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Thomas Henry Huxley: The War between Science and Religion

Sheridan Gilley and Ann Loades / University of Durham

Viewers of the recent BBC television series, "The Voyage of Charles Darwin,"¹ must have been amused at the portrayal of Samuel Wilberforce, bishop of Oxford, at the famous meeting of the British Association at Oxford in 1860, where Wilberforce condemned the evolutionary doctrine of Darwin's *Origin of Species*. This Wilberforce is the vaudeville villain of the Victorian stage, saturnine and leering in his initial triumph, and with more than the suggestion of horns and tail as he stalks off scowling darkly after his discomfiture by Thomas Henry Huxley. In the vulgar mythology of the television screen, Huxley and Wilberforce are not so much personalities as the warring embodiments of rival moralities: Huxley, the archangel Michael of enlightenment, knowledge, and the disinterested pursuit of truth; Wilberforce, the dark defender of the failing forces of authority, bigotry, and superstition. The picture has the stark contrast and attractive simplicity of traditional legend. As a debate, it dramatizes a great conflict of principle. With its Victorian setting, only the stock conventions of melodrama can do it justice, and so it lives on in the popular mind as the best-known symbol of the nineteenth-century conflict of science and religion.

It is now of course widely acknowledged that, as a symbol, the Oxford confrontation is totally misleading; indeed, the so-called conflict of religion and science has largely disappeared under the searching microscopes of the historical revisionists. Nearly thirty years ago, C. C. Gillispie² pointed out that this notion of controversy is wrong before 1850, even in the most implicitly dangerous of

¹See also C. Ralling, ed., *The Voyage of Charles Darwin* (London, 1978), which was published to coincide with the television series. The theme of the series was anticipated by Alan Moorehead's *Darwin and the Beagle* (London, 1969).

²C. C. Gillispie, *Genesis and Geology* (Cambridge, Mass., 1951).

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the new sciences, geology; indeed, a number of perfectly orthodox clergymen, Sedgwick, Buckland, and Conybeare, were among the leading geologists of the age. Political conservatism, religious orthodoxy, and a scientific interest were in happy harmony among those leisured English gentry of whom Charles Darwin was one; so Darwin's quietly heterodox father, noting his son's want of application and intelligence, intended him for the ministry of the church, a proposal with which the young Darwin happily concurred. During the 1830s, Lyell's uniformitarian geology destroyed the catastrophist proofs of Noah's flood, but in public at least, as sometime professor of geology at King's College, London, Lyell was a pillar of orthodoxy and remained convinced of the fixity of species³ until finally converted by Darwin himself.⁴ Nearly all the experts—notably the Reverend Adam Sedgwick,⁵ Woodward Professor of Geology at Cambridge, and the young Huxley⁶—execrated the heretical evolutionary doctrine of Robert Chambers's notorious *Vestiges of the Natural History of Creation* (1844). Darwin owed his scientific vocation to a Cambridge professor of botany, the Reverend J. S. Henslow, who was also rector of Hitcham. The very word "scientist" was coined in the period by yet another cleric, William Whewell, who was the leading contemporary philosopher of the scientific method and saw no incompatibility between science and religion.⁷

³R. Hooykaas (*Divine Miracle: The Principle of Uniformity in Geology, Biology, and Theology* [Leiden, 1963], p. 100) notes that constant uniformitarianism postulates evolution neither in the inorganic nor in the organic world.

⁴Lyell was finally convinced by Darwin partly because Darwin's work was ambiguously theistic (L. G. Wilson, ed., *Sir Charles Lyell's Scientific Journals on the Species Question* [New Haven, Conn., 1970], pp. 427, 445, 459; hereafter cited as Lyell, *Journals*). He came round to Darwin's way of thinking about nature only because he thought that Darwin's hypothesis was the more "probable" of the alternative philosophies of nature (Lyell, *Journals*, p. 407). It is noteworthy that Lyell's reading of Butler may have been of the first importance not only in fostering his own uniformitarianism but also in the decision regarding Darwin. See also L. G. Wilson, *Charles Lyell, the Years to 1841: The Revolution in Geology* (New Haven, Conn., 1972), pp. 277, 281.

⁵See, e.g., Adam Sedgwick's review in *Edinburgh Review* 165 (1845):1–85; also, Sedgwick's 1832 sermon on "The Studies of the University," which by 1850 was embraced in his criticisms in Sedgwick, *Vestiges, a Discourse on the Studies of the University of Cambridge*, 5th ed. (Cambridge, 1850); and *The Life and Letters of the Reverend Adam Sedgwick*, ed. J. W. Clark and T. M. Hughes (Cambridge, 1890).

⁶M. Foster and R. Lankester, eds., *The Scientific Memoirs of T. H. Huxley*, 5 vols. (London, 1898); suppl. vol., pp. 1–20; see also M. Bartholomew, "Huxley's Defence of Darwin," *Annals of Science* 32 (1975): 525–35, esp. pp. 525–29 for the way in which Huxley's defense of Darwin was encumbered with material Huxley carried with him from this earlier phase.

⁷R. Yeo, "William Whewell, Natural Theology and the Philosophy of Science in Mid-Nineteenth Century Britain," *Annals of Science* 36 (1979): 493–546.

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Moreover, as a cause of religious doubt, Darwinism was less important than the ethical revolt against Christian orthodoxy, biblical criticism, working-class estrangement from the institutional church, and the deepening sectarian divisions in Christianity itself. From the 1820s all the churches were at war, with a new intensity after their eighteenth-century dogmatic slumbers. So the nineteenth century is the golden age of the ecclesiastical gypsy of no fixed abode (as so brilliantly satirized by Rose Macaulay)—the Evangelical moving through High Churchmanship to Infidelity or Popery, that last refuge of anxious souls. Of the explanations for modern secularity, the most important is that famous nineteenth-century phenomenon, the religionless proletariat; the church never had the allegiance of the Victorian working class, which during the formative stage of its emergence was left largely without religious guides. Popular indifference to church attendance is a long-term outcome of that political and pastoral failure of church establishments after 1750, observable in much of Western Europe; in contrast, believers are nearly as numerous as ever in Poland, Ireland, or the United States, wherever mainstream churches have not been fatally compromised by their alliance with conservative governments. Of the more purely intellectual elements in the Christian decline, the earliest and strongest was the ethical revulsion from the Evangelical preaching of an immoral Old Testament God, away from Calvinistic substitutionary atonement, man's total depravity, arbitrary predestination, and eternal punishment. To sensitive souls worried by these moral doubts, biblical criticism came as deliverance, and scientific doubt could only finish the task. So what came to be known as Darwinism reinforced other kinds of doubt: the spectacle of a "nature red in tooth and claw"⁸ gave a new form to the old problem of theodicy by suggesting that nature's God was crueler than Calvin's,⁹ while the moral repudiation of total depravity might

⁸"Nature red in tooth and claw" (which may tell us as much about Victorian society as it does about relationships between living things) comes from part 4 of *In Memoriam* (1850), i.e., in the aftermath of Sedgwick's *Vestiges* and other speculations and well before the publication of the *Origin of Species*. It is one of Tennyson's lines which has become part of our expression of a view of nature which distorts common perception of it. Other relevant Tennyson poems include "The Two Voices," "The Higher Pantheism," "By an Evolutionist," and "The Making of Man," all of which helped to familiarize a wide public with Tennyson's response to "scientific" speculation.

⁹See also Lyell and Tennyson. Lyell (*Journals*, p. 88) wrote that "the number of born idiots, of children born dead, of insane, of the lowest & most animal-like of savage races, of infants cut off before their capability equalled that of the instinct of the Elephant or the Dog, has

have seemed further justified by science when evolutionists abolished the fall. Taken altogether, however, it can be seen that irreligion took many forms and had very varied points of origin. This uncertainty extended from the queen of the sciences to the other realms of knowledge to make a most confusing mental atmosphere, and it was this very confusion that exalted the physical sciences as a source of certain knowledge and made them so important to the young Thomas Huxley. "Law, Divinity, Physic, and Politics being in a state of chaotic vibration between utter humbug and utter scepticism,"¹⁰ Huxley wrote, science alone could offer truth with a certainty and precision that theology no longer gave.

But Huxley turned to science because he doubted already, like other doubters of his age. His doubts therefore did not arise from science; they were all around him and had many sources, with one of especial significance to Huxley, his fondness for philosophical reading, which made him an idealist skeptic. Other scientists who thought science and Christianity were in opposition lost their faith under the influence of equally nonscientific arguments from metaphysics, morality, and comparative religion. The notion of a conflict between religion and science was not so much the work of scientists as it was of general historians like Buckle and Lecky, with their materialist and rationalist philosophies of history, and of historians of science like J. W. Draper, in his drift toward a semi-Christian

probably exceeded all the millions of the white races or Asiatics of the most civilised eras. The failures have been counted by millions, so entirely does Nature subject man to general laws—Epidemics, Earthquakes, Pestilences, wars are allowed their full sway." Later he was to write (p. 121), "There is only one great resource to fall back upon, a reliance that all is for the best, trust in God, . . ." Tennyson too found his own resolution of the problem (Hallam Tennyson, *Alfred Lord Tennyson: A Memoir* [London, 1899], p. 143): "God cannot be cruel. If he were, the heart could only find relief in the wildest blasphemies, which would cease to be blasphemies. God must be all-powerful, else the soul would never deem him worthy of her highest worship. Let us therefore leave it to God as to the wisest." And later (p. 263), "Yet God is love, transcendent, all-pervading! We do not get *this* faith from Nature or the world. If we look at Nature alone, full of perfection and imperfection, she tells us that God is disease, murder and rapine. We get this faith from ourselves, from what is highest within us, which recognises that there is not one fruitless pang, just as there is not one lost good." J. H. Newman (*University Sermons* [London, 1970], pp. 194–95), remarked on "the practical safeguard against Atheism in the case of scientific enquirers" being "the inward need and desire, the inward experience of that Power, existing in the mind before and independently of their examination of His material world." See also J. F. W. Herschel, *A Preliminary Discourse on the Study of Natural Philosophy* (London, 1830), pp. 7–8.

¹⁰L. Huxley, ed., *The Life and Letters of Thomas Henry Huxley*, 2d ed., 3 vols. (London, 1903), 1:135. Hereafter cited as *LL Huxley*. Huxley's papers in the archives of Imperial College, University of London, nevertheless indicate how Huxley continued to keep himself informed about the "chaos" to the very end of his life.

mechanistic deism, and A. D. White, in his battle to establish a nondenominational university at Cornell. The historians popularized the warfare between Darwinism and dogma by drawing on the military metaphor popular in contemporary culture and by exploiting liberal and protestant hatred of a conservative papacy, which in the 1860s was locked in deadly war with the popular cause of Italian nationalism and which had also condemned the favorite Victorian middle-class shibboleths of “liberalism, progress and modern civilization.” From the more specifically doctrinal point of view, Darwinism intruded upon a complex debate within Christendom itself between liberal and conservative theologies. The *Origin of Species*, published in 1859, was welcomed by those very Broad Churchmen¹¹ who so offended the orthodox with *Essays and Reviews* in 1860 and with their approval of Bishop Colenso’s critical examination of the Pentateuch and the Book of Joshua.¹² On these various counts, the so-called conflict of religion and science was more truly part of a wider battle—social, political, and religious—between radical and reactionary ideologies, and the conflict between religion and science was really one between more and less conservative forms of the Christian religion.¹³

These considerations have been further complicated by an ever-expanding body of studies of the internal logic and divisions within the biological sciences themselves. The Darwinian account of the origin of species by natural selection was combated by scientists as well as by theologians; as Huxley said, “If a general council of the Church scientific had been held at that time, we should have been condemned by an overwhelming majority.”¹⁴ Biologists rejected Darwin for the failure of breeders to produce new species, geologists for the lack of fossil evidence of intermediate species, philosophers

¹¹E.g., the Rev. H. G. Baden Powell, Savilian Professor of Geometry at Oxford, contributed “On the Study of the Evidences of Christianity” to *Essays and Reviews* (1860) but was fortunate enough to die shortly after its publication, thus escaping censure in the ecclesiastical courts. He had already thrown his weight in to the scales on Chambers’s behalf, principally in his *Essays on the Spirit of the Inductive Philosophy, the Unity of Worlds, and the Philosophy of Creation* (London, 1855), containing essays written between 1849 and 1855.

¹²See S. Coulling, *Matthew Arnold and His Critics* (Athens, Ohio, 1974), pp. 100–136.

¹³For a short summary of the relations between nineteenth-century religion and science, see O. Chadwick, *The Victorian Church*, 2 vols. (London, 1966–67), 1:558–72; 2:1–35. On Darwin’s role in destroying one clergyman’s faith, see Noel Annan, *Leslie Stephen* (London, 1951), pp. 162–71.

¹⁴“On the reception of the ‘Origin of Species’” in F. Darwin, *The Life and Letters of Charles Darwin*, 3 vols. (London, 1887), 2:186. Hereafter cited as *LL Darwin*.

of science for his use of hypothesis.¹⁵ If the hostility of scientists was also inspired by their religious convictions, this was itself indicative of the generally harmonious relations between religion and science. Even in the 1830s, the Bridgewater treatises expounded the sciences as a branch of natural theology, a declaration of the purposes of God, a proof of his existence, and a demonstration of his Christian attributes of benevolence and wisdom in creation. This philosophical and scientific apologetic was perfected in the last years of the eighteenth century by the theologian William Paley, who more than any other man seemed to make the Newtonian universe safe for Christianity.¹⁶ The philosophical aspect of Paley's work was under attack from 1830 by Coleridge and Newman,¹⁷ but he remained unchallenged as an apologist for Christian science¹⁸ and as an undergraduate teaching aid. The young Darwin, as a student at Cambridge, was especially delighted by "the long lines of argumentation" in Paley, almost the only part of his curriculum which he found of any value. Darwin later declared that he could have written out the substance of Paley's *Evidences of Christianity* from memory "with perfect correctness."¹⁹

Indeed, the *Origin* is arguably Paleyism inverted, as Darwin, in "long lines of argumentation," explains as an advantage in the struggle for survival whatever Paley attributes to intelligent design. Another resemblance was noted by Huxley: "The acute champion of Teleology, Paley, saw no difficulty in admitting that the 'production of things' may be the result of trains of mechanical dispositions fixed beforehand by intelligent appointment . . . he proleptically accepted the modern doctrine of Evolution."²⁰ Huxley's molecular teleology was not theist, but it suggests the theological influence on the logic

¹⁵See P. J. Vorzimmer, *Charles Darwin: The Years of Controversy* (London, 1972); D. Hull, *Darwin and His Critics* (Cambridge, Mass., 1973).

¹⁶W. Paley, *Natural Theology, or Evidence of the Existence and Attributes of the Deity, Collected from the Appearances of Nature*, vol. 4, in *Works*, 5 vols. (London, 1819). Paley contradicted Hume's skepticism about reason's competence in regard to natural theology; e.g., *Works*, 4:333–34, 400–401, explicitly refers to Hume's posthumous writings, the major item of which was *Dialogues concerning Natural Religion* (hereafter cited as *Dialogues*), and indeed Paley seems to have concentrated on the points made in *Dialogues* 1–3. His other major target was the speculations of Charles Darwin's grandfather, Erasmus, who claimed Hume's authority for his approach, e.g., in his *Zoonomia; or, the Laws of Organic Life*, 2 vols. (London, 1794), 1:52, 184.

¹⁷See W. F. Cannon, "Scientists and Broad Churchmen: An Early Victorian Intellectual Network," *Journal of British Studies* 4 (1963–64): 85.

¹⁸See, e.g., Henry, Lord Brougham, *Dissertations on the Subjects of Science Connected with Natural Theology: Being the Concluding Volumes of the New Edition of Paley's Work* (London, 1839).

¹⁹*LL Darwin*, 1:47; see also 2:219.

²⁰*Ibid.*, 2:202.

of Darwin's natural selection. In any case, the *Origin* is an ostensibly theist work, and Darwinism inspired both Christian and non-Christian teleologies, and a Christian "Darwinisticism,"²¹ drawing not only on Darwin but on evolutionary hypotheses—especially Lamarck's²²—which differed from Darwin's theory. To Paley's influence on Darwin one must add that of another cleric, Thomas Malthus, who supplied Wallace²³ and Darwin with the principle of natural selection, the capacity of populations to grow by geometric progression beyond the resources to support them with a consequent struggle for survival. From these and other considerations, James Moore has recently compiled a "non-violent and humane" history of the post-Darwinian controversies,²⁴ in which points of affinity and resemblance count for as much as difference and the model of conflict is greatly modified if not entirely abandoned.

It was the very entanglement of science with natural theology before 1860 which caused much of the disturbance in the wake of the *Origin* because of the attachment of scientists to scientific theories with a theological and metaphysical basis. Darwin's chief opponent in England was the leading English anatomist Sir Richard Owen,²⁵ an exponent of the romantic idealist natural philosophy of the German Lorenz Oken. Owen believed that each animal bone and organ could be traced in sequence through different species as variations upon the ideal anatomical archetypes eternally present in God.²⁶ Owen was not opposed to the idea of evolution, nor was he committed to the immutability of species; he was hostile to Darwin's theory of natural selection as the process by which species changed, and indeed had been rather indifferent to the issue which possessed Darwin as to how this change had taken place. But Owen's Platonism, a recent writer reminds us, was an explanation "with intellectual credentials quite as high as Darwin's, and with considerably more credibility to the mind of the time."²⁷ Its scientific basis in Owen's anatomical research was among the best of

²¹J. Moore, *The Post-Darwinian Controversies* (Cambridge, 1979), pp. 217–51.

²²F. A. Staffeu, "Lamarck and the Birth of Biology," *Taxon* 20 (1971): 397–442.

²³See H. L. McKinney, *Wallace and Natural Selection* (New Haven, Conn., 1972); G. de Beer, *Charles Darwin: Evolution by Natural Selection* (London, 1963), p. 99; C. Darwin and A. R. Wallace, *Evolution by Natural Selection*, ed. G. de Beer (Cambridge, 1958), pp. 268–79.

²⁴See "Towards a Non-Violent History," in Moor, p. 100.

²⁵R. Owen, *The Life of Richard Owen*, 2 vols. (London, 1894), 2:312–16, from Huxley's concluding contribution to the work on Owen's scientific achievement.

²⁶See also Lyell, *Journals*, pp. 118, 122; and D. Cupitt, "Darwinism and English Religious Thought," *Theology* 78 (1975): 25–31.

²⁷M. J. Rudwick, *The Meaning of Fossils* (London, 1972), p. 207.

its period. "Above all, it interpreted the evidence of fossils and of living organisms in terms of a Nature that was harmonious, integrated and designful, and that had developed over the aeons of geological time according to an intelligible and meaningful Plan."²⁸ It was unscientific only if its metaphysic was unscientific; and Darwin's objection to Owen was first and foremost his hostility to the type of metaphysic which the science of the time still allowed.

Owen, however, confused the issue by his pathological jealousy of other researchers and by the tortuous twistings of his prose, which led even Darwin to confess his bafflement in one of his few essays into public controversy:²⁹ "So far as we can gather," it was said of Owen, ". . . he denies the Darwinian doctrine, admits the accuracy of its basis, and claims to be the first to point out the truth of the principle on which it is founded."³⁰ Owen was, moreover, the embittered critic of the *Origin* in the *Edinburgh Review*³¹ and coached Samuel Wilberforce for Wilberforce's attack on the *Origin* in the *Quarterly*.³² The relations between Owen and Wilberforce just before 1860 are an essential part of the background to the Oxford meeting, but they are not elucidated by either man's biographers. It is certainly odd that Wilberforce, in the *Quarterly*, should take a few tremendous swipes at Oken, Owen's master, condemning Darwin as another Oken.³³ Another part of the background which *has* been made clear, Huxley's growing feud with Owen, came to a head in 1857, when Owen gratuitously assumed the title of Huxley's position at the School of Mines and the feud thus became a scientific issue with Huxley's attack on Owen's vertebrate theory of the skull in 1858.³⁴ This had a two-fold relevance to the debate over Darwin. First, at Oxford on Thursday, June 28, 1860, Owen opened the hostilities on Darwin by asserting a radical difference between the brains of men and gorillas—a hit at Huxley which was not to go

²⁸Ibid., p. 214.

²⁹C. Darwin, "An Historical Sketch of the Progress of Opinion on the Origin of Species," in *Origin of Species*, 6th ed. (New York, 1962), pp. 20–21.

³⁰G. de Beer, p. 165. Owen had worked with Cuvier, who had fostered what has been called "neoplatonic idealism in biology." See Stafleu, p. 436; S. Lee, *Memoirs of Cuvier* (London, 1833), pp. 143–51; David Brewster, "Life and Works of Baron Cuvier," *Edinburgh Review* 62 (1835–36): 265–96; and E. Cassirer, *The Problem of Knowledge: Philosophy, Science and History since Hegel* (New Haven, Conn., 1950), pp. 128–36.

³¹R. Owen, "Darwin, *On the Origin of Species*," *Edinburgh Review* 226 (1860): 487–532.

³²S. Wilberforce, "Darwin's *Origin of Species*," *Quarterly Review* 108 (1860): 225–64.

³³Ibid., pp. 263–64.

³⁴*LL Huxley*, 1:204–5.

unavenged.³⁵ Second, Huxley was out to destroy the metaphysical basis of Owen's theory. Not that Huxley thought evolution anti-theist; it was "neither Antitheistic nor Theistic."³⁶ Rather, Huxley wanted to expel theology from science, on the principle that scientific truths must be proved by science alone.³⁷

However, more was at stake than the purity of science, for Huxley's own *odium antitheologicum* was in process of turning the technical biologist of Huxley's early years into the all-round Victorian sage. From another sage, Carlyle, Huxley learned his passionate hatred of shams: *Sartor Resartus*, he wrote, had led him to know that "a deep sense of religion was compatible with the entire absence of theology."³⁸ Huxley hungered to be more than a teacher of science. His earliest medical work was among the East End poor, and his lectures to the working classes in 1855 taught that "physical virtue is the base of all other, and that they are to be clean and temperate and all the rest—not because fellows in black with white ties tell them so, but because these are plain and patent laws of nature which they must obey 'under penalties.'"³⁹ Here scientists displace the clergy as guardians of public morals, for Huxley had an anticlerical obsession with the cloth, declared in a lifelong addiction to mock-ecclesiastical expressions. As an infant he preached in the kitchen to the maids with his pinafore back to front as a surplice; as an old man assisted with his coat by an archbishop, he felt that he had received the pallium.⁴⁰ Moreover, as his son and first biographer Leonard Huxley pointed out, Darwin's theory was a turning point in Huxley's life: "The philosophic unity he had so long been seeking inspired his thought with tenfold vigour, and the battle at Oxford in defence of the new hypothesis first brought him before the

³⁵Ibid., 1:261; *Athenaeum* 7 (July 1860): 26. The Huxley-Wilberforce debate was on June 30, 1860.

³⁶*LL Darwin*, 2:202.

³⁷Huxley did believe that Darwin had destroyed Paley's teleology; see John Passmore, "Darwin's Impact on British Metaphysics," *Victorian Studies* 3 (1959): 41–54.

³⁸L. Stephen, *Studies of a Biographer*, 4 vols. (London, 1898–1902), 2:197; *LL Huxley*, 1:318.

³⁹*LL Huxley*, 1:199. See also Huxley's 1856 essay, "On Natural History as Knowledge, Discipline and Power," in *Scientific Memoirs*, 1:305–14, albeit with an acknowledgment to theism toward the end, pp. 311–12, where he remarked that we had some right "to conclude from the marks of benevolent design" that there existed an "infinite Intellect and Benevolence, in some sort similar to our own." And he felt bound to conclude that "the aesthetic faculties of the human soul have also been foreshadowed in the infinite Mind."

⁴⁰*LL Huxley*, 1:6, 3:403.

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public eye . . .⁴¹ The Oxford battle lives on in large part because it mattered so terribly to Huxley.

Here, then, are two major points: First, by his championship of Darwin, Huxley ceased to be simply a technical scientist and began his evolution into the great Victorian sage, as a popular educationist, essayist, and public speaker, especially on matters of religion. Second, through thirty years of polemic, Huxley earned his reputation as the leading Victorian symbol of religion and science in opposition. Huxley became the supreme model of the antireligious scientist, and this image was confirmed by the late Victorian misinterpretation of Huxley's exchange with Wilberforce at Oxford, a misinterpretation sanctioned by Huxley himself and only recently exposed by John Lucas.⁴² There was, moreover, much more than science that went into the making of Huxley's position as a sage, and there is an infernal complexity in defining more precisely the sage's relations with religion.

What, then, is the Victorian sage?⁴³ He is the last of the universal men, the intellectual whose opinions on everything and nothing may be informed by some special skill but who takes all knowledge as his province and claims the right to pronounce upon it. His two qualifications are medium and message: the sage must have, first, great literary ability, and second, a higher wisdom, prophetic insight, some larger vision for the age. Because literary ability is essential, the so-called sages are well known in the departments of English: Coleridge and A. H. Clough, Matthew Arnold and George Eliot, Huxley's master Carlyle and his disciple Leslie Stephen, and, among theologians, John Henry Newman. Despite Newman, the

⁴¹Ibid., 2:1-2.

⁴²J. R. Lucas, "Wilberforce and Huxley: A Legendary Encounter," *Historical Journal* 22 (1979): 313-30.

⁴³See J. Holloway, *The Victorian Sage: Studies in Argument* (London, 1962). Holloway's sages are Carlyle, Disraeli, George Eliot, Newman, Matthew Arnold, and Hardy. See also B. Willey's selection in *Nineteenth Century Studies: Coleridge to Matthew Arnold* (London, 1955) and *More Nineteenth Century Studies: A Group of Honest Doubters* (London, 1963)—Coleridge, Thomas Arnold, Newman, Carlyle, Bentham, Mill, Comte, George Eliot, Matthew Arnold, Francis Newman, Tennyson, J. A. Froude, the authors of *Essays and Reviews*, "Mark Rutherford," and John Morley. See also G. Kitson Clark, *An Expanding Society: Britain, 1830-1900* (Cambridge, 1967), pp. 96-97: "The usual answer to this problem (of the spiritual and intellectual history of Britain) seems to be to select a succession of eminent people . . . and . . . they do very often seem to be the same people—Bentham, Coleridge, Carlyle, Newman, John Stuart Mill, possibly Darwin, possibly Huxley, possibly Walter Bagehot, certainly Matthew Arnold, probably George Eliot. Except for Newman, it is not usual to include Christian theologians and scholars, and still less the great Christian preachers. It is generally held that these people are below the salt intellectually and therefore can be neglected. I find this difficult to accept."

theologian-sages are nearly all lay preachers, mostly of loss of faith;⁴⁴ like Carlyle, Arnold, and Newman, they are either critics of the social order erected by the Industrial Revolution or of the intellect and culture of the classes it produced. Yet, though they wrote histories as well as novels and lay sermons, and though George Eliot was a theologian and Leslie Stephen a historian of ideas, they are creative writers rather than scholars, and their scholarship is subordinate to their literary craft, which can be exercised in any field of study. In short, they are interested in everything because they are amateurs; they belong to the world of the great Victorian reviews, too numerous to mention, the *Quarterly* and *Blackwoods*, the *Edinburgh* and the *Dublin*, whose general readership was expected to digest articles on every subject of special interest recooked in excellent, clear prose. The reviews were the natural stage for two critics of the later Huxley, the theologian Gladstone and the philosopher Balfour, who both happened to be sages of the second rank as well as sometime prime ministers. Politics is the ultimate amateur profession, and Huxley had as low an opinion of the Liberal Gladstone's theological learning as of the Tory Balfour's abilities as a philosopher. It is notable, however, that Huxley had no doubts of the rights of all three to have their say.

In what sense, then, is Huxley himself a sage? Certainly in his literary ability. His prose style can be savage or suggestive, with a quicksilver logic or a rhetorical splendor. His writing is always magnificently his own; he is a sage by the power of his pen. He is also a sage by a sagacity which owed much to his scientific reputation. Yet as an authority on anything beyond the specialized sciences, he is par excellence the learned amateur, being prolific of essays as a theologian and philosopher, as the sage was wont. Yet here is the paradox, both startling and instructive, that a large part of Huxley's lifelong labor was the expulsion of the amateurs from the physical sciences and the definition of natural science as a subject to be sharply distinguished from theology and philosophy. Darwin called himself a naturalist, and was in the tradition of the gentlemen amateur naturalists unsustained by professional office, duties, and position. Huxley called himself a biologist, and by fostering the increase in science posts in schools and universities he organized biologists with other scientists into a new and independent profession.

⁴⁴See esp. Willey, *More Nineteenth Century Studies*.

This change in the status of scientists and science was therefore as much social as intellectual; as the penniless young Huxley complained, in contemplating his economic prospects for getting married, British science offered its practitioners everything but a way of gaining a livelihood. Indeed, because the clergy dominated the universities, the few university positions in science were mostly occupied by clergymen, and becoming a cleric was the most obvious way of obtaining means and leisure for scientific research. Science, therefore, was an occupation restricted to landed or clerical gentlemen, and the result was a spirit of amateurism which offended Huxley's professional instincts as a hardworking, full-time biologist. Moreover, he called himself a plebeian who stood by his order,⁴⁵ and there is a social element in his resentment of the aristocratic aloofness of Sir Richard Owen and of the scientific and religious establishment which Owen and Wilberforce represented. And so it was precisely this point that Huxley produced against Wilberforce in 1860—that the bishop was an amateur lacking in a proper professional's knowledge. In fact, in 1860, Wilberforce's amateur credentials were quite enough; with a first in mathematics from Cambridge, a keen interest in geology and ornithology, as a vice-president of the British Association founded by and for just such amateurs as himself, Wilberforce—despite the legend—appealed not to religious authority but to the views of other scientists. By 1890 Huxley and his professionals had won, and the amateur within science was in disgrace and had to keep silence. Meanwhile Professor Huxley as a sage still sustained the amateur's role beyond science, while he enjoyed the new professional status for the scientist which was very much his own achievement. By his efforts, Huxley had won a distinct polemical advantage over his theological and philosophical critics; as the new kind of scientist, he had a special status, yet he could be a philosopher, theologian, and sage because these were still occupations for amateurs.

This is to see in Huxley exactly what he saw in Wilberforce, “a man of restless and versatile intellect”⁴⁶ ranging beyond his expert's sphere into philosophy. However, the truth is much more complex: Huxley's credentials as a philosopher are impressive. He was an omnivorous reader from an early age and acquired what was then most unusual, a knowledge of German, which opened up to him the

⁴⁵W. Irvine, *Thomas Henry Huxley* (London, 1960), p. 6: “I am a plebeian and stand by my order.”

⁴⁶*LL Huxley*, 1:268.

Liberal Protestant Pandora's box of idealist metaphysics and its offspring, biblical criticism. The knowledge of German alone stamped a man a heretic in nineteenth-century England; it branded even the young Pusey as a dangerous liberal and was the inspiration of George Eliot and Carlyle as well as of the notorious Broad Churchmen. To learn classical philosophy and science, Huxley taught himself Greek in middle age. Of British philosophers, he was fond of Berkeley but was most deeply read in his favorite, David Hume, about whom he wrote a little book which is quite as much Huxley as Hume. A preternatural quickness of mind inherited from his mother, who would say that "things flash across me,"⁴⁷ made him a brilliant dialectical performer with materials with which he was largely unfamiliar. Witness his hasty repairing to the St. Andrews University Library to dig out Suarez, in order to convict his Catholic opponent St. George Mivart of uncatholic evolutionary heresy.⁴⁸ Moreover, as coiner of the word "agnostic," he might be said to have invented a philosophy; and his agnostic position in both religion and philosophy was the complex consequence of his development as both a scientist and philosopher.⁴⁹

Huxley traced his agnosticism to the enormous impression wrought upon him as a boy by Sir William Hamilton in dismissing natural theology and basing the teachings of the Kirk not on reason but on intuition.⁵⁰ This was later confirmed for him by Hume's withering assault on natural religion, and by Kant's attack on the classical proofs of God's existence and denial that we can see beyond phenomena to noumena or things in themselves.⁵¹ The matter was happily sealed for Huxley by H. L. Mansel's Bampton lectures of 1858, expounding an apophatic theology derived solely from revelation, and not from reason, which can never rise to God. Huxley saw in Mansel the suicidally honest theologian, sitting on an inn sign and sawing it off.⁵² Huxley also cheerfully quotes Newman's dictum that faith cannot rest on evidence or reason; what Newman thought it rested on, Huxley never discovered, and he seems to have ignored

⁴⁷Stephen, p. 191.

⁴⁸Vorzimmer, pp. 225-51; LL Huxley, 2:63.

⁴⁹D. W. Dockrill, "T. H. Huxley and the Meaning of 'Agnosticism,'" *Theology* 74 (1971): 461-77.

⁵⁰T. H. Huxley, *Collected Essays*, 9 vols. (London, 1894-1908), 5:235-36. Hereafter cited as Huxley, *CE*.

⁵¹T. H. Huxley, *Hume* (London, 1879), p. 60.

⁵²LL Huxley, 1:315. See D. Cupitt, "Mansel's Theory of Regulative Truth," *Journal of Theological Studies* 18 (1967): 104-26.

the efforts of Kant and Mansel, Coleridge and Newman, to build a theology on the ruins left by Hume. Huxley thought Newman's essay on ecclesiastical miracles to be a primer of infidelity,⁵³ and it was as primers of infidelity that he read the Christian apologists of his age. Having received the decisive impulse from Hamilton, Huxley kept to a single course, and all his subsequent reading confirmed him in his primitive conviction that reason gives no certain knowledge of things beyond the veil.

This position was, however, a deliberate refusal of "naturalism," "materialism," or any other as yet existing ism; if all that we can know is phenomena, then the assertion that matter underlies the data of sensation is as completely without rational basis as is the existence of God. It was this suspicion of all isms that led Huxley to call himself an agnostic. As a member of the Metaphysical Society, a kind of chat club for eminent Victorian intellectuals,⁵⁴ he was confronted by a whole range of isms, all claiming a knowledge or gnosis of matters which he thought unknowable. The term "agnostic" was a refusal of such knowledge and a proclamation of the limits of human thought. Huxley found, moreover, that the Christians and theists bracketed him with the believers in Auguste Comte's scientific positivism and sometimes also (as with Frederic Harrison) in Comte's religion of humanity. The linking with Comte made Huxley uncomfortable. Huxley had a low opinion of Comte's methodology of science and had no time at all for the religion of humanity, which he considered Catholicism without Christianity, and indeed a great deal worse than ultramontaniam, that darkest form of Christian obscurantism. Comte gave Huxley greatest cause for offense by arguing that science should serve the end of perfecting a new social order: Huxley thought that this ideal would annihilate science as the disinterested pursuit of truth.⁵⁵ Huxley's "agnosticism" was therefore a tactful disassociation from positivism but also gave him an ism, so that among the other tailed foxes he could now sport a tail of his own.⁵⁶

This did not silence Huxley's critics, who persisted in attacking him as a "positivist" or "materialist." It was urged that he must have a creed which was not simply a refusal of all creeds, and it was in

⁵³Huxley, *CE*, 5:333.

⁵⁴A. W. Brown, *The Metaphysical Society: Victorian Minds in Crisis* (New York, 1948).

⁵⁵*LL Huxley*, 1:432, 3:215; *CE*, 5:255; L. Kolakowski, *Positivist Philosophy* (Harmondsworth, 1972), pp. 60–89.

⁵⁶ Huxley, *CE*, 5:239.

the face of these attacks that in 1889 he expounded agnosticism not as a philosophical discovery but as the scientific method. The scientist begins by doubting everything, then accepting only whatever can be verified by reason and experience. This was faith by verification, not justification, and makes religion and theology impossible because scientific method cannot confirm them. In a burst of rhetoric, Huxley called this principle “as old as Socrates; as . . . the foundation of the Reformation, which simply illustrated the axiom that every man should be able to give a reason for the faith that is in him; it is the great principle of Descartes; it is the fundamental axiom of modern science. Positively the principle may be expressed: In matters of the intellect, follow your reason as far as it will take you, without regard to any other consideration. And negatively: In matters of the intellect do not pretend that conclusions are certain which are not demonstrated or demonstrable.”⁵⁷ The outcome, Huxley declared, was to rid the world of rubbish and provide a certain method by which truth can be found. It should be stressed, however, that scientific method can only be proven by results. It is the presumption upon which scientists behave, and it begins in an act of faith. It might seem paradoxical to have faith in the principle of believing only whatever can be proven. More important still, Huxley makes one rule for science, and one more stringent for religion, which is not to be allowed to prove itself by its results but must establish its truth well in advance of them. Still, the proof of scientific method lies in its results; we first trust it, then judge it by its fruits.

Here then are two definitions of agnosticism: first, the philosopher's proof that we cannot escape from the limitations of reason; second, the scientist's resolve to regard nothing as true which reason and experience cannot prove. The first is an established philosophical truth; the second is a presumption, an act of faith, on which scientists act to achieve a knowledge which has been amply proven by its fruits. Huxley takes both definitions back to Descartes, in terms of two traditions in philosophy.⁵⁸ Cartesian universal doubt proceeds to the certain knowledge of our own ideas, so that matter can be reduced to our consciousness of it; all matter can be reduced to mind. This leads us, through Berkeley, Hume, and Kant, to an idealism irrefutable in principle and agnostic about God. But

⁵⁷Ibid., pp. 245–46.

⁵⁸Dockrill, p. 474, on whom we are relying in this section.

Cartesian mechanism leads straight on to the eighteenth-century materialism of La Mettrie and Priestley, and the prescription of materialism is the working principle of science, even though this materialism is only a presumption, not a statement about ultimate reality. The scientist employs a “materialist terminology” while ignoring a “materialist philosophy,” and so he excludes from consideration all supernatural and metaphysical explanations and puts physical explanations in their place. This “practical” materialism is thoroughgoing: Huxley thought that mental processes would be wholly explained by the physical operation of the brain, even while he granted that in an idealist perspective the brain is nothing more than our consciousness of it. It is simply a matter of point of view. The scientist works with his materials, matter; the philosopher with his, ideas.

Huxley preached, therefore, an idealist epistemology and a materialist science, which resolved matter into mind and mind into matter; or, as Huxley might have put it in the classic aphorism, “no mind, never matter; no matter, never mind.” As W. R. Sorley drily remarks, Huxley “leaves mental facts in the peculiar position of being collateral effects of something that, after all, is only a symbol for a mental fact; and the contradiction is left without remark.”⁵⁹ An idealist epistemology and a materialist science; is this a truth in science and a conflicting truth in philosophy? Not so, for materialism and spiritualism are opposite poles of the same absurdity—the absurdity of assuming that anything can be known about spirit or matter. Huxley considered the contradiction unreal because neither materialism nor idealism can pretend to describe an ultimate reality. The apparent contradiction between them does not matter because the refusal to resolve it is exactly that rejection of a higher knowledge which is the great virtue of the agnostic position.

Huxley’s idealism, therefore, is not absolute like Berkeley’s, and to say that we can only know the contents of our consciousness is to deny that we can know a God who lies outside it or that realm of absolute ideas which Owen could still invoke as good science. Here, then, is another paradox: like Owen, Huxley is an idealist, but he repudiates Owen’s idealism because his own idealism is agnostic. Huxley’s idealism is moreover a rejection of the continental metaphysics with which Owen was at home. Despite Huxley’s knowledge of German, his overwhelming reliance on the British empiricist

⁵⁹W. R. Sorley, *A History of British Philosophy to 1900* (Cambridge, 1965), pp. 275–76.

tradition is symptomatic of an increasing parochialism in English philosophy of science in which a “war” between religion and science could occur. Hence Huxley’s characteristically British revulsion from metaphysics; the contents of our consciousness include all physical phenomena, and the Huxleyite idealist grants that matter exists for any purpose the scientist desires. Even if consciousness can be resolved into brain function, “We should, nevertheless,” Huxley wrote, “be still bound by the limits of thought, still unable to refute the arguments of pure idealism. The more completely the materialistic position is admitted, the easier is it to show that the idealistic position is unassailable, if the idealist confines himself within the limits of positive knowledge.”⁶⁰ But as to what lies beyond our reason and sensation, philosophical idealism and scientific materialism are equally agnostic; and though the two traditions are historically and logically distinct and might seem to be opposed, Huxley considered them integrally part of the single stream of thought in which true knowledge can be found.

Huxley therefore saw no simple warfare between science and religion; it was philosophy, not science, that blocked the path to God in one direction, while suggesting the way forward to science in another. For Huxley, Hume had disproved natural theology a century before Darwin. Physical science was also justified by history; the more primitive, barbarous, and helpless man was, the more complete his reliance on religious explanation; the more science accounted for, with certainty and precision, the less the supernatural was needed to explain and the more man found himself in command of his surroundings, as captain of his faith and soul. This is Tom Huxley, the Victorian liberal, with the “larger hope” of material and mental progress before him, who in an echo of the Athanasian Creed called his trust in scientific method the “agnostic faith, which if a man keep whole and undefiled, he shall not be ashamed to look the universe in the face, whatever the future may have in store for him.”⁶¹ So, in a characteristic resort to scriptural metaphor, he saw in science that modern spirit which works and will work “without haste and without rest, gathering harvest after harvest of truth into its barns, and devouring error with unquenchable fire.”⁶² Refusing the illusions of religious faith, he found a humbler faith in human

⁶⁰Huxley, *Hume*, p. 82.

⁶¹Huxley, *CE*, 5:246.

⁶²*Ibid.*, 6:x, and see Oliver Lodge’s comments in his introduction to T. H. Huxley, *Man’s Place in Nature and Other Essays* (London, 1906), p. xvii.

science to lighten a little of his darkness or, to use a metaphor taken from Voltaire, to make a garden in the wilderness.⁶³ Science is true because it gives us power; it is true because it sets us free.

This was a noble refusal of ultimate knowledge, inasmuch as Huxley acknowledged its attractions. He confessed his own sadness in “this consciousness of the limitations of man, this sense of an open secret which he cannot penetrate”—a sense of mystery which was the source of the theologies and which was also noble, if fertile of illusions.⁶⁴ He knew only too well the temptation to penetrate the secret, for his own molecular teleology suggested purpose and meaning, as he reflected, albeit obliquely, in an essay partly prompted by Kant’s *Universal Natural History* (1755):

If imagination is used within the limits laid down by science, disorder is unimaginable. If a being endowed with perfect intellectual and aesthetic faculties, but devoid of the capacity for suffering pain, either physical or moral, were to devote his utmost powers to the investigation of nature, the universe would seem to him to be a sort of kaleidoscope, in which, at every successive moment of time, a new arrangement of parts of exquisite beauty and symmetry would present itself; and each of them would show itself to be the logical consequence of the preceding arrangement, under the conditions which we call the laws of nature. Such a spectator might well be filled with that *Amor intellectualis Dei*, the beatific vision of the *vita contemplativa*, which some of the greatest thinkers of all ages, Aristotle, Aquinas, Spinoza, have regarded as the only conceivable eternal felicity; and the vision of illimitable sufferings, as if sensitive beings were unregarded animalcules which had got between the bits of glass of the kaleidoscope, which mars the prospect to us poor mortals, in no wise alters the fact that order is lord of all, and disorder only a name for that part of the order which gives us pain.⁶⁵

The exquisite order and intellectual beauty of creation haunted Huxley as it haunted Darwin, who never quite outgrew the theological vision of his early manhood and the attendant suspicion that the eye⁶⁶ or the peacock’s tail⁶⁷ cannot wholly be explained by evolution. Huxley had a clearer appreciation than Darwin of the teleology implicit in Darwinism, and was more careful than Darwin to purge his phrasing of the language of design theology. Even Huxley slips,

⁶³LL Huxley, 3:216.

⁶⁴T. H. Huxley, *Lectures and Essays* (London, 1908), p. 345; p. 244.

⁶⁵Huxley, *CE*, 5:73–74.

⁶⁶Darwin, *Origin*, p. 181. Cf. J. C. Greene, *Evolution and Its Impact on Western Thought: The Death of Adam* (Iowa City, Iowa, 1961), p. 299.

⁶⁷LL Darwin, 2:296.

however, his rhetoric taking him over the top,⁶⁸ and it is a nice question whether he always found his agnostic antimetaphysic adequate as a basis for either evolutionary science or ethics.

It is notable that Huxley should identify his difficulty over the *Amor intellectualis Dei*, not in his usual agnostic doubt, but in the pain which marred the intellectual delight for man. From the viewpoint of evolutionary science, Huxley looked upon creation and saw that it was bad—or rather, saw that it was bad as well as glorious and so was not good enough to be the work of a good God.⁶⁹ The same point had been made by Huxley's beloved Hume,⁷⁰ but Huxley brought to theodicy the passion of a religious man, a Job; he felt the problem with a religious sensitivity, being overwhelmed both by the world's "superfluous loveliness" and by its sufferings, which he could imagine rising to high heaven in one deafening continuous scream.⁷¹ This tenderness of conscience led him, greatly to his credit, to reject the smug moralities of Herbert Spencer⁷² and the Social Darwinists, who invoked the principle of the survival of the fittest—a phrase coined by Spencer and taken up by Darwin—to make a cutthroat individualism the foundation of social order and to justify the oppression of the lower orders or the extinction of primitive peoples. Huxley thought that this whole argument arose from an abuse of language. The "fittest" in nature were, not the "best," but those whom some technical circumstance had enabled to survive, and a

⁶⁸Huxley, *Lectures and Essays*, pp. 147–48, discussing the development of a plant or animal from its embryo as an example of one of nature's "perennial miracles." The changes undergone by the "plastic matter" of an egg are rapid, yet steady and purposelike, so that "one can only compare them to those operated by a skilled modeller upon a formless lump of clay. As with an invisible trowel, the mass is divided and subdivided into smaller and smaller portions, until it is reduced to an aggregation of granules not too large to build withal the finest fabrics of the nascent organism. And, then, it is as if a delicate finger traced out the line to be occupied by the spinal column, and moulded the contour of the body; pinching up the head at one end, the tail at the other, and fashioning flank and limb into due salamandrine proportions, in so artistic a way, that, after watching the process hour by hour, one is almost involuntarily possessed by the notion, that some more subtle aid to vision than an achromatic, would show the hidden artist, with his plan before him, striving with skilful manipulation to perfect his work." Huxley *knew*, so he said, that the phenomena of vitality are one with other physical phenomena, "and matter and force are the two names of the one artist who fashions the living as well as the lifeless."

⁶⁹*LL Huxley*, 2:216–17.

⁷⁰*Dialogues* 10–11.

⁷¹*LL Huxley*, 2:453.

⁷²*LL Darwin*, 3:45. See H. Spencer, *Essays: Scientific, Political, and Speculative* (London, 1868); H. Spencer, *An Autobiography* (London, 1904); H. W. B. Joseph, *Essays in Ancient and Modern Philosophy* (Oxford, 1935), p. 303; P. B. Medawar, *The Art of the Soluble* (London, 1967), pp. 39–58.

technical term in science could not describe what was good and bad for humanity.⁷³ Huxley therefore refused to drive human ethics from the evolutionary process. Evolution had made man and his ethical systems, but just as the cosmos was both good and bad in human terms, so man's morality was a defiance of that morality which prevailed everywhere except in man himself.

Here, then, is another paradox: Man has become master of the earth by thrashing his competitors in the struggle for existence, with the weapons of a nature red in tooth and claw, but the progress of society depends upon his shedding the successful characteristics which have made him nature's lord. "In fact, civilized man brands all these ape and tiger promptings with the name of sins; . . . and, in extreme cases, he does his best to put an end to the survival of the fittest of former days by axe and rope."⁷⁴ The new social virtues are those which restrain the selfishness of striving for survival. "Social progress means a checking of the cosmic process at every step, and the substitution for it of . . . the ethical process; the end of which is not the survival of . . . the fittest, . . . but of those who are ethically the best."⁷⁵ This is the hope for man's future: armed with the knowledge of science, the best will reduce their corner of the wilderness to garden; not in the assurance of an eternal achievement, for nature will return to overwhelm the garden, but in the delight of the honest effort to keep the garden good and lovely for a time.⁷⁶

This contrast between evolution and ethics had been less than clear to the young Huxley, who had professed a firm faith in the good government of the universe even though he did not believe in God. He proclaimed this in the very moment of mourning the death of his son, his firstborn, in a savage, splendid, and sympathetic letter to the Reverend Charles Kingsley, who had written to Huxley to solace his grief. Huxley declared nature wholly just, benefiting the good and condemning the wicked, but he insisted "that the rewards of life are contingent upon obedience to the *whole* law—physical as well as moral—and that moral obedience will not atone for physical sin. . . ."⁷⁷ The same theodicy lies at the heart of his famous passage comparing every human life to a game of chess:

⁷³Huxley, *CE*, 9:80.

⁷⁴*Ibid.*, p. 52, alluding to Tennyson's *In Memoriam*, stanza 117.

⁷⁵Huxley, *CE*, 9:81.

⁷⁶*Ibid.*, p. 45.

⁷⁷*LL Huxley*, 1:317; see also 1:347.

The War between Science and Religion

The chess-board is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of Nature. The player on the other side is hidden from us. We know that his play is always fair, just, and patient. But we also know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance. To the man who plays well, the highest stakes are paid, with that sort of overflowing generosity with which the strong shows delight in strength. And one who plays ill is checkmated—without haste, but without remorse. . . . Retzch has depicted Satan playing at chess with man for his soul. Substitute for the mocking fiend in that picture, a calm, strong angel who is playing for love, as we say, and would rather lose than win—and I should accept it as an image of human life.⁷⁸

“How,” burst out one of Huxley’s critics, “could Professor Huxley be an ‘Agnostic’ if he knew as much as that?” (that the hidden angel, though ruthless, plays for love). “Nothing seems to me clearer than that Professor Huxley borrowed from a religion which he thought wholly unproved, his description of the unseen player in this great game of life.”⁷⁹ Clearly, Huxley’s rhetoric had taken him over the top. His last words on the subject were a refusal of all such theodicies;⁸⁰ the “calm strong angel” disappeared, and with more than a hint of the later pessimism of H. G. Wells⁸¹ or Bertrand Russell,⁸² he makes a confession of the primacy of the Devil and courageously defies the evolutionary demon of our alien world. The human ethic is simply a defiance of the cosmic ethic⁸³ and will last for only as long as the garden will be tended against forces which will ultimately prevail.

⁷⁸C. Bibby, ed., *T. H. Huxley on Education* (Cambridge, 1971), p. 78; and the metaphor of the “great banker,” *LL Huxley*, 1:350–51. See also J. F. Gardner, “A Huxley Essay as a ‘Poem,’” *Victorian Studies* 4 (1970–71): 177–93.

⁷⁹R. H. Hutton, *Aspects of Religious and Scientific Thought* (London, 1901), pp. 103–4. Huxley’s 1868 essay in which the “chess player” metaphor appears may be drawing on Edward Fitzgerald’s *Rubaiyat of Omar Khayyam*, 2d ed. (London, 1868):

Impotent Pieces of the Game He plays
Upon this Checker-Board of Nights and Days;
Hither and thither moves, and checks, and slays,
And one by one back in the Closet lays.

The same image is employed by P. Geach, *Providence and Evil* (Cambridge, 1977), p. 58, to serve an explicitly Christian theology.

⁸⁰Huxley, *CE*, 9:146.

⁸¹H. G. Wells, *Mind at the End of Its Tether* (London, 1945).

⁸²B. Russell, “A Free Man’s Worship,” in *Mysticism and Logic* (London, 1932), pp. 47–57.

⁸³See also D. Daiches Raphael, “Darwinism and Ethics,” in *A Century of Darwin*, ed. S. A. Barnett (London, 1962), pp. 334–59, esp. pp. 351–59 on Julian Huxley’s development of his grandfather’s theme.

For Huxley, the enemies of his modest hope for man included the ascetic otherworldliness of the Catholic and Buddhist mystics, who had spurned the human struggle to create the garden as an exercise in meaningless illusion. Even more powerful, however, was the obscurantist clericalism, the ecclesiastical authoritarianism which shackled the principles of free enquiry and so locked away (to mix our metaphor) the spades and hoes for making the garden. In his hatred of priestcraft and of Rome, Huxley was the good Victorian liberal, but underneath his anger are the still more primitive currents of the black Protestantism of his childhood and an all-consuming Puritan work ethic which could not endure the contemplative ideal. The Puritan strain also appears in Huxley's love for the Old Testament. He had none of the Victorian feeling for the meek and gentle Jesus, but lavished his praises on the eighteenth-century prophets Amos, Hosea, and Isaiah as the Carlyles and Huxleys of their age, denouncing the oppression and exploding the humbugs and shams all about them. He prescribed Bible reading without note or comment as the best popular preservative of the social ethic, with the power still to explode moral humbug and thus the best armory of moral arguments against the humbug of contemporary Christianity. So in his work on the London Education Board, he fought for the inclusion of Bible reading without an ecclesiastical commentary in the curriculum of the new Board schools.⁸⁴ Morally, he remained an Evangelical Christian and had no doubt about the ethic of his upbringing; like George Eliot, he gave up immortality and God, but duty, stern daughter of the voice of God, remained as peremptory and absolute as ever. His anti-materialist idealism also had this moral dimension: it gave him a distinct polemical advantage to repudiate the charge of materialism in a society in which "materialism" was widely connected with loose morals. So Huxley somehow thought that Christian morality could stand unsupported by Christian theology. Love, the love of family and friends, he told Kingsley, had taught him a sense of responsibility and the sanctity of life; but how could the agnostic Professor Huxley know that? It is impossible to see how his ethic could be proven by his own agnostic philosophy or by the impossible standard of scientific proof which he has laid down for all certain truth. He gives no proper defense of his own ethical position, but he was too generous, too warm, too heated a man to distinguish an agnosticism

⁸⁴Bibby, pp. 108-17; Coulling, pp. 281-86, for his differences with Arnold.

for study from an ethic for living; indeed, he defended his agnosticism as a basis for the good life, a life as virtuous as his own. Yet just as his rhetoric outruns his science, so his agnosticism is outrun by his deepest moral feelings. The simple truth about the matter is that Christian goodness to Huxley was as self-evident as sham and humbug, as Carlyle had shown, and so it stood in no need of a philosopher's apology.

Huxley's unscientific passions are the source of his ethics but also of his polemics in those violent essays into biblical criticism wherein he made Christ's belief in demons responsible for the medieval Inquisition. Against Mr. Gladstone, he tried to prove that Jesus had violated Jewish property rights in stampeding the gadarene swine.⁸⁵ An understanding of Huxley's emotions in these matters is not provided by his biographies. The staid Victorian life by Leonard Huxley conceals as much as it reveals and is very uneven in its coverage. In the second edition, he gives one volume to Huxley to the age of forty-five, a second to the sixteen years following, and a third to the last eight years of his life. By the end of volume one the subject's opinions are wholly formed, and otherwise we know most about them from the third-person exposition of his polished and pointed essays, which do not go beyond a history of ideas to give us a personality in all its complex wholeness. We have his position, but no study of how it came to be. With more sincerity than most self-made successful men, Huxley confessed the total depravity of his youth, but his biographer supplies no details; in this, as in his moral and religious growth, we are denied the history of his soul. This is the unknown Huxley, if not the unknowable. Was he bored stiff by bad sermons and lifeless liturgy, revolted by warring sectarianisms and harsh teaching, or merely overwhelmed by the need for hygiene rather than for faith in his work as a medical student among the East End poor? He could dismiss the antagonism between religion and science as "purely factitious—fabricated"⁸⁶—effectively by reducing religion to a nonscientific realm of imagination, hope, and ignorance—and yet remain obsessed about religion. And what demon of his early years possessed him in his pursuit of Mr. Gladstone and the gadarene swine? The coming sage and prophet who cried humbug at Wilberforce and so still dazzles a television audience of millions was no mere bloodless scientist or philosopher

⁸⁵Huxley, *CE*, 5:366–419.

⁸⁶P. Chalmers Mitchell, *Thomas Henry Huxley: A Sketch of His Life and Work* (London, 1913), p. 248.

but a splendid, spirited, and muddled man, and neither science nor philosophy can more than partially explain his estrangement from religion. We have tried to capture something of his lively spirit but remain agnostic about Thomas Henry Huxley; he still retains his mystery.