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RADICAL NATURE IN THE *ENCYCLOPÉDIE*

ABSTRACT

This paper offers an analysis of the role radical biological ideas played in the French *Encyclopédie* in the mid-eighteenth century. Based on new observations and experiments on the microscopic world, these biological ideas supported a radical view of active matter and threatened to destroy the traditional view of an unchanging, hierarchical social order. This radical thread is traced through several articles from the *Encyclopédie*, and is shown to have played a key role in the furor that erupted in the early 1750s after the first volumes were published and then, more decisively, when the whole enterprise was shut down as being too subversive.

INTRODUCTION

"NATURALIST, n.m., is said to be a person who studies nature and who is well versed in the knowledge of natural things, particularly those that concern metals, minerals, stones, plants, and animals". So begins the definition of a naturalist given in the eleventh volume of the *Encyclopédie* – a conventional definition for the mid-eighteenth century. But the article then continues, "One also gives the name *naturalist* to those who do not admit God, but who believe that there is only one material substance, bearing diverse qualities that are as essential to it as length, size, weight, and in consequence of which everything that we see in nature necessarily happens; *naturalist* in this sense is synonymous with *atheist*, *spinozist*, *materialist*, etc".¹ This latter part was certainly not a definition most naturalists would have been comfortable with. Penned by Denis Diderot, these last lines were added to the first definition taken from Chambers's *Cyclopaedia*, which had been the stimulus for the whole *Encyclopédie* project in the first place.²

Diderot's daring characterization of the naturalist might be viewed as an anomaly in an encyclopedia that was supposed to capture the entire present state of knowledge in all fields. Many of the articles on natural history, anatomy, physiology, and medicine are in fact quite conventional. But in a

number of other articles, some on topics seemingly far removed from the activities of the naturalist, one finds the more radical view expressed by Diderot. In this article, I will tease out this radical thread and show how it played a key role in the furor over the *Encyclopédie* that erupted in the early 1750s after the first volumes were published and then, more decisively, after the ill-fated seventh volume appeared.

The thread I am particularly interested in following is one that presents nature as dynamic and self-creative. A passive nature, with forces and activity added by God, was a mainstay of the mechanical philosophy, and had been so since the late seventeenth century. Challenges to this view arose primarily in the life sciences, in generation theories that attributed an active, creative role to matter in the developmental process. These theories were seen as promoting atheism and materialism, which meant at that time that the world and all of its inhabitants were the product of material causation alone. The reason for the connection between atheism and notions of creative matter has to do with the way these and more traditional theories depicted the subvisible world. Was it an ordered world of microscopic organisms arising from preexistent eggs in a predetermined fashion? Or was it a world of ceaseless activity, of attractive or vegetative forces, of particles with desire, memory, or innate sensitivity? Was nature calm, hierarchical, and prearranged – on all levels – or rather active, creative, even chaotic?

These opposed visions of nature automatically translated themselves into opposed visions of society because the common element in nature and in society is of course human beings. At once the manifestation, at the highest level, of the subvisible world underlying living phenomena, and at the same time the unit of social interaction, human beings live out the destinies of their natures. Were they to exist in a hierarchical, ordered society, where birth determined position in a “preformed”, predetermined manner? Or could they possibly exist in some other relationship resulting from their interactions as active, material beings? One can easily see why the social order was perceived to be threatened, especially after 1750, by those views of nature that encompassed a more active, even equalizing, world of possibilities. These connections are made strikingly clear in the following contrasting statements; one, made by Albrecht von Haller in 1766: “Beware that it is very dangerous to admit the formation of a finger by chance. If a finger can form itself, then a hand will form itself, [and] an arm, [and] a man”.³ Juxtapose this with d’Holbach’s comment made only four years later in his infamous *Système de la nature* (System of Nature). Referring to John Turberville Needham’s observations on microscopic organisms, he remarked: “would the production of a man independently from the ordinary means be more marvelous than that of an insect from flour and water?”⁴

Thus dynamic views of nature implied a model for society that was anathema to the religiously and politically powerful. A world that is dynamic is one that can change, not one in which social, political, and religious hierarchies are set from the beginning of time. Challenges to orthodox religion were dangerous because the church helped to solidify political power by

promoting a moral code of obedience and by offering a vision of the future. Thus the possibility of change at the highest levels, the

Concerns about the future became a necessity with the motion alone were all that was left for God and what in fact had been manifested “leveling” political factions. The eventual settlement brought with Newtonianism and materialism became inseparable. Several of the English and French through clandestine means in the 1730s.⁶

After 1750 this subversive and religious consequence of the crown, pornographic, censored, the more daring subversive ideas that had at mid-century of the financial pornography”, both in implication, the monarch pointed out, with the Mettrie, Toussaint, Buffon of the *Encyclopédie* all but France was transformed into a police inspector of the dangerous authors, books we would call Enlightenment political order.¹⁰

To claim that the *Encyclopédie* of course, not a new *Encyclopédie* has focused on publication, as has much of the most common topic discussed, and their implications for life and matter have recently been discussed, authors of *Sciences de la vie dans l’Eighteenth-Century France* have treated life science as dealt with the political importance biological

promoting a moral code that served to keep the "masses" in a state of obedience and by offering an unquestionable structure for absolute monarchy. Thus the possibility of change at the level of nature threatened to lead to change at the highest levels, the church and the monarchy.

Concerns about the relationship between material activity and atheism had become a necessity with the advent of the mechanical philosophy. If matter and motion alone were all that was required for the world to operate, then what role was left for God and what defense was left against atheism? Such worries had in fact been manifested in the 1640s during the English Civil War when various "leveling" political factions based their philosophies on active nature. The eventual settlement brought in by the Glorious Revolution was intimately tied with Newtonianism and its ordered universe.⁵ Natural theology and mechanism became inseparable entities. Yet the subversive views of nature and society based on materialism, atheism, or even just deism simply went underground. Several of the English deist and materialist writers became known to the French through clandestine manuscripts that circulated widely, particularly in the 1730s.⁶

After 1750 this subversive literature portraying active matter and its political and religious consequences found its way into print.⁷ Often anti-clerical, anti-crown, pornographic, or all three, such literature was widely read.⁸ To some extent, the more daring articles in the *Encyclopédie* simply made more public subversive ideas that had been circulating for some time. Yet the dual flowering at mid-century of the first major works of the philosophes and of "philosophical pornography", both of which criticized social mores, Christianity, and, by implication, the monarchy, indicates something new. As Robert Darnton has pointed out, with the appearance of works by Montesquieu, Diderot, La Mettrie, Toussaint, Buffon, Rousseau, Voltaire, Duclos and of the first volume of the *Encyclopédie* all between 1748 and 1751, "the intellectual topography of France was transformed".⁹ It was also at this time that Joseph d'Hémery, police inspector of the book trade from 1748, began keeping records on dangerous authors, books, and pamphlets. His concern was not so much what we would call Enlightenment ideas as it was atheism and its threat to the political order.¹⁰

To claim that the *Encyclopédie* contained articles proposing radical ideas is, of course, not a new assertion. Much of the secondary literature on the *Encyclopédie* has focused on various aspects of controversy engendered by its publication, as has much of the literature on pre-revolutionary France. The most common topic discussed is the anti-clerical and irreligious ideas presented, and their implied challenge to the social order. Yet the radical ideas on life and matter have received scant treatment.¹¹ Where biological issues have been discussed, authors for the most part have relied on Jacques Roger's *Les Sciences de la vie dans la pensée française du XVIII^e siècle* (Life Sciences in Eighteenth-Century French Thought) for their information. Those sources that have treated life sciences or nature in the period, including Roger, have not dealt with the political or social context nor have they realized the tremendous importance biological ideas had in the political realm.¹² My purpose in this

paper is to show what was presented in the *Encyclopédie* on the connection between life and matter, why this was seen as radical, and how it got caught up in – even contributed to causing – the controversy that led to the *Encyclopédie*'s suppression.

THE POLITICAL SETTING

The first volume of the *Encyclopédie* was published in 1751, the project having been begun by Diderot and d'Alembert in 1747.¹³ The 1740s and 1750s were unstable times for France. The War of the Austrian Succession had dragged on for much of the 1740s, partly due to the indecisiveness and disinterestedness of Louis XV, who assumed direct rule of France after the death of Cardinal Fleury in 1743. This was followed in the early 1750s by increasing tensions between France and Britain in the colonies, which eventually erupted into the colonial conflict of the Seven Years War (1756–1763). This was mirrored on the European continent by the war between France and Austria, on the one side, and Britain and Prussia, on the other. Confused and factionalized foreign policy in France did not help the situation, and by the conclusion of the war France had lost its colonial empire and exhausted its treasury.

In Paris, struggles between the King and Parlement over relative power, through the revival of the Jesuit-Jansenist conflict, also dominated these decades.¹⁴ Although ostensibly a controversy over the “refusal of sacraments”, where individuals were required to renounce Jansenism before receiving the last rites, these struggles were more significantly an attempt by the Paris Parlement to become a political power. Exiled to the provinces by the King in 1753 after going on strike, the magistrates were recalled in 1754 after an agreement favorable to the Parlement was reached. Another showdown occurred in 1756, when Louis XV's declaration of power led most of the Parlement to resign in December. Within a month Paris was to witness one of the most dramatic moments of the period, the stabbing of Louis XV by Robert-François Damien in January 1757. Although the assassination attempt failed, Damien's testimony at his trial showed how deeply in society the political frustrations, religious controversy, and economic difficulties were felt. As Van Kley has noted, lack of affordable bread in Paris dovetailed with lack of confidence in the King in the “seditious talk” chronicled in the judicial archives from the period.¹⁵

THE NATURAL WORLD

These years coincided with the appearance – but not the acceptance – of some new views about the natural world and living organisms presented by Pierre-Louis de Maupertuis, Georges Louis Leclerc de Buffon, and John Turberville Needham. All three proposed theories of generation that were based on active matter and that challenged the prevailing theory of the preexistence of germs. Preexistence (also called preformation), first proposed in the late seventeenth century by Nicolas Malebranche and Jan Swammerdam, held that God had

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created all organisms at one time and had encased them within one another until their future appointed times of appearance.¹⁶ Development was seen as the unfolding, as it were, of preexistent parts through automatic, physical means. The role of matter itself in this process was passive, since all had been ordained and built-in by God. As I and others have argued, this view of development was consistent with both the mechanical philosophy, which was growing in importance in the late seventeenth century, and natural theology, which became allied with mechanism for intellectual, religious, and political reasons. Challenging the preexistence of germs and the passivity of matter could easily be seen as tantamount to challenging the social order. As I argue in this paper, this was exactly what happened in mid-eighteenth-century France.

Maupertuis was the first to challenge preexistence of germs when, in 1744, he presented a theory of gradual development based on attractive forces in his anonymously published *Dissertation physique à l'occasion du nègre blanc* (Physical Dissertation Occasioned by an Albino Negro).¹⁷ Maupertuis argued that preexistence faced too many difficulties, such as resemblance to both parents. He also felt that the two theories were equivalent with respect to religion, for, as he put it, "What has natural science lost by the idea that animals are formed successively? For God, is there any real difference between one moment in time and the next?"¹⁸

Maupertuis shared his views on generation with his friend, Buffon, sometime in the mid-1740s, and Buffon began to develop his own theory that also rejected preexistent germs, writing up an account of it by early 1746. He apparently read this account to Needham in 1748, and the two joined forces to carry out a series of microscopical observations on seminal fluids and on infusions. Needham published his own theory in 1748, and Buffon's was published in 1749, in the second volume of his *Histoire naturelle* (Natural History).¹⁹

All three theories were thus connected, through the personal contact among the authors and by their common rejection of preexistent germs. All three also presented a dynamic view of material activity in the formation of living organisms, Maupertuis postulating an attractive force of cohesion, Buffon a penetrating force, and Needham a vegetative force to guide development. Buffon also added an internal mould (*moule intérieur*) to organize the organic particles into a complex living organism. Addressing the same problem – how to organize matter into an organism – Maupertuis attributed "desire, aversion, memory" to the particles of matter out of which the organism formed.²⁰ The source of the offspring's organization was the Achilles heel of all epigenetic theories at this time and was at the same time one of the strongest arguments for preexistence of germs.²¹ Yet even though preexistence theories dominated in the 1740s and 1750s, it was the dynamic theories of Maupertuis, Buffon, and Needham that formed the basis for the view of generation and the relationship between life and matter that were expressed in articles in the *Encyclopédie*.

NATURE IN THE FIRST VOLUMES OF THE ENCYCLOPÉDIE

It was through the conduit of Diderot that these radical biological ideas found their way into the *Encyclopédie*, initially from the impact Buffon's views had on Diderot and then as an expression of Diderot's own developing materialism. The *Encyclopédie* occupied Diderot for over twenty years, from the late 1740s to the early 1770s, the same years during which his materialist views were maturing. In 1749 Diderot spent three months in prison at Vincennes for publishing atheist ideas in his *Lettre sur les aveugles* (Letter on the Blind) and for publishing his pornographic *Les Bijoux indiscrets* (The Indiscrete Jewels). While in prison, Diderot first read the initial volumes of Buffon's *Histoire naturelle*. He apparently wrote up some notes, which he intended to communicate to the author, but they were confiscated by the prison authorities.²² The atheist ideas Diderot had expressed in his *Lettre* were not yet rooted in biology. This shift happened during the years he was involved in the *Encyclopédie*, yet the transition began when Diderot encountered the views of Buffon.²³

Diderot and Buffon later became friends; Diderot remarked occasionally in letters that he had seen Buffon on one of the latter's visits to Paris from his country estate in Montbard.²⁴ He also announced in the preface to the second volume of the *Encyclopédie* that Buffon had agreed to write the article "Nature", probably at Diderot's request. As Diderot proudly proclaimed, "We hasten to announce that M. de Buffon has given us the article 'Nature' for one of the volumes that will follow this one; a most important article, whose subject is a term that is rather vague, often used, but poorly defined, that philosophers greatly abuse and that, in order to be developed and presented in all its different aspects, needs all the wisdom, accuracy, and elevation that M. de Buffon demonstrates in the subjects that he treats".²⁵ This article never materialized, and when "Nature" finally appeared in volume eleven, its author was d'Alembert, not Buffon, and it dealt with the "system of the world" not with living organisms. Nor does one find the article on organic molecules cross-referenced as "Parties Organiques" in the articles "Animalcule" and "Génération"; it simply does not exist. There is no evidence to tell us why Buffon's article on nature was never included. Was it never written, and was Diderot anticipating things a bit when he claimed that he had it in hand? Or did Buffon pull it when the *Encyclopédie* came under fire? Although we will never know the answer, it could very likely have been the latter reason.

Yet although Buffon never wrote any articles for the *Encyclopédie*, his views informed many of the articles pertaining to the living world, even when no acknowledgement is given. Buffon was very definitely a "ghost writer" for the *Encyclopédie*. This is evident in articles explicitly on biological subjects as well as those in which remarks on the living world are hidden under a non-biological title. Several articles consist solely or partly of quotations from Buffon's *Histoire naturelle*, while others refer to Buffon by name or use language obviously taken from his work.²⁶ Halfway through the first volume of the *Encyclopédie* we encounter Diderot's article "Animal", which consists primarily of the first chapter of Buffon's treatise on generation, the "Histoire

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générale des animaux" (General History of Animals) (from volume two of the *Histoire naturelle*), with Diderot's comments interspersed. These comments may very well have come from those he wrote while reading Buffon's text in prison. Although only about a quarter of the text, Diderot's remarks pushed Buffon's ideas even further toward materialism. The principal point in Buffon's chapter had been to break down the distinction between animals and plants so that he could counter with his own distinction between brute matter and living matter, the latter being composed of "organic molecules" (*molécules organiques*). Buffon claimed that these organic molecules endlessly circulate in nature, are taken up in organisms' food, and are then used for growth or for reproduction (via the internal mould).

Even the fact that Diderot used Buffon's critique of traditional definitions of "animal" as the basis for his article was a challenge to accepted beliefs. The standard definition of an animal, as an organism possessing locomotion and sensation, was not a view anyone would have thought was likely to be challenged. But by using Buffon's unorthodox definition and interspersing his own comments throughout the article, Diderot carried on a dialogue with Buffon that led even further towards a materialist view of life. Buffon had argued that the gradations on the chain of being through the animal kingdom down to the plants, and the existence of borderline organisms, like the polyp, that seemed to possess both animal and plant qualities, demonstrated that there was no absolute border between the two kingdoms. Diderot pushed this further to question the existence of an absolute border between plants and minerals, thereby calling into question Buffon's separation of organic from brute matter. After quoting Buffon's statements that animals have more connections to their surroundings than plants do and that plants have more than minerals do, Diderot remarked that these connections are graded within the two kingdoms and may be so among minerals too: "One can say that there are minerals less dead than others."²⁷ At another point Diderot suggested that thinking and sensation exist in degrees descending down the chain of being into animals, after Buffon had stated that matter did not have feeling, sensation, or thought. Although Diderot was not directly contradicting Buffon, he certainly implied the opposite, that is, that matter may not be totally devoid of these qualities.²⁸ Diderot stated in another remark even more clearly that the passage between the mineral and plant kingdoms may be just as gradual as that between animals and plants.²⁹ Finally, Diderot let stand without any need of comment Buffon's concluding remark, "that living and animation, instead of being a metaphysical degree of beings, is [are] a physical property of matter."³⁰

Diderot's "Animal" thus not only presented Buffon's very unorthodox view that animals and plants are both composed of organic material particles, but also carried Buffon's implied materialism even further. By alphabetical coincidence, the Buffonian theme is carried forward in the subsequent article, "Animalcule" (microscopic animal), written by Louis-Jean-Marie Daubenton. Daubenton had come to Paris in 1745 to serve as Buffon's assistant at the Royal Botanical Garden and had joined him and Needham in their observations on microscopic animalcules in semen and in infusions.³¹ In "Animalcule"

he presented as fact Buffon's claim that animalcules are not true animals, but that they are organic molecules. (Buffon had actually claimed that they are small bodies formed by chance from organic molecules, not the molecules themselves.) Daubenton also made a point of claiming Buffon's priority in these observations over Needham's. Needless to say, the common view, held by everyone who had previously observed animalcules, that they are simply microscopic animals, was mentioned only to be dismissed.

Following next in alphabetical order is the article "Animalistes", which was the French term for those who believed that the embryo was preformed in the spermatic animalcule. Written by Pierre Tarin, a little-known but major contributor to the *Encyclopédie* in anatomy and physiology, this article presented animalculist preformation only to counter it with standard objections (resemblance to the mother, prodigious number of wasted embryos, and the like).³² To this article, Diderot added the editorial remark, "There may without a doubt be animals in these liquids; but what one takes for animals, are they always that? See *Animalcule*", thus sending the reader back to the previous article and to Buffon's explanation that animalcules in male semen were only chance combinations of organic molecules.

These first two volumes also contained several descriptive and quite traditional articles on anatomy, physiology, and natural history.³³ Yet there are no articles championing the preexistence of germs or the necessity of passive matter. This situation continues in later volumes. The radical view – that material activity is the basis of living phenomena – is dominant wherever the issue is raised.

After the second volume of the *Encyclopédie* appeared, Diderot finished a short, but very significant, work on science and knowledge, his *Pensées sur l'interprétation de la nature* (Thoughts on the Interpretation of Nature).³⁴ Published first at the end of 1753 and then in a somewhat expanded edition the following year, Diderot's tract expressed, this time in relation to Maupertuis's work, a similar questioning about material activity and living organisms as had his dialogue with Buffon in "Animal". Even more clearly rejecting Buffon's distinction between living and brute matter, Diderot asked, was there anything more fundamental than a relative difference between the two types of matter? Could dead matter become living matter, and vice versa?³⁵ By this time, Diderot had begun to develop his notion of "sensibility" (*sensibilité*), which he believed was inert in dead matter and gradually more emergent in life forms as one moved up the chain of being. These views are more clearly expressed in later articles he included in the *Encyclopédie*.

In addition to the articles that presented radical ideas on nature, there were several others that leaned rather directly toward irreligion. In 1751 some of these were singled out for criticism, although more attacks came after the second volume appeared in 1752. There is evidence that Chrétien-Guillaume de Lamoignon de Malesherbes, director of publications and therefore in charge of censorship, was instrumental in suppressing or at least toning down criticism of these first two volumes.³⁶ Yet some criticism did appear in print, especially from the Jesuits. Guillaume François Berthier, who edited the Jesuit *Journal de*

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Trévoux from 1745 to 1762, praised the enterprise, yet expressed concern about the *Encyclopédie's* anti-religious stance in some articles. From October 1751 until March 1752, the *Journal de Trévoux* published several articles on the first two volumes of the *Encyclopédie*. Singled out for attack were "Aius-Locutius" (Roman god of speech), in which Diderot had argued for lifting censorship for works on incredulity intended for an elite audience, and "Amour des Sciences et des Lettres" (Love of science and letters), which Berthier condemned as irreligious.³⁷ Some of the other articles in volumes one and two that were later to receive critical treatment, like Diderot's "Adorer" (Adoration), his "Agnus scythicus" (a plant), his long editorial addition to the abbé Yvon's "fime" (Soul), and d'Alembert's "Aveugle" (Blindness), had not yet been singled out. But the bomb that was dropped in the second volume was the article "Certitude", by a young abbé, Jean-Martin de Prades, which included laudatory introductory and concluding remarks by Diderot. The de Prades article was a flash point not only for its contents but also for its connection with a scandal that had deeply embarrassed the Jesuits of the Sorbonne and that may have actually been engineered by none other than Diderot.³⁸

THE CRISIS OF 1752

On the seventh of February, 1752, the King's council issued a decree suppressing the first two volumes of the *Encyclopédie*. In part, the decree read: "His Majesty has recognized that in these two volumes several maxims have been inserted tending to destroy the royal authority, to establish a spirit of independence and revolt, and, under obscure and ambiguous terms, to build the foundations of error, of moral corruption, of irreligion, and of unbelief".³⁹ The second volume had appeared only a month before, but it contributed to the issuance of this decree. Several factors led to this unfortunate event (for Diderot and d'Alembert, that is), but they all seem to have revolved around the religious/political struggles between the Jesuits at the Sorbonne and at court and the Jansenist Parlement. Dale Van Kley has called attention to Diderot's article "Autorité politique" (Political Authority) in the first volume of the *Encyclopédie* as one of the first political utterances of the maturing French Enlightenment.⁴⁰ It was this article, he claims, along with the uproar caused by the Sorbonne's unwitting acceptance of de Prades' thesis, that drew attention to the *Encyclopédie* project and led to the suppression.⁴¹

Diderot's "Autorité politique" was indeed a bold article, justifying all political authority by the consent of the governed and by an implicit contract between the people and the ruler. Unlimited authority residing in any human being would, Diderot claimed, undermine the authority of God. Although he also supported continual obedience to the King, Diderot found himself and his article attacked, particularly by the Jesuit *Journal de Trévoux*. The Jesuits had been hostile to the *Encyclopédie* from the very beginning of the project, and there is evidence that they were behind the suppression with a plan to take over the enterprise themselves.⁴² The diarist Barbier wrote at the time that "this whole storm against this fine Dictionary comes by medium of the Jesuits".

Similarly, the former secretary of state, the marquis d'Argenson, predicted in his memoirs that the Jesuits would become the new editors.⁴³

In November 1751, the abbé de Prades had successfully defended his thesis in an oral examination by theologians at the Sorbonne. The thesis was full of praise for "natural religion" and doctrines derived from d'Alembert's "Discours préliminaire" (Preliminary Discourse) from the *Encyclopédie* and Diderot's *Pensées philosophiques* (Philosophical Thoughts). How the thesis got approved is something of a mystery, but it did not take long for the storm to break. De Prades' thesis was denounced on the floor of the Jansenist Paris Parlement, which led the Sorbonne to establish a committee to examine the thesis once again.⁴⁴ Their report was issued only days before the suppression of the *Encyclopédie*, and it claimed that the thesis was part of an infamous plot against both religion and the state. What made matters worse was that the second volume of the *Encyclopédie*, appearing in January 1752, contained a lengthy article "Certitude", by none other than de Prades himself. The article discussed grounds for believing in miracles, and even though it claimed to support faith it also contained numerous quotations from Diderot's *Pensées philosophiques*. Appended to the article was an editorial note by Diderot praising de Prades' love of truth in defense of religion. Meanwhile, an arrest warrant was issued for de Prades by the Paris Parlement, and he fled to Holland.

Six days after the Sorbonne condemned de Prades' thesis, the *Arrêt* suppressing the *Encyclopédie* was issued. Powerful advisors at Court, among them the Dauphin's tutor, convinced the King that the *Encyclopédie* was devoted to irreligion and undermining his authority. Coupled with the King's growing struggle with the Jansenist Parlement and alliance with the Jesuits, these factors resulted in the decree against the *Encyclopédie*.⁴⁵ There is even a story that the King's Jesuit confessor told him that God might spare his daughter, who was gravely ill, if he would suppress the *Encyclopédie*!⁴⁶

There is no evidence that, in the crisis of 1752, ideas about active matter and its role in living phenomena played any role in the dispute. Partly this was due to the fact that several of the more radical articles had yet to appear. Partly it was because substantial analyses of articles in the *Encyclopédie*, including those in the first two volumes, which began to call attention to materialist and atheist doctrines found therein, did not begin to appear until the late 1750s. The crisis of 1752 died down, due to the efforts of Malesherbes, who was responsible for overseeing the book trade. Malesherbes was devoted, as much as one could be at the time, to freedom of the press. The result was that volumes three through seven appeared at yearly intervals from 1753 through 1757. Their contents, in conjunction with other publications and growing political tensions, were to provoke the second and even more fatal *Encyclopédie* crisis in 1758. Before turning to that crisis, let me detail some of the materialist and anti-religious articles that appeared in these volumes.

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MATERIALISM AND NATURE IN VOLUMES THREE THROUGH SEVEN

Let me first look at what these volumes presented on life and matter in articles on biological topics. In volume seven, we find the article "Génération" by Arnulphe d'Aumont, one of the main contributors on medicine, particularly in these middle volumes. (After the condemnation of the *Encyclopédie* in 1759, he no longer allowed his articles to be attributed to him.)⁴⁷ D'Aumont had studied medicine at Montpellier, but his contributions to the *Encyclopédie* show, according to Roger, that he leaned toward mechanism.⁴⁸ His article on generation is a cautious survey of theories on the subject from Plato to Buffon. Defining generation as "the formation of an individual similar in its nature to those from which it draws its origin by reason of preexisting principles that it received from them, that is to say from the proper matter and the disposition of a particular form that the generating beings furnish for the preparation, development and growth of the germs that they produce or that they contain". d'Aumont did not take a clear stand on whether these "germs" preexist before generation or are formed in the process.⁴⁹ His discussion of ovist preformationism is lengthy, yet he concluded that resemblance to both parents and the superfluity of germs that never develop made this theory untenable. This led, he claimed to the "mixture theories" of Maupertuis and of Buffon, which he presented in some detail. Yet the problem of how a new organism could be organized by forces or out of organic molecules made their theories unlikely as well. His lengthy article began and ended characterizing generation as a mystery that may be as impenetrable as other first causes that we know about only from their effects.⁵⁰ But his survey of theories of generation from the ancients to Buffon was clearly informed by Maupertuis' own historical survey, as d'Aumont acknowledged, and the *Vénus physique* (Physical Venus) and *Histoire naturelle* were two of the works credited at the conclusion of the article as major sources.

Among the cross-references in d'Aumont's article, to articles like "Oeuf" (Egg), "Ovaire" (Ovary) and "Semence" (Semen), only "Fetus" (by Louis de Jaucourt) can be found in these middle volumes. All of the articles referred to are of a descriptive nature, with no discussion of any theories of generation. Thus I have concluded that the only presentation of the theory of preexistence – including the strongest arguments for adopting it – was in d'Aumont's "Génération", which can hardly qualify as an endorsement, even though he claimed that "most physicians and other physicists are more strongly attached to the system of eggs furnished by the testicles of the female".⁵¹ Although d'Aumont's article ended up not supporting any theory, his criticisms of preexistence and demonstration of why the views of Maupertuis and Buffon had necessarily developed would hardly have pleased most naturalists. This is undoubtedly why the staunch preformationist, Albrecht von Haller, contributed the article on generation to the *Supplément à l'Encyclopédie* (Supplement to the Encyclopedia), published twenty years later.

Diderot's own more radical views on the relationship between active matter and life can be found not in articles on obvious topics, but rather in an unlikely place, his article on "Ethiopiens". This article, along with others to which one

was led to by a series of cross-references included in "Ethiopiens", ended up playing a major role in the second, and more serious condemnation, of the *Encyclopédie* in 1759. Diderot had alerted readers to a subversive function of cross-referencing in his lengthy article, "Encyclopédie". Here he admitted that the editors purposely subverted opinions expressed in one article by referring to another one that said exactly the opposite. This method, he claimed, "is the art of tacitly deducing the most radical conclusions. If these cross references of confirmation or refutation are foreseen far ahead of time and prepared with skill, they will give to an encyclopedia the character that a good dictionary ought to have; this character is to change the general way of thinking".⁵² Although scholars agree that there were actually very few of these skillful cross-referencing schemes, nevertheless the whole idea, revealed so candidly here by Diderot, was radical in its own right. Sometimes one did not even need to go to the referred article to get the point, as when at the end of the unsigned "Providence" one is sent to "Manichéisme" or when an article on cannibalism ("Anthrophages") cross-referenced "Eucharist" and "Communion".⁵³

One of the most skillfully devised chains of articles, the sum of which expressed a radical materialism, began with Diderot's "Ethiopiens". Following a straightforward article by Jaucourt on "Ethiopie", Diderot's article was rather less factual. At one point, he claimed, "The Ethiopians take themselves to be more ancient than the Egyptians, because their country has been more strongly struck by the rays of the sun, which give life to all beings. Whence one sees that these people are not far from regarding animals as the development of earth put into fermentation by the heat of the sun, and to conjecture in consequence that species have undergone an infinity of diverse transformations, before becoming the form that we see them in".⁵⁴ At the conclusion of this paragraph, Diderot added a cross-reference to the article "Dieu" (God). When we turn to "Dieu", we find several interesting things. This article was based on Jean-Henri-Samuel Formey's notes for his own encyclopedia, which were purchased early on in the *Encyclopédie* project and used by Diderot and d'Alembert for over a hundred articles.⁵⁵ After an opening discussion about how clear it is that God exists, we find a cross-reference to "Démonstration", by d'Alembert. There, under a section on a posteriori demonstration, d'Alembert claimed that it is much easier to demonstrate the existence of God through his works than through a priori arguments. "In the eyes of the people, and even of philosophers, an insect proves [the existence of] a God better than all metaphysical reasonings; and in the eyes of the philosopher, the general laws of nature prove even better the existence of God than an insect".⁵⁶ A cross-reference to d'Alembert's "Cosmologie" further underlined his deistic argument: there, using Maupertuis' argument for the existence of God based on the law of least action, a similar point was made. Supporting deism was often seen as tantamount to promoting irreligion, because it denied any direct contact with God through revelation.

Returning to the article "Dieu" we read that three parts of the article, on metaphysical proofs for the existence of God, on historical proofs, and on physical proofs, were drawn from the work of Samuel Clarke, Isaac Jaquelot,

and Bernard le Boissier. The article was drawn from Fontenelle's *Pluralité des Mondes*, which argued that animals of each species were created by the will of God.⁵⁷ Fontenelle was arguing that if a species were to be destroyed, would it be happening? A parallel argument was made for the new generation, arguing that a cross-reference to Fontenelle's work where Buffon's theory of the earth was mentioned. D'Alembert highly praised Fontenelle's theory, which can be formed by the action of the tiny "eels" (larvae) of the earth. D'Alembert admitted that the articles on insects are actually regular, and that in all cases that concern

These articles in fact were a very strong argument for the need for God's intervention. "Chaos" criticized the article, claiming that it created the world, and concluding "one can see from the attack on orthodoxy that it is impartially explaining the views of the author (in comparison), and in Political unorthodoxy (the Right) and in Jaucourt's criticisms appeared entirely unnoticed; but that began to appear. But the more significant point has to do with the

On January 23, 1759, before the Paris Parlement, Adrien Helvétius's speech with the present themselves violated, their law. Humanity shudders with fear and disquiet? A purpose of destruction project formed, a Religion, to inspire

and Bernard le Bouvier de Fontenelle, respectively. Turning to the third section, drawn from Fontenelle, we find the whole discussion is about whether the first animals of each species were formed by chance interactions of matter or by the will of God.⁵⁷ Fontenelle concluded that it was the latter, but principally by arguing that if animals had been formed by chance, why was it not still happening? A paragraph claiming that generation from corruption, or spontaneous generation, had been shown to be false by modern experiments ended in a cross-reference to "Corruption".⁵⁸ This leads us to another d'Alembert article where Buffon's theory of organic molecules was once again presented. D'Alembert highlighted not only Buffon's claim that microscopic organisms can be formed by the fortuitous combination of organic molecules but also that tiny "eels" (larvae) form in flour paste in the same manner.⁵⁹ Although d'Alembert admitted that most cases that appear to be spontaneous generation are actually regular generation from eggs, he queried, "but is it demonstrated in all cases that corruption can never engender an animated body?"⁶⁰

These articles in the middle volumes of the *Encyclopédie* thus presented a very strong argument for the material basis of life and called into question the need for God's involvement even in life's creation. In addition, Diderot's article "Chaos" criticized the notion that matter and motion alone could not have created the world and challenged interpreting the book of Genesis literally, concluding "one can say of *chaos* whatever one likes".⁶¹ Other articles furthered the attack on orthodox religion, such as those promoting toleration, those impartially explaining the ideas of unorthodox religious sects, those expounding on the views of non-Christian religions (which attacked Catholicism by comparison), and those attacking Christianity and the clergy outright.⁶² Political unorthodoxy found expression in Diderot's "Droit naturelle" (Natural Right) and in Jaucourt's "Gouvernement". Yet from 1753 through 1757, few criticisms appeared in print.⁶³ It was probably not that these articles went entirely unnoticed; rather, some of the vehement attacks on the *Encyclopédie* that began to appear in 1758 were quite lengthy and took some time to prepare. But the more significant reason for the explosion of criticism in 1758 and 1759 has to do with the growing political tensions of the 1750s.

THE CRISIS OF 1758-1759

On January 23, 1759, the Attorney General Jean-Omer Joly de Fleury, rose before the Paris Parlement to condemn the *Encyclopédie*, as well as Claude-Adrien Helvétius's *De l'Esprit* (On the Mind) and six other books.⁶⁴ He opened his speech with the dire pronouncement: "Society, the State, and Religion present themselves today at the tribunal of justice. ... Their rights have been violated, their laws disregarded. Impiety walks with head held high. ... Humanity shudders, the citizenry is alarmed".⁶⁵ What was the source of this fear and disquiet? A conspiracy, claimed Joly de Fleury, one that existed for the purpose of destroying society: "can one conceal from oneself that there is a project formed, a Society organized, to propagate materialism, to destroy Religion, to inspire a spirit of independence, and to nourish the corruption of

morals?⁶⁶ Remarking that it was sad to think what posterity will think of their century, Joly de Fleury claimed that it had fostered "a sect of so-called Philosophers who ... imagined a project ... to destroy the basic truths engraved in our hearts by the hand of the Creator, to abolish his cult and his ministers, and to establish instead Deism and Materialism".⁶⁷ Joly de Fleury then devoted his thirty-one-page harangue to an analysis of the ways in which the *Encyclopédie* and *De l'Esprit* were the very embodiment of this plot.

What was the cause of Joly de Fleury's vicious attack? The *Encyclopédie* had been appearing, one volume a year, quite peacefully since the crisis of 1752. What events had led to this renewed attention to and concern over the impact of the *Encyclopédie*? To answer this, we need to look again at the political and social events of the late 1750s, the attacks on the *Encyclopédie* that appeared in 1758, and the increased concern over "*mauvais propos*" (seditious talk) among the people of Paris.

The year 1757 opened with Damiens' attempt on the King's life. The interrogations that followed of Damiens and many others in preparation for his trial reveal a deep dissatisfaction with the monarchy. Dale van Kley has argued that an increasing "desacrilization" of the monarchy, evidenced at both the popular and elite levels, marks the decades preceding the French Revolution. Van Kley has pointed especially to the Damiens affair as both a cause and result of this process.⁶⁸ There was certainly an increase in surveillance of seditious publications and talk, as evidenced in the volumes of information collected by Joly de Fleury, attorney general, and his brother, Guillaume-François-Louis Joly de Fleury, the procurer general, during and in the wake of the trial.⁶⁹ This vigilance is clear at the intellectual level as well, as can be seen in both the Joly de Fleury and the d'Hémery archives. For our purposes, the important point is that the atmosphere of the late 1750s was so charged that it would probably have taken very little to set off a reaction against the philosophes. Following the assassination attempt, a draconian law was passed about subversive literature. "Anyone who is convicted", the new law read, "of having composed ... writings tending to attack religion, to stir up spirits, to endanger our [the King's] authority, and to disturb the order and tranquility of our state, will be punished with death".⁷⁰ Although this law was apparently never enforced, its passage indicates that the King's ministers had become extremely hostile to the philosophes.

The occasion for renewed outcry against the *Encyclopédie* was provided by volume seven, which appeared in October 1757 and contained d'Alembert's article "Genève" (Geneva). In hindsight, publishing this article was a tactical error on the part of Diderot and d'Alembert, for it led not only to a barrage of criticism but also to a falling out between the two, which resulted in d'Alembert's resigning from the project altogether. But what was the problem with "Genève"? Although d'Alembert praised democracy in Geneva and other aspects of their enlightened culture, he also "praised" the Genevan clergy for their supposed deist beliefs. This set off a reaction both in Geneva and in France, for the Genevan Calvinist pastors were incensed and the French clergy found the not-so-subtle criticism by comparison equally galling.⁷¹ One can also

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A storm of criticism was unleashed after this volume came out. 1757 saw the first appearance of the fictional "Cacouacs", a newly discovered "savage tribe" living at the 48th degree of latitude (the latitude of Paris), whose main weapon was the power of their words. First revealed in an "Avis Utile" (Useful Notice) published in the *Mercure de France* in October 1757, the Cacouacs were the creation of the abbé Giry de Saint-Cyr, tutor to the Dauphin. Soon thereafter Jacob Nicolas Moreau published the *Nouveau mémoire pour servir à l'histoire des Cacouacs* (New Memoir on the History of the Cacouacs), a much more thorough treatment of the dangers of the philosophes portrayed by the fictional capture and indoctrination at the hands of the Cacouacs of an innocent young man. Although Moreau's memoir did not make too many references to the *Encyclopédie*, its significance for my purposes here lies in the role biological ideas played in the indoctrination into the ideas of the philosophes the young man received, a subject to which I shall return in a moment. Moreau's piece was followed by Giry de Saint-Cyr's *Catéchisme de décisions de cas de conscience à l'usage des Cacouacs* (Catechism of decisions in matters of conscience for the use of Cacouacs), which was a hodge-podge of quotations from works by Diderot, Rousseau, La Mettrie, and others, including articles from the *Encyclopédie*, all set out under topics of a "catechism", beginning with "What is God?" Finally, in November 1758 there appeared Abraham Joseph Chaumeix's massive *Préjugés légitimes contre l'Encyclopédie* (Legitimate Prejudices against the Encyclopedia), the first two volumes of which were devoted to a vicious attack on the *Encyclopédie*. It was clearly from the *Préjugés légitimes* that Joly de Fleury drew much of the material for his attack on the *Encyclopédie* before the Paris Parlement.

The last straw came in July 1758, when Helvétius' *De l'Esprit* burst upon the scene. Based on a sensationalism drawn from Condillac and a materialism from La Mettrie, *De l'Esprit* presented an educational and an ethical system that ignored the church and challenged the Crown.⁷³ Provoking a scandal in its own right, Helvétius' book only added fuel to the growing controversy surrounding the *Encyclopédie*. Apparently, it was even rumored that Diderot himself was the real author of *De l'Esprit*, which had not even been published anonymously.⁷⁴ The reality of a conspiracy devoted to overthrowing organized religion and endangering the Crown thus seemed proven beyond a doubt, and *De l'Esprit* was included, along with the *Encyclopédie*, in most of the critical pamphlet literature of 1758 and 1759, while also engendering separate attacks of its own.

A further complication for the philosophes was their connection with Frederick the Great of Prussia. Frederick had founded the Berlin Academy of Sciences in 1744, enticing Maupertuis to assume its presidency in 1746. Many of the philosophes were members, including Diderot, and some, like La Mettrie, fled to Berlin rather than face persecution in France. D'Alembert received a pension from Frederick, and Frederick even tried, unsuccessfully, to get Voltaire to move to Berlin. The problem for the philosophes was that, from 1756 on,

France was at war with Prussia. The encyclopedists were thus in a suspect position because of their close ties to the Berlin court and because several articles in the *Encyclopédie* that attacked despotism in favor of an enlightened monarchy could be seen as indirect support for Frederick the Great. The political situation, made worse by the fact that France had lost several key battles in 1757 and 1758, culminating in decisive losses in 1759, only served to heighten the sense of urgency in dealing with the philosophes. There is even some evidence that the King's chief minister, the Duc de Choiseul, in a delicate situation politically because the war was going so badly, decided to sacrifice the *Encyclopédie* in order to keep the Parlement on his side.⁷⁵

JOLY DE FLEURY, THE CACOUACS, AND MATERIALISM

Let me return now in more detail to Joly de Fleury's attack on the *Encyclopédie* and the role materialism, particularly based on evidence from the living world, played in the critique of the philosophes. After opening with the harangue against the dangerous sect of philosophers that were out to destroy religion and the state, Joly de Fleury turned to an analysis of the condemned works. He was clearly incensed not only by the content of the *Encyclopédie* but also by the strategy of the authors and editors. He complained, for example, that articles often presented both "the pro and con; but the con, when it is a matter of religion, of morality, of authority, is always set forth clearly and with affectation".⁷⁶

After singling out several irreligious articles, like Diderot's "Adorer, honorer, révérer" (To Adore, Honor, Revere) with its blatant deism, Joly de Fleury turned, following Chaumeix, to the editors' pernicious system of cross-referencing.⁷⁷ Rather than continuing to point out more "detestable principles" in various articles, Joly de Fleury remarked, "we believe it is interesting and necessary to stop now to show you that this Dictionary is the fruit of impious reflection". Although not everyone involved was part of the "conspiracy to attack the foundations of the state and of religion", he continued, those who were part of the plot "undoubtedly are afraid not to appear to be what they are, dangerous writers, men without decency, enemies of authority, and of Christianity, to which they have vainly sworn ruin".⁷⁸ But the "morsel that is the most singular by its audacity" and was "the key to their system", he proclaimed, was the section of Diderot's "Encyclopédie" (quoted in part earlier) where the system of cross-referencing is revealed as a way to undercut orthodox articles and to "change the general way of thinking".⁷⁹ Of all the examples he could give, Joly de Fleury claimed, the article "Ethiopiens" proved their method, for "one finds there these Authors' system on the primitive formation of animals and in particular of man". The Ethiopians are represented as "regarding animals as developments from the earth put into fermentation by the heat of the sun" (a quotation from Diderot's article).⁸⁰ Joly de Fleury then followed the path of cross references discussed earlier. Reacting to this challenge to divine creation, Joly de Fleury responded, "All the proofs of the existence of God protest against this system of atheism".⁸¹ Yet Joly de Fleury

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Since I have already analyzed the contents of these articles, I will not delve into them further here. But what is of paramount importance, in my opinion, is that it was a discussion of the creation of life out of matter that caught the eye of Chaumeix and that was seen as dangerous enough to be highlighted in Joly de Fleury's denunciation of the entire project. Diderot did not claim that the Ethiopians were atheists; yet this was Joly de Fleury's conclusion, based on their alleged views on the creation of life from matter. And in his mind, being an atheist was synonymous with being a danger to the state. The connections between biological materialism, atheism, and dangerous politics was just too obvious at the time to be ignored when evaluating the cost of allowing publications like the *Encyclopédie* to continue.

After Joly de Fleury's speech before the Paris Parlement, the four publishers of the *Encyclopédie* were instructed not to sell any more copies, and a committee was appointed to examine in detail the first seven volumes of the *Encyclopédie*. The other works, including Helvétius' *De l'Esprit*, were simply condemned outright. By issuing these orders, the Parlement was openly criticizing Malesherbe, the director of the book trade, for allowing such publications to appear. By March 1759, the decision was made: the *Encyclopédie's* permission to publish was revoked because, as the official *Arrest du Conseil* put it, "the advantage that one could draw from a work of this type for the progress of the sciences and the arts could never balance the irreparable harm that would result for morality and religion".⁸³ Diderot feared arrest, hid some of his manuscripts with Malesherbes, but vowed to continue the project.⁸⁴

I would like to offer one further example of the tie between materialist views of life and the dangers to society implied by them. As I mentioned earlier, the Cacouac episode began at the same time as the seventh volume of the *Encyclopédie* was published and continued, with the publications of Moreau and Giry de Saint-Cyr, through the turbulent year of 1758. In Moreau's *Nouveau mémoire* we again find the connection between materialist biology and the dangerous threat the philosophes represented to society. The memoir opened with the capture of the young hero of the piece, who was eventually able to tell his story after he escaped and returned to Paris. The Cacouacs, he reported, lived in tents to signify their freedom, had no government, regarded ethics as a matter of convention, and did not believe in the existence of God. Although I do not want to describe the young hero's adventures in detail, the key episode for my purposes here was when he was interrogated by a group of Cacouacs in preparation for his induction into their society. His first question, from a venerable old man, was "if dead matter could combine with living matter? How does this combination come about? What is the result?"⁸⁵ A woman continued, asking, "If moulds are the principal forms? What is a

mould? Is it a real and preexisting being, or is it only the intelligible limits of a living molecule united to dead or living matter ... ?"⁸⁶ (Footnotes in the text are to Diderot's *Pensées sur l'interprétation de la nature*.) Under the influence of incense, the young man began "to understand everything marvelously", and he was told he could now regard the Cacouacs as his brothers. Eventually our young hero was rescued; he returned home only to find "dangerous and ridiculous" Cacouacs there as well. "I found", he reported, "that they had been given the name *Philosophes*, and that their works were being printed".⁸⁷

In Giry de Saint-Cyr's follow-up work, the *Catéchisme de décisions*, which was a compilation of quotations from the most subversive of the philosophes' works, we again find biology playing a foundational role. In the second section on the creation of the world and the formation of beings, quotations from Diderot are used to claim that the universe had formed by the chance combination of atoms and that living organisms formed as well from particles that already possessed "desire, aversion, memory, and intelligence" (a reference to Maupertuis). In an even more revealing quotation, again from Diderot's *Pensées sur l'interprétation de la nature*, the Cacouac teacher explained, "the embryo, formed out of these elements, has passed by an infinity of organizations and developments; ... it has in succession movement, sensations, ideas, thought, reflection, conscience, feelings, passions, signs, gestures, ... language, sciences and the arts".⁸⁸

While I am not going to analyze the Cacouac episode any further here, I simply want to point out that here again we see biological ideas connecting life and matter, drawn from the work of Buffon, Maupertuis, and Diderot, being attributed as foundational to the philosophes' whole enterprise. It was only by understanding these issues that one could become a true Cacouac/philosophe, at least in the eyes of those who found them so dangerous. Of course, the use of these questions also heightened the satirical quality of the narrative, since they sound even more absurd out of context. Yet I do not believe that Moreau used these simply because they would sound hilarious. Rather they were definitional and seen by Moreau and others as providing a foundation for the philosophes' dangerous undermining of religion and society.

THE FINAL VOLUMES

The remaining ten volumes, on which Diderot and Jaucourt continued to work tirelessly, finally appeared together in 1765, with the tacit permission of the government. In these volumes, we can find further evidence of Diderot's commitment to materialism. John Lough has claimed that Diderot, after suffering such criticism from the first two volumes, drew back from including articles openly expressing materialism in the next five volumes and waited until the last ten to "let himself go" in half a dozen articles or so (like "Matérialiste", "Naturaliste", and "Spinoziste").⁸⁹ While this statement is not entirely true with regard to the middle volumes, which contained, as we have seen, the statements in "Ethiopiens" and the articles cross-referenced, it is certainly the case that Diderot slipped several very direct materialist comments into the last

ten volumes, even in the hands of Diderot's pen. In addition to the "Naturaliste", quotations on his ideas on life and death are not absent. The emergence of sensibility and "materialistes", probably in regard to the last [of the Spinozists] ... is a development of the idea that gradually passes through the mind: there is only materialism in the materialist theory (Dream of d'Alembert) expressing biological ideas in the volumes of the *Encyclopédie* mature theory.

The other biographies are descriptive. "Oeuvre" contain nothing of the kind (unsigned), the original it was able to regenerate include controversy in a short article about the fact that this is a phenomenon of generation, by the "egg".⁹¹

Diderot had applied to the *Encyclopédie*, and in the course of his masterpiece in the post-1765 period, the thread of his radicalism can be found woven into the paper to show more of society and nature. In the hands of d'Holbach, Naigeon, and other atheists, Diderot was freed from religion.⁹³ For "the minds" were condensed in 1771 after Chancellor Maupeou's men have dared to face a formidable and more formidable. When they have called for, they hesitate the next morning.

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ten volumes, even though these volumes suffered censorship from the publisher's pen. In addition to identifying a naturalist with being an atheist in "Naturaliste", quoted at the beginning of this paper, Diderot further developed his ideas on life and matter in "Naitre" (Birth). There he claimed that life and death are not absolute states, but successive states of the same matter, with the emergence of sensibility as the key factor. In an editorial addition to "Matérialistes", probably by Diderot, materialists were identified with Spinozists. With regard to the latter, he claimed in "Spinoziste", "The general principle [of Spinozists] ... is that matter is sensitive [*sensible*]; they demonstrate this by the development of the egg, an inert body that by only the instrument of heat gradually passes to a sensing and living state ... From this they conclude that there is only matter and that it suffices to explain everything".⁹⁰ This was the materialist theory that would appear again in Diderot's *Rêve de d'Alembert* (Dream of d'Alembert), written in 1768. Because the *Rêve* and other writings expressing biological materialism were not published, these articles in the later volumes of the *Encyclopédie* contained the only version in print of Diderot's mature theory.

The other biological articles in these last ten volumes are primarily descriptive. "Oeuf" (unsigned), "Ovaire" (Jaucourt), and "Semence" (unsigned) contain nothing controversial. Even the article on Trembley's polyp ("Polype", unsigned), the organism that had caused such a stir throughout Europe because it was able to regenerate entire new polyps when cut into several pieces, did not include controversial issues. Only in "Reproduction" (unsigned), which is a short article about the regeneration of the legs of crabs, do we find a comment that this is a phenomenon that "does not square at all with the modern system of generation, by which one supposes that the animal is entirely formed in the egg".⁹¹

Diderot had apparently been very much affected by the condemnation of the *Encyclopédie*, and he published little more for the remainder of his life.⁹² Many of his masterpieces, such as the materialist *Rêve de d'Alembert*, date from this post-1765 period, but they found their way into print only after his death. Yet the thread of his radical thinking, based on a subversive view of life and matter, can be found woven throughout the *Encyclopédie*. It is beyond the scope of this paper to show more directly the tie between these views and his thoughts on society and natural morality, yet they very definitely existed. Along with d'Holbach, Naigeon, Damilaville, and other contributors who were outright atheists, Diderot wanted to reorder both knowledge and society independently from religion.⁹³ For this he and the project "to create a revolution in men's minds" were condemned. Yet, as Diderot rather prophetically remarked in 1771 after chancellor Maupeou's contemptuous dismissal of Parlement, "Once men have dared in some way to attack the barrier of religion, the most formidable and most respected barrier that there is, it is impossible to stop. When they have cast a hostile glance over the majesty of heaven, they will not hesitate the next moment to cast one over earthly sovereignty".⁹⁴

NOTES

- ¹ Denis Diderot, "Naturaliste", in *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une société de gens de lettres*, 17 vols. Denis Diderot and Jean Le Rond d'Alembert, eds. (Paris: Briasson, David, Le Breton, Durand [vols. 1-7]; Neufchâtel: S. Faulche [vols. 8-17], 1751-1765), vol. 11, p. 39B. For the attribution of this and other articles to Diderot and on the whole complex question of the authorship of unsigned articles, see Denis Diderot, *Oeuvres complètes*, Herbert Dieckmann, Jean Fabre, and Jacques Proust, ed. (Paris: Hermann, 1975-), vol. 5, pp. 1-12.
- ² Ephraim Chambers, *Cyclopaedia or an Universal Dictionary of Arts and Sciences*, 2 vols. (London: James and John Knapton, 1728). The original intent had been to publish a French translation of Chambers' work. This idea was abandoned by the time Diderot wrote the prospectus for the new project in 1750, although one finds portions of articles from the Chambers encyclopedia in a number of *Encyclopédie* articles. See John Lough, *The Encyclopédie* (New York: David McKay, 1971), pp. 2-3.
- ³ *The Correspondence Between Albrecht von Haller and Charles Bonnet*, Otto Sonntag, ed. (Bern: Hans Huber, 1983), p. 498; letter of 27 May 1766.
- ⁴ [Paul Henri Thiry, baron d'Holbach], *Système de la nature, ou des loix du monde physique et du monde moral*, par M. Mirabaud (London, 1770), p. 23 n. 5.
- ⁵ See Margaret C. Jacob, "The Materialist World of Pornography", in *The Invention of Pornography: Obscenity and the Origins of Modernity, 1500-1800*, Lynn Hunt, ed. (New York: Zone Books, 1996), pp. 161-163 (article 157-202). See also Margaret C. Jacob, *The Newtonians and the English Revolution, 1689-1720* (Ithaca: Cornell University Press, 1976); James R. Jacob and Margaret C. Jacob, "The Anglican Origins of Modern Science: The Metaphysical Foundations of the Whig Constitution", *Isis*, 1980, 71:251-267; and Margaret C. Jacob, *The Radical Enlightenment: Pantheists, Freemasons, and Republicans* (London: George Allen & Unwin, 1981).
- ⁶ Cyril B. O'Keefe, *Contemporary Reactions to the Enlightenment (1728-1762)* (Geneva: Librairie Slatkine, 1974), pp. 30-32.
- ⁷ See Ira O. Wade, *The Clandestine Organization and Diffusion of Philosophic Ideas in France from 1700 to 1750* (Princeton: Princeton University Press, 1938); O'Keefe, *Contemporary Reactions to the Enlightenment* (cit. n. 6); J.S. Spink, *French Free-Thought from Gassendi to Voltaire* (London: Athlone Press, 1960); N. Jacob, "Materialist World of Pornography" (cit. n. 5); and Robert Darnton, *The Forbidden Best-Sellers of Pre-Revolutionary France* (New York: W. W. Norton, 1995).
- ⁸ Darnton, *Forbidden Best-Sellers of Pre-Revolutionary France* (cit. n. 7), pp. 85-91.
- ⁹ Darnton, *Forbidden Best-Sellers* (cit. n. 7), p. 90.
- ¹⁰ In 1749 d'Hémery described Diderot as "very dangerous; speaks of holy mysteries with scorn". See Robert Darnton, "A Police Inspector Sorts His Files", in *The Great Cat Massacre and Other Episodes in French Cultural History* (New York: Basic Books, 1984), p. 187. See also Dale Van Kley, *The Religious Origins of the French Revolution: From Calvin to the Civil Constitution, 1560-1791* (New Haven: Yale University Press, 1996), p. 248.
- ¹¹ Lough's *Encyclopédie* is an exception, in that he follows out the cross-referencing from the article "Ethiopiens" (discussed later in this paper).
- ¹² Jacques Roger, *Les Sciences de la vie dans la pensée française du XVIII^e siècle: la génération des animaux de Descartes à l'Encyclopédie* (Paris: Armand Colin, 1963). See, for example, Emile Callot, *La Philosophie de la vie au XVIII^e siècle* (Paris: M. Rivière, 1965) and Colm Kiernan, *The Enlightenment and Science in Eighteenth-Century France*, Studies on Voltaire and the Eighteenth Century, 59A (Oxford: The Voltaire Foundation, 1973).
- ¹³ Lough, *Encyclopédie* (cit. n. 2), Chs. 1-2, pp. 1-38.
- ¹⁴ Van Kley, *Religious Origins* (cit. n. 10); Van Kley, *The Damiens Affair and the Unraveling of the Ancien Régime, 1750-1770* (Princeton: Princeton University Press, 1984); O'Keefe, *Contemporary Reactions to the Enlightenment* (cit. n. 6); John Rossiter, *Louis XV and the Parlement of Paris, 1737-1755* (Cambridge and New York: Cambridge University Press, 1995).
- ¹⁵ See Van Kley, *Religious Origins* (cit. n. 10), pp. 182-184, 188-189; Van Kley, *Damiens Affair*, pp. 226-265; Arlette Farge, *Subversive Words: Public Opinion in Eighteenth-Century France* (University Park: Pennsylvania State University Press, 1994), pp. 164-175.
- ¹⁶ Roger, *Les Sciences de la vie* (cit. n. 12); Shirley A. Roe, *Matter, Life, and Generation: Eighteenth-Century Embryology and the Haller-Wolff Debate* (Cambridge: Cambridge University Press, 1981).
- ¹⁷ This was published in an expanded edition the next year as *Vénus physique*. See Mary Terrall, "Salon, Academy, and Boudoir: Generation and Desire in Maupertuis' Science of Life", *Isis*, 87 (1996), pp. 217-229; David Beeson, *Maupertuis: An Intellectual Biography*, Studies on Voltaire and the Eighteenth Century, 299 (Oxford: The Voltaire Foundation, 1992), pp. 171-182, 206-215.

- ¹⁸ [Pierre-Louis Moreau de la Motte], *Venus*, trans. Simon Johnson Reprint Co.
- ¹⁹ For Buffon's comment on "Some Late Observations on Vegetable Substances", see Buffon's account for *Encyclopédie*, vols. (Paris: L'Imprimerie Royale, 1751-1765). Shirley A. Roe, "Buffon's *colloque international*" and Roe, "John Turberville", *Isis*, 159-184.
- ²⁰ Pierre-Louis Moreau de la Motte, *Venus*, p. 147.
- ²¹ This was also the case especially Albrecht von Haller (1751), and Michel Rey, 1762). See also *Unbelievers: The Corn Laws of the Eighteenth Century*, ed. by the Voltaire Foundation, 1986, pp. 1-2.
- ²² Although these notes are not in the article "Animal". See also *Natural History*, ed. by the Voltaire Foundation, 1955-1970, vol. 1, p. 1.
- ²³ On Diderot's devotion to the study of John Hopkins University (1801), did not see as in the *Encyclopédie*. See also Jacques Roger, *Encyclopédie*, vol. 1, p. 1.
- ²⁴ Roger, *Encyclopédie*, vol. 1, p. 1.
- ²⁵ Natural history a *naturelle* include, in *Nat.*. Searching the *ests/ARTFL/projects/* in geological or forest *Journal of the History of Ideas*, vol. 1, p. 1.
- ²⁶ This implication was made by Joseph de Chaumeix, *réfutation de ce dictionnaire*, p. 214).
- ²⁷ *Encyclopédie*, vol. 1, p. 1.
- ²⁸ *Encyclopédie*, p. 47, comment to devote a word to "property of matter", *P.*
- ²⁹ On Daubenton's paper, see Frank A. Kalker and Shirley A. Roe, *of the Authors of the Encyclopédie*, Voltaire Foundation, 1981, p. 1.
- ³⁰ On Tarin, see Kalker and Roe, *of the Authors of the Encyclopédie*, Voltaire Foundation, 1981, p. 1.
- ³¹ For a discussion of the *Encyclopédie* on natural history see Lough, *The Encyclopédie*, p. 1.
- ³² In his introduction to *sur l'interprétation de la nature*, having been written by the *Critical Biography* (New York: The Voltaire Foundation, 1981, p. 109).
- ³³ Diderot, *Oeuvres complètes*, vol. 5, p. 1.

¹⁸ [Pierre-Louis Moreau de Maupertuis], *Vénus physique* (n.p., 1745). Quotation from *The Earthly Venus*, trans. Simone Brangier Boas, with notes and an introduction by George Boas (New York: Johnson Reprint Corporation, 1966), p. 42.

¹⁹ For Buffon's conversations with Maupertuis, see John Turberville Needham, "A Summary of Some Late Observations upon the Generation, Composition, and Decomposition of Animal and Vegetable Substances", *Philosophical Transactions of the Royal Society of London*, 45 (1748), p. 633. Buffon's account formed the first five chapters of his *Histoire naturelle, générale et particulière*, 31 vols. (Paris: L'Imprimerie Royale, 1749–1789); see vol. 2, p. 168. On Needham and Buffon, see Shirley A. Roe, "Buffon and Needham: Diverging Views on Life and Matter", in *Buffon 88: Actes du colloque international*, Jean Gayon, ed. (Paris: Librairie Philosophique J. Vrin, 1992), pp. 439–450, and Roe, "John Turberville Needham and the Generation of Living Organisms", *Isis*, 74 (1983), pp. 159–184.

²⁰ Pierre-Louis Moreau de Maupertuis, *Système de la nature*, in *Oeuvres* (Lyon: Bruyset, 1756), vol. 2, p. 147.

²¹ This was also the problem that preformationists called attention to at every opportunity. See especially Albrecht von Haller, *Réflexions sur le système de la génération, de M. de Buffon* (Geneva: Barrillot, 1751), and Charles Bonnet, *Considérations sur les corps organisés* (Amsterdam: Marc-Michel Rey, 1762). See also Roe, *Matter, Life, and Generation* (cit. n. 16), and *Science Against the Unbelievers: The Correspondence of Bonnet and Needham, 1760–1780*, Studies on Voltaire and the Eighteenth Century, 243, Renato G. Mazzolini and Shirley A. Roe, eds. (Oxford: The Voltaire Foundation, 1986), pp. 7–52.

²² Although these notes no longer exist, they probably formed the basis for Diderot's *Encyclopédie* article "Animal". See Roger, *Les Sciences de la vie* (cit. n. 12), p. 599; see also Roger, *Buffon: A Life in Natural History*, Sarah Lucille Bonnefoi (trans.) (Ithaca: Cornell University Press, 1997), p. 199; Denis Diderot, *Correspondance*, Georges Roth and Jean Verloot, ed. (Paris: Éditions de Minuit, 1955–1970), vol. 1, p. 96; Diderot, *Oeuvres complètes* (cit. n. 1), vol. 5, p. 382 n. 2.

²³ On Diderot's developing materialism, see also Wilda Anderson, *Diderot's Dream* (Baltimore: Johns Hopkins University Press, 1990), pp. 11–76. Roger, in *Les Sciences de la vie* (cit. n. 12) (p. 601), did not see as much of a development in Diderot's thinking between 1748 and 1753 as I do. See also Jacques Roger, "Diderot et Buffon en 1749", *Diderot Studies*, 4 (1963), pp. 221–236.

²⁴ Roger, *Buffon* (cit. n. 22), pp. 199–200, 214.

²⁵ *Encyclopédie*, vol. 2, p. i.

²⁶ Natural history articles that consist solely or mainly of quotations from Buffon's *Histoire naturelle* include, in addition to "Animal", "Espèce", "Humaine espèce", and "Homme (Hist. Nat.)". Searching the on-line version of the *Encyclopédie* for "Buffon" (<www.lib.uchicago.edu/efl/ARTFL/projects/encyc>) yields 233 times his name appears. Several of these mentions occur in geological or forestry articles. See also James Llana, "Natural History and the *Encyclopédie*", *Journal of the History of Biology*, 33 (2000), pp. 1–25.

²⁷ *Encyclopédie*, vol. 1, p. 469B.

²⁸ This implication was not lost on one of the *Encyclopédie*'s most assiduous critics, Abraham Joseph de Chaumeix, who in his eight-volume *Préjugés légitimes contre l'Encyclopédie, et Essai de réfutation de ce dictionnaire* (Brussels, Paris: Herissant 1758–59), made this same comment (vol. 1, p. 214).

²⁹ *Encyclopédie*, vol. 1, p. 471B.

³⁰ *Encyclopédie*, p. 474A. Buffon, *Histoire naturelle*, vol. 2, p. 17. Chaumeix took off from this comment to devote a whole section to "The faculty of thought is, according to the encyclopedists, a property of matter", *Préjugés légitimes* (cit. n. 28), vol. 1, p. 224.

³¹ On Daubenton's participation, see Buffon, *Histoire naturelle*, vol. 2, p. 171. On Daubenton, see Frank A. Kafker and Serena L. Kafker, *The Encyclopedists as Individuals: A Biographical Dictionary of the Authors of the Encyclopédie*, Studies on Voltaire and the Eighteenth Century, 257 (Oxford: The Voltaire Foundation, 1988), pp. 88–91.

³² On Tarin, see Kafker and Kafker, *Encyclopedists* (cit. n. 31), pp. 360–362.

³³ For a discussion of the epistemological radicalism that ran through some of the articles on natural history see Llana, "Natural History" (cit. n. 26).

³⁴ In his introduction in Diderot's *Oeuvres complètes* (cit. n. 1), Jean Varloot described the *Pensées sur l'interprétation de la nature* as a second *Discours préliminaire* to the *Encyclopédie* (the first one having been written by d'Alembert); see vol. 9, p. 5. In a similar vein, P.N. Furbank, in *Diderot: A Critical Biography* (New York: Alfred A. Knopf, 1992), remarked that Diderot's *Pensées sur l'interprétation de la nature* was "meant as some sort of theoretical complement to the *Encyclopédie*" (p. 109).

³⁵ Diderot, *Oeuvres complètes* (cit. n. 1), vol. 9, LVIII, pp. 95–98.

- ³⁶ Lough, *Encyclopédie* (cit. n. 2), p. 109.
- ³⁷ John N. Pappas, *Berthier's Journal de Trévoux and the Philosophes*, Studies on Voltaire and the Eighteenth Century, 3 (Geneva: Institut et Musée Voltaire, 1957), pp. 181–182, 184–185. See also O'Keefe, *Contemporary Reactions to the Enlightenment* (cit. n. 6), pp. 88–89, 94–95; Lough, *Encyclopédie* (cit. n. 2), pp. 107–108; Arthur M. Wilson, *Diderot* (New York: Oxford University Press, 1972), pp. 152–154.
- ³⁸ Wilson, *Diderot* (cit. n. 37), pp. 154–158; see also Furbank, *Diderot* (cit. n. 34), pp. 89–96.
- ³⁹ *Arrêt du Conseil d'État du Roi ... du 7 février 1752*, in Diderot, *Oeuvres complètes* (cit. n. 1), vol. 5, p. 37.
- ⁴⁰ Van Kley, *Religious Origins* (cit. n. 10), p. 191.
- ⁴¹ See also Lough, *Encyclopédie* (cit. n. 2), pp. 113–115, Wilson, *Diderot* (cit. n. 37), pp. 154–158; Furbank, *Diderot* (cit. n. 34), pp. 90–96.
- ⁴² Pappas, *Berthier's Journal de Trévoux* (cit. n. 37), pp. 185–186.
- ⁴³ See Wilson, *Diderot* (cit. n. 37), pp. 158–159; Edmond-Jean-François Barbier, *Journal historique et anecdotique du règne de Louis XV*, 4 vols. (Paris, 1847–1856), vol. 3, pp. 344; René-Louis de Paulmy, Marquis d'Argenson, *Journal et mémoires*, 9 vols. (Paris, 1859–1867), vol. 7, pp. 56, 71–72.
- ⁴⁴ Furbank, *Diderot* (cit. n. 34), p. 89.
- ⁴⁵ Wilson, *Diderot* (cit. n. 37), p. 159.
- ⁴⁶ Furbank, *Diderot* (cit. n. 34), p. 92.
- ⁴⁷ Kafker and Kafker, *Encyclopedists as Individuals* (cit. n. 31), pp. 16–18.
- ⁴⁸ Roger, *Les Sciences de la vie* (cit. n. 12), p. 631n.
- ⁴⁹ *Encyclopédie*, vol. 7, p. 559B.
- ⁵⁰ D'Aumont's language is nearly identical to a similar passage written by Buffon. See *Encyclopédie*, vol. 7, pp. 560A, 573B; Buffon, *Histoire naturelle*, vol. 2, p. 3.
- ⁵¹ *Encyclopédie*, vol. 7, p. 567B.
- ⁵² *Encyclopédie*, vol. 5, p. 642B.
- ⁵³ See Van Kley, *Religious Origins* (cit. n. 10), p. 3.
- ⁵⁴ *Encyclopédie*, vol. 16, p. 55A.
- ⁵⁵ Kafker has raised the question whether revisions were made in Formey's articles before they were printed. He has also pointed out that Formey never made such a claim. See Kafker and Kafker, *Encyclopedists as Individuals* (cit. n. 31), pp. 141.
- ⁵⁶ *Encyclopédie*, vol. 4, p. 823B.
- ⁵⁷ This section is almost a verbatim reprinting of Fontenelle's "De l'existence de Dieu", which according to Roger dates from 1724. See Roger, *Les Sciences de la vie* (cit. n. 12), p. 365 n. 224.
- ⁵⁸ Fontenelle probably had in mind Francesco Redi's and Jan Swammerdam's observations in the 1680s disproving spontaneous generation of flies from rotting meat and from plant galls.
- ⁵⁹ This latter work was actually Needham's, but it was reported in Buffon's *Histoire naturelle* as well as directly by Needham. See Roe, "Buffon and Needham" (cit. n. 19); Roe, "John Turberville Needham" (cit. n. 19).
- ⁶⁰ *Encyclopédie*, vol. 4, p. 278B.
- ⁶¹ *Encyclopédie*, vol. 4, p. 159B.
- ⁶² See Lough, *Encyclopédie* (cit. n. 2), pp. 196–270.
- ⁶³ The one notable exception was the *Réflexions d'un Franciscain sur les trois premiers volumes de l'Encyclopédie* (Berlin, 1754); see Lough, *Encyclopédie* (cit. n. 2), pp. 115–116.
- ⁶⁴ The other books condemned were [Louis de Beausobre], *Le Pirronisme du sage* (Berlin, 1754); [Jean Baptiste d'Argens], *La Philosophie du bon sens* (La Haye, 1755); [Voltaire], *La Religion naturelle. Poème ... par M.V.* (Geneva, 1756); [J.B. Pascal], *Lettres semi-philosophiques du chevalier de "au comte de"* (Amsterdam & Paris, 1757); [Diderot], *Étrennes aux esprits forts* (London, 1757) (an edition of his *Pensées philosophiques*); and [abbé G.F. Coyer], *Lettre au R. P. Berthier, sur le matérialisme* (Geneva, 1759). Joly de Fleury had apparently originally intended to include Diderot's *Lettre sur les aveugles* (1749), *Lettre sur les sourds et les muets* (1751), and *Pensées sur l'interprétation de la nature* (1753–1754), along with Condillac's *Traité des sensations* (1754), Rousseau's *Discours sur l'inégalité*, J.F. de Bastide's *Les Choses comme on doit les voir* (1757), and Voltaire's *La Pucelle d'Orléans* (1755), but he apparently changed his mind, as these titles are crossed out in the first draft of his indictment. See Bibliothèque Nationale, Collection Joly de Fleury, vol. 352, dossier 3807; and D.W. Smith, *Helvétius: A Study in Persecution* (Oxford: Clarendon Press, 1965), pp. 40–41.
- ⁶⁵ *Arrêts de la Cour de Parlement, portant condamnation de plusieurs Livres & autres Ouvrages imprimés. Extrait des Registres de Parlement. Du 23 Janvier 1759*, pp. 1–2.
- ⁶⁶ *Arrêts*, p. 2.
- ⁶⁷ *Arrêts*, p. 3.

- ⁶⁸ See Van Kley, *Religious Origins* (cit. n. 10), pp. 246–265.
- ⁶⁹ Van Kley, *Religious Origins* (cit. n. 10), pp. 161–175.
- ⁷⁰ Quoted in Lough, *Encyclopédie* (cit. n. 2), p. 109.
- ⁷¹ Lough, *Encyclopédie* (cit. n. 2), p. 109.
- ⁷² Furbank, *Diderot* (cit. n. 34), p. 89.
- ⁷³ Smith, *Helvétius* (cit. n. 6), p. 40.
- ⁷⁴ Furbank, *Diderot* (cit. n. 34), p. 89.
- ⁷⁵ Furbank, *Diderot* (cit. n. 34), p. 89.
- ⁷⁶ *Arrêts* (cit. n. 65), p. 18.
- ⁷⁷ Joly de Fleury also made Diderot's addition, *Journal de Trévoux*, 1752, "Autorité politique", and *Arrêts* (cit. n. 65), p. 18.
- ⁷⁸ *Arrêts*, *ibid.*, p. 18.
- ⁷⁹ *Arrêts*, *ibid.*, p. 18.
- ⁸⁰ *Arrêts*, *ibid.*, p. 18.
- ⁸¹ *Arrêts*, *ibid.*, p. 18.
- ⁸² *Arrêts*, *ibid.*, p. 18.
- ⁸³ *Arrêts du Conseil d'État*, in *Encyclopédie ou Dictionnaire des Lettres. Du 8 Mars 1755*, reprinted in Diderot, *Oeuvres complètes* (cit. n. 1), vol. 5, p. 37.
- ⁸⁴ Wilson, *Diderot* (cit. n. 37), p. 159.
- ⁸⁵ [Jacob Nicolas Moreau], *Nouveau manuel de la morale* (1757), p. 24. This and other quotations in Moreau's *Nouveau manuel de la morale* Diderot asked a similar question so the misquotation does not occur. See Slatkine Reprint edition, *Catechisme de décisions morales* (1968).
- ⁸⁶ Moreau, *Nouveau manuel de la morale* (1757), p. 24.
- ⁸⁷ Moreau, *Nouveau manuel de la morale* (1757), p. 24.
- ⁸⁸ [Giry de Saint-Cyr], *Le Catechisme de la morale* (Cacopolis, 1758), p. 14.
- ⁸⁹ Lough, *Encyclopédie* (cit. n. 2), p. 109.
- ⁹⁰ *Encyclopédie*, vol. 15, p. 100.
- ⁹¹ *Encyclopédie*, vol. 14, p. 100.
- ⁹² Diderot's publication of *Encyclopédie* and 1781; his *Supplément à l'Encyclopédie* (cit. n. 34), pp. 4–5.
- ⁹³ Franz A. Kafker, in *Encyclopédie, Studies in Enlightenment* (Geneva: Librairie Droz, 1996), pp. 1–2.
- ⁹⁴ Diderot to Princess.

- ⁶⁸ See Van Kley, *Religious Origins* (cit. n. 10), pp. 172–175, 179–183; Van Kley, *Damiens Affair* (cit. n. 14), pp. 246–265.
- ⁶⁹ Van Kley, *Religious Origins* (cit. n. 10), pp. 180–190. See also Farge, *Subversive Words* (cit. n. 15), pp. 161–175.
- ⁷⁰ Quoted in Lough, *Encyclopédie* (cit. n. 2), p. 23.
- ⁷¹ Lough, *Encyclopédie* (cit. n. 2), pp. 221–223; Furbank, *Diderot*, pp. 168–169.
- ⁷² Furbank, *Diderot* (cit. n. 34), pp. 167.
- ⁷³ Smith, *Helvétius* (cit. n. 64), pp. 13–15.
- ⁷⁴ Furbank, *Diderot* (cit. n. 34), p. 180.
- ⁷⁵ Furbank, *Diderot* (cit. n. 34), pp. 183–184.
- ⁷⁶ *Arrêts* (cit. n. 65), p. 13.
- ⁷⁷ Joly de Fleury also discussed the unsigned “Christianisme”, “fime” by the abbé Yvon with Diderot’s addition, Jaucourt’s “Conscience (Liberté de)”. Diderot’s “Aius-Locutus”, Diderot’s “Autorité politique”, and the abbé Yvon’s “Athées”.
- ⁷⁸ *Arrêts* (cit. n. 65), pp. 16–17.
- ⁷⁹ *Arrêts*, *ibid.*, p. 18.
- ⁸⁰ *Arrêts*, *ibid.*
- ⁸¹ *Arrêts*, *ibid.*
- ⁸² *Arrêts*, *ibid.*, p. 19.
- ⁸³ *Arrêts du Conseil d’Etat du Roi, qui révoque les Lettres de privilège obtenues pour le Livre intitulé: Encyclopédie ou Dictionnaire raisonné des Sciences, Arts & Métiers, par une Société de gens de Lettres. Du 8 Mars 1759*, p. 2. Bibliothèque Nationale, Collection Joly de Fleury, vol. 572, fol. 288; reprinted in Diderot, *Oeuvres complètes*, vol. 5, pp. 43–44.
- ⁸⁴ Wilson, *Diderot* (cit. n. 37), p. 339.
- ⁸⁵ [Jacob Nicolas Moreau], *Nouveau mémoire pour servir à l’histoire des Cacouacs* (Amsterdam, 1757), p. 24. This and the next question are direct quotations from Diderot, with one misquote. Where Diderot had written “La matière vivante se combine-t-elle avec de la matière vivante?” the quotation in Moreau’s memoir reads “La matière morte se combine avec la matière vivante?” Diderot asked a similar question about dead and living matter at another point in the same section, so the misquotation does not distort Diderot’s ideas. See Diderot, *Pensées sur l’Interprétation de la nature*, in Diderot, *Oeuvre complètes* (cit. n. 1), vol. 9, pp. 97–98, LVIII, 11, 14. I have used the Slatkine Reprint edition of Moreau’s memoir, which includes as well Giry de Saint-Cyr’s *Catéchisme de décisions de cas de conscience à l’usage des Cacouacs* (Geneva: Slatkine Reprints, 1968).
- ⁸⁶ Moreau, *Nouveau mémoire* (cit. n. 85), p. 24.
- ⁸⁷ Moreau, *Nouveau mémoire* (cit. n. 85), p. 52.
- ⁸⁸ [Giry de Saint-Cyr], *Catéchisme de décisions de cas de conscience à l’usage des Cacouacs* (Cacopolis, 1758), p. 14.
- ⁸⁹ Lough, *Encyclopédie* (cit. n. 2), pp. 170–179.
- ⁹⁰ *Encyclopédie*, vol. 15, p. 474A.
- ⁹¹ *Encyclopédie*, vol. 14, p. 149B.
- ⁹² Diderot’s publications from the post-1765 period include his *Salon* of 1767, 1769, 1771, 1775, and 1781; his *Supplément au voyage de Bougainville* (1773–1774); and several essays. See Furbank, *Diderot* (cit. n. 34), pp. 479–483.
- ⁹³ Franz A. Kafker, in *The Encyclopedists as a Group: A Collective Biography of the Authors of the Encyclopédie*, Studies on Voltaire and the Eighteenth Century, 345 (Oxford: The Voltaire Foundation, 1996), pp. 74, 75 n. 5, identifies nineteen (fourteen percent) of the contributors to the *Encyclopédie* as atheists, skeptics, or deists. In addition to Diderot and d’Alembert, this list includes Nicolas-Antoine Boulanger, Étienne-Noël Damilaville, Alexandre Deleyre, César Chesneau Du Marsais, Étienne-Maurice Falconet, Louis-Jacques Goussier, d’Holbach, Jean-Baptiste de La Chapelle, Nicolas Lenglet Du Fresnoy, Charles-Louis de Secondat, baron de Montesquieu, Jean-Denis de Montlozier, Jacques-Andrés Naigeon, Augustin Roux, Jean-François de Saint-Lambert, François-Vincent Toussaint, Anne-Robert-Jacques Turgot, and Voltaire.
- ⁹⁴ Diderot to Princess.