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Newtonianism and the Origins of the Enlightenment: A Reassessment

MARGARET C. JACOB

AFTER THE PUBLICATION of the *Principia* in 1687 Newton's scientific achievement and the natural philosophy which explained and supported his system of the world became the centerpiece of a new intellectual program. Invented in large measure by his friends and followers, Richard Bentley, Samuel Clarke, William Whiston, John Harris, William Derham, and reinforced by Jean Desaguliers and later by Benjamin Martin, among others, this church-supported program proclaimed Newton's intellectual achievements as a model and justification for social order, political harmony, and liberal, but orthodox, Christianity.¹

From their pulpits and in their writings the Newtonians preached to a London-based and exceedingly prosperous mercantile audience. They extolled the virtues of self-restraint and public-mindedness while at the same time assuring their congregations that prosperity came to the virtuous and that providence permitted, even fostered, material rewards. Men must acknowledge God's providence by the cultivation of virtue, by the pursuit of what Isaac Barrow had called "sober self-interest," and by their support for Anglican hegemony. Inextricably the same God whose laws of motion Newton had discerned in the natural world would insure order, prosperity, and the conquest and maintenance of empire in the political world. Adopt-

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¹ This thesis has been developed at some length in my *The Newtonians and the English Revolution* (Ithaca, N.Y., 1976). Martin was very much a self-styled and self-proclaimed ideologue. See John R. Millburn, *Benjamin Martin, Author, Instrument-maker, and Country Showman* (Leiden, 1976). Cf. Henry Guerlac, "Three Eighteenth-Century Social Philosophers: Scientific Influences on Their Thought," *Daedalus*, 87 (1958), 7-24.

ing the language of the scientific novice, Newton's advocates used his science to support the social ideology and political goals of the liberal Anglican establishment. It was not through their technical treatises primarily but largely through the Boyle lectures, a series endowed by Robert Boyle in his last will and testament of 1691, that the Newtonians captured the imagination of educated men. In consequence they turned Newton's scientific achievements into one of the pillars upon which rested that intellectual stance most commonly described as the Enlightenment.²

Throughout the eighteenth century the Boyle lectures went through a multitude of editions and translations. Without these sermons, Newton's system of the world would have remained relatively unknown, and possibly even feared, by an educated and literate public on both sides of the Channel which could not have begun to understand the mathematical intricacies of the *Principia*. When Rousseau expressed his sense of God's presence in nature he enlisted Clarke as his primary defense. Samuel Johnson learned much of what he knew and approved in science from his reading of the Boyle lectures. Conversely in 1770 when the French materialist, d'Holbach, heir to the freethinking tradition I am about to describe, attacked theism he aimed his assault against the natural philosophy explicated by Clarke and others in the Boyle lectures.³

From its inception during the 1690s Newtonianism was tied to a social ideology, which can best be understood in its historical context, that is, by reconstruction of the social and political reality within which the Newtonians perceived the meaning and purpose of the new science. At its earliest popularization and explication, Newton's science was enlisted, with the consent of the master himself, in the attempt to justify and to explain in Christian terms the post-1688-89 order. To the beneficiaries of the Revolution Settlement the Newtonians extolled the new science not only as support for their political interests and social vision but also as part of an

² On this subject note the useful comments made in passing by I. B. Cohen, *Franklin and Newton: An Inquiry into Speculative Newtonian Experimental Science* (Philadelphia, 1956), pp. 236-37. I wish to thank Professor Cohen for his helpful comments on this paper, and to acknowledge the encouragement received from the Department of the History of Science, Harvard University, where an earlier version of this essay was given as a public lecture.

³ *Emile*, tr. B. Foxley (New York, 1966), p. 231; Richard B. Schwartz, *Samuel Johnson and the New Science* (Madison, Wisc., 1971), pp. 106-7; Paul Henri Thiry d'Holbach, *The System of Nature: or the Laws of the Moral and Physical World*, I (London, 1797), 35-78; Jacob, *The Newtonians*, p. 162.

elaborate philosophical refutation and political assault on the church's enemies. Deists, Hobbists, atheists, Epicureans, libertines, freethinkers—all these epithets were used by Newton's followers as they had been used by Restoration churchmen to describe the ungodly.

During the second half of the seventeenth century a segment of the political nation had merged with an urban subculture, based primarily in London, to produce a loose coalition in opposition to strong monarchy and the established church. It was composed of radical Whigs and freethinkers, some in high office, others in the pay of leading politicians either as pamphleteers or spies; of minor civil servants, Oxford and Cambridge dons, and, not least of all, hack writers from Grub Street and its environs. For disparate reasons, I am sure, they shared certain common ideals: they despised the established church and its appointed representatives, they championed parliament and country over king and the magnates of land and finance, and they searched for alternatives to Christianity, for an intellectual program based upon natural knowledge, common sense, and upon various late Renaissance and seventeenth-century natural philosophies. Indeed this profound irreligion coupled with opposition to established authority in both church and state, so characteristic of the freethinking subculture, stands closer to what historians have traditionally defined as the Enlightenment than does the intellectual program and political goals put forward by the Newtonians.

In the course of this discussion of the ideological dimensions of Newtonian science, two goals may be accomplished: first a new perspective on eighteenth-century Newtonianism, which I have argued in detail elsewhere, will be restated. To this rehearsal of old arguments will be added new and previously unknown evidence, drawn largely from manuscript sources, about the opponents of Newtonianism in both England and the Netherlands. Second, on the basis of this reconstruction of the historical relationship between Newtonians and freethinkers I hope to raise the entire question of the relationship between the Newtonian vision and the Enlightenment.

The freethinkers simultaneously applauded Newton's mathematical and optical achievements and rejected his natural philosophy. The Newtonians, on the other hand, championed and used both Newton's achievements and his natural philosophy to wage war

against philosophies based solely upon reason, and against the advocates of government without church interference, freedom of expression, and of religious, or more to the point, irreligious pluralism. If this historical reassessment proves to be accurate then clearly we must modify Cassirer's claim that the Enlightenment "constructs its ideal according to the model and pattern of contemporary natural science," that is, Newtonian science. Furthermore we must reject his assertion that the materialism of d'Holbach and La Mettrie, indebted as it was to the freethinking tradition, stands as "an isolated phenomenon of no characteristic significance . . . both works represent special cases and exemplify a retrogression into that dogmatic mode of thinking which the leading scientific minds of the eighteenth century oppose and endeavor to eliminate."⁴ Unquestionably Newton and his followers waged war against materialism, and the materialists responded in kind. When, however, the historian characterizes the anti-Newtonian position as retrogressive, or as Schofield describes it "sterile,"⁵ a failure to separate Newtonian science from its polemical involvements has occurred and the historian has accepted the Newtonian position without recognizing its historical and ideological context.

Alternatively some historians have been misled into seeing Newtonianism at every turn as the major and only force for Enlightenment at work in the early eighteenth century. They have done so largely, I think, because of the impact Voltaire's acceptance of Newtonian science made at the time and in subsequent eighteenth-century historiography. From the perspective of absolutist France Newtonianism and the English system in general appeared to Voltaire as a force for intellectual liberation and toleration.

But that perspective was by no means the only one available to the early advocates of Enlightenment. The English freethinkers of the generation prior to Voltaire's arrival in London in 1726 faced an entirely different set of intellectual and political problems. They struggled to dislodge the church's authority and to enhance that of parliament, and they did so within the political and intellectual

⁴ Ernst Cassirer, *The Philosophy of the Enlightenment* (1932; rpt. Princeton, 1951), pp. 7, 55.

⁵ Robert F. Schofield, *Mechanism and Materialism: British Natural Philosophy in an Age of Reason* (Princeton, 1970), p. 115. Schofield does also rightly discern an anti-Newtonianism of "the right"; see esp. pp. 122–23. Cf. G. D. Henderson, *Chevalier Ramsay* (Aberdeen, 1952), p. 201; A. J. Kuhn, "Nature Spiritualized: Aspects of Anti-Newtonianism," *ELH*, 41 (1974), 400–412.

milieu established by the Revolution of 1688–89. Similarly, in the Netherlands, Protestant refugees, the victims of Louis XIV's absolutism, pursued with relative freedom the intellectual consequences of their alienation from state churches and their authority over thought and publication. On both sides of the Channel, materialism, and not Newtonianism, proved to be a truer expression of the search for freedom and reform.⁶ To ignore these impulses and their advocates is to deprive the Enlightenment of much of its initial and sustained fire, of its most radical thinkers, and of its libertine if at times less-than-respectable underside.

The roots of eighteenth-century materialism, like its varieties, were multitudinous and complex. Occasionally even Cartesianism, as described by Rothkrug and Vartanian, could be enlisted, often with considerable misunderstanding of Descartes, as a scientific model for rational action within the confines of the absolutist state or even for free thought and atheism.⁷ Similarly the supreme mechanist and materialist of the seventeenth century, Thomas Hobbes, once stripped of his royalism found appeal among the freethinkers and Commonwealthmen of the early eighteenth century.⁸ Yet a certain idea of nature, quite distinct from the mechanical conception of either Hobbes or Descartes, dominated eighteenth-century materialist speculation and morality as exemplified not only in the clandestine literature but also in the mature writings of the English freethinkers and of Diderot, d'Holbach, and Helvétius. The unifying notion that Nature is alive, coupled of course with the belief that motion is inherent in matter, in short, that matter and spirit effectively are one, derives not primarily from the seventeenth-century mechanists but from the vitalistic interpretation of nature found most commonly among late Renaissance thinkers such as Giordano Bruno, as well, of course, as in the thought of Spinoza. In this tradition Nature is in effect made to be God, and in this pantheistic materialism was found a compelling, even a religiously satisfying

⁶ See Ch. vi in Jacob, *The Newtonians*. Cf. Franco Venturi, *Utopia and Reform in the Enlightenment* (Cambridge, 1971), pp. 49–69.

⁷ Lionel Rothkrug, *Opposition to Louis XIV: The Political and Social Origins of the French Enlightenment* (Princeton, 1965), pp. 51–58; A. Vartanian, *Diderot and Descartes: A Study of Scientific Naturalism in the Enlightenment* (Princeton, 1953). Cf. A. Vartanian, ed., *La Mettrie's L'Homme machine: Study in the Origins of an Idea* (Princeton, 1960), esp. pp. 218–49.

⁸ James O'Higgins, S.J., *Anthony Collins: The Man and His Work* (The Hague, 1970), pp. 104–5. Cf. Quentin Skinner, "The Ideological Context of Hobbes' Political Thought," *Historical Journal*, 9 (1966), 286–317, esp. p. 307.

alternative to the Newtonian synthesis. The materialism with which I am concerned, in the words of R. G. Collingwood, "to the very end . . . retained the impress of its pantheistic origin."⁹ This was materialism in its most dangerous form and it permeated the ethical and philosophical writings produced by libertine coteries on both sides of the Channel. Without their literary and publishing activities the Enlightenment, as an international cultural transformation which challenged traditional authority, both political and religious, at its root and branch, can hardly be imagined as coming into existence.

In contrast to the goals of the freethinkers, the mode of enlightenment that was for the most part compatible with Newtonianism, at least in the period prior to Voltaire's unique and even revolutionary synthesis, and even beyond it, was intended in England as an assault, and as a vast holding operation against the most characteristic and dangerous doctrines of the early Enlightenment. On one hand Newton's philosophy of nature offered a powerful alternative to the libertine and materialist position in religious and philosophical matters, and on the other the Newtonian model of government, as Desaguliers called it, was used to justify the rule of strong but limited monarchy, and the oligarchy which supported it.¹⁰ In political life the Newtonians grudgingly gave support to the Whig ascendancy but adamantly opposed the Harringtonian republicans and radical Whigs, those most virulent critics of the abuse of aristocratic privilege and watchdogs against absolutist government. In short, Newton's philosophy of nature entered the Enlightenment in opposition to political and philosophical modes of thought which became dominant after 1750 and to which we link the names of Helvétius, Diderot, and d'Holbach, to name only some of the historically most important *philosophes*.¹¹

⁹ R. G. Collingwood, *The Idea of Nature* (1945; rpt. Oxford, 1965), p. 104.

¹⁰ J. T. Desaguliers, *The Newtonian System of the World, The Best Model of Government: An Allegorical Poem* (Westminster, 1728). Cf. letter by Desaguliers in Bernardus Nieuwentyt, *The Religious Philosopher* (London, 1718–19). The Dutch context within which Nieuwentyt wrote requires explication.

¹¹ Cf. Alan Charles Kors, *D'Holbach's Coterie: An Enlightenment in Paris* (Princeton, 1976), esp. p. 79; A. Vartanian, "From Deist to Atheist: Diderot's Philosophical Orientation, 1746–1749," *Diderot Studies*, 1 (1949), 54; C. A. Helvétius, *Les progrès de la raison dans la recherche du vrai* in *Œuvres complètes d'Helvétius* (Paris, 1795), esp. pp. 371–76. Cf. Lawrence J. Forno, "The Cosmic Mysticism of Diderot," *Studies in Voltaire and the Eighteenth Century*, 143 (1975), 129–30.

By the late 1690s the radical Whigs and Commonwealthmen had found a home for themselves on the extremes of their party, and its leadership in the government, as well as the latitudinarian ecclesiastical establishment, particularly the London-based clergy, were seriously alarmed. At the core of this republican coterie, which as we shall see was also libertine and deist if not materialist in religious and philosophical matters, were Sir Robert Clayton, former Whig M.P., John Methuen, lord chancellor of Ireland, Sir William Simpson, a baron of the Exchequer, possibly John Freke, Locke's great friend and correspondent, but certainly Thomas Rawlins, a Whig polemicist, Dr. Matthew Tindall, the deistic Oxford don, and the most outrageous freethinker of the period, John Toland. In 1699 Lord Chancellor Somers informed the king, William III, that Toland was a "notorious Socinian and no less an incendiary" whose activities were in need of constant surveillance, and the king in turn ordered the Earl of Portland to see to it that his comings and goings on both sides of the Channel were carefully observed.¹²

These extreme Whigs believed, to quote William Stephens, one of their number, that "the late happy Revolution [of 1688–89], (which came on too soon, and was cut off too short), though it was not so highly beneficial to us, as was by some expected, was yet of very great Importance."¹³ The Revolution had saved the Protestant cause in Europe and at the same time exposed the Church of England as the "Self-interested Party," whose last-minute scramble first to abandon the theory of divine right monarchy and then to befriend a king whom they had only wanted, at best, to be regent, exposed the bankruptcy of their doctrines and morality.

By the early eighteenth century the Anglican church was in difficulty, both politically and morally. Within the political nation could now be found coteries of powerful men who had self-consciously abandoned Christianity and who were actively and maturely seeking alternative systems of belief. Churchmen in both England and Ireland, as their documents and correspondence re-

¹² B.L. Add. MSS 40773, fol. 333, James Vernon, Secretary of State to Earl of Portland, 29 April 1699; Methuen-Simpson correspondence, Spencer Research Library, University of Kansas, Lawrence, Methuen to Simpson, Dublin, 6 December 1701. (Henry Horwitz brought this letter to my attention.) Cf. Peter Laslett, "John Locke, the Great Recoinage, and the Origins of the Board of Trade, 1695–1698," in John W. Yolton, ed., *John Locke: Problems and Perspectives* (Cambridge, 1969).

¹³ *An Account of the Growth of Deism in England* (London, 1699), pp. 10–11.

veal, knew a great deal about this one circle, if not others, and actively participated in the spying campaign against it.¹⁴ But the enemy from without was matched, in the eyes of loyal churchmen, only by the enemy from within. Through no fault of the freethinkers, the Revolution Settlement had weakened the church's legal powers, destroyed its court system, and confirmed the power of a "Venetian oligarchy," as Disraeli called those men of property whom J. H. Plumb in turn has described most aptly as "those of high social standing either aristocrats or linked with aristocracy, whose tap root was in land but whose side roots reached out to commerce, industry and finance."¹⁵ After 1688–89 it was by no means clear to churchmen if these scions of land and finance would give more than a token allegiance to the political interests of the church, or if they would find Christianity, rather than the gospel according to Hobbes, more compatible with their interests and life style.¹⁶

In the face of the threat posed by the freethinkers and equally by the mores of the rich and leisured the church mounted a two-pronged offense: simultaneously religious principles had to be made attractive to the now dominant commercial classes, and in turn any sympathy they might have for what churchmen liked to call deism or atheism had to be disabused by a vigorous campaign from pulpit and by pen. Such an intellectual feat required the finest minds of that generation for its execution. In his will of 1691 Robert Boyle, the doyen of English scientists, lent his prestigious name to this undertaking and provided an annual stipend for a suitable podium from which the Christian religion would be proved "against notorious Infidels, namely, Atheists, Theists, Pagans, Jews, and Mahometans . . . and [which would be used] to answer such new Objections and Difficulties, as may be started, to which good Answers have not yet been made."¹⁷ Boyle left this lectureship under the administration of his close friends, Evelyn and Tenison, and they in turn brought into the lectureship the first Newtonians, Bentley, Harris, Clarke, Whiston, and Derham.

¹⁴ MS. 933, fol. 55, Lambeth Palace Library, London.

¹⁵ *The Growth of Political Stability in England, 1675–1725* (London, 1967), p. 69.

¹⁶ See Samuel Clarke, *A Demonstration of the Being and Attributes of God: More Particularly in Answer to Mr. Hobbs, Spinoza, and their Followers* (London, 1705), pp. 201 ff.

¹⁷ Eustace Budgell, *Memoirs of the Lives and Characters of the Illustrious Family of the Boyles* (London, 1737), Appendix, p. 25.

There seems no reason to doubt Newton's approval of the use to which his philosophy was put in the Boyle lectures. Highly suggestive evidence left by David Gregory indicates that in 1691 Newton proposed that "a good design of a publick speech . . . may be to shew that the most simple laws of nature are observed in the structure of a great part of the Universe, that the philosophy ought ther to begin"; in short, that his system of the world, of all the various scientific arguments available to the lecturers, might provide the best foundation for their philosophy.¹⁸ The Newtonians adopted these scientific principles and Newton's natural philosophy, and in the course of their sermons and writings transformed both into a powerful intellectual program which linked Newtonianism with liberal Anglican social ideology. Or to put the Newtonian social philosophy in the words of its most prominent advocate, Samuel Clarke:

even the greatest Enemies of all Religion, who suppose it to be nothing more than a worldly or State-policy, do yet by that very Supposition confess thus much concerning it. . . . For the practice of moral Virtue does as plainly and undeniably tend to the natural Good of the World; as any Physical Effect or Mathematical Truth, is naturally consequent to the Principles on which it depends, and from which it is regularly derived. . . . [Just as] that most universal principle of gravitation itself, the spring of almost all the great and regular inanimate motions in the world . . . is . . . an evident demonstration that [the world] depends every moment on some superior being for the preservation of its frame . . . and [this demonstration] does . . . give us a very noble idea of providence.¹⁹

Initially Clarke is saying that religion plays a vital role in state policy. It preaches social order and political stability; in other words, that men not be "extremely and unreasonably solicitous" to change their stations in life, or that they not become, in the words of Bentley, "men of ambitious and turbulent spirits, that [are] dissatisfied . . . with privacy and retirement."²⁰ The natural rulers should be allowed their positions and stations; they of course must practice a moral virtue which inevitably conduces to harmony because God's

¹⁸ H. W. Turnbull, ed., *The Correspondence of Sir Isaac Newton* (Cambridge, 1961), III, 191.

¹⁹ *A Discourse Concerning the Unchangeable Obligations of Natural Religion and the Truth and Certainty of the Christian Religion* (London, 1706), pp. 152–53; Jacob, *The Newtonians*, 191–92.

²⁰ A. Dyce, ed., *The Works of Richard Bentley* (London, 1838), III, 24.

providence sees to it that it does. There can be no doubting the absolute necessity for social stability and no doubting that the moral laws ordained by God for its attainment are universal and guaranteed to work. The physical order explicated by Newton proclaims order and stability, but this order comes not from matter or nature but directly from God whose will operates in the universe either directly or through active principles. The world natural stands as a model for the "world politick" and Newton's explanation of the first provides a foundation upon which the government of the second should rest. Without that model what refutation could work against the republicans or the Hobbists, whose prescriptions rested upon observed behavior and upon the experience of political revolution?

In the most influential and widely read lectures ever delivered during the eighteenth century, the Newtonians soothed and assured their congregations, yet simultaneously exhorted them. Wealth, leisure, and power in the hands of the natural rulers of society fulfilled the providential design, yet all had to be used with moderation and in the service of a liberal and tolerant Christianity. Social harmony and political stability complement an ordered universe explicated by Newton where matter is dead or lifeless, its motion controlled by the will of God; in short, as Clarke explained "there is no such thing as what men commonly call the course of nature, or the power of nature. [It] is nothing else but the will of God producing certain effects in a continued, regular, constant, and uniform manner."²¹ The Newtonians succeeded, as had the Cambridge Platonists before them, in proclaiming the providential and interventionist God who allowed the ordered universe to operate according to discernible laws of nature.

Science, in the hands of Newton's friends and followers, had become a powerful weapon in the support of Christian natural religion, and was therefore in alliance with the interests and needs of the Anglican church, as those interests were perceived by the moderate ecclesiastical establishment that came to prominence after 1688–89. Bishops and archbishops such as Tillotson, Tenison, William Lloyd, Simon Patrick, and William Wake, lay leaders like Heneage Finch and his brother Daniel, and church intellectuals such as Pepys, Evelyn, and Newton, approved the spirit, if not the content, of the Boyle lectures and rewarded the young Newtonians.

²¹ *A Discourse . . .* in Richard Watson, ed., *A Collection of Theological Tracts* (London, 1785), IV, 246.

Perhaps we can now better understand why Blake came to see Newton as one powerful symbol of a social and cosmic order from which he was alienated, a system "with cogs tyrannic." I think that Alexandre Koyré suspected the existence of this ideological dimension of the Newtonian natural philosophy. In his fine essay, "The Significance of the Newtonian Synthesis," Koyré commented in passing about eighteenth-century thought that

so strong was the belief in 'nature,' so overwhelming the prestige of the Newtonian (or pseudo-Newtonian) pattern of order arising automatically from interaction of isolated and self-contained atoms, that nobody dared to doubt that order and harmony would in some way be produced by human atoms acting according to their nature, whatever this might be—instinct for play and pleasure (Diderot) or pursuit of selfish gain (A. Smith). Thus return to nature could mean free passion as well as free competition. Needless to say, it was the last interpretation that prevailed.²²

What Koyré may not have perceived was that free competition and not free love came to prevail in modern capitalist society in part because the early Newtonians consciously argued for self-interest in a cosmically ordered market society, and pitted the natural philosophy and science of Newton against contemporary philosophies of freedom, sexual or otherwise. Diderot got his materialistic and libertine ideas about nature and passion not from the Newtonian tradition, as some historians have argued, but from the freethinking tradition that had long remained underground but which first surfaced most dramatically in England and the Netherlands during the last decades of the seventeenth and the first decades of the eighteenth century.²³

It now seems plausible to argue that the Newtonian legacy upon which some Enlightenment thinkers unquestionably did build, not least of them Voltaire and d'Alembert, may not have nurtured, and indeed may even have been intended to inhibit, the libertine and materialist modes of Enlightenment. The simplistic assumption that at every turn the Newtonian natural philosophy fostered the intellectual revolution which is at the foundation of so much of modern thought and belief requires serious evaluation and modification. The ideological dimension of Newtonianism, once understood, forces

²² Alexander Koyré, *Newtonian Studies* (Chicago, 1965), p. 22.

²³ There is a vast bibliography on this tradition. The best place to start is with J. S. Spink, *French Free-Thought from Gassendi to Voltaire* (1960; rpt. New York, 1969).

that reevaluation. If this process is accompanied by a historical search for the attitude toward science exhibited by the earliest organized and self-conscious proponents of the Enlightenment, then the entire relationship between science and the origins of that historical phenomenon achieves greater clarity, as well as complexity.

Those early proponents and propagandizers for Enlightenment are not always easy to characterize. At the time epithets were hurled with such force and at such disparate individuals that I have settled for the generic term "freethinker" simply because Anthony Collins, a member of the circle attacked by the Boyle lecturers, used it to describe himself and his friends.²⁴

The English term also conjures up the French *libertin*, and that in turn implies life style as well as philosophy. The freethinking opponents of orthodox religion and established churches (whether Anglican, Catholic, or Calvinist) and of absolute monarchy also lived lives that broke significantly with tradition. From what I have been able to learn, largely from manuscript sources, these freethinkers joined clubs or colleges or orders, as they were variously called in the early years of the eighteenth century. This largely clandestine intellectual life, although a source of endless frustration for the historian, nurtured philosophical thought at the same time as it provided social contacts and business connections. In their private lives and in their writings, both published and clandestine, the freethinkers rejected the prevailing Christian truths and forms of worship so fundamentally, and embarked upon intellectual and personal odysseys of such originality, that their experience constituted what I would describe as the first phase of the radical Enlightenment.

In the early eighteenth century, three urban centers nurtured this radical subculture, London, Amsterdam, and, as part of the same orbit, The Hague. The coterie which met at the home of Sir Robert Clayton in the 1690s bears a striking resemblance to earlier Whig groups such as the Green Ribbon Club of the 1670s and 1680s.²⁵

²⁴ Anthony Collins, *A Discourse of Freethinking* (London, 1713). The term is apparently first used in Sebastian Smith, *The Religious Imposter . . . Dedi. to Doctor S—lm—n, and the Rest of the Free-Thinkers, near Leather-Sellers-Hall* (London, 1692).

²⁵ J. R. Jones, "The Green Ribbon Club," *Durham University Journal*, N.S. 18 (1956), 17–20. Bodleian, Ballard MS. 4, fols. 53–54, undated, Tanner to Charlett. Clayton made a motion in the Court of Aldermen to present Toland with £100 for dedicating his Harrington edition to them. Alderman Rawlinson opposed the motion.

Banqueting, philosophical discussions, and a sense of exclusive fraternity aptly characterize such groups, but by the 1690s two new elements have appeared. The circle in London has intimate ties with coteries of Protestant refugees, mostly French, in the Netherlands, and both groups possess a formal organization of some sort. Both have a constitution or rules, in England a President presides; in the Netherlands, a Grand Master.²⁶ The group in Amsterdam and The Hague called themselves “Les Chevaliers de la Jubilation,” and a portion of their somewhat disorganized meeting records has turned up at the University Library in Leiden. The formal organization adopted by this group coupled with their intellectual interests gives a decidedly Masonic look to these proceedings. Yet the standard histories all date the beginning of Freemasonry in the Netherlands from the 1730s. Of course these Dutch records considerably predate the 1730s; that startling fact will require discussion, and I shall return to it shortly.

By the early eighteenth century in England the radical Whig fraternizing of the earlier period had led to the formation of a club or “college,” as participants referred to it, which, as I have argued elsewhere, had some of the earmarks of an early Masonic lodge.²⁷ The one piece of crucial evidence linking this fraternity with the Knights of Jubilation, and in fact, first revealing the existence of the latter group, comes from the manuscripts of John Toland at the British Library.

This is a meeting record signed by the officers of “Les Chevaliers de la Jubilation” and it is dated 1710. Toland had lived at The Hague from 1708 until 1710 and all the signatories on this record are known to have been there in that year. They are: Prosper Marchand, the editor of the 1720 edition of Bayle’s *Dictionnaire* and a friend to Voltaire in the 1730s, if not before; Bernard Picart (1673–1733), the most prominent engraver of this period whose encyclopedic and controversial work, *Cérémonies et coutumes religieuses de tous les peuples du monde* (Amsterdam, 1723–) presented the

²⁶ B.L. Add. MSS 4295, fols. 18–19. For use of the term “president” see Toland, *Pantheisticon* (London, 1720). An organization similar to the Toland-Collins circle is described in B.L. Add. MSS. 40060, about the Kit-Cat Club. I am assuming that Locke’s college and the Clayton-Toland club are part of the same social network if not by the early 1700s one and the same group.

²⁷ For this early history, the best starting points are Frances A. Yates, *The Rosicrucian Enlightenment* (London, 1972); J. M. Roberts, *The Mythology of the Secret Societies* (London, 1972); Pierre Chevallier, *Histoire de la franc-maçonnerie française*, I (Paris, 1974); and Jacob, *The Newtonians*.

first detailed description and pictorial representation of English Freemasonry, as well as the first anthropological treatment of all the world's religions;²⁸ as Grand Master there is Gaspar Fritsch, a fairly well known German Protestant publisher and bookdealer from Leipzig; Michael Böhm, Charles Levier, and G. Gleditsch fulfilled other offices in the order and they were also publishers and bookdealers.²⁹

It is impossible to say at this time what cross-fertilization may have occurred before the 1690s between such organized deistic groups in England and libertines on the Continent. From the date of this meeting record onward, and with the assistance of published and unpublished sources (most of the latter from Leiden), it is possible to discern some of the social connections as well as the beliefs and activities of this coterie. For purposes of this essay its attitude toward the new science commands our attention; in particular we want to know the uses to which science was put by these early and self-conscious advocates of Enlightenment. The sources also reveal other participants within the Knights, or at least very closely associated with them: Saint-Hyacinthe, the deistic writer whose clandestine work, *Le militaire philosophe*, had a powerful influence on the thinking of Voltaire and Diderot; a M. Alexandre; Thomas Johnson, prominent English bookseller and publisher at The Hague; the libertine, H. Sallengre, who should perhaps best be remembered for his essay in praise of drunkenness; and for a time at least and I think

²⁸ The first edition which makes mention of "Les Free-Massons" and contains a very important engraving by J. Folkema (but under Picart's inspiration and commonly but mistakenly attributed to him) appeared as the 1734 French edition, VI, 252. Not every copy of that edition has the engraving which is now fairly rare. In the 1737 English edition, VI, 224–28, there is also a very interesting discussion of a sect of Deists or Spinozists in Amsterdam. I have been told by Mr. van Leer, the librarian at the Masonic Library, The Hague, that the chair depicted in that engraving conforms exactly to the eighteenth-century original now housed in the Grand Lodge, The Hague. And in relation to this engraving see Rae Blanchard, "Was Sir Richard Steele a Freemason?" *PMLA*, 63 (1948), 903–17. By the time this engraving appeared Picart was dead, but its design was created by L. F. du Bourg, Picart's close friend and successor as editor of *Cérémonies*.

²⁹ B.L. Add. MSS 4295, fols. 18–19. For other references to these German publishers and their successors, see Bernhard Fabian, "English Books and Their Eighteenth-Century German Readers," in Paul J. Korshin, ed., *The Widening Circle: Essays on the Circulation of Literature in Eighteenth-Century Europe* (Philadelphia, 1976), pp. 131, 179n. For the persecution administered by Louis XIV's regime to publishers such as these, see Joseph Klaitis, *Printed Propaganda under Louis XIV* (Princeton, 1976), Ch. ii.

somewhat tangentially, the eventual convert to Newtonian science and important Dutch scientist, Willem Jacob s'Gravesande.³⁰

All the evidence, however, linking s'Gravesande with the Knights, as opposed to the respectable journal they published, predates his appointment to the professorship of astronomy and mathematics at the University of Leiden.³¹ At his inaugural lecture of 1717 s'Gravesande declared his intention to defend mathematicians from the accusation of atheism and irreligion, and he spoke out against "those men who have never thought that their very existence and that of the things around them would not be possible without the effects of a powerful and very wise Cause . . . [and against] those who are only occupied with religion as it is an object of their indecent railleries. . . ."³² There are deistic elements in s'Gravesande's published writings but no hint of irreligion or atheism. On the basis of what little we now know about s'Gravesande's early social connections when he was a lawyer at The Hague, we can only surmise that at his academic inauguration he spoke sincerely and knew whereof he spoke. The possibility does exist, however, that we have here a case of private belief being at variance with public posture. Such examples are hardly unknown from the eighteenth century.

The Knights held regular meetings at The Hague and I believe also in Amsterdam, and intermittently from 1713 until 1722 they published the innovative and highly influential *Journal littéraire*. Although always giving space to works by freethinkers, the *Journal*

³⁰ P. Hemprich, *Le Journal Littéraire de la Haye, 1713–1737* (Berlin, 1915). Cf. I. H. van Eeghen, *De Amsterdamse Boekhandel (1689–1725)*, I–IV (Amsterdam, 1962–67); C. Berkvens-Stevelinck, "Prosper Marchand, auteur et éditeur," *Quaerendo*, 3 (1975), 218–34; Prosper Marchand, *Dictionnaire historique ou Mémoires critiques et littéraires* (The Hague, 1758–59), II, 214–17, for his account of the society; Harry M. Bracken, *The Early Reception of Berkeley's Immaterialism, 1710–1733* (The Hague, 1959), Ch. iii. For a translation of Sallengre's work and its dedication to the Freemasons, see Boniface Oinophilus, *Ebrietatis Encomium: or the Praise of Drunkenness . . . by the Example of Heathens, Turks, Infidels, Primitive Christians . . . Free-Masons . . .* (London, 1723). Cf. Jean Sgard, ed., *Dictionnaire des Journalistes (1600–1789)* (Grenoble, 1976).

³¹ J.N.S. Allamand, ed. *Œuvres philosophiques et mathématiques de Mr S.J. s'Gravesande* (Amsterdam, 1774), II, 312. s'Gravesande was one of the authors of the bawdy *Le Chef d'œuvre d'un inconnu* (The Hague, 1714), and he is the author of the encomium by Ixixius. On page 4a, Minerva is referred to as "vos animis."

³² s'Gravesande, *Œuvres*, II, 316–17. Cf. Giambattista Gori, *La fondazione dell'esperienza in s'Gravesande* (Florence, 1972), pp. 49, 64–89. Edward G. Ruestow, *Physics at Seventeenth and Eighteenth-Century Leiden* (The Hague, 1973), pp. 116–39.

maintained an orthodox posture. At his death one of its editors, Prosper Marchand, donated his manuscripts to the University Library in Leiden, and buried amid that voluminous collection are meeting records of this society dated largely from 1711 to 1717. What is so extraordinary about these new sources for the early history of the Enlightenment are the dates. This coterie of freethinkers, active in the clandestine book trade, organized around a constitution and led by a grand master, met twenty-five years before any of the standard historical accounts date the beginning of Freemasonry in the Netherlands and at least a dozen years before the earliest French records indicate some kind of formal Masonic organization, not of Protestant but of Jacobite refugees.³³ The presence of a constitution and a grand master, complemented by a distinctly irreligious and philosophical orientation, may qualify the Knights of Jubilation as the earliest Masonic group on the Continent, predating the Jacobite groups whom Chevallier has identified and even vying for precedence with the respectable, and hardly libertine, Grand Lodge, founded in London in 1717.

This important and complex historical problem will not be easily solved. The early history of Freemasonry remains obscure, the official histories are just that, and the records of the Grand Lodge are closed to all non-Masonic historians (and therefore, of course, to all women historians). Within these libertine circles there may also be distinctions and the possibility exists that the Knights were a secret group within the larger literary society which produced the *Journal*. Certainly the early official Masons in England were openly hostile to libertines in their midst, and their constitution, published under the watchful eye of the Newtonian, Desaguliers, specifically excluded from membership "a Stupid Atheist [and] an Irreligious Libertine."³⁴

The Knights of Jubilation pursued many intellectual and literary interests, not least of which was the preservation of the memory of Pierre Bayle whom they described as their "Patriarch." But it is their active interest in the new science, and their simultaneous commitment to a pantheistic and materialistic philosophy of man and na-

³³ Pierre Chevallier, *Les Ducs sous l'Acacia ou les premiers pas de la Franc-Maçonnerie française 1725-1743* (Paris, 1964). The meeting records are contained in Marchand MSS 1, varia, unnumbered, University Library, Leiden.

³⁴ James Anderson, *The Constitutions of the Right Worshipful Fraternity of the Free and Accepted Masons* (London, 1756; 1st. ed. 1723), p. 143.

ture which commands our attention. The Knights of Jubilation knew as much about science and natural philosophy in England as did their English counterparts, and one source of their information was the editor of the Leibniz-Clarke correspondence, Pierre Desmaizeaux. As part of this coterie he participated in philosophical discussions with Sallengre and Toland at Collins' country estate.³⁵ He appears also to have supplied the editors of the *Journal* with such up-to-date information about English scientific publications that they were able to disagree with Nicholas Hartsoeker's theory of planetary motion and to debate with him in the pages of the *Journal*. What is important about their part in the debate is the willingness of Marchand, s'Gravesande, Sallengre—in short, the principal editors—to defend Newton's explanation and not Hartsoeker's.³⁶

In fact the *Journal littéraire* became one of the earliest transmitters of Newtonianism on the Continent. s'Gravesande published some important scientific papers there, for example, "Essai d'une nouvelle théorie sur le choc des corps" in 1722.³⁷ Thomas Johnson, publisher of the *Journal*, Le Vier, and Picart were involved in the publication of a number of important scientific books, and Picart did the engraved illustrations for the 1727 edition of Fontenelle's *Entretiens, sur la Pluralité des Mondes*.³⁸ Picart's interest in science extended to its practical application to the art of engraving, and he examined gems under a microscope so as to improve his detailed drawings of them.³⁹

But to use the new science or even to accept certain of Newton's scientific discoveries and mathematical proofs was quite different from finding in either Newtonian scientific method or in its natural philosophy an epistemological model for Enlightenment or an explanation for the most fundamental questions in religion and philosophy. In direct and sometimes in open contradiction to the physico-theology and natural philosophy espoused by Newton and his followers, these coteries of freethinkers propagandized for the religion

³⁵ J. H. Broome, "An Agent in Anglo-French Relationships, Pierre Desmaizeaux," Diss. London 1949, pp. 159–65; cf. B.L. Add. MSS 4282, fols. 224–26.

³⁶ C. Berkvens-Stevelinck, "Nicolas Hartsoeker contre Isaac Newton ou pourquoi les planètes se meuvent-elles?" *Lias* 2 (1975), 313–28.

³⁷ Ruestow, *Physics at Leiden*, p. 134.

³⁸ Cf. N. Bion, *Traité de la Construction et des principaux usages des instrumens de mathématique* (The Hague, 1723), published by T. Johnson, C. Le Vier, et al., with Picart engraving, *Minerva Duce*, on frontispiece.

³⁹ Elizabeth H. Flinn, "The Engravings of Bernard Picart in the Metropolitan Museum of Art" (New York: Metropolitan Museum of Art, 1971).

of Nature and for a hylozoic or pantheistic and materialistic explanation of the world around them. Some contemporaries blanketed this hylozoic philosophy under Spinozism, and there is some truth in the charge. Certainly the Marchand circle knew the *Tractatus Theologico-Politicus* well and they all, even Toland, admired Spinoza while disagreeing with him over certain fundamental points.⁴⁰

The best description of the freethinkers' stance would be to say that they had embraced the pagan naturalism of the late Renaissance. Once again in the confrontation between Newtonians and freethinkers there is a reenactment of the ideological struggles so characteristic of seventeenth-century English disputes between scientists and freethinkers and about which Hill, Jacob, Rattansi, and others have written.⁴¹ Only by the early eighteenth century both sides have systematized their arguments, and the freethinkers, as a result of changed political circumstances and increased freedom of the press, have become bolder.

One of their boldest assaults on the scientific and religious establishment also provides one of the few systematic expositions of their naturalism, and this brazen effort came from the pen of John Toland. In 1704, Toland published *Letters to Serena* wherein he proclaimed his pantheistic and materialistic philosophy: "nothing is more certain than that every material Thing is all Things and all Things are but One," that matter is alive and unified, that death is merely an illusion for when we die we only "cease to be what we formerly were, so as to be born is to begin to be something which we were not before."⁴² In arguing his case that matter is the source of life, change, and even order, and therefore, that in effect, God and nature are one, Toland addresses Newton directly and attempts to show that Newton's physical laws, as presented in the *Principia*, could be used to support his own unique materialist philosophy.

⁴⁰ See Paul Vernière, *Spinoza et la pensée française avant la révolution* (Paris, 1954), I, 24; II, 338–73; Marchand MSS 77, University Library, Leiden, extensive notes and corrections on a copy of the *Tractatus*. These notes, in Marchand's hand, could have been for printing purposes. John Toland, *Letters to Serena* (London, 1704), Letter IV, "To a Gentleman in Holland, showing Spinoza's System of Philosophy to be without any Principle or Foundation."

⁴¹ Christopher Hill, *The World Turned Upside Down* (London, 1972); P. Rattansi, "Paracelsus and the Puritan Revolution," *Ambix*, 2 (1964), 24–32; J. R. Jacob, *Robert Boyle and the English Revolution* (New York, 1977).

⁴² Toland, *Letters*, 191–92.

Although he praises Newton as the scientist of his age who has seen most clearly into the actual workings of the universe, Toland opposes his own philosophy to the Newtonian. He quotes Newton's argument for absolute space and time and then argues that space and time are relative. In short, Toland claims that Newton's laws need not be interpreted as Newton has interpreted them; they are "capable of receiving an Interpretation favourable to my Opinion." Gravity is not simply a law governing the movement of bodies; for Toland it also expresses the inherent motion of all bodies.⁴³

Such a direct challenge to Newton and his philosophy could not remain unanswered and in the 1704–5 Boyle lectures Samuel Clarke denounced Hobbes, Spinoza, and Toland, despite the extreme differences in their philosophies, as atheists. Clarke used arguments remarkably similar to those published in the 23rd query to the Latin edition of the *Optice* (1706), and argued that God (or more precisely active principles, and not any activity inherent in matter) is the cause of gravity and that all order in the universe is the work of God and not of nature. There is good reason to believe that Newton and Clarke may have conferred in this rebuttal of Toland, and at least one version of the 23rd query to the *Optice* which Newton never published, but which dates from the exact period of Toland's assault, reveals that Newton was struggling with the very question raised in *Letters to Serena*: what is the exact relationship between matter and life or motion? In that draft query Newton wrote:

the ancient Philosophers who held Atoms and Vacuum attributed gravity to atoms without telling us the means unless perhaps in figures: as by calling God Harmony and representing him and matter by the God Pan and his Pype, or by calling the Sun the Prison of Jupiter because he keeps the Planets in their Orbs. Whence it seems to have been an ancient opinion that matter depends upon a Deity for its laws of motion as well as for its existence.⁴⁴

In that passage McGuire and Rattansi have rightly discerned Newton's debt to the Platonic tradition and its *prisca theologia*.⁴⁵ But what prompted Newton in 1705 or thereabouts to write those revealing statements and then not to publish them? It seems plausible

⁴³ Ibid., 183–88.

⁴⁴ Add. MSS 3970, fol. 619r, University Library, Cambridge.

⁴⁵ J. E. McGuire and P. Rattansi, "Newton and the Pipes of Pan," *Notes and Records of the Royal Society*, 21 (1966), 108–43.

in the light of Clarke's statements in the Boyle lectures and of Newton's personal involvement in liberal Anglican circles that in this draft version of the 23rd query he was responding to the attempt made by Toland and his friends to twist the Newtonian natural philosophy into the service of their purely naturalistic philosophy.

Clarke's assault in the prestigious Boyle lectures angered his opponents. In letters to the Continent Toland described Clarke as his principal assailant in England,⁴⁶ and, within the club or college, discussion ensued about the arguments called forth by Clarke. In a letter from Anthony Collins to John Trenchard, Clarke is presented as having been put up to writing by the clergy, "a great many whereof know not upon [such] weak foundations the matters of the greatest consequence to them stand." Collins complains that Clarke has willfully misrepresented Hobbes, and that

[Clarke] would no longer keep his temper. His *Preface* before his 2d volume of Mr. Boyles Lectures sufficiently discovers him. . . . However I cannot but look upon this recourse to railing as an argument that he has no reason to offer, as I do likewise of his boasts beforehand, and talking of his having caught me at an advantage now that the dispute turns upon points of Mathematicks and Natural Philosophy. Let him defend his sixteen Propositions. There lyes the stress of the dispute between us where no Mathematicks and not much Natural Philosophy is requir'd. If he is not able to defend them, no advantage in other questions will procure him credit in this dispute. If he quits the Argument and spends many pages in things that are merely incidental the world will conclude he cannot prove the Immateriality of the Soul. But what Questions in Mathematicks are there in dispute between us? As for Gravitation I doubt not to defend what I have said which amounts to no more than this: That matter can only move but when [it] is impelled.⁴⁷

As this letter indicates, Collins in effect accepted the law of universal gravitation yet refused to subscribe to the Newtonian explanation that all motion must originate outside of matter, from God or spiritual agencies. The freethinkers dealt skillfully with the Newtonians. They begged off any confrontation over mathematical proofs; they acknowledged the principle of universal gravitation and then simply incorporated gravity as yet another force inherent in

⁴⁶ Toland MSS 10325, fol. 134, Oesterreichische Nationalbibliothek, Vienna.

⁴⁷ Department of Special Collections, Spencer Library, University of Kansas, Lawrence, MS G23, item 14, 9 May 1707. I am indebted to Ann Hyde, manuscripts librarian, for her transcription.

nature, as yet another proof of the activity essential to matter. In their hands the power of gravity provided new evidence in support of a purely naturalistic explanation of the universe, an explanation devoid of supernatural agencies, active principles, and "occult qualities."

Indeed the freethinkers were even capable of glorifying the cause of science as an alternative to the theology of the schools. An instructive example of this practice comes from an engraving done by one of the Knights of Jubilation, Bernard Picart, before he left Paris and fled to the Netherlands. Indeed Picart's engravings and the symbolism he employed, especially on plates intended for the frontispieces of clandestine or deistic books, provide another rich source of information about the beliefs and activities of his secret society. This is not the occasion to pursue that iconographical evidence in detail; one example will have to suffice.⁴⁸

Picart's engraving entitled "La Verité recherchée par les philosophes" was designed and engraved as a frontispiece to a philosophical work by Pierre Brillon. This artistic work makes a philosophical statement by the use of an ensemble of figures and symbols. At the center of the picture is Minerva, in this instance symbolizing science, and she is slaying the monster of ignorance with the assistance of the figure of Time. The figure of Truth, also one of her assistants, leads a parade of philosophers with Descartes at the head, followed by Zeno, Socrates, Plato, and Aristotle who are in turn surrounded by Pythagoras, Epicurus, and Diogenes. Gracing the scene are various instruments or tools, and *putti* who are diligently inspecting a half-shrouded globe. This engraving exultantly proclaims the triumph of the new science which without any divine assistance has discovered truth. And, lest the point be missed, the engraving is accompanied by a text that explains its meaning.⁴⁹

A prominent professor at the Sorbonne thought that he saw in the figure of ignorance with his ears of an ass a representation of

⁴⁸ A good starting point for this sort of iconographical study is provided in Georges May, "Observations on an Allegory: The Frontispiece of the *Encyclopédie*," *Diderot Studies*, 16 (1973), 159 ff.; Dorothy Schlegel, "Freemasonry and the *Encyclopédie* Reconsidered," *Studies on Voltaire and the Eighteenth Century*, 90 (1972), 1433-60; and Felix Paknadel, "Shaftesbury's Illustrations of *Characteristics*," *Journal of the Warburg and Courtauld Institutes*, 37 (1974), 290-312.

⁴⁹ Prints Room, Metropolitan Museum of Art, New York, Picart Collection. Cf. Fritz Saxl, "*Veritas Filia Temporis*," in R. Klibansky and H. J. Paton, eds., *Philosophy and History: Essays Presented to Ernst Cassirer* (Oxford, 1936).

Aristotle, and, in the figure of Minerva, the queen of Sweden, Descartes's great friend and patron.⁵⁰ Picart and presumably Brillou found themselves in difficulties, and the following year Picart did a retraction in the form of another engraving with the suitably pious title, "L'Accord de la Religion avec la Philosophie, ou de la Raison avec la Foi."⁵¹

When it suited their purpose the radical advocates of Enlightenment hailed science, whether that of Descartes or Newton, as the antidote to Christianity and supernatural knowledge. They did so, however, in complete defiance of the new scientific tradition that began with Boyle, Wilkins, and Barrow and culminated in the natural philosophy of Newton and the physico-theology of the Newtonians. With the clear exception of s'Gravesande, the circle represented by Toland in England and by Marchand, Picart, Sallengre, and Saint-Hyacinthe on the Continent rejected any model of the universe that depended for its operation on the separation of matter and motion and therefore upon the active participation of God in natural and human affairs.

Earlier I described this naturalism as truly pagan, and now by way of explanation let us join, as it were, our freethinkers in their temple, at one of their meetings. The speaker, I think, is the Grand Master:

I would be unworthy of addressing you in this way if during the time that all the members of our worthy secret society were working with their advancement in mind and to Shed some glory on themselves, I alone remained with my arms shackled. . . . I limit all my studies to looking for a subject which can meet with your approval. . . .

My advice would be therefore, my very dear brother[s], if you approve, that we take for the body of our motto a sapling, which Minerva plants and Mercury waters to make it grow. A small shoot soon becomes a tree. . . .

What has made me choose this device is the connection it has, not only with all the Order in general, but also with each member in particular. Our worthy reverend whom we had regarded as so far only a tender sapling planted at the foot of Parnassus, if I may dare to speak in this fashion, has become in a short time one of its noblest ornaments, owing to his learning and eloquence. Our vicar, brother Laurent, after being tied for a long time to one of the galleys of trade, vulgarly called a shopcounter, has at last taken the steering into his own hands . . . and it could be said that he has become Mercury's Bishop.

⁵⁰ *Nouvelles de la République des Lettres* (Amsterdam, Août, 1707), pp. 232–34.

⁵¹ A copy of this engraving is at the Teylers Museum, Haarlem, Portfolio 131. There is a vast Picart collection at the Teylers.

You are well aware, I know, that our Order, although illustrious, is not at present the largest nor the most powerful in the world, but it could become so. This is why I compare it to a small shoot, which with time will grow into a large tree. It is planted by Minerva, goddess of wisdom and Protectress of those who cultivate the sciences, to show that we have had exactly the same aim in mind.⁵²

While mocking the forms of clerical address, if not perhaps the ritual of the church, the Knights dedicated themselves to Minerva and Mercury and to the propagation of what they called “the sciences.” On the frontispieces to books published or edited by members of this coterie there invariably appears an engraving of Minerva or Mercury done by Picart. Works on Vanini, the republication of the notorious sixteenth-century tract by Des Periers, called the *Cymbalum Mundi*; the bawdy *Le Chef d'œuvre d'un inconnu*, done in 1714 by the order—all these heretical publications display Picart's engravings of the pagan deities, or an engraving of Mercury done anonymously.⁵³

The interest shown by the Knights of Jubilation in the naturalistic and heretical writers of the sixteenth century, coupled with Toland's passion for Giordano Bruno, which I have discussed at great length elsewhere,⁵⁴ clearly places these coterie of freethinkers in that tradition of extreme paganism we associate with the late Renaissance. Perhaps the best illustration of where this secret society stood in the intellectual life of the early eighteenth century and of what were its most deeply held convictions about man and nature derives from an examination of its illegal and clandestine publishing activities.

One of the most important and notorious clandestine manuscripts of this period, which Ira Wade believes Boulainvilliers authored, appears under various titles: *L'esprit de Spinoza*; the Harvard copy of this manuscript is called *Le fameux livre des trois imposteurs*; it also turns up as *La Vie et l'esprit de Spinoza*. Wade has traced

⁵² Marchand MSS 1, varia, fols. 3–5, University Library, Leiden. My thanks to Clarissa Campbell Orr, M.A., Girton College, University of Cambridge, for assistance in transcribing and translating these very difficult notes.

⁵³ Bonaventure Des Periers, *Cymbalum Mundi ou dialogues satyriques sur differens Sujets* (Amsterdam, 1711); David Durand, *La Vie et les Sentimens de Lucillo Vanini* (Rotterdam, 1717). Durand was a friend of this coterie and he is mentioned frequently in correspondence. Chrisostome Matanasius, *Le Chef d'œuvre d'un inconnu* (The Hague, 1714). Cf. André Lebois, ed., *Le Chef d'œuvre d'un inconnu* . . . (Avignon, 1965).

⁵⁴ Jacob, *The Newtonians*, 228–29, 232–34, 245–46.

numerous copies, all emanating during the early eighteenth century from the Netherlands.⁵⁵

The natural philosophy preached in this document rests only in the most general sense on an understanding of Spinoza. It is pantheistic in that it argues that "God and the totality of things are one"; it is libertine in that it asserts the moral validity of the passions and the necessity of giving them expression. Religion and philosophy cannot and should not control human feeling. And finally and most impiously the manuscript puts in writing and elaborates upon an assertion that had circulated in freethinking circles during the seventeenth century, namely that Moses, Jesus, and Mohammed had been imposters, mere frauds who cheated their gullible and superstitious followers.

The Marchand manuscripts reveal that *La Vie de Spinoza* had been copied in 1711 by Charles Le Vier, one of the officers of the Knights, from a manuscript in the library of Benjamin Furly. Le Vier circulated it through his contacts and finally Thomas Johnson and Le Vier surreptitiously published it as *La Vie et l'esprit de Spinoza* in 1719. The following year Böhm did an edition in Rotterdam.⁵⁶ Occasionally contemporaries attributed this manuscript to Des Periers; often its circulation was linked to Bruno's *Spaccio*, which of course Toland had distributed on the Continent.⁵⁷

On the basis of the evidence we now possess it is possible to designate the extreme Whigs in England and their counterparts in the Netherlands as one of the major circles out of which emanated some of the early Enlightenment's most radical ideas. Possessing a keen interest in science, both groups understood the major scientific achievements of their day while rejecting the mechanical philosophies of Descartes or Newton. Drawing from the philosophies of the late Renaissance, they fashioned a philosophy of nature that placed motion, activity, and life within matter itself. Freed from the necessity of recognizing any force outside of nature, they rejected Christian beliefs and worship, at least in private, and proclaimed

⁵⁵ Ira Wade, *The Clandestine Organization and Diffusion of Philosophic Ideas* (Princeton, 1938), pp. 116–17, 124–35, 320. Cf. MS. fr.1*, Houghton Library, Harvard University.

⁵⁶ Marchand MSS 2, 7/9bre 1737, Fritsch to Marchand; *ibid.*, 17 January 1740. Copied so surreptitiously that Fritsch, who had had a falling out with Le Vier, did not know it.

⁵⁷ Philomneste Junior [Pierre Gustave Brunet], *De Tribus Impostoribus* (Paris, 1861), pp. xxix–xxxi.

the pagan deities as their standard-bearers. While the Newtonians championed the new mechanical philosophy as the ally of church and monarchy, as the vindication of stability and harmony in the market society, the freethinkers repudiated that scientific model of social relations and political authority. Whether bawdy or serious, published or unpublished, the writings of the libertine movement in England and the Netherlands boldly pitted reason against faith, Enlightenment against established authority, regardless of how prestigious its proponents or how “scientific” their arguments.

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