functions and the body's state and organization.¹⁵² In 1752 he claimed that a deist, unlike a theist, doubts the immortality of the soul and the afterlife:¹⁵³ a shift from *Pensées philosophiques*, where he had said that the deist believes in the soul's immortality, denied by the atheist.¹⁵⁴ He had clearly espoused materialism but hesitated between various possible explanatory models for thought, including the material soul. Although he later came to dispense with any type of soul, his difficulty with possible explanations was perhaps never totally resolved. The temptation to give more importance to the fingertips than to the brain (or to use the language of *Le Rêve de d'Alembert*, to the ramifications of the network rather than the centre) can perhaps be linked to his hesitation as to the origin of sensibility. Diderot continued to worry at the question of living sensitive matter, as we have seen, wondering on several occasions over a relatively long period whether sensitivity is in the smallest parts of matter or produced by the organization.¹⁵⁵ But this hesitation apart, the materialistic explanation of humans proposed twenty years later in *Le Rêve de d'Alembert* bears clearer affinities with La Mettrie's in that it emphasizes the role of the brain as the centre of the nervous network. Some elements of this interpretation were beginning to take form in 1749, inspired by contemporary debates, but there was not yet a clear physiological model of humans as material beings, which could only be elaborated after a study of medical works.

At the end of the *Lettre sur les aveugles* Diderot poses a series of questions revealing a Montaigne-like pyrrhonism: 'For what do we know? what matter is? not at all; what are mind and thought? even less; what are movement, space and time? absolutely not'.¹⁵⁶ These questions, which may have inspired a similar

¹⁵¹ Letter, 11 June 1749, in Diderot, *Correspondance*, i. 78.

¹⁵² *Encyclopédie*, i. 340–3.

¹⁵³ DPV, iv. 364.

¹⁵⁴ DPV, ii. 30.

¹⁵⁵ For example in *Le Rêve de d'Alembert* (DPV, xvii. 105), *Réfutation d'Helvétius* (*Œuvres*, ed. Lewinter, xi. 492).

¹⁵⁶ Diderot, *Lettre sur les aveugles*, 82.

series of questions on creation, life, and death in La Mettrie's *Système d'Epicure*,¹⁵⁷ echoed in part the objections to materialism and the existence of matter raised by Berkeley's *Three Dialogues*. Diderot admits that although Berkeley's philosophy is the most absurd system, 'to the shame of the human mind and philosophy', it is the most difficult to combat. The way to get round Berkeley's difficulties was to posit a living, active matter,¹⁵⁸ which was precisely what Berkeley discussed in *Siris* and what Diderot indicated with Saunderson's 'fermenting' matter.¹⁵⁹ He began to develop this afterwards, from the *Interprétation de la nature* onwards, largely thanks to his study of chemistry and physiology. But he had not yet worked out the materialistic theory of humans which he elaborated in the 1760s following his study of Montpellier medicine. His final position, while more speculative, using unbridled flights of the imagination in dialogue and dream, resembled La Mettrie's in that it was based on dynamic matter.¹⁶⁰ But he was apparently not aware of earlier writings like those of Glisson, one of the Montpellier physiologists' sources, and his discussion of the functioning of the brain does not owe much to Willis. His model is more dynamic than La Mettrie's, emphasizing the individual's interaction with the environment and the forces of action and reaction.¹⁶¹ Not that the brain is merely passive in *L'Homme machine*, where it is said to possess its own creativity thanks to interaction with the nerves transmitting sensations from outside and inside the body: 'if the brain is both well organised and well educated, it is like perfectly sown, fertile earth which produces a hundred-fold what it has received'.¹⁶² But La Mettrie does not develop this idea and both the word 'reaction' and the idea of the organization as a system of action and reaction are absent from his writings, unlike Buffon's. The latter's *Discours sur la nature des animaux* examines how the internal sense interacts with both the heart and exterior sensations brought by the nerves to the brain, leading to movement and other reactions: 'Each time a cause acts on the body, we know that that body acts itself by its reaction to this cause: here objects act on the animal by means of the senses, and the animal reacts to the objects by its exterior movements; in general, action is the cause and reaction the effect'. This reaction, much greater than the original cause, is compared to a gunpowder explosion.¹⁶³

Similar ideas concerning the interactions of different zones of life in the body were discussed in the same period by the Parisian doctor Louis La Caze, who exercised an important influence on the Montpellier physiologists Théophile Bordeu and Ménuret de Chambaud. La Caze's ideas, first outlined in *Specimen*

¹⁵⁷ La Mettrie, *Machine Man*, 101–2.

¹⁵⁸ *Lettre sur les aveugles*, 56; see Dufflo, *Diderot philosophe*, 172–80.

¹⁵⁹ *Lettre sur les aveugles*, 62.

¹⁶⁰ See Thomson, 'L'Unité matérielle de l'homme chez La Mettrie et Diderot'; Vartanian, 'La Mettrie and Diderot Revisited'.

¹⁶¹ Starobinski, *Action et réaction: vie et aventures d'un couple*, ch. 2; see also Ch. 7 below.

¹⁶² La Mettrie, *Machine Man*, 16.

¹⁶³ Buffon, *Cœuvres philosophiques*, 321. See also Starobinski, *Action et réaction*, 110–12.

novi medicinae conspectus (1749), were developed in *Idée de l'homme physique et moral* (1755). He adopted Buffon's living organic molecules in his description of the whole living being, all of whose the parts are integrated by a system of action and reaction between its three centres (the head, the 'centre de forces phréniques' situated in the abdomen, and an 'exterior organ') connected by the oscillations of the nerves. The parts of the body seem to possess their own motive force and are not only moved by the nerves.¹⁶⁴ Jean Starobinski believes that, although La Caze claimed to be a disciple of Newton, his thought in fact owed much to Glisson.¹⁶⁵ Instead of the animal spirits he posited an 'electric fluid' likened to Newton's fluid ether, centred in, produced by, and maintained by the brain,¹⁶⁶ which explained generation and the resemblance of children to their parents, as he considered Buffon's theory of generation to be insufficient. The fluid receives the image of all the parts of the parent's body at the moment of orgasm in the way light reflected from an object prints an image of it on the retina, and thus transmits it to the parent's semen.¹⁶⁷ Although not all of these ideas were developed in 1749 or taken over by Théophile de Bordeu and Ménuret de Chambaud, who influenced Diderot directly, they show the continuity with seventeenth-century thought on generation and living matter. Bordeu's *Recherches anatomiques sur la position des glandes et sur leur action* was published in 1751 (although it apparently circulated among a few doctors in Paris from 1749).¹⁶⁸ His account of the excretory functions of the glands was based on sensitivity or the capacity of being irritated and reacting, a property of both organs and the fibres of which they are composed. This reaction is set off by the nerves which transmit the effect of outside stimuli, so that secretion is a type of sensation. For Bordeu 'all living parts are directed by a perpetually attentive conservatory force', although he admits he does not know whether this constitutes the essence of the parts of matter or is the necessary result of its 'combination',¹⁶⁹ a hesitation echoed by Diderot. Using the image of a swarm of bees hanging from a tree, he explains that each organ of the body possesses its own life and sensitivity and is a sort of machine (not an animal, despite his comparison).¹⁷⁰ It is the harmonious interrelation between the actions of each organ that constitutes the health or 'ton' of the whole. He rejects animal spirits and Willis's opinion that the origin of the vital nerves is the cerebellum, but admits the difficulty of proposing a coherent alternative.¹⁷¹ He suggests that the brain oscillates under the effect of the arteries and this oscillation irritates the

¹⁶⁴ La Caze, *Idée de l'homme physique et moral*, 75 ff.

¹⁶⁵ Starobinski, *Action et réaction*, 108.

¹⁶⁶ La Caze, *Idée de l'homme physique et moral*, 311 ff. See also Roger, *Les Sciences de la vie*, 637–9; Rey, *Naissance et développement du vitalisme en France*, 155–84.

¹⁶⁷ La Caze, *Idée de l'homme physique et moral*, 85–96.

¹⁶⁸ Bordeu, *Recherches sur le tissu muqueux*, i.

¹⁶⁹ Bordeu, *Recherches anatomiques sur la position des glandes*, 373.

¹⁷⁰ *Recherches anatomiques*, 452–3.

¹⁷¹ *Recherches anatomiques*, 483–7.

nerves, which transmit it to the parts of the body in a vital movement called 'tonic'; the brain thus directs functions and each organ has its own department in the brain.¹⁷² The organism is an integrated whole whose parts possess their own life and whose unity is produced by their interaction. He seems to be admitting that the increasing complexity of the different levels of organization can produce the superior intellectual capacities of humans, in other words that the whole is more than simply the sum of its parts.¹⁷³ The contribution that such ideas could make to Diderot's materialistic explanation of humans is obvious.

It is clear that in the middle years of the century thinking about living organisms and reproduction in terms of vital matter came together with discussions of the brain and nerves and attempts to dispense with an immaterial soul, to produce an atmosphere favourable to materialistic syntheses. La Mettrie's work was the most audacious of these syntheses and contributed to Diderot's more complex thought, which also drew on the Montpellier doctors and the works of Robert Whytt, a Scottish contemporary of La Mettrie's who posited sensibility in all parts of the body, which he attributed to the soul.¹⁷⁴ Diderot, too, could use all types of reflection for his own purposes. Like those of La Mettrie, Maupertuis, or Buffon, Diderot's thoughts were presented in works directed not at a specialist audience but at salon society in order to convert the people who mattered and educated opinion in general. Most of these works were clandestine, to the extent that they were anonymous and often printed and circulated unofficially at a certain risk, but this does not mean that they were inaccessible. Official censorship and intolerance of unorthodox views, which pushed thinkers into a more radical questioning of established beliefs, allowed for exceptions for the privileged few.¹⁷⁵ The social élite also read and collected clandestine works, and even when Diderot gave up publishing his most daring speculation his texts circulated among these people. The worldly, playful tone of many of them and their often erotic overtones (unlike the more serious didactic emphasis of campaigning works like *Le Système de la nature* later in the century) could only contribute to their appeal. They also distinguish them from the English works that we have seen, although echoes of these discussions do appear in novels like *Fanny Hill* or *Tristram Shandy*.

David Hartley

In general, materialistic speculation took a different tack in Britain, where scientific and medical works according active powers to nature, generally influenced

¹⁷² Bordeu, *Recherches anatomiques*, 495–9.

¹⁷³ Rey, *Naissance et développement du vitalisme*, 160. I am particularly indebted for this analysis to Boury, *La Philosophie médicale de Théophile de Bordeu*.

¹⁷⁴ Whytt, *An Essay on the Vital and Other Involuntary Motions of Animals*; see also French, *Robert Whytt, the Soul and Medicine*.

¹⁷⁵ See Hermann-Mascard, *La Censure des livres à Paris*; Negroni, *Lectures interdites*.

by Newton, were published without irreligious conclusions being necessarily drawn. Some books in the mortalist tradition continued to appear, such as Rev. John Jackson's *Dissertation on Matter and Spirit* (1735) against Andrew Baxter's *Enquiry into the Nature of the Human Soul* (1733). Jackson followed Locke in supposing that matter might be endowed with the capacity to think and claiming that a future state does not depend on the soul's immateriality.¹⁷⁶ The most important work in this tradition was Dr David Hartley's *Observations on Man* (1749), a development of his discreetly published *Conjecturæ quædam de sense, motu, et idearum generatione* (1746) based on the philosophy of Newton and Locke in a resolutely Christian framework. Hartley, who was a Fellow of the Royal Society, illustrates the extent to which Newton dominated medical thought in Britain while in France his influence, although far from absent, was combined with other traditions. It was particularly the speculation on æther in the queries on animal motion in the second edition of Newton's *Opticks* that was taken up by several British physicians, although Boerhaave's influence has also been suggested.¹⁷⁷

Newtonians like Bryan Robinson or Browne Langrish in the 1730s developed physiological models for animal motion based on the workings of the ether.¹⁷⁸ But it was Hartley's more complete discussion of nervous action and the brain that exercised a profound influence in the later eighteenth century. His work, which has been called 'the first modern materialist theory of mind' and 'a stunning refutation of Berkeley's idealism',¹⁷⁹ followed Newton's method of analysis and synthesis, and his doctrine of vibrations was based on Newton's reference to vibrations in the ether. This explanation of animal motion was combined with an account of thought based on Locke's association of ideas.¹⁸⁰ Hartley begins with a description (probably taken from Boerhaave) of the way our mental faculties depend on the brain's white medullary substance, in order to demonstrate how sensation, the generation of ideas, and muscular motion can be explained by the joint doctrines of association and vibration, which is precisely defined:

These vibrations are motions backwards and forwards of the small particles; of the same kind with the oscillations of pendulums, and the tremblings of the particles of sounding bodies. They must be conceived to be exceedingly short and small, so as not to have the least efficacy to disturb or move the whole bodies of the nerves of brain. For that the nerves themselves should vibrate like musical strings is highly absurd.¹⁸¹

It is in fact the infinitesimal medullary particles which vibrate. The vibrations are 'excited, propagated and kept up partly by the æther' in the pores of the

¹⁷⁶ Jackson, *A Dissertation on Matter and Spirit*, pp. iv–vii.

¹⁷⁷ Guerrini, 'Isaac Newton, George Cheyne and the "Principia medicinæ"'; Benjamin, 'Medicine, Morality and the Politics of Berkeley's Tar-Water', 170–6.

¹⁷⁸ See French, 'Ether and Physiology', 120 ff.

¹⁷⁹ Nuovo, 'Hartley'; see also Giuntini, 'Hartley e le leggi della natura umana'.

¹⁸⁰ Hartley, *Observations on Man*, i. 5.

¹⁸¹ *Observations on Man*, i. 21–2.

nerves 'and partly by the uniformity, continuity, softness, and active powers of the medullary substance of the brain, spinal marrow, and nerves'.¹⁸² Hartley goes into some detail concerning Newton's ether although he admits he is not certain to understand it perfectly. Objects affect both the ether and the nerves by an attraction of impulse, which sets up vibrations similar to those caused in the air by violent events such as a gun going off or a thunderclap; these are transmitted to the medullary substance to cause sensation. This theory is used to explain both automatic muscle motion, which depends on sensation, and voluntary motion, which depends on ideas. He cites experiments and observations to demonstrate that muscular motion is performed 'by subtle agitations in the small particles of the muscle fibres' or vibratory motions. In his demonstration of how muscular contraction can be explained by his system of vibrations he refers to the observations of Hales, Lower, and Leeuwenhoek.¹⁸³ His concern to explain everything by mechanical means leads him to oppose Stahl and his followers, who considered all animal motion to be voluntary. He compares his own hypothesis to those of both Leibniz and Descartes, who would have succeeded 'had he been furnished with a proper assemblage of facts from anatomy, physiology, pathology, and philosophy, in general'.¹⁸⁴ There is no question of denying intellectual capacities to animals, whose inferiority is explained by the small proportional size and the 'imperfection of the matter' of their brains as well as their lack of language, their natural 'instinctive powers', and the difference between the external impressions made on them and on humans.¹⁸⁵ In general Hartley demonstrates that 'the heart and brain, or the body and the mind, depend upon each other for their functions', although to avoid any possible accusations of irreligion he specifies: 'I do not, by thus ascribing the performance of sensation to vibrations excited in the medullary substance, in the least presume to assert, or intimate, that Matter can be endued with the power of sensation'.¹⁸⁶ He was clearly aware that this was not enough to avoid accusations of irreligion, for he returns in the conclusion of the first part of his work to the objection that his theory 'is unfavourable to the immateriality of the soul; and, by consequence, to its immortality'. He reiterates his first proposition, 'that sensations arise in the soul from motions excited in the medullary substance of the brain', which is true in a general sense whether one considers the motions to be the cause or adopts the systems of Malebranche or Leibniz. He makes no claim about the nature of the soul or whether matter can feel, but he does admit that it follows from his theory 'that matter, if it could be endued with the most simple kinds of sensation, might also arrive at all that intelligence of which the human mind is possessed', which overturns the usual arguments for the soul's immateriality. While not deciding the question, he acknowledges 'that matter and motion, however subtly divided,

¹⁸² *Observations on Man*, i. 13.

¹⁸⁴ *Observations on Man*, i. 110–11, 267.

¹⁸⁶ *Observations on Man*, i. 30, 33.

¹⁸³ *Observations on Man*, i. 86–9.

¹⁸⁵ *Observations on Man*, i. 404–5.

or reasoned upon, yield nothing more than matter and motion still'. Finally he affirms, like Locke: 'But it is most worthy of notice, that the immateriality of the soul has little or no connexion with its immortality; and that we ought to depend upon him who first breathed into man the breath of the present life, for our resurrection to a better'.¹⁸⁷ The French translator of Part I of the work, abbé Jurain, who dedicated his translation to Buffon and denied that Hartley's system favoured materialism, replaced this conclusion with his own on the immateriality of the soul and the superiority of human over animal soul.¹⁸⁸

The second part of Hartley's work deals with the truths of natural religion which follow from his description of humans, in particular the existence of God demonstrated by the incapacity of matter to account for everything in the universe, and the probability of a future state demonstrated from both 'the light of nature' and faith. On the one hand, although he has shown the dependence of thought on matter, he admits the persistence of a 'chasm' between sensation and the material organs, which perhaps creates the need for an immaterial substance which cannot be affected by the death of the body and so will subsist. On the other hand, in 'the system of the materialists' which supposes matter capable of sensation and hence of thought and will: 'we must, however, suppose an elementary infinitesimal body in the embryo, capable of vegetating *in Utero*, and of receiving and retaining such a variety of impressions of the external world, as corresponds to all the variety of our sensations, thoughts, and motions'. As this tiny body with its 'wonderful powers' subsisted before receiving its 'gross crust', it will not be affected by death and will retain its power of vegetating again. It is not destroyed but only loses its present instrument of action.¹⁸⁹ This curious passage indicates that in the materialist hypothesis he supposes the existence of something a bit like Harvey's 'conceptus' to account for generation rather than the organic molecules proposed by Buffon or Maupertuis. This is not really his main concern, however, which was to demonstrate divine providence. In his discussion of the future life, which for the blessed will not be corporeal and for the wicked will not necessarily be eternal, he refers to the probability that between death and resurrection the soul will remain in a state of inactivity but not complete insensitivity, or in a passive state rather like a dream.¹⁹⁰ This seems to justify including Hartley in the tradition of the soul-sleepers, following perhaps Locke.¹⁹¹ One of the reasons given by Jurain for not translating the second part of the work was that it resuscitated the Origenist refusal of the eternity of punishment after death, but he did not mention the other heterodox aspects of Hartley's view of a future life.¹⁹² Nor did he mention Hartley's statement in the conclusion to the first part of the work that 'the mechanism or necessity of human

¹⁸⁷ *Observations on Man*, i. 511–12.

¹⁸⁸ Hartley, *Explication physique*, ii. 406–34.

¹⁸⁹ *Observations on Man*, ii. 382–6.

¹⁹⁰ *Observations on Man*, ii. 396, 402–3.

¹⁹¹ See Giuntini, 'Hartley e le leggi della natura umana', 206.

¹⁹² *Explication physique*, i. pp. v–vi.

actions, in opposition to what is generally termed free-will' is a consequence of his system. In a way reminiscent of Berkeley's Alciphron, Hartley shows how in his theory, 'all human actions proceed from vibrations in the nerves of the muscles, and these from others, which are either evidently of a mechanical nature, as in the automatic motions; or else have been shewn to be so in the account given of the voluntary motions'; 'each action results from the previous circumstances of body and mind, in the same manner, and with the same certainty, as other effects do from their mechanical causes'. For Hartley the 'doctrine of mechanism' is consistent with the practical (as opposed to the philosophical) meaning of free will, which is 'the power of doing what a person desires or wills to do'.¹⁹³ In the second part of his work he develops the question of liberty and necessity in greater detail, showing that the various philosophical and theological arguments in favour of philosophical liberty are all mistaken and that the practical sense of free will is compatible with religion. In his discussion of the 'rule of life', which takes up much of the second part, he insists that humans must pursue the intellectual pleasures prescribed by God and devote themselves to transforming sensuality into spirituality. Thanks to his doctrine of the association of ideas he believes that one can transform one's passions so that, instead of being dominated by one's original physical constitution, they are dictated by the love of God.¹⁹⁴ Belief in a benevolent deity governing the world and determining the will was vital to his system and he believed he had succeeded in providing a physiological basis for Christian morality and reconciling a limited form of materialism with religion.

Hartley's determinism was doubtless an aspect of his system which attracted the radical Unitarian chemist Joseph Priestley, whose materialism, expounded in *Disquisitions Relating to Matter and Spirit* (1777), was based on a new conception of matter taken from Roger Joseph Boscovitch's *Theorie philosophiae naturalis*. Boscovitch's definition of matter in terms of force and denial that it was passive and impenetrable enabled Priestley to demonstrate that 'the powers of sensation and thought are the necessary result of a particular organization, as that sound is the necessary result of a particular concussion of the air'.¹⁹⁵ He did not go into this organization, confining himself to a few reflections on the reciprocal influence of the brain and the rest of the body, together with a few examples of the dependence of thought on the brain and the way strong passions affect the body. Unlike Hartley, Priestley defined himself as a materialist and, in the tradition of the mortalists, saw materialism as the true Christian doctrine. In *The Doctrine of Philosophical Necessity Illustrated*, the second volume of *Disquisitions*, he states that if we accept that humans are totally material we cannot deny they are mechanical beings, or in other words subject to certain laws. Any argument in favour of materialism is therefore an argument in favour of necessity as it

¹⁹³ *Observations on Man*, i. 500–3.

¹⁹⁴ *Observations on Man*, ii. 211–14, 309–15.

¹⁹⁵ Priestley, *Disquisitions Relating to Matter and Spirit*, 28. See also McEvoy and McGuire, 'God and Nature: Priestley's Way of Rational Dissent'; Whyte, 'Boscovich's Atomism', 118.

entails the complete passivity of humans. In reply to his friend Richard Price, who opposed Priestley's basic assumptions concerning the nature of matter and the soul, he repeats that the individual cannot move himself and that the will is motivated by external causes.¹⁹⁶ Priestley frequently refers to Hobbes, the first to understand the doctrine of philosophical necessity, which (unlike Hartley) he claims does not contradict human freedom, and he adopts Hobbes's definition of liberty as the possibility to do what we will.¹⁹⁷ His own doctrine of philosophical necessity states that the will is determined by the circumstances in which the mind is and that given the same state of mind we will always make the same choice.¹⁹⁸ This follows from Hartley's doctrine of the association of ideas, which he says is as invariable as the laws of mechanics.¹⁹⁹ This link between materialism and necessity, which we have come across in various authors and was an element of 'Spinozism', was particularly emphasized in the eighteenth century and needs to be examined in a bit more detail.

Determinism

In La Mettrie's works we find the first detailed exposition of a medically based determinism although as we have seen freedom was denied in several 'Spinozistic' works and seen to follow from the denial of immaterial substance. For La Mettrie if the brain, a material organ, produces thought then it is clear that the human being's intellect, wishes, and desires are the result of the body's physical workings. Instead of seeing humans as passive receivers of sense-impressions determined by outside forces, as did Berkeley's Alciphron, he insisted on the physical machine which determines the will, whose desires we are incapable of resisting. The role played by circumstances and experience is undeniable, but in the last resort it is one's own physical make-up which predominates. Thus 'man's first asset is his organisation' and all our qualities, good and bad, as well as our character and intelligence, are given by nature.²⁰⁰ The subordination of mind to body and lack of free will demonstrate 'man's material unity', and La Mettrie shows how the imagination affects the blood and excites desires in the body but more often how the will is subordinate to the body. Thus 'protests based on the power of the will are vain. For every order it gives, it is forced a hundred times to obey'.²⁰¹ This aspect of La Mettrie's thought is specifically developed in *L'Anti-Sénèque ou Le Souverain bien*, first published in 1748 as an introduction to his translation of

¹⁹⁶ Priestley, *A Free Discussion of the Doctrines of Materialism and Philosophical Necessity*, 146–7.

¹⁹⁷ Priestley, *The Doctrine of Philosophical Necessity*, pp. xxvii–xxix.

¹⁹⁸ *The Doctrine of Philosophical Necessity*, 7.

¹⁹⁹ *The Doctrine of Physical Necessity*, 34–43.

²⁰⁰ La Mettrie, *Machine Man*, 15–16; see also Thomson, 'La Mettrie, Machines and the Denial of Liberty'.

²⁰¹ La Mettrie, *Machine Man*, 30.

Seneca's *De vita beata* and revised in 1750 and 1751 as an independent treatise.²⁰² In this work, undertaken with the encouragement of Maupertuis, who mistakenly thought that it would be less controversial, La Mettrie investigates the moral implications of his materialistic view of humans. He refers briefly to the type of evidence already given in *L'Homme machine* to show that the will, necessarily determined to desire what can benefit the individual, is simply the result of the circulation of the blood, and concludes: 'An absolutely necessary determination carries us away, and we will not admit that we are slaves!' and we 'automatically tend towards our own good', an invincible disposition with which we are born.²⁰³ He brings out the moral implications of this observation:

Men are generally born wicked. Without education not many of them would be good, and even with this assistance, there are many more of the former than the latter; such is the defect of the human make-up. Thus education alone has improved on organisation; it has directed men towards the profit and advantage of men, and has wound them up like a clock, to reach the degree of tension which could help and be most useful. This is the origin of virtue; the public good is its source and object.²⁰⁴

This quotation summarizes the main conclusions drawn from materialism in this work. As there is nothing in the universe but matter and its chance creations, with no presiding God or universal plan, good and evil are created by society and taught by education. The social origin of good and evil is inherited from both Hobbes and Spinoza, probably at second hand, and leads Paul Vernière to see La Mettrie's works as the most coherent development of 'Neo-Spinozism'.²⁰⁵ La Mettrie's denial of any natural basis for good and evil, which are perfectly arbitrary if necessary notions, represents a radicalization of his stance compared with *L'Homme machine*, where the existence of natural law was said to be proved by remorse, visible in animals as well as humans and evidence of their similarity.²⁰⁶ In *L'Anti-Sénèque* he reverses his point of view, explaining that the remorse felt for crimes is not the result of an innate natural law but of education and childhood conditioning: 'Remorse is thus only an unpleasant remembrance, a former habit of thought, which returns in force. It is, if you prefer, a trace that is renewed, and consequently an old prejudice which sensuality and the passions cannot succeed in sending so soundly to sleep that it does not almost always reawaken sooner or later'.²⁰⁷ La Mettrie was aware of the role that social conditioning and education could play in forming individuals and in inculcating certain modes of behaviour, values, beliefs, and even traits of character, but believed that nature is the strongest factor and will finally overcome the effects

²⁰² Given the title *Discours sur le bonheur* in posthumous editions of his philosophical works; for the different versions, see La Mettrie, *Discours sur le bonheur*.

²⁰³ *Machine Man*, 141.

²⁰⁴ *Machine Man*, 129.

²⁰⁵ Vernière, *Spinoza et la pensée française*, 537. See also Thomson, *Materialism and Society*, 142–55; Comte-Sponville, 'La Mettrie, un "Spinoza moderne"?'.

²⁰⁶ *Machine Man*, 19–21.

²⁰⁷ *Machine Man*, 135.

of education and environment.²⁰⁸ Put in his terms, it is the internal rather than the external senses which play a greater role and he is most interested in the internal senses' workings and effect on the brain, rapidly forgetting the external senses. The individual's specificity and the passions resulting from his particular 'organization'²⁰⁹ will inevitably take over sooner or later and destroy the effects of education and social conditioning. The realization that our own actions are not free should make us indulgent towards others and hesitate before punishing those who cannot prevent their behaviour.²¹⁰ He writes in *Système d'Épicure* that the only reason he still has any regard for his fellow humans is that he seriously believes that they are machines; materialism is the antidote to misanthropy.²¹¹ However, La Mettrie goes further: as remorse cannot prevent people from acting badly, because it only intervenes after the action has been committed, it is useless to society and makes people suffer needlessly, so we should try to free them from remorse. Those few superior individuals who have a favorable 'organization' will be law-abiding and honest citizens, while those (the majority) who do not can only be happy by following the criminal dictates of their bodies. Even if criminals must be punished for the good of society, morally they cannot be criticized as they are not free to act otherwise. La Mettrie here justifies a posteriori Jean La Placette's 1709 attack on Spinoza:

once one has stated that there is no liberty in the world and that men only do what they cannot prevent themselves doing, it is obvious that they are no more worthy of praise or blame for anything they do than is a stone falling from above when what held it up is removed, or a huge fire which burns a combustible object that is brought close to it. . . . In short, wherever there is absolute physical necessity, there cannot be virtue or vice or anything worthy of praise or blame.²¹²

La Mettrie's determinism led him to a profoundly pessimistic view of nature. Humans, created by the chance workings of blind nature, are essentially antisocial and seek their happiness in a selfish manner, except for a handful of exceptional individuals more or less identified with 'philosophes'. This contrasts markedly with the attitude of Radicati, who had proclaimed the arbitrary nature of laws but believed that everything natural was essentially good. For La Mettrie, 'if the joys found in nature are crimes, then man's pleasure and happiness is to be a criminal'.²¹³ His pessimism about human nature was perhaps an effect of his early Jansenism, resulting from the influence of a Jansenist teacher,²¹⁴ which could account for his similarity with La Placette the Calvinist. La Mettrie's

²⁰⁸ Such a stance belies Brooke's claim that the attraction of materialistic determinism was precisely that it could give 'zest to campaigns for educational reform': *Science and Religion*, 175. See Ch. 7 below.

²⁰⁹ *Machine Man*, 121.

²¹⁰ *Machine Man*, 142–3.

²¹¹ *Machine Man*, 103.

²¹² La Placette, *Eclaircissemens sur quelques difficultez*, 282–3; see also Vernière, *Spinoza et la pensée française*, 64–72.

²¹³ La Mettrie, *Machine Man*, 138.

²¹⁴ Frederick II, *Eloge du sieur La Mettrie*, 2–3. See also Thomson, *Materialism and Society*, 60–9.

vision of humans as naturally corrupt and inclining to criminal behaviour comes out clearly in his advice to those with antisocial instincts, in a passage seized on by his enemies: 'if, not content to excel in the great art of voluptuousness, crime and debauchery are not too strong for you, there is still sleaze and infamy to take a *glorious* part in: roll in them like a pig and you will be happy like one'.²¹⁵ Such statements have been seen as representing a cynical immoral stance advocating debauchery and criminal behaviour, making him a forerunner of Sade; but it would be more accurate to say that they convey disgust and sorrow at the corrupt nature of what the Jansenists would consider to be fallen man. The atheistic doctor La Mettrie adopts the stance of a realistic medical observer: 'I am not encouraging wickedness, which is too contrary to my character, I am only sympathizing, because I can find an excuse for it in the organisation, often impossible to tame'. But his enemies' worst accusations were apparently justified by what can only be seen as a deliberately provocative choice of words: 'surely it is clear that I am not encouraging crime, God forbid! but only, following my system, an easy mind in crime'.²¹⁶ In view of La Mettrie's libertine work called *La Volupté* (reworked as *L'Art de jouir*), which paints refined sexual pleasures in the tradition of 'libertin' authors like Crébillon, Chaulieu, or Mme des Houlières, and his personal inclination to good living and earthly pleasures, we can deduce that he wanted to undermine the hypocrisy of moral and religious codes which in his view placed unnecessary restraints on behaviour that was in no way harmful.²¹⁷ Nevertheless society can only function and retain its cohesion by repressing antisocial natural instincts, so La Mettrie is forced to justify repressive punishments calculated to enforce the laws by fear and speaks brutally of 'the need to strangle part of the citizens in order to preserve the others, as we cut off a gangrenous limb to save the body'.²¹⁸ We shall see in the last chapter how this conclusion differed from that of other materialists.

Diderot expounded an uncompromisingly deterministic position very similar to La Mettrie's in his 1756 'Letter to Landois', which circulated in Grimm's *Correspondance littéraire* and was part of the wide-ranging debate on freedom and necessity (or rather 'fatalism') in the mid-1750s, with a new French translation of Anthony Collins's *Philosophical Inquiry concerning Human Liberty* in 1754,²¹⁹ the 1756 *Encyclopédie* article FATALISME, and abbé Pluquet's three volume *Examen du fatalisme* (1757) denouncing materialistic systems explaining the origin of the world.²²⁰ Pluquet reduced fatalistic systems to two, those of

²¹⁵ La Mettrie, *De la volupté*, 90–2. Emphasis La Mettrie's.

²¹⁶ La Mettrie, *De la volupté*, 93. 'System' was a negative word for La Mettrie.

²¹⁷ See Thomson, 'La Mettrie et le bonheur matérialiste'. ²¹⁸ La Mettrie, *De la volupté*, 91.

²¹⁹ Collins, *Paradoxes metaphysiques sur le principe des actions humaines*.

²²⁰ In late 1754 Condillac included a short 'Dissertation sur la liberté' in his *Traité des sensations* and in 1755 Astruc added a *Dissertation sur la liberté* as the longer second part of *Dissertation sur l'immatérialité et l'immortalité de l'âme*. Interest in the question may have been reinforced by the

Hobbes and Spinoza, one or another of which he finds behind all materialistic works. Fatalism, Christian or otherwise, meant for Pluquet 'an inevitable chain of eternal necessary causes' and was linked to both the inexorable working of the laws of nature and the belief that everything is decided in advance according to an overall plan, another version of divine foreknowledge.²²¹ For Diderot in 1756 liberty was meaningless and 'if there is no liberty, there are no actions which deserve praise or blame. There is no vice or virtue, nothing that must be rewarded or punished. What then distinguishes men? Good and bad actions. . . . to do good is luck not a virtue'. Like La Mettrie, he says that belief in physical necessity reconciles him with the human race. But here, like Anthony Collins and unlike La Mettrie, Diderot argues not from the physical workings of the unified human organism but from physical necessity and the need for a cause.²²² This causation is external and humans are determined by things outside their control, such as the general order of the world, education, but also 'organization', again indicating that his complex conception of the unity of the material individual had not yet been elaborated. In the *Rêve de d'Alembert*, on the contrary, humans no longer appear as passively determined by outside forces over which they have no control but as reacting and active. As Jacques Chouillet has shown, by 1769 the cause has become the individual, who is no longer externally determined.²²³ This more complex and subtle type of materialism was the result of Diderot's study of medicine. When Bordeu in the *Rêve* says to d'Alembert and Mlle de l'Espinasse: 'I shall only say one thing about liberty, that the last of our actions is the necessary effect of one single cause: ourselves, very complicated, but one' or 'we are luckily or unluckily born; we are unwittingly carried away by the general torrent which leads one to glory and another to ignominy',²²⁴ he uses terms very similar to La Mettrie's. He is showing how we are at the mercy of our passions, in other words the workings of our own body and its interaction with the world outside. Diderot describes vividly the sensitive person, at the mercy of the diaphragm or a touching sensation, which creates an 'interior tumult' and agitation, overwhelming the brain and the reason. In a well-constituted individual the 'origin of the network', in other words the brain, tries to bring order and dominate this anarchy.²²⁵ This work, it must be stressed, was a highly speculative reflection and was not published until long after Diderot's death, circulating only among a small group of like-minded readers. In it, his thought is more subtle, fertile, and daring than in works of atheistic propaganda like d'Holbach's *Le Système de la nature* (1770), in which Diderot doubtless had a hand. Although they were also printed and circulated clandestinely they were

1755 Lisbon earthquake. See also Proust, *Diderot et l'Encyclopédie*, 316–20, for a list of works on the subject during these years.

²²¹ Pluquet, *Examen du fatalisme*, i. iii.

²²² Diderot, DPV, ix. 257–8.

²²³ Chouillet, 'Des causes propres à l'homme', 54; Stenger, *Nature et liberté chez Diderot*.

²²⁴ Diderot, DPV, xvii. 186.

²²⁵ DPV, xvii, 179–80.

aimed at convincing a wider readership. D'Holbach's lengthy treatise describes humans' lack of freedom in particularly stark terms, after the initial explanation of how all intellectual faculties result from sensation. The will is described as simply a modification of the brain disposing it to action, which is the result of ideas produced by sensations.²²⁶ As there is no soul distinct from the workings of the body and intellectual and moral faculties are the result of a natural physical mechanism, it follows that humans are determined by the necessary and immutable laws of universal nature:

Our life is a straight line which nature has ordered us to follow on the surface of the earth without ever diverging from it for an instant. We are born without our consent, our organization does not depend on us, our ideas come involuntarily, our habits are in the power of those who make us contract them, we are perpetually modified by visible or hidden causes which necessarily regulate our way of being, thinking and acting.²²⁷

These causes are both the individual's own physical constitution and a variety of outside factors including education and social pressure. As in Diderot's letter to Landois, it is our passivity and lack of participation in this process that are stressed; the individual is a subordinate part of a whole, the 'grand tout'. Diderot's reflection on this subject had by then gone much further, as is brought out in his unpublished novel *Jacques le fataliste*. In this story unexpected events pop up continually to counter the fatalistic image, defended by the Spinozistic Jacques, of the great scroll in heaven on which events are inscribed. Diderot mischievously confronts different opinions and events and exalts liberty, including numerous digressions from the main plot, which has led to conflicting interpretations. As in Diderot's other great works, the issues are discussed in dialogues between Jacques and his Master, neither of whom represents the author's position. The problems raised by the determinism inherent in materialism can be seen in the Master's summary of Jacques's philosophy:

He believed that a man moved as necessarily towards glory or ignominy as a self-conscious ball follows a mountain slope, and if the chain of cause and effect which forms man's life from the first instant of his birth until his last sigh were known, we would be convinced that he has only done what he had to do. I often contradicted him, but without profit or result. What can one reply to someone who says: whatever the sum of elements I am composed of, I am one, and one cause has only one effect; I have always been one single cause, and so I have always had only one effect to produce. My whole existence is thus only a series of necessary effects.²²⁸

Here Diderot is once again rehearsing the different views of the internal and external causes of human nature and actions, at the intersection of physiology,

²²⁶ Holbach, *Système de la nature*, 144–5.

²²⁷ *Système de la nature*, 214–15.

²²⁸ Diderot, DPV, xxiii, 189–90; see Loy, *Diderot's Determined Fatalist*.

sociology, and cosmogony. The different interpretations of the factors determining individuals led to different conclusions in in the moral and political spheres as we shall see in the last chapter, which will sketch briefly the main fault lines in eighteenth-century materialism and its often contradictory consequences.

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Epilogue: Some Consequences

The last chapter brought us well into the second half of the eighteenth century and we started to see some of the implications of the material conceptions of humans which crystallized during the middle years of the century. In Britain the attempt to reconcile materialism and religion continued and the controversy on the nature of the soul was revived in a minor key in the 1750s. An anonymous 1751 *Essay* arguing against the soul's immortality drew mainly on comparisons with animals and claimed that human will was a small, limited portion of divine power.¹ More importantly, in 1755 the Bishop of Carlisle Edmund Law added a defence of soul-sleeping to the third edition of his *Considerations on the Theory of Religion* which combined scriptural arguments with natural history, including the works of the naturalist Charles Bonnet, to suggest that 'life, thought and agency' could be connected to matter.² His work triggered supporting articles in the *Gentleman's Magazine* and the *Monthly Review*, which Law considered dispensed him from the need to reply to criticisms and showed that his belief could only hurt the 'self-interested papist' or 'self-sufficient deist'. He also looked forward to the publication of a work which he claimed would put an end to the controversy.³ The work in question was Archdeacon Francis Blackburne's history of views on the separate state of the soul between death and resurrection (1765). Although remaining a member of the Church of England, Blackburne was a leading radical and published the memoirs of Thomas Hollis, mainly responsible for perpetuating the memory of seventeenth-century republicans. He was at the heart of radical activity, in contact with his fellow Yorkshireman Joseph Priestley and with Theophilus Lindsay, the founder of the Unitarian chapel at Essex Street in London.⁴ The revival of radical opposition in the 1760s changed the political and social climate, reconfigured the relationship between religion and politics, and created a different intellectual situation giving a new edge to materialism which it would need another work to explore fully. Blackburne and Priestley (who quotes his work) provide evidence that a self-conscious tradition of Christian

¹ Ontologos. *The Grand Question Debated*.

² Law, *Considerations on the Theory of Religion*, 419 ff.

³ *Considerations on the Theory of Religion*, 425.

⁴ Robbins, *The Eighteenth-Century Commonwealthman*, 324 ff; see also Fitzpatrick, 'Latitudinarianism at the Parting of the Ways: A Suggestion'.

mortalism continued among some of these radical Whigs.⁵ In France too there was a changed political climate following the country's expensive humiliation and defeat in the Seven Years' War (1756–63), which led to both attempts at economic reform and increased intrigue and instability. The Duke of Choiseul, who rose to prominence during the war, was favourable to enlightened opinion and supported the Parlement's eventually successful campaign against the Jesuits, who were expelled from France in 1767.⁶ But he had powerful enemies, in particular the heir to the throne and his court, who finally succeeded in having him removed in December 1770, with the help of Chancellor Maupeou (whom he had appointed in 1768). Maupeou's successful campaign against the Paris Parlement, leading to its removal and a reform of the system, were violently attacked in numerous pamphlets as despotic and opposed by most intellectuals. His actions were reversed and Parlement reinstated on the accession of Louis XVI in 1774,⁷ and Turgot's spell in power as controller-general encouraged short-lived hopes of reform on physiocratic principles. The late 1760s and 1770s thus constituted a period when political differences were exacerbated and the need for change and greater liberty became more widely felt. More emphasis was now placed on the political implications to be drawn from the conception of human nature elaborated over the preceding years. The young Jacques-André Naigeon's *Encyclopédie* article UNITAIRES (1765), under the guise of describing Socinian beliefs, outlined a thoroughgoing atheistic and materialistic conception of human nature and arguments for political reforms. The Unitarians were credited with believing among other things in the eternity of matter, the only substance, which is perpetually in movement; in the similarity of humans and animals; 'that nothing in nature is dead, but everything has its own inherent life'; and were said to deny free will.⁸ This curious article, with its references to both English and Polish theologians, shows the continuing awareness of the unorthodox materialistic currents in English thought. It marked the beginning of an atheistic and materialistic campaign orchestrated by Baron d'Holbach, who published translations of several English works, including *Letters to Serena*, as well as new editions of La Mettrie's works and clandestine treatises. The high point of this campaign was the publication of *Système de la nature* (1770), probably concocted in Holbach's salon. In reply there were numerous refutations of materialism and atheism.⁹ This changed climate is the main reason why despite the greater presence of materialistic propaganda, I have chosen not to study in detail the period after the middle of the eighteenth century, which has hitherto attracted greater attention and obscured the complex and lesser-known seventeenth-century roots of materialistic thinking. As an epilogue to this story

⁵ See Young, 'The Soul-Sleeping System'.

⁶ Swann, *Politics and the Parlement of Paris*, 206–13.

⁷ See Echeverria, *The Maupeou Revolution*; Swann, *Politics and the Parlement of Paris*, 356–60.

⁸ *Encyclopédie*, xvii. 397–8.

⁹ See Becq, *Aspects du discours matérialiste en France autour de 1770*.

I shall merely indicate the main ways in which materialist speculation continued at the end of the century and the different currents that were its legacy. Here too, the issues have often been obscured by simplistic interpretations ranging from conspiracy theories derived from abbé Barruel or John Robison, who saw the philosophes as part of a crypto-Masonic plot leading to the French Revolution,¹⁰ to studies of eighteenth-century materialism as a forerunner of the theory of evolution, racist ideology, or dialectical materialism. To clarify matters, this chapter will look briefly first at the continuing tradition of medical materialism and its relationship to religion; then materialism's implications for morality and politics and whether it could provide a basis for radical or reforming thought; and finally speculation about human diversity, particularly as embodied in the development of physical anthropology. As we shall see, materialistic thinking did not constitute a single coherent school and there were disagreements on these questions among those who defended a materialistic position. To make this clear the main points at issue need to be spelled out.

Varieties of Materialism

At the risk of simplifying, we can identify two main strands of eighteenth-century materialism, corresponding partly to the differences between Diderot, the inheritor of the medical speculation on living matter, and Claude-Adrien Helvétius, author of *De l'esprit* (published in 1758 to an enormous scandal) and the posthumously published *De l'homme* (1773). Helvétius, a tax farmer and the son of a prominent doctor, is sometimes said to have proposed a crude view of humans as all the same and totally modifiable by outside influences. While this is not the case, it is true that his main interest was the investigation of the political and moral implications of materialism rather than the study of the physical springs of thought in our material organism. From the starting-point that all thoughts come from sensations and that to judge is to feel, Helvétius discussed the effects of external stimuli on individuals whose organs function normally. He admitted that different individuals do feel things differently, but claimed that the differences are minor and in any case insufficient to affect the mind seriously. A real difference would be that someone was frozen by burning coal, or in other words the relationship of humans to one other would be the same as humans' relation to insects with totally different types of eyes who necessarily see objects in a different way. In that case, no relationship between individuals and no common life would be possible. As it is, 'men that are commonly well organized, are like certain sonorous bodies, that without being

¹⁰ Barruel, *Mémoires pour servir à l'histoire du jacobinisme*; Robison, *Proofs of a Conspiracy against all Religions and Governments of Europe*.

exactly the same, still yield the same number of sounds'.¹¹ He studied what makes social life possible and his interest was essentially political. Despite agreement on many points, Diderot made long critical annotations on his writings which have sometimes led to the mistaken belief that Diderot was going back on his earlier materialism. At the same time, while Diderot's most important works were for long unknown, Helvétius was admired by many thinkers from the late eighteenth century onwards, particularly in Britain, where his philosophy was linked to Hartley's. This led to a distorted view of eighteenth-century materialism which underestimated its exploration of physiology. This will become clearer by looking briefly at Diderot's exploration of human nature and the main points of divergence among materialists. The tensions within materialistic thinking are epitomized in many ways by his extremely rich and complex writings, which have given rise to diverging interpretations.¹² As much of his mature output consists in dialogues with real or imaginary interlocutors, it is not always easy to determine which opinion represents his own or whether it is to be found somewhere between two opposing views or with both at once. The work which explores in greatest detail materialistic conceptions of humans, *Rêve de d'Alembert*, brings together the strands of the debates that we have chronicled and goes beyond them. It is in fact three dialogues or *entretiens*, the first one between Diderot and the mathematician Jean Le Rond d'Alembert, the original co-editor of the *Encyclopédie*, and the following two between Julie de l'Espinasse and Théophile de Bordeu at the bedside of the sleeping d'Alembert. The dialogue form enables Diderot to present opposing opinions and try out theories, while the presence of the dreaming d'Alembert allows extravagant conjectures or what Diderot calls 'délire' to be voiced, as hypotheses are pushed to their extreme limits and thought experiments are indulged in.¹³ On the crucial question of the activity of matter, Diderot returns to the unresolved issue of whether the smallest particles of matter or molecules possess their own innate force and activity, and thus sensibility and thought, or whether these emerge from a particular organization. Linked to this was the problem of how inert matter could become active, and the difference between apparently inert and living things. We have seen Diderot's reaction to Maupertuis's hypothesis in 1753, and the properties of matter and the difference between dead and living matter figure prominently in the list of questions at the end of *L'Interprétation de la nature*. As he wrote to Sophie Volland in 1759, he did not see how a different arrangement of insensitive molecules could result in thought,¹⁴ and in 1770 in *Principes philosophiques sur la matière et le mouvement* (perhaps influenced by Toland's *Letters to Serena*, translated in 1768) he wrote that matter was always in motion and the molecule was an active force. He also

¹¹ Helvétius, *A Treatise on Man*, i. 171.

¹² See in particular Fontenay, *Diderot ou le matérialisme enchanté*; Bourdin, *Diderot: le matérialisme*; Chouillet, *Diderot poète de l'énergie*; Kaitaro, *Diderot's Holism*; Duflo, *Diderot philosophe*; Quintili, *La Pensée critique de Diderot*.

¹³ See Anderson, *Diderot's Dream*.

¹⁴ Diderot, *Correspondance*, ii. 282.

referred to 'the universe's general fermentation'.¹⁵ But in 1765 he explained in another private letter, to Duclos this time, that thought could not result from an arrangement of matter because it was the result of sensitivity, which he called a universal property of matter, inert in crude bodies in the same way as movement is stopped in heavy bodies by some obstacle. This property becomes active when these bodies are assimilated by a chemical process into a living animal substance, as is demonstrated by nutrition. Thus 'the animal is the laboratory where inert sensitivity becomes active'.¹⁶ This is what 'Diderot' explains to 'd'Alembert' in the first dialogue of the *Rêve de d'Alembert*, giving the example of a marble statue which he grinds down and mixes with earth, in which he grows plants that are eaten by animals.¹⁷ But this does not solve the problem of the origin of sentience, and elsewhere in the dialogues he seems not to wish to decide between the two ways of accounting for sensitivity in matter, saying that it is 'a general property of matter or a product of organization'. In his subsequent 1773 notes on Helvétius's *De l'homme*, Diderot wrote that the organization of inert elements could not produce sentience and the general sensibility of material molecules is simply a supposition which solves the problem but does not constitute good philosophy, adding that our notions of matter, organization, movement, heat, flesh, sensitivity, and life must still be very incomplete.¹⁸ His medical notes entitled *Eléments de physiologie*, the result of his medical reading, also include vague formulations resembling La Mettrie's, such as 'in general, in the animal and in each of its parts, life, sensitivity, irritation. Nothing similar in crude matter'.¹⁹ On occasion he seems to believe that life exists in each molecule, whereas at other times it is potential life which can only be activated by becoming part of a whole. Clearly for Diderot the smallest parts of matter (which he sometimes, but not always, calls molecules) do possess some type of inherent activity (a notion which is vital for his materialism) and matter is always in motion due to the fact that these molecules are all different and individual.²⁰

There was also the difficult problem of how to deduce intelligence from physical sensitivity. Diderot could not accept Helvétius's claim that to feel is to judge, commenting that if Helvétius had clearly explained how intelligence resulted from sensitivity he would have done something new, difficult, and fine.²¹ In the *Rêve*, intelligence is said to be the result of memory and the comparison of sense impressions in the brain, but there is no explanation of how this process works. By the time he wrote this work Diderot had read medical literature, and his mouthpiece 'Bordeu' provides some description of the workings of the brain and the nerves, which shows how far his thought had matured since *Lettre sur les aveugles*. There are images similar to those in *L'Homme machine*,

¹⁵ Diderot, DPV, xvii. 13–16.

¹⁶ Diderot, *Correspondance*, v. 141.

¹⁷ Diderot, DPV, xvii. 93–4.

¹⁸ Diderot, *Œuvres* ed., Lewinter, xi. 492.

¹⁹ DPV, xvii. 449.

²⁰ DPV, xvii. 14.

²¹ *Œuvres* ed., Lewinter, xi. 491.

such as vibrating sensitive chords whose oscillation awakens ideas and whose continuing resonance constitutes memory. The brain is said to be a musical instrument in which the individual is both the instrument and the player²² and is also the centre and origin of a network like a spider and its web extending throughout the body, with its centre in the meninges.²³ Diderot also adopts the real Bordeu's image of a swarm of bees and the idea that the human body is a unity composed of a multitude of smaller units which, unlike Bordeu, Diderot calls animals. His character 'Bordeu' explains that each bodily organ has its own will and 'the fibre is a simple animal, while man is a composite animal', the harmony of the whole being ensured by the domination of the brain.²⁴ Diderot also adopts La Caze's theory of different centres in the body, putting into 'Bordeu's' mouth the view that the diaphragm is the centre of feeling. Someone dominated by the diaphragm instead of the brain will give way to feelings and the brain's reason will be overridden, whereas 'a great man' will be able to dominate this tendency and control himself.²⁵ For Diderot, what makes each individual different is the interaction of internal and external factors, which is why he opposed Helvétius's almost exclusive emphasis on education and the external factors determining normally constituted individuals. For Diderot we are a whole, made up of autonomous parts which all contribute to its harmony, and so we must 'fortify the origin of the network'.²⁶ While proposing mainly physical means to achieve this, he takes into account a much wider range of influences on the individual. A similar point of view is found in *Système de la nature*, where everything is said to be the result of the individual's temperament, produced by both the physical organization's particular properties, including inherited ones, and the modifications it undergoes, including our food, the air we breathe, the climate we live in, our education, and the opinions instilled in us.²⁷ As humans are modifiable they can be brought to behave in a sociable manner, desirable behaviour being defined in terms of what is required by society and not what is absolutely good or bad. For Holbach, as for Diderot, La Mettrie, and Helvétius, there can be no absolute moral values and the only criterion of behaviour is what is good or bad for others. This position has sometimes been seen, mainly on the basis of a misinterpretation of some of La Mettrie's statements, as 'immoralism' and little different from what the marquis de Sade proclaimed at the end of the century, an interpretation reinforced by the fact that Sade drew arguments from the works of these materialists. But when he used their arguments it was in order to shore up a very different moral position from theirs, as his characters derive their pleasure from transgressing moral laws.²⁸ Diderot and d'Holbach attempted, on the contrary, to provide an alternative non-religious basis for

²² DPV, xvii. 101.

²³ DPV, xvii. 140–1.

²⁴ DPV, xvii. 165–6.

²⁵ DPV, xvii. 179–80. See also Kaitaro, *Diderot's Holism*, 117–37.

²⁶ DPV, xvii. 187.

²⁷ Holbach, *Système de la nature*, i. 149–83.

²⁸ Domenach, *L'Éthique des Lumières*, 172–91; Deprun, 'La Mettrie et l'immoralisme sadien', and *De Descartes au romantisme*, 127–32; Thomson, 'L'Art de jouir de La Mettrie à Sade'; Warman, *Sade*.

morality and to show that abandoning religion did not mean destroying the foundations of society. Despite this, the religious apologist Georg Holland argued in a point-by-point critique of d'Holbach's *Système de la nature* that a materialist could not construct a coherent moral system and that the behaviour of a material being or a machine was simply a succession of necessary actions. He concluded, in words which echoed La Mettrie's, that consistent materialists must give in to their temperament. He admitted that Holbach's sentiments were fine, but the logical inference of his system was that the individual, dominated by his passions, 'will always believe that he is swept away by the torrent of necessity'. Society would be impossible and humans would be wild beasts.²⁹

The Medical Tradition and Religion

Before looking at the materialists' moral and political thought, let us explore a bit further the continuing confrontation between religious doctrine and a material conception of human nature linked to a belief in determinism. As we have seen, in France high-profile materialists like La Mettrie, Diderot, d'Holbach, or Helvétius opposed religion head on, but in Britain too there was tension between the two, later exacerbated by the polarization of views resulting from the French Revolution. When defending 'the sleep of the soul' Blackburne called it 'a doctrine, which . . . strikes so home at the pride of the philosopher, the enthusiastic visions of the mystic, the lucrative systems of the interested churchman, and the various prejudices and superstitions of their respective disciples'.³⁰ The latter accused it of being 'an heresy, derogatory to the nature of man, subversive of his future hopes, and savouring not a little of atheism and impiety' while Blackburne believed that mortalism was the only defence against irreligion:

if it be denied and cannot be proved, that man will inherit eternal life, otherwise than in consequence of his rising from the dead, as that is insured by the promises of the gospel, and the previous resurrection of Jesus, the faith and hope of that species of infidelity called *Deism* are at an end. But while Christian writers are persuaded that they ought to maintain the natural, indefeasible immortality of the soul and its conscious existence in a separate state, as if this doctrine were some way connected with the principles of the Christian religion, they leave the Deists in possession of a strong hold, from whence it seems impossible to dislodge them.³¹

He defended Coward's reputation against those who bracketed him with free-thinkers like Toland, Tindal, or Collins.³² For Priestley too the doctrine of a separate soul is unnecessary once one accepts the scriptural doctrine of the resurrection of the whole individual and understands that 'the rewards of virtue

²⁹ Holland, *Réflexions philosophiques sur Le Système de la nature*, ii. 161.

³⁰ Blackburne, *An Historical View*, p. lxvi.

³¹ *An Historical View*, p. lxi.

³² *An Historical View*, 174–5.

and the punishment of vice do not *commence* till the day of judgement'. For him, as for Layton and Coward, these are the fundamental Christian doctrines, and he claims that the doctrine of a separate soul 'has been the foundation of what appear to me to be the very grossest *corruptions of Christianity*, and even of that very *antichristianism*, that began to work in the apostles' times, and which extended itself so amazingly and dreadfully afterwards'. By which he means the oriental philosophy of the pre-existence of souls, which led to other unchristian beliefs such as the divinity of Christ, 'the worship of dead men', purgatory, and all the other 'popish doctrines and practices'. 'As a *Christian*, therefore, and a *Protestant*, I am an enemy to the doctrine of a separate soul'.³³ Priestley devoted a whole work to the *History of the Corruptions of Christianity*, which he described as the most valuable of all his publications, and his materialism was an integral part of his philosophical, religious, and political outlook.³⁴ He explained that having been educated as a Calvinist, it took a long time for him to reach a Socinian conclusion, which was confirmed 'after I was fully satisfied that man is of an uniform composition, and wholly mortal; and that the doctrine of a separate immaterial soul, capable of sensation and action when the body is in the grave, is a notion borrowed from heathen philosophy, and unknown to the scriptures'.³⁵ But Priestley's attempt to reconcile a materialistic view of human nature with Christian doctrine seemed doomed, as it was seen as incompatible with Christianity and even with belief in God whether or not it was linked to French irreligion. John Whitehead (who also quoted Clarke's arguments against Collins) accused Priestley of implying that God was material, concluding 'materialism must ultimately terminate in atheism'.³⁶

With the exacerbation of political tensions and the conservative reaction brought about by the French Revolution, positions were polarized and accusations of irreligion linked to political radicalism became more vociferous.³⁷ The naturalist Erasmus Darwin, whose unorthodox views had been well received in the early 1790s, came to be condemned as a dangerous unbeliever and a materialist. He began *Zoonomia* (1794) by stating unequivocally, 'the whole of nature may be supposed to consist of two substances; one of which may be termed spirit, and the other matter', the first being active and the second passive; but he described human sensation and thought in purely physical terms, leaving 'the consideration of the immortal part of us, which is the object of religion, to those who treat of revelation'. He did not exclude the possibility that 'the spirit of animation' may consist of 'matter of a finer kind' and wrote that both body and mind are governed by 'the catenations of motions' which begin and end with irritability.³⁸ Such opinions,

³³ Priestley, *A Free Discussion of the Doctrines of Materialism and Philosophical Necessity*, pp. xvi–xviii.

³⁴ Priestley, *Letters to Dr Horsley*, i. xiii.

³⁵ Priestley, *Letters to Dr Horsley*, i. vii.

³⁶ Whitehead, *Materialism Philosophically Examined*, 59–63, 163.

³⁷ See Jacyna, 'Immanence or Transcendence', 311–29.

³⁸ Darwin, *Zoonomia; or The Laws of Organic Life*, i. 1, 148, 185.

characterized as materialistic, came to smack of both irreligious and revolutionary sympathies and his *Temple of Nature* (1803) was violently criticized.³⁹

Whatever was claimed in Britain, materialism and atheism were far from being the dominant beliefs in France. Their main defender at the end of the century was Dr Pierre-Jean-Georges Cabanis, a leading member of the ill-defined group called the 'Idéologues' associated with the Institut National in the 1790s and with the salon run by Helvétius's widow at Auteuil. Their mouthpiece, the journal *La Décade philosophique* (1794–1807), defended an empiricist philosophy derived from Condillac. Cabanis's views of humans were expounded in twelve *Rapports du physique et du moral de l'homme*, the first six read to the Institut in 1796–7. While sharing certain views with the Montpellier vitalists, his physiology was outspokenly materialistic and he claimed that the brain digests impressions and secretes thought organically in the same way as the stomach digests food.⁴⁰ His system bears many similarities with that of La Mettrie (whose works were republished in 1796) but he never referred to this disreputable predecessor.⁴¹ Despite developing the medical heritage of eighteenth-century materialism, he claimed to be following Condillac's interpretation of Locke and expressed admiration for Helvétius and for Condillac's 'luminous reason and perfect method' while criticizing them for their ignorance of physiology, which, he says, led Helvétius to defend the equality of minds.⁴² This has obscured the debt owed by the revolutionary defenders of the 'science of man' to earlier medical materialism. As a result, while Elizabeth Williams stresses the considerable role played by Cabanis's 'anthropological medicine' in the first half of the nineteenth century and considers that, even afterwards, 'forced into a subterranean and muffled existence, it continued to exert powerful influence in the human sciences', she ignores his own continuity with his predecessors.⁴³ The medical tradition continued with Xavier Bichat, whose particular form of vitalism has been labelled materialistic due to his attribution of vital properties to matter.⁴⁴ Jean-Baptiste Lamarck, best known as the expounder of transformism from 1801 onwards, openly adopted Cabanis's conception of the material unity of humans and insisted that intelligence and will arise from the organization, calling the spirit an invented being and claiming that talk of an immortal soul can only be based on imagination.⁴⁵ The materialist inheritance also includes the German

³⁹ *The Critical Review* (Aug. 1803), 362; *Edinburgh Review* (July 1803), 499; see also Garfinkle, 'Science and Religion in England, 1790–1800'.

⁴⁰ Cabanis, *Œuvres*, i. 195–6.

⁴¹ Staum, *Cabanis*; Saad, 'Machine et sensibilité'; Vartanian, 'Cabanis et La Mettrie'.

⁴² Cabanis, *Œuvres*, i. 141.

⁴³ Williams, *The Physical and the Moral*, 3, 107. For a different view, see Azouvi, 'Physique and Moral'.

⁴⁴ Rey, *Naissance et développement du vitalisme*, 361 ff. For a comparison with Cabanis, see Staum, *Cabanis*, 255–9.

⁴⁵ Lamarck, *Philosophie zoologique*, 310, 461–4, 471; see also Lamarck *et son temps; Lamarck et notre temps*.

phrenologist Franz Joseph Gall, who worked in Vienna before settling in France in 1807 and did important work in collaboration with Johann Caspar Spurzheim on the central nervous system and localization of brain functions. His 'science of man' differed significantly from Cabanis's in that he emphasized the brain's innate disposition and played down sensationist psychology.⁴⁶ Although Gall countered charges of irreligion by appealing like so many before to Patristic authority, he explained intellectual and moral faculties by the structure of the brain and claimed that they appear, increase, and decline as the organs for them develop, strengthen, or weaken, thus echoing materialistic arguments.⁴⁷ But he rejected determinism, which he equated with atheism, defending the moral freedom of healthy individuals to resist certain natural tendencies. This did not prevent him being accused of reducing humans to animals by denying the immortal soul, and of justifying crime and immorality.⁴⁸ One of the phrenologists' French followers, François-Joseph-Victor Broussais (who espoused phrenology around 1830) looked back to Glisson's irritable matter and openly proclaimed that all human faculties depend on the brain and appear, grow, change, decline, and disappear with that material organ.⁴⁹ While his organicism was a reaction against contemporary spiritualism, he vehemently rebutted accusations that he was a materialist or atheist and dissociated himself from materialists like La Mettrie, Hobbes, or d'Holbach and fatalists like Spinoza, Hobbes, or Priestley, 'who claimed that it was no more just to punish an assassin than a tiger'.⁵⁰ He was, he said, merely describing what he saw, not attempting to draw any wider conclusions like the materialists, for whom only matter existed and the soul was material. His critics nevertheless counterattacked in works defending an immaterial soul.⁵¹ It was rare for phrenologists to espouse materialism as outspokenly as one of their British followers, William Engledue, who told the Phenological Association in 1842 that materialism was the 'inevitable inference' from what he called 'Cerebral Physiology' and should be openly declared and taught.⁵²

The unpopularity of this position in Britain may have been increased by the furore caused by the writings of William Lawrence, an eminent professor at the Royal College of Surgeons whose lectures influenced Charles Darwin. Lawrence was accused of adopting the irreligious principles of 'the French physiologists' in his 1817 physiology lectures, which demonstrated that thought was produced by the brain and defended a monistic conception of human beings based on

⁴⁶ See Renneville, *Le Langage des crânes*, 40–4.

⁴⁷ Gall and Spurzheim, *Anatomie et physiologie du système nerveux*, ii, 15.

⁴⁸ *Anti-Jacobin Review*, xv, 490–3; Renneville, *Le langage des crânes*, 63 ff; Williams, *The Physical and the Moral*, 110.

⁴⁹ Broussais, *De l'irritation et de la folie*, 287.

⁵⁰ Broussais, *Réponses aux critiques*, 126–8. See also Thomson, 'La Tradition du XVIIIe siècle dans le matérialisme médical'.

⁵¹ See Braunstein, *Broussais et le matérialisme*; Renneville, *Le Langage des crânes*, 264 ff.

⁵² Engledue, *Cerebral Physiology and Materialism*.

what he called 'the electro-chemical doctrine of life' similar to Priestley's. While admitting ignorance as to how the parts of the brain reason, he ridiculed those who needed an immaterial agent. He appealed to 'the natural history of the human mind;—its rise, progress, various fates, and decay' and comparative anatomy, to conclude that 'if the intellectual phenomena of man require an immaterial principle superadded to the brain, we must equally concede it to those more rational animals, which exhibit manifestations differing from some of the human only in degrees'.⁵³ Lawrence claimed, not very convincingly, that he was only speaking physiologically not theologically, as faith taught the existence of an immortal soul,⁵⁴ but was attacked in leading periodicals, and violent pamphlets linked him to radicals like Paine, Carlile, and the French revolutionaries as a dangerous enemy of Church and throne.⁵⁵ On being threatened with dismissal from his functions at Bridewell and Bethlem hospitals he withdrew his book from circulation.⁵⁶ One of his defenders, Thomas Forster of Cambridge (who coined the name phrenology), also affirmed 'that the reanimation of the material Body is the doctrine of the Scripture, founded on the miracle of the Resurrection'.⁵⁷ Like the mortalists from Layton to Priestley he accused opponents (in particular Calvinist theologians) of scepticism and of doing more to undermine religion by attempting to found religious dogma on questionable physiological views; they were 'limiting the miraculous power of the Creator' by denying that he could accord eternal life to material beings.⁵⁸ While rejecting the accusation that phrenology led to materialism, Forster attempted to demonstrate that vitality and intelligence are inherent properties of the atoms of matter and to reconcile it with religious teaching.⁵⁹ In his reply to Thomas Rennell, the High Church 'Christian Advocate' at Cambridge University, he separated the spheres of science and theology and founded religious belief on revelation and miracles.⁶⁰ Rennell attacked Lawrence together with Sir Thomas Morgan, Fellow of the Royal College of Physicians, whose *Sketches of the Philosophy of Life* (1818) outlined a system based on that of the Idéologues. Like Cabanis, Morgan said that thought was produced by the brain, but he was careful to accept the existence of a separate 'theological soul', proclaim his belief in God, and criticize dogmatic atheistic works like *Système de la nature*.⁶¹ He followed Locke in separating the question of an immaterial soul from that of immortality, claiming to go no further in speculation than what was demonstrated by experience.⁶² Referring to abbé

⁵³ Lawrence, *Lectures on Comparative Anatomy*, 73–81.

⁵⁴ *Lectures*, 1–6; see Temkin, 'Basic Science, Medicine and the Romantic Era'.

⁵⁵ *The Radical Triumvirate or Infidel Paine, Lord Byron and Surgeon Lawrence*.

⁵⁶ Mudford, 'William Lawrence and *The Natural History of Man*'.

⁵⁷ Forster, *Somatopsychonoologia*, pp. ix–x. ⁵⁸ *Somatopsychonoologia*, 20.

⁵⁹ Forster, *Sketch of the New Anatomy and Physiology*, 14–15.

⁶⁰ Forster, *Somatopsychonoologia*, 14.

⁶¹ Morgan, *Sketches of the Philosophy of Life*, 281; see also Jacyna, 'Immanence or Transcendence', 314–15, 327–8.

⁶² Morgan, *Sketches of the Philosophy of Morals*, pp. x–xix.

Barruel's authority, Rennell accused Morgan, Lawrence, and the phrenologists of propagating scepticism and 'utterly den[ied] the possibility of thought being the result of any organization, or the produce of any material substance'. At the same time he adapted his terminology to contemporary science and supported his arguments with physiological examples.⁶³ He and his friends were afraid of the political overtones of psychological materialism, seen as evidence of a radical political threat from Unitarians among others.⁶⁴

By looking to Locke and his interpreter Condillac for inspiration and ignoring less respectable ancestors Morgan, like the *Idéologues* or the phrenologists, helped to obscure the genealogy of their views. Nevertheless the continuing tradition of medical materialism is revealed by the sporadic polemics on the mind in medical circles, like the one that was sparked off in the columns of *The Lancet* in 1828 by an article on 'the organic materiality of the mind' in which Dr George Dermott claimed, like Cabanis, that intellectual activity was the function of the cerebrum in the same way as digestion was the stomach's function. Things were made worse, if anything, by his declaration that he believed in God and the soul, which was dormant as long as organic life continued and only came into activity when the body died.⁶⁵ But even less unorthodox affirmations of belief in an immortal soul could coexist with claims that human intelligence was the result of a material organ like the brain. Dr François Magendie, who denounced in the preface to his *Précis élémentaire de physiologie* (1816) the belief that physical laws have no influence on living bodies, treated human intelligence as a result of brain functioning; religion teaches that it can only come from an immaterial soul which is a divine emanation, but contemporary scientific language and logic force us to treat human intelligence as if it were the result of organic activity. As any other course had led famous men into serious errors he studied the brain as the material organ of thought, a fact proved by numerous observations.⁶⁶ This is an indication of how, from the late eighteenth century onwards, reference to the soul was increasingly reserved for theological speculation while the brain was studied by medicine as the organ of thought.⁶⁷ As the early nineteenth-century confrontation between materialism and spiritualism subsided, many of the premisses of materialist thought were quietly absorbed into mainstream thinking. This is particularly evident in criminology, as the phrenologists looked at the skulls of condemned criminals to discover the physical origin of their criminal tendencies. From this they could infer the extent of their legal responsibility, an attitude not so different from La Mettrie's, which was taken much further by Paul Broca, who dissociated himself from the phrenologists and developed the localization of thought on the basis of a materialistic conception of the brain as

⁶³ Rennell, *Remarks on Scepticism*, 84.

⁶⁴ Corsi, *Science and Religion*, 56 ff.

⁶⁵ Dermott, *A Discussion of the Organic Materiality of the Mind*.

⁶⁶ Magendie, *Précis élémentaire de physiologie*, i. 175.

⁶⁷ Lantéri-Laura, *Le Cerveau*, 43–4; Figlio, 'Theories of Perception and the Physiology of Mind'.

the organ of intelligence.⁶⁸ This brings us back to the question of the basis for punishments and rewards which exercised the eighteenth-century materialists, an issue linked to their views on morality and politics.

Morality, Politics, and Society

Diderot claimed that a basis for morality could be found in the similar organization of humans and their agreement on what constitute useful or harmful actions. This idea was also outlined in Naigeon's *Encyclopédie* article UNITAIRES, which constructed a moral system on materialism, and developed in Holbach's political works like *La Politique naturelle*, which argued from the existence of natural sociability based on human needs and natural laws derived from human nature.⁶⁹ Diderot explored the problem in various writings and vehemently rebutted François Hemsterhuis's accusation that atheists ridicule not only the idea of God and a soul but also the reality of moral values. He claimed that on the contrary La Mettrie, the apologist of vice, was despised by everyone and materialists base their ideas of just and unjust on the eternal relationships between humans.⁷⁰ In his 1755 *Encyclopédie* article DROIT NATUREL Diderot considered the objection based on individuals who can find their happiness only in antisocial behaviour, possibly a reference to La Mettrie. Anyone who behaves like an animal rather than a human can be treated like a dangerous wild beast and we can find a basis for deciding what is just and unjust in the general will of the whole of humanity, which should be the basis for actions and laws.⁷¹ Later, in the *Rêve de d'Alembert*, he shifted his position to insist that the reason for punishing antisocial individuals is to change their behaviour instead of simply ridding society of those who harm it.⁷² For Diderot, our essential sociability is based on our physiology, and he was acutely aware of the individual as part of a wider social whole without which he or she is incomplete.⁷³ As Jacques Proust pointed out, the image of the swarm of bees is valid both for the individual's organs and for that individual as part of a wider whole whose interests determine what is acceptable behaviour.⁷⁴ Diderot wrote to Sophie Volland in 1761 that the highest perfection is to prefer public interest to any other and the greatest imperfection is to prefer any other interest or self-interest.⁷⁵ The essential similarity of our physical organization and natural sociability means that we have common needs. The same idea is expressed in the dialogue called *Supplément au voyage de Bougainville*, written in the early 1770s,

⁶⁸ Renneville, *Le Langage des crânes*, 70–2.

⁶⁹ Holbach, *Politique naturelle*, 11–23.

⁷⁰ Diderot, *Œuvres* ed., Versini, 694.

⁷¹ DPV, vii. 26–9.

⁷² DPV, xvii. 187–8.

⁷³ See Strugnell, *Diderot's Politics*, 20; Duflo, *Diderot philosophe*, 452 ff.

⁷⁴ Proust, *Diderot et l'Encyclopédie*, 409; see also Chouillet, *Diderot poète de l'énergie*, 228 ff.

⁷⁵ Diderot, *Correspondance*, iii. 350, quoted by Proust, *Diderot et l'Encyclopédie*, 332.

where one of the characters contradicts the other's claim that we have an innate awareness of natural law by saying 'We have no more in common with other human beings at birth than an organic similarity of form, the same need, an attraction to the same pleasures and a shared aversion to the same pains. These are the things which make man what he is, and which should form the basis of the morality suited to him', which, he admits, is not easy.⁷⁶ In *Le Système de la nature* too d'Holbach states that the distinction between good and evil is founded neither on human conventions nor on the will of a supernatural being but on 'the eternal and invariable relations existing between humans living in society', which will exist as long as humans do. He defines virtue and vice in terms of what is 'truly and constantly' useful or harmful to humans⁷⁷ and claims that atheism is a surer foundation for morality than religion, as it is based on the nature of things and on fixed laws which demonstrate that virtue is the path to happiness. The work attacks the 'madman' La Mettrie and accuses atheists who have denied the existence of good and evil of reasoning badly; if they had reflected more they would have understood that morality is based on unchanging relationships between sentient, intelligent, social beings and that no society can subsist without virtue.⁷⁸ This optimism is undermined in Diderot's dialogue *Le Neveu de Rameau* where the dissolute cynical Nephew (perhaps partly inspired by La Mettrie), whose lack of a moral sense comes from a 'paternal molecule', gives examples of people who find their interest and happiness in antisocial behaviour.⁷⁹ But this awareness of the fragility of the eighteenth-century materialists' moral position did not push Diderot to adopt La Mettrie's pessimism. Instead he criticized society's organization and laws, which needed to be reformed. The conviction that humans are not free seems to have encouraged a concern with the only type of liberty that exists, in the definition provided by Hobbes and Collins, namely freedom to act without hindrance. For Collins the denial of metaphysical freedom went hand in hand with the defence of freethinking. In the same way the question of political liberty and liberty of expression, in particular the press, was of special concern to the French materialists, a concern exacerbated by the political system in which they lived.⁸⁰ Fear of the despotism of the single ruler and defence of the freedom of thought and other important individual freedoms—from arbitrary arrest or the freedom of young women not to be married or shut up in convents against their will (the subject of Diderot's novel *La Religieuse*)—stimulated reflection on political liberty. But it did not necessarily lead them all to the same political or social conclusions. Their common rejection of La Mettrie's moral and political arguments (which provided ammunition for religious apologists and shored up the existing political and social order) did not mean that the later French materialists adopted the

⁷⁶ Diderot, *Political Writings*, 67. See also Proust, *Diderot et l'Encyclopédie*, 387.

⁷⁷ Holbach, *Système de la nature*, i. 163.

⁷⁸ *Système de la nature*, ii. 340.

⁷⁹ Diderot, DPV, xii. 172–9.

⁸⁰ See Helvétius, *De l'homme*, ii. 797–9.

same political stance, although some of the differences derived of course from the circumstances in which works were written and whether they were intended for publication or not.

Claims concerning a valid basis for morality and humans' modifiable nature provided a basis on which to campaign for reforms. In d'Holbach's *Système social* (1773) natural principles of morality provide the foundation for the natural principles of politics. If the state of society is compatible with human nature, individuals will see their interest in avoiding crimes and correcting their behaviour. Society and its laws should therefore be based on the interests of its members and aim at ensuring their liberty, safety, and property.⁸¹ Holbach defines politics as morality applied to the government of states and emphasizes the role of the government in influencing behaviour. Nature creates bodies and climate contributes to temperament, but the government modifies nature and the effect of climate, as it directs natural passions and masters temperaments.⁸² For Helvétius too natural sociability resulting from the passions can be reinforced by good laws and moral education. Physical sensibility provides a scientific basis for morality:

When we consider this physical sensibility as the first principle of morality, its maxims are no longer contradictory, its axioms linked together provide the most rigorous demonstration, its principles finally released from the darkness of speculative philosophy are clear and more generally adopted as they reveal more obviously to citizens their interest in being virtuous.⁸³

Starting from the principle that humans are motivated by self-interest, pleasure, and pain and that with a few exceptions most people are born with roughly equal aptitudes, Helvétius is acutely aware of the importance of education, which should be universal, taken out of the hands of the priests, and based on new principles conducive to public good.⁸⁴ Like Diderot he believes people are physically determined and there is no absolute basis for morality beyond the needs of human society. But he does not believe in a universal human nature, as so many accidental factors affect us, in particular the education, laws, and customs of the society we live in. As virtue and wickedness are created by laws, he is interested not in the whole human race but in particular societies and the laws necessary for them, a restriction of interest criticized by Diderot.⁸⁵ Diderot's main political reflection appeared in his contributions to *L'Histoire des Deux-Indes*, the multi-volume best-seller describing the history of European settlements and commerce throughout the world. Its first edition was published in 1770 by abbé Guillaume-Thomas Raynal, who enrolled several collaborators to help him expand it over the two succeeding editions. Diderot contributed

⁸¹ Holbach, *Système social*, i. 58–9, 117–18.

⁸³ Helvétius, *De l'homme*, ii. 911.

⁸² *Système social*, ii. 18–19; iii. 1–2.

⁸⁴ *De l'homme*, i. 92.

⁸⁵ *De l'homme*, ii. 774; Diderot, DPV, ix. 303–12. See also Stenger, 'Diderot lecteur de *L'Homme*'; Audidière, 'Intérêt, passions, utilité'.

several important passages on political topics, especially in the 1780 edition, and helped to turn it into an antislavery work. He developed the idea, already expressed in the *Supplément au voyage de Bougainville*, of three moral codes (natural, civil, and religious) which must be in harmony for the individual to be virtuous, the civil and religious laws being based on the physical law of nature. Diderot's belief in natural inequality between individuals and defence of an industrious commercial middle class prevented him from following Jean-Jacques Rousseau's egalitarian democratic ideal and condemnation of modern society.⁸⁶ But although initially believing that reforms could come from an enlightened ruler, he did not support 'enlightened despotism', a view often seen as characteristic of the Philosophes. He believed that reforms could not simply be imposed from above without encouragement for technology and industry, which alone would allow the development of a middle class and greater liberty.⁸⁷ Like him, Helvétius thought that individuals should be free to propose ways of improving public happiness, preferred a small number of clear, healthy laws, and believed in the power of education to inculcate the principles of morality based on public utility.⁸⁸ None of these thinkers questioned the bases of society, unlike Meslier or the virtually unknown Morelly's *Code de la nature* (1755), and they all defended property although Helvétius, who called it a sacred right and the basis for society, has been interpreted as defending an egalitarian redistribution of land.⁸⁹ At the end of his life Diderot became an advocate for revolution as a result of his disappointing experience in Russia, the end of hope for change in France in 1776 with the fall of Turgot (who had, under the new king Louis XVI from August 1775, attempted to bring about a profound reform of the system), and the American Declaration of Independence. His belief in the need for revolution as the only way to regenerate an irremediably corrupt society was expressed in the striking image of Medea cutting up Jason and boiling him in order to rejuvenate him.⁹⁰ His praise for the American Revolution and call for a slave revolt have led some critics to call him the 'spiritual contemporary' of the revolutionaries of 1789,⁹¹ although others have emphasized instead his cyclical view of history.⁹² His acute awareness of the individual as part of material nature in perpetual flux and renewal and his concern for individual liberty led him to support revolution when he saw the failure of hopes for reform, but this does not mean that political radicalism was a necessary result of materialism. D'Holbach's materialism provided the basis in *Ethocratie* (1776) for a series of

⁸⁶ See Benot, *Diderot, de l'athéisme à l'anticolonialisme*, 146–9.

⁸⁷ Strugnell, *Diderot's Politics*, 93–9, 151 ff.

⁸⁸ Helvétius, *De l'homme*, ii. 747–55, 908; Stenger, *Nature et liberté*, 291–304.

⁸⁹ Helvétius, *De l'homme*, ii. 905. See also Wootton, 'Helvétius', 322 ff.

⁹⁰ Goggi, 'Diderot et Médée dépeçant le vieil Eson'; also 'L'ultimo Diderot e la prima rivoluzione inglese'.

⁹¹ Strugnell, *Diderot's Politics*, 229; Benot, *Diderot, de l'athéisme à l'anticolonialisme*, 257–9.

⁹² Mason, 'Materialism and History'.

reform proposals which, encouraged by Turgot's administration, he looked to the monarch to apply.⁹³ It has been argued that Diderot's final questioning of innate sociability and adoption of the social compact denote an idealistic position incompatible with his materialism,⁹⁴ but it seems instead to illustrate the variety of solutions which could follow from a materialistic conception of human nature.

Joseph Priestley also combined materialism with a programme for radical change, but within the different framework of British religion and politics. His political commitment to the campaign for a more just representation in Britain, on the side of the American insurgents, and in favour of the French Revolution led to his forced expatriation when his position in Britain became untenable. Priestley's materialism was an integral part of his political struggle against hierarchy and authority, and his definition of the good was also social. For him the only aim of government was the good of society, and 'virtue and right consist in those affections and actions which terminate in the public good'.⁹⁵ But his political views were reached before he adopted a reasoned materialistic and deterministic position, although he was early influenced by Locke and Hartley's principle of association, which he defended against Scottish common-sense philosophy.⁹⁶ However consonant his political views were with his materialism, they were determined by the situation in Britain and America, and the fact that he was part of a dissenting tradition excluded from British politics and institutions encouraged a demand for their overhaul. Steven Shapin has suggested, on the lines of Margaret Jacob's interpretation of the Radical Enlightenment, that 'he was concerned to undermine the ontological hierarchy which made passive matter subservient to spiritual superintendence by God's providence'; his view of matter is said to be 'a hierarchy-collapsing strategy' like that of the late seventeenth-century freethinkers opposed to dominant Newtonianism.⁹⁷ This is a seductive interpretation, and Priestley undoubtedly saw that his espousal of materialism could provide a philosophical basis for arguing against the status quo, but he was just as concerned to shore up Christianity and counter unbelief. There is no *necessary* connection between his materialism and determinism on the one hand and political radicalism on the other. Other radicals, even republicans like Richard Price, Catherine Macaulay, or Thomas Paine, were far from sharing his materialism and determinism. Priestley violently attacked the democratic deist Thomas Paine, the 'philosophical unbeliever' who had ridiculed the Bible, and the violence of his denunciation of the republican author of *Common Sense* (credited with persuading the Americans to declare independence) and *Rights of Man* seems to stem from the immense influence Paine enjoyed among radicals;

⁹³ Holbach, *Ceuvres philosophiques*, iii, 593–4.

⁹⁴ Strugnell, *Diderot's Politics*, 216–17.

⁹⁵ Priestley, *An Essay on the First Principles of Government*, 18–19; see also McEvoy and McGuire, 'God and Nature: Priestley's Way of Rational Dissent'.

⁹⁶ Priestley, *An Examination of Dr Reid's Inquiry into the Human Mind*.

⁹⁷ Shapin, 'Social Uses of Science', 118–21.

he said Paine's deistic *Age of Reason* had 'done much towards unchristianizing a great part of the nominally Christian world'. Priestley criticized Paine's ignorance of the Bible and his belief in an immaterial immortal soul:

The Christian doctrine of a resurrection is not more mysterious in this sense than Mr Paine's belief in an immaterial and immortal soul, which evidently does not think without the body and the brain, and which it is therefore philosophical to suppose incapable of thinking without them, and yet is taken for granted to continue to think when the body and brain are totally destroyed.⁹⁸

For Priestley, deism and belief in a soul coupled with a rejection of revelation were particularly dangerous and the first step towards atheism, which, like Paine, he saw as the enemy. Only his own mortalist position could ensure true belief. This explains his hostility towards irreligious thinkers like Hume and all those deists who rejected revelation, even when they shared Priestley's political views and opposition to atheism.⁹⁹ It did not of course prevent him being accused, with Paine, by the anti-Jacobin John Robison of 'preparing the minds of his readers for atheism by his theory of mind, and by his commentary on the unmeaning jargon of Dr. Hartley', and of wanting to 'blow up the religious establishment of his stupid and enslaved native country'.¹⁰⁰

It is difficult to draw general conclusions about the link between belief in active matter and materialistic conceptions of humans on the one hand, and radical political views on the other. Examples are to be found on both sides of the argument, and differences of opinion did not prevent collaboration.¹⁰¹ A revolutionary like Sylvain Maréchal did look to earlier materialists as his precursors, but his was a minority view.¹⁰² There was an undoubted tradition of anticlerical materialism combined with radical political ideas in France throughout the nineteenth century and after, whose reasons are complex. In England, the radical William Godwin was influenced by both d'Holbach and Helvétius although he rejected their materialism, while Percy Bysshe Shelley was an atheistic materialist who is said to have looked to d'Holbach and Cabanis as well as to La Mettrie's conception of remorse and evil for inspiration. Shelley attempted to combine a materialistic view of humans with a revolutionary utopian standpoint,¹⁰³ and while there is no proof that he had read La Mettrie, whose views on society and support for repressive laws he could not have endorsed, he had certainly read Cabanis and adopted his monism. Cabanis demonstrates how a thoroughgoing view of humans as material entities, based on a study of physiology, could provide a basis for reforming ideas as his medical materialism

⁹⁸ Priestley, *Theological and Miscellaneous Works*, xvii. 41; xxi. 159.

⁹⁹ See Thomson, 'Priestley, Paine et les "philosophical unbelievers"'.

¹⁰⁰ Robison, *Proofs of a Conspiracy*, 368–9.

¹⁰¹ Robbins, *The Eighteenth-Century Commonwealthman*, 231.

¹⁰² Maréchal, *Dictionnaire des athées*.

¹⁰³ Deane, *The French Revolution and Enlightenment in England*, 72–94, 95–129.

and emphasis on sympathy led to plans for social reform.¹⁰⁴ According to Williams, because of the link made between the physical and the moral, 'the science of man pushed medicine into society, by its own internal logic as much as by any overt ideological or political intention' and the Société médicale d'émulation, founded by Bichat and others in 1796, emphasized the importance of 'morale' or of humans in society.¹⁰⁵ There were similar developments in Britain, where Helvétius also played a significant role after *De l'esprit* was translated into English in 1759. British interest in Helvétius probably came from the fact that he was seen as a follower of Locke and was less openly irreligious than d'Holbach.¹⁰⁶ Jeremy Bentham, who was in contact with Priestley in the 1780s, also held a materialistic and atheistic position and denied the existence of an immaterial and immortal soul.¹⁰⁷ His former amanuensis denounced him as an enemy of religion who viewed death as simply 'altering the modification of matter', and his criticism of religion has been compared to d'Holbach's.¹⁰⁸ In his pseudonymously published *Analysis of the Influence of Natural Religion on the Temporal Happiness of Mankind* (1822), Bentham discussed belief in punishments and rewards in a future life, the very question that had exercised the English writers over a century earlier, although his treatment of it was different. In elaborating his philosophy he particularly looked to Helvétius, bracketed with Locke as one of the 'great physicians of the mind',¹⁰⁹ and he informed d'Alembert that his system was founded on the ideas of Helvétius, whom he started to read in 1769 (that is, before the publication of *De l'homme*). While the philosophical outlook at the basis of his critique of laws comes largely from Locke's epistemology, Helvétius revealed 'the relation of law to human happiness or welfare' as well as the utility principle. Bentham's statement at the beginning of *An Introduction to the Principles of Morals and Legislation* (1789) that mankind is determined by pain and pleasure derives from Helvétius,¹¹⁰ and in his 1829 article on utilitarianism he refers to both Hartley's 1749 work and *De l'esprit* as important stages in the development of the utility principle, writing about the latter:

Important is the service for which morals and legislation stand indebted to this work: but to give in any small number of words any totally correct and complete conception of the virtues of that service is scarcely possible. The light it spreads, on the field of this branch of art and science, is to that steady light which would be diffused over it by a regular institute or say didactic treatise, like what the meridian sun sheds over a place when bursting forth

¹⁰⁴ See for example 'Quelques principes et quelques vues sur les secours publics', in Cabanis, *Œuvres*, ii, 3–7.

¹⁰⁵ Williams, *The Physical and the Moral*, 9, 98.

¹⁰⁶ See *Monthly Review*, xx, 512–33; xxi, 89–105.

¹⁰⁷ Crimmins, *Secular Utilitarianism*, 58–9.

¹⁰⁸ Crimmins, 'Bentham on Religion: Atheism and the Secular Society', 115.

¹⁰⁹ Preface to 'Comment on the Commentaries', quoted by Burns, 'Jeremy Bentham: From Radical Enlightenment to Philosophic Radicalism', 285.

¹¹⁰ Harrison, *Bentham*, 7, 15, 17, 49, 107.

one moment from behind a cloud it hides itself the next moment behind another, is to that comparatively pale but regular and steady system of illumination afforded to a street by two constantly lighted rows of lamps.¹¹¹

Helvétius also had an impact on the ideas of the socialist Robert Owen, whose view of society was based on a conception of humans inspired by the French materialists. He believed individuals to be determined by both the particular organization with which they were born and the circumstances in which they were placed, which is why he insisted on the importance of education. While recognizing innate differences between individuals, he insisted that these differences are out of our control and we can draw no merit or blame for them. As they can be corrected by circumstances and education, more or less anything is possible for a particular individual given favourable circumstances:

Human nature, save the minute differences which are ever found in all the compounds of the creation, is one and the same in all; it is without exception universally plastic, and by judicious training the infants of any one class in the world may be readily formed into men of any other class, even to believe and declare that conduct to be right and virtuous, and to die in its defence, which their parents had been taught to believe and say was wrong and vicious, and to oppose which, those parents would also have willingly sacrificed their lives.¹¹²

He does not recognize any predecessors, and in his debate on religion with Alexander Campbell in Cincinnati in 1829 he ignored Campbell's attempts to link him to atheists and materialists (mostly unnamed except for Hobbes and Mirabeau). Although Owen insisted that he was not concerned with the opinions of others, contenting himself with repeating the laws of our nature,¹¹³ his view of human nature is clearly very similar to that of Helvétius, whom he may have known through literary circles in Manchester in the 1790s or through Godwin.¹¹⁴ In which case it preceded his socialism, which did not develop until after *A New View* and is part of a general view of the world which can be called materialistic, although it later developed into a sort of messianism.¹¹⁵ This is further proof that it was Helvétius's brand of materialism that played the most decisive role in reformist and socialist thought, both in France (thanks to the *Idéologues*) and in Britain. His belief in the essential similarity of all human beings and the way in which they are moulded by government, laws, and education could provide the basis for an egalitarian system working to change society. The alternative model emphasizing individual differences arising from our innate organization could, on the contrary, produce another perhaps more unexpected, less often analysed, and

¹¹¹ Bentham, *Deontology*, 325. On his debt to Helvétius see Crimmins, *Secular Utilitarianism*, 38–9, 77–82; Rosenblum, *Bentham's Theory of the Modern State*, 27–39.

¹¹² Owen, *A New View of Society* (1813), in *Selected Works*, i, 84.

¹¹³ Owen, *Debate on the Evidences of Christianity*, 57 ff.

¹¹⁴ Dupuis, *Robert Owen*, 27–50.

¹¹⁵ Clays, 'Introduction', in Owen, *Selected Works*, i.

at least as complex legacy of materialism. If humans are determined by physical causes, then one might conclude that physical differences create fundamental divisions between humans. This stance can be linked to the emergence of racial classification in the late eighteenth and early nineteenth centuries.

Human Diversity and Inequality

Those who paid attention to the ways in which we are affected by inherent differences in physical organization were more willing to accept a certain innate inequality in individual capacities. La Mettrie's belief that only a few individuals with favoured organisms could attain both moral integrity and a certain intellectual capacity is echoed in *Système de la nature*, which attributes differences in intellectual faculties to mainly physical factors, both internal and external. The resulting inequality is one of the foundations of society as it means that no one can subsist alone and we all need others.¹¹⁶ In *Politique naturelle* (1773) d'Holbach argues that as nature has given people different capacities and strength, society should also treat its members differently according to their usefulness, faculties, and virtues. Government and laws should however ensure that no one takes undue advantage of their situation.¹¹⁷ As such arguments could be extended from individuals to human groups, it is possible to link materialism to claims concerning the intellectual inferiority of particular 'races'. In what follows I shall discuss briefly how far materialistic views of human nature, which fed into the 'natural history of man', contributed to the racial thinking that was dominant in the nineteenth century and well into the twentieth. Here the case of Diderot is again particularly instructive. His view comes out in his debate with Helvétius, for whom the differences between peoples are caused by their education and government and by what a particular society, government, or age considers valuable; national character is not determined by climate, food, or way of life, any more than those of individuals are determined by physical organization:

We ought then only look to morals for the true cause of the inequality observable between minds. To account, therefore, for the dearth or abundance of great men in certain ages or countries, we no longer have recourse to the influence of the air or the different distances of climates from the sun, nor to all those similar arguments which, while constantly repeated, have always been contradicted by both history and experience.¹¹⁸

This was directed against someone like Rousseau who claimed that individuals are naturally and inherently unequal or 'relate the unequal degrees of understanding to the unequal degrees of perfection in the organs of the senses', but he probably also had d'Holbach in mind.¹¹⁹ Helvétius's view of human beings allows for

¹¹⁶ Holbach, *Système de la nature*, i. 150–1. ¹¹⁷ Holbach, *Politique naturelle*, 162–3.

¹¹⁸ Helvétius, *De l'esprit: or, Essays on the Mind*, 222.

¹¹⁹ Helvétius, *De l'homme*, sect. 5; see also Stenger, 'Diderot lecteur de *L'Homme*', 277 ff.

changes over time and he contrasts the ignorance and passivity of contemporary Indians with India's past when, peopled with 'men avid for glory and truth', she was the cradle of arts and sciences. He had a greater awareness than Diderot and d'Holbach of the historicity of laws and behaviour,¹²⁰ although Diderot seems finally to have come to see the importance of history.¹²¹ In his remarks on *De l'esprit* Diderot claimed that Helvétius had not seen the contradiction involved in attributing all the differences between humans and animals to their organization while refusing to explain the difference between a genius and an ordinary person in the same way. For Diderot, the variety of individual organization is so great as to be perhaps irremediable,¹²² and so physiological determinism entailed a belief in the natural inequality of individuals. This could be transposed to groups and encourage the idea that savage 'races' cannot progress towards the same degree of civilization as Europeans, determined as they are by their physical make-up. But Diderot looked also to accidental or climatic influences and followed Montesquieu and Buffon in believing that climate had a greater influence on national character than innate physical make-up.¹²³ His *Encyclopédie* article HUMAINE ESPECE summarized Buffon's view that all humans have the same origin, differences appearing over time as people settled in different climates and degenerated,¹²⁴ while in *Le Rêve de d'Alembert* he puts in the mouth of the dreaming d'Alembert a reference to the 'deformed four-foot high biped' near the pole who is on the way to becoming an animal.¹²⁵ Diderot apparently thought that external differences caused by the climate corresponded to internal differences in organization which, although not necessarily permanent and fixed, determined the intellectual faculties of a particular human group and set them apart from other groups. His belief in an irremediable inequality between humans seems to apply to groups as well as individuals and he apparently accepted the idea of intellectual inequality between races.¹²⁶ But he avoided the question, perhaps deliberately because of his opposition to slavery and the racist arguments increasingly used to defend it, preferring instead to turn to the historical development of societies.¹²⁷ Despite this, the nineteenth-century republican materialist Charles Letourneau looked back to him as a precursor of his own ideas on racial inequality and quoted Diderot's criticism of Helvétius's emphasis on education in support of his own belief in the existence of inferior and superior races.¹²⁸

¹²⁰ *De l'homme*, ii. 801–2; see also Mouteaux, 'Helvétius et l'idée de l'humanité', 240.

¹²¹ Raynal, *Histoire philosophique et politique* (Geneva: 1780), vi. 128.

¹²² Diderot, DPV, ix. 308–9. ¹²³ Diderot, *Œuvres* ed., Versini, 812–13.

¹²⁴ See Buffon, *De l'homme*, 43–4, 223–4. ¹²⁵ Diderot, DPV, xvii. 130.

¹²⁶ 'Révolution de l'Amérique anglaise', in Diderot, *Mélanges et morceaux divers*, 149; see also Proust, *Diderot et l'Encyclopédie*, 417.

¹²⁷ See Thomson, 'Diderot, le matérialisme et la division de l'espèce humaine'.

¹²⁸ Letourneau, *Science et matérialisme*, 83.

Another aspect of eighteenth-century materialism that might likewise seem to support racial differentiation was the idea of an uninterrupted chain of beings,¹²⁹ according to which humans are part of nature like other animals from which they are different only in degree not kind. La Mettrie claimed that if one could teach a great ape or orang-utan to speak (which he seemed to think possible) then there would be no difference between it and a human being, an idea echoed in *Le Rêve de d'Alembert*.¹³⁰ In the *Encyclopédie* article ANIMAL Diderot rejected the distinction made by Buffon between humans and the rest of the animal kingdom (based in part on the fact that humans have a soul) in favour of an uninterrupted chain of beings, describing how the faculty of thinking gradually diminishes as one goes down the chain and disappears somewhere between the animal and vegetable kingdoms.¹³¹ Belief in a continuous chain of beings had been encouraged by the discovery of the fresh water polyp, which seemed to occupy an intermediate place between animals and plants, as Théophile de Bordeu observed.¹³² Diderot refused to classify species, claiming it was difficult to pinpoint where humanity ends and 'animality' begins, and unlike Buffon he considered them artificial entities or mere names, as all beings come from one single prototype.¹³³ In the *Rêve de d'Alembert*, the dreaming mathematician says that there is only one great individual, 'totality', and as everything is in a state of perpetual flux, other species may appear.¹³⁴ The individual, who is composed of perpetually moving molecules, is a possibly changing part of the whole, which cannot be classified into permanently separate species. To support this point of view Diderot invoked the authority of Dr Peter Camper, the famous Dutch professor of medicine whom he had met when he visited Holland. In his 1770 lecture to the Amsterdam Academy of Drawing on the natural variations in physiognomy (widely known long before its publication in 1792), Camper described how the different human varieties could be distinguished by measuring their facial angle (roughly the angle formed by the intersection of a line following the nose with one following the jaw). To demonstrate his thesis, Camper provided drawings of the skulls of a monkey, an orang-utang, an African, a Calmuck ('the ugliest thing in nature'), a European, and a classical statue.¹³⁵ His facial angle, taken up by several scientists including Georges Cuvier in France, was later used by racial theorists, and an adapted form was widely used in the nineteenth century to determine 'racial' differences based on skull

¹²⁹ Lovejoy, *The Great Chain of Being*, chs. 6, 8, 9.

¹³⁰ La Mettrie, *Machine Man*, 12; Diderot, DPV, xvii. 206.

¹³¹ Diderot, DPV, v. 388–9.

¹³² Bordeu, *Recherches anatomiques sur la position des glandes*, 382.

¹³³ Diderot, DPV, ix. 37; See also Gayon, 'L'Individualité de l'espèce: une thèse transformiste', 475 ff.

¹³⁴ DPV, xvii. 128, 138–9.

¹³⁵ Camper, *Dissertation sur les variétés naturelles qui caractérisent la physionomie*, 19 ff.

measurements.¹³⁶ Despite the Dutchman's drawings, which seem to indicate a continuity in the gradually increasing facial angle from animals to humans, Camper followed Buffon in maintaining a sharp dividing line between the two. He insisted that great apes could never walk upright or speak.¹³⁷ In his medical notes, Diderot interpreted Camper's ideas to fit his own belief in the continuity of nature, asserting incorrectly: 'Camper makes all animals, from men to storks, originate in a single model, whose facial line he simply alters'. The great ape is said to be an intermediary between humans and animals.¹³⁸ While Diderot wanted to show the unity of nature and the continuity of all beings, the removal of the dividing line between humans and animals was used by others to demote to the level of animals certain human groups considered to be at the bottom of the ladder.¹³⁹ Charles White's *Account of the Regular Gradation in Man* (1799) used the chain of beings to claim, in terms which echo Diderot's, that it is impossible to define demarcation lines between plants and animals: 'if we cannot point out where sensation ends, nor ascertain whether organization does not always imply some degree of concomitant sensation, we may fairly infer, till the contrary can be proved, that Nature descends by gradual and imperceptible steps from man down to the least organized beings'. He quoted his own measurements and evidence from many naturalists, including Camper, to demonstrate 'a gradation from the European man to the brute' in all physical aspects, but also in 'the brain, reason, speech and language, sense of feeling', and concluded that 'in whatever respect the African differs from the European, the particularity brings him nearer to the ape'.¹⁴⁰

But even divorced from belief in an uninterrupted chain of beings, the increased emphasis on the brain as the organ of thought encouraged differentiation on the basis of skull measurement. The skull was used to determine racial differences in the German scientist Johann Friedrich Blumenbach's highly influential 1775 thesis on human varieties, which went through several editions and was translated into many languages. However, in the third edition of the work Blumenbach criticized Camper's measurements and insisted on the unity of the human race, saying that varieties were interrelated and not immutable.¹⁴¹ In his lectures *On the Natural History of Man*, Lawrence followed Buffon in refusing any 'identity of species between ourselves and monkeys'. He vigorously condemned those who, like White, used the chain of being to 'represent man only as a more perfect kind of monkey; and condemn the poor African to the degrading situation of a connecting link between the superior races of mankind and the orang-outang', calling this position 'as false philosophically as the moral and

¹³⁶ See Blanckaert, 'Les Vicissitudes de l'angle facial'; Staum, *Labeling People*, 25 ff.

¹³⁷ Camper, *Dissertation*, 34. ¹³⁸ DPV, xvii. 321, 326.

¹³⁹ See Rousselot de Surgy, *Mémoires intéressants et curieux*, x. 166.

¹⁴⁰ White, *An Account of the Regular Gradation in Man*, 10, 56–7, 67.

¹⁴¹ Johann Friedrich Blumenbach, *De generis humani varietate nativa*, 235–6, 264, 276,

political consequences, to which it would lead, are shocking and detestable'.¹⁴² But despite this Lawrence makes the general observation that 'the negro is more like a monkey than the European' and 'The number and kind of the intellectual phenomena in different animals correspond closely to the degree of development of the brain. The mind of the Negro and Hottentot, of the Calmuck and Carib, is inferior to that of the Europeans; and their organization is also less perfect'.¹⁴³ He provides a demonstration of how an emphasis on skull measurements combined with belief that the material brain thinks could support belief in racial inequality despite opposition to the racist arguments of those who assimilated Africans to monkeys. He was possibly influenced by Georges Cuvier,¹⁴⁴ who was hostile to phrenology but believed that the study of crania indicated mental capacities. In the instructions for making drawings and collecting skulls, given to Baudin's French expedition to the South Seas in 1800, Cuvier referred to both Camper and Blumenbach and linked the 'perfection of the mind' to facial beauty.¹⁴⁵ A clear example of the connection between materialistic thought and racial classification based on skull measurements is provided by Bory de Saint-Vincent, the former revolutionary and author of an elaborate system of racial classification (and member of the 1800 expedition), who openly defended materialistic ideas.¹⁴⁶ In his case physiological determinism encouraged polygenecism. Abandoning the biblical account of a common origin for all humankind, polygenecists believed that certain peoples, in particular the Africans, were not totally human as their origin was different. Although such a position was relatively rare in the eighteenth century it became widespread in the nineteenth. The belief that humans are determined by their innate physical make-up could reinforce arguments for the existence of totally separate races with different origins. On the other hand, a greater attention to accidental factors, including both physical ones like climate and 'moral' factors like government, laws, or education, could support the view that all humans were originally the same and the different physical attributes we now see are the effect of these accidental circumstances. In *Vénus physique* Maupertuis used his theory of reproduction to explain the colour of negroes by the inheritance of acquired characteristics; white was the original colour of humanity and as a result of some accident black had become a hereditary colour among the great families in the torrid zone. This led him to conclude that we can forget attempts to discredit the biblical belief that all humans are descended from one mother and father.¹⁴⁷ This opposition to polygenesis seems to have gone hand in hand with an opposition to slavery, if we take into account a remark in his *Essai de philosophie morale*

¹⁴² Lawrence, *Lectures*, 86–7. ¹⁴³ Lawrence, *Lectures*, 76.

¹⁴⁴ Mudford, 'William Lawrence and *The Natural History of Man*', 430, 433.

¹⁴⁵ Copans and Jamin, *Aux origines de l'anthropologie française*, 173.

¹⁴⁶ Bory de Saint-Vincent, *L'homme*. See also Thomson, 'Bory de Saint-Vincent et l'anthropologie de la Méditerranée'; Staum, *Labeling People*, 44–8.

¹⁴⁷ Maupertuis, *La Vénus physique*, 101, 106.

(1749) about the spiritual strength of Africans seized as slaves who, like ancient philosophers, preferred to die rather than suffer.¹⁴⁸ Buffon's emphasis on the influence of climate and the unity of the human race distinct from the animals was influential in opposing polygenesis and was used by antislavery campaigners. His arguments were used to show that Africans were not naturally inferior or fit to be slaves and could improve by different treatment in a different climate. The abolitionists gave credence to stories of Portuguese colonists on the west coast of Africa who had become black over generations due to the climate. The link between abolitionism and an emphasis on external rather than internal factors in determining human appearance and behaviour is demonstrated by the different editions of *L'Histoire des Deux-Indes*. In the third edition (1780) we find an increased emphasis on a climatic explanation for skin colour, replacing the earlier insistence on innate physiological differences. The same edition sees the addition of Diderot's antislavery arguments, which emphasize the effect of moral factors on the character of the African slaves.¹⁴⁹ Cabanis likewise explains human varieties by climatic factors and follows Buffon in stressing the unity of the human race.¹⁵⁰

These examples show the implications for the racial question of the way humans were seen to be determined and the factors considered as most important. Materialists opposed to slavery, whose view of physical determinism could lead them to believe in natural human inequality, were careful to emphasize that variety resulted from accidental not inherent differences. This guaranteed the unity of the human race and avoided polygenecism but not a hierarchy of 'races'. Accusations of a link between materialism and belief in racial inequality or even polygenicism were made by certain abolitionists (who in Britain were mostly Quakers or evangelicals). The Rev. James Ramsay, an abolitionist who defended the biblical account of the common origin of all mankind against 'the scepticism of modern philosophers and the paradoxes of infidels', particularly targeted materialistic theses, emphasizing that thought was incompatible with matter and refuting those who claimed humans were nothing but organized matter. Locke, he said, would never have allowed himself to indulge in what he calls 'that wild conjecture' about thinking matter if he had foreseen the consequences that would be drawn from it by the materialists.¹⁵¹ But while denying that intelligence was in direct proportion to the size of the brain, he apparently agreed that Africans' skulls were smaller than Europeans' and that they had less reason in the 'savage state', a fact he attributed to particular circumstances. Their skulls might increase over several generations due to civilization, which would bring

¹⁴⁸ Maupertuis, *Essai de philosophie morale*, 56–8.

¹⁴⁹ Raynal, *Histoire philosophique et politique*: compare the 1770 edition, iv. 121, with the 1780 edition, vi. 126; Diderot, *Mélanges et morceaux divers*, 234; see also Thomson, 'Diderot, Roubaud et l'esclavage'.

¹⁵⁰ Cabanis, *Ceuvres philosophiques*, i. 474–5.

¹⁵¹ Ramsay, *Essay on the Treatment and Conversion of African Slaves*, 205–6.

better food and improve the condition of women.¹⁵² He seems here to have unwittingly accepted certain materialistic postulates concerning the brain as the organ of thought. In France, the abolitionist who went furthest in attacking materialists as racists was abbé Grégoire. For him the equality of all mankind was based on religious teaching, and despite his respect for Blumenbach he rejected racial classification.¹⁵³ He detailed the difficulties inherent in attempts to correlate brain size to intelligence and particularly criticized Gall's craniology, which he saw as a development of Camper's facial angle; he claimed that Gall wanted to base the supposed moral inferiority of blacks on the structure of their brains.¹⁵⁴ Grégoire linked systems of racial classification implying racial hierarchy and polygenesis to irreligion in general and materialism in particular, connecting both to a defence of slavery and the colonial system.¹⁵⁵ But belief in inequality did not need to be founded on materialism, as is demonstrated by the openly racist polygenecist Edward Long (the spokesman for the West India lobby which defended the interests of the planters, slave owners, and traders), who compared blacks to orang-utangs. According to him, as orang-utangs have all the organs necessary for speech, the reason why they do not speak is that, unlike humans, they do not have an immaterial soul. From this he deduced that as Africans are more like orang-utangs than humans they probably do not have a soul either. Even if their brain seems like that of Europeans, it cannot produce the same effects as they were created differently, with an inferior soul:

if we admit with Mr. Buffon, that with all this analogy of organization, the oran-outang's brain is a senseless *icon* of the human; that it is meer matter, inanimated with a thinking principle, in any, or at least in a very minute and impefect degree, we must then infer the strongest conclusion to establish our belief of a natural diversity of the human intellect, in general, *ab origine*; an oran-outang, in this case, is a human being *quoad* his form and organs; but of an inferior species *quoad* his intellect; he has in form a much nearer resemblance to the Negro race, than the latter bear to white men; the supposition then is well founded, that the brain and intellectual organs, so far as they are dependent on meer matter, though similar in texture and modification to those of other men, may in some of the Negro race be so constituted, as *not to result in the same effects*.¹⁵⁶

Long thus reversed the materialists' arguments, unlike Charles White. Despite quoting Long, White refused to deny souls to Africans, denounced the slave trade, and insisted that his opinion did not contradict Scriptures and required a creator of the different races.¹⁵⁷ In the same period the French polygenecist Julien Joseph Virey, who condemned slavery in no uncertain terms, insisted on the closeness of certain apes to what he called the most deformed of

¹⁵² *Essay on the Treatment and Conversion of African Slaves*, 225–8.

¹⁵³ Grégoire, *La Littérature des Nègres* (1808), in *Œuvres*, vii. 34 and *De la noblesse de la peau* (1825), *Œuvres*, viii. 27.

¹⁵⁴ Grégoire, *Œuvres*, vii. 24.

¹⁵⁵ See Thomson, 'Grégoire et l'unité de l'espèce humaine'.

¹⁵⁶ Long, *History of Jamaica*, ii. 371.

¹⁵⁷ White, *An Account*, 125 ff, 136–8.

human races (including the Hottentots and Eskimos).¹⁵⁸ He concluded that we find in the human race ‘radical, constant, indelible differences’ which go much deeper than superficial variations.¹⁵⁹ Virey’s conception of humans was complex: he opposed the materialistic ideas of Broussais and defended a vital force distinct from matter, thus pushing vitalism in a dualistic and idealistic direction. But this did not prevent him from referring approvingly to La Mettrie’s discussion of the ape and insisting that natural history alone, based like physiology on the study of our organization, can enable us to understand humans.¹⁶⁰ These examples demonstrate the complexity of the relationship between a materialistic explanation of humans and views on racial difference. Despite Lawrence’s materialism and refusal to take account of an immaterial soul when discussing physiology, he was a disciple of Buffon, Blumenbach, and the influential monogenecist physical anthropologist James Cowles Prichard, who insisted tirelessly on the difference between humans and the other animals. The succeeding editions of Prichard’s *Natural History of Man* relied more and more on religious arguments to defend the unity of the human race, which made him a target for materialist polygenecists like Paul Broca.¹⁶¹ In nineteenth-century France, on the other hand, the materialism of anticlerical republicans was combined with polygenesis, authorized by the reputation of Georges Cuvier, which constituted an obstacle to the acceptance of Charles Darwin’s ideas. Broca, whose view of human nature was decidedly although not aggressively materialistic, was a strong defender of racial inequality and polygenesis, while German materialists like Ludwig Büchner or Karl Vogt became Darwinists.¹⁶² Thus, while links can be found between materialistic views of humans and racist ideas, it is impossible to generalize or to infer a necessary connection.

I have concentrated on the racial implications of materialistic conceptions of humans in view of this question’s relatively high profile, but there were also possible implications for attitudes to class differences. Here again, it was not necessary to be a materialist to believe in indelible differences, as can be seen from a throwaway comment by Thomas Rennell, the vociferous Christian enemy of claims that the brain thinks; after asserting that human individuality comes from consciousness, which does not depend on the brain, he writes, ‘In the lower classes, where it is not wanted for the purposes of life, it can scarcely, except in appearance, be said to exist’.¹⁶³ Increasing belief in the role played by physiology in determining differences between individuals might also be thought to have played a role in gender differentiation. One might assume that it provided a basis for the natural inferiority of women and their unsuitability for certain

¹⁵⁸ Virey, *Histoire naturelle du genre humain*, i, 179.

¹⁵⁹ *Histoire naturelle*, i, 377 ff.

¹⁶⁰ *Histoire naturelle*, i, 189 and ‘Homme’, 325; see Rey, ‘Le Vitalisme de Julien-Joseph Virey’.

¹⁶¹ Prichard, *The Natural History of Man*; see Stocking, *Victorian Anthropology*, 48–53.

¹⁶² Harvey, ‘Evolutionism Transformed’; Schiller, *Paul Broca*, 136–64; Blanckaert, Pref. to

Broca, *Mémoires d’anthropologie*.

¹⁶³ Rennell, *Remarks on Scepticism*, 98.

occupations. However, despite claims by certain historians,¹⁶⁴ discussion of female ‘inferiority’ and its physical cause or the size of female as opposed to male brains is practically absent from the works of eighteenth-century materialists. Indeed, Helvétius believed in the equality of the sexes and criticized women’s education and way of life.¹⁶⁵ Mainstream medical discourse continued to emphasize the greater sensitivity of the female constitution and nerves,¹⁶⁶ and the Montpellieran Dr Paul Roussel criticized Helvétius’s denial that the difference in the female constitution had any influence on women’s way of thinking.¹⁶⁷ His criticism was echoed by Cabanis, who devoted his fifth *Rapport du physique et du moral* to sexual differences. He highlighted female sensitivity and the effect of women’s constitution on their character, habits, and preferences, concluding that they were not capable of true intellectual activity, which de-sexed them.¹⁶⁸ Virey, who also criticized Helvétius, claimed a woman’s life principle resides in her uterus, which influences her whole being; he attributed women’s inferiority to the weakness of their organs, and derived intelligence and creative energy from sperm, the vital force.¹⁶⁹ These examples show that there is no necessary connection between materialism and belief in female inferiority. Nevertheless, the increased nineteenth-century insistence on female intellectual inferiority may well be connected to greater organicism and emphasis on the influence of the physical on the moral and intellectual. Phrenologists seem to have believed that women were less capable of reflection and more dominated by feeling. Conscious attempts to demonstrate female inferiority by the ‘scientific’ evidence of cranial size do not, however, seem to have developed before the 1850s, perhaps partly in reaction to the growing women’s rights movement.¹⁷⁰

Materialism contained within it the germs of different ideas. It favoured a view of the individual as determined by diverse factors, coupled with a concern for political and social freedom and opposition to despotism. But this did not necessarily imply support for a particular type of government, even for democracy or egalitarianism. On the contrary, inegalitarian systems could draw support from materialistic views of human nature. At the same time, despite the varied early history of materialistic conceptions of humans, it came increasingly to be seen as implying an irreligious and specifically atheistic standpoint, which is why many aspects of the debates that we have chronicled have been forgotten or obscured. The fear of being tainted with religious unorthodoxy or worse meant that, rather than obviously building on previous works, materialistic

¹⁶⁴ Fraisse, *La Controverse des sexes*, 97. ¹⁶⁵ Helvétius, *De l’esprit*, 390.

¹⁶⁶ See Hoffmann, *La Femme dans la pensée des Lumières*.

¹⁶⁷ Roussel, *Système physique et moral de la femme*, 22–3.

¹⁶⁸ Cabanis, *Ceuvres philosophiques*, i. 272–315.

¹⁶⁹ Virey, *De la femme*, 3, 227, 380–1; see also Fraisse, ‘Le Genre humain et la femme chez J.-J. Virey’.

¹⁷⁰ Stepan, ‘Race and Gender’; Free, ‘Nineteenth-Century Craniology: The Study of the Female Skull’.

arguments were often elaborated anew from observation. This seems to be the case for Charles Darwin, who refers in passing only to authors like Hartley or the phrenologists in his notebooks on mind and materialism.¹⁷¹ Darwin hesitated for long before publishing his Theory of Evolution, which ran counter to established religious teaching. The crisis following the publication of the *Origin of Species* in 1859 is well known, but it is less often seen against the background of long-standing materialistic views of human nature and the place of humans in nature. This history also needs to be taken into account in order to understand the impact of Darwinism and the relationship of science to religion. It indicates that long before Darwin's Theory of Evolution, scientific investigation into human nature could not always be easily reconciled with religion. Despite the efforts of natural theologians, the tensions were apparent even in Britain, although the story that I have traced is in many ways different from the one more usually told.¹⁷² In addition, most modern discussions of the brain and the relationship between mind and body refer only to the leading philosophers of the past. While some neurobiologists are aware of the writings of the most prominent of their predecessors, today ignorance of this long-standing debate is greater than it was in the nineteenth century, when important discussions of materialism were conducted in terms very similar to those of the seventeenth and eighteenth centuries. In 1842 William Collins Engledue, confident in the advances procured by contemporary 'cerebral physiology' and the possibilities of remodelling the human race in two or three generations, proclaimed, 'insanity is abnormal cerebration, unhealthy action of a portion of matter' and condemned the punishment of 'diseased individuals, for actions the *necessary result* of the activity of an imperfect organism' transmitted to them by their parents.¹⁷³ He probably did not know the writings of those who had expressed similar views in the previous century, but he reprinted a letter from a Dr J. Elliotson claiming, 'no fact in nature is more evident than that in certain conditions matter thinks'. Elliotson answered religious objections by quoting Locke's refusal to limit God's power in his second reply to Stillingfleet, and based the hope of future existence on the truth of Christianity rather than on the demonstration of the soul's distinction from the body.¹⁷⁴ This shows how little the issues had changed in the intervening period even while many of the protagonists had been forgotten. An uncompromisingly antireligious materialistic pamphlet on the mind by a Dr Robert Lewins claimed in 1873 that Newton was 'the real founder, in Christian times, of scientific, common-sense materialism' although he did not carry his data to their logical conclusion in the domain of biology. According to Lewins the 'tremendous revolution in European thought at the close of the seventeenth century' could be understood by comparing 'the mystical idealism' of Milton's

¹⁷¹ Darwin, *Metaphysics, Materialism, and the Evolution of Mind*.

¹⁷² See Thomson, *The Watch on the Heath*.

¹⁷³ Engledue, *Cerebral Physiology*, 15.

¹⁷⁴ Engledue, *Cerebral Physiology*, 31.

Paradise Lost or Dryden with the ‘common-sense realism’ of Pope’s *Essay on Man*, Swift’s *Tale of a Tub*, and especially eighteenth-century English deism, ‘so momentous in its bearing on French and German thought’. It was vitally important to abandon dualism and a view of matter as passive: ‘If matter acts by means of its own *vis insita*, and depends on no extraneous “influx”, or impulse, the whole problem of Immaterialism and Materialism is solved in favour of the latter’.¹⁷⁵ But like many others he dates this conception from Newton alone. A partial exception to the general neglect of predecessors is provided by the philosopher Alexander Bain, professor at Aberdeen, in an article in the *Fortnightly Review* in 1865, later expanded into a book. He defended a ‘guarded or qualified materialism’, namely ‘one substance, with two sets of properties, two sides, the physical and the mental—a *double-faced unity*’,¹⁷⁶ based on a wide range of the latest scientific evidence, particularly concerning nerve cells and demonstrations of matter’s activity. He provided a history of theories of the soul from the earliest conceptions of ‘the lower races’ and the ancient Greeks (which he calls a ‘double materialism’ as they believed in a material spirit)¹⁷⁷ to his own time, devoting a certain amount of space to the materialism of the eighteenth century after Locke, whose position represents ‘sagacity and sobriety’. After dismissing d’Holbach, with whom ‘we need not occupy space’, he concentrates on Priestley’s scientific credentials, calling his work ‘by far the ablest defence of the single-substance doctrine in the last century’ and summarizing Priestley’s view of active matter, his mortalism based on scriptural teaching, and his belief in a general resurrection.¹⁷⁸ However, Bain also refers to Toland, Collins, Dodwell, and Clarke and includes a favourable reference to La Mettrie, said not to have decided the question of the existence of a deity or immortality:

He goes slightly into the question whether matter has an inherent activity, adducing examples in the affirmative; but we shall see this position better argued by Priestley. . . . he thinks materialism the most intelligible doctrine, as contenting itself with one substance, the most comfortable to entertain, and *the most calculated to promote universal benevolence*.¹⁷⁹

This reinterpretation is a sharp contrast to the way La Mettrie was normally perceived. It is particularly remarkable that Bain emphasizes the question of activity in matter and links La Mettrie to Priestley. He shows that some at least of those who continued in the tradition of the medical materialists were aware, albeit hazily, of earlier scientific and theological arguments. While a serious study of this question would need to take account of Germany, where developments interacted with those in both France and Britain, these references indicate how the story continues. They also show that, although the debate on the soul may appear at first sight a historical curiosity, it is in fact surprisingly contemporary,

¹⁷⁵ Lewins, *Life and Mind: On the Basis of Materialism*, 7, 9.

¹⁷⁶ Bain, *Mind and Body*, 140.

¹⁷⁷ *Mind and Body*, 143.

¹⁷⁸ *Mind and Body*, 185–6.

¹⁷⁹ *Mind and Body*, 186–7.

for different reasons: on the one hand, the materialists' claims have entered the very assumptions of even those who deny them; while on the other, the debate is still going on in surprisingly similar terms, as believers in the soul attempt to rescue it from increased medical knowledge. While the discussion has moved largely out of the field of religious polemic in which it was situated in the nineteenth century, there are attempts to reconcile religion with the findings of neurological science, as religious apologists adapt their arguments to take account of scientific progress. Today, while neuroscientists who defend strict 'reductionism' generally see it as incompatible with belief in a soul and in God, there are attempts to reconcile the findings of neuroscience with religion in a form of 'nonreductive physicalism'.¹⁸⁰ Knowledge about earlier attempts to reconcile science and religion and an understanding of different configurations of the relationship between religious and scientific thinking about human identity can help to put these discussions in perspective, although secularists may come to the weary conclusion that the same battles have constantly to be re-fought. The present study of these earlier debates has shown the continuity of thinking about human nature and brought out both the specificity of these debates and their relevance to certain contemporary preoccupations. It has also attempted to restore the complexity of the vital period of history that is called the Enlightenment.

¹⁸⁰ e.g. Brown, Murphy, and Malony, *Whatever Happened to the Soul?*

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