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Editorial

In uncertain times (aren’t they always?) it is helpful to reflect and see what lessons we can learn from those who have gone before. So it is that this edition of our journal contains two papers with a distinctly ‘historical’ bent. The first rehabilitates the mathematician Euler as a man of profound and significant personal Christian faith. The second explores that thorny historical era around the time that our own organisation (The Victoria Institute as it was then known) was founded. This history will be explored further in our 2018 lecture (which will have just taken place when this is published, D.V.) by Rev. Dr. Ian Randall, and it will be good to have a solid sense of ‘who we were and where we came from’ as we continue to shape our activities to respond to the different, but sometimes similar, challenges of proclaiming Christ in our time.

Our third paper addresses the field of ‘Cognitive Science’ and, amongst other suggestions, challenges us to consider afresh the role of metaphor in our theology.

Finally, be sure not to miss our announcement regarding Academic Grants on page 58.

Alan Kerry - Editor

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Mathematics and Apologetics: Leonhard Euler (1707-1783)

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Abstract: Regarded as the most productive mathematician in all of human history, Euler's personal Christian faith and confidence in an inerrant Scripture are seldom mentioned. This brief essay endeavours to set the record straight—describing a polymath whose worldview was 180° removed from that of his time, the so-called 18th-century “Enlightenment.”



Introduction

Of Euler, the Marquis de Condorcet said in his funeral elegy for him in 1783: “Every mathematician is one of his disciples.” This is no exaggeration, since Euler made fundamental contributions to a staggering number of mathematical fields and his accomplishments spilled over into the domains of physics and the applied sciences. One of the books published by the Mathematical Association of America for its Tercentenary Euler Celebration is titled simply, *The Genius of Euler*.¹

Euler was also a convinced Christian believer who regarded Holy Scripture as God’s inerrant revelation and believed that it could and should be defended intellectually. But that aspect of his life is systematically ignored by those who discuss his thought and his ideas. One example: The Open University in England sponsored a series of four programmes on the history of mathematics that were broadcast on national television (BBC2) in 2017. No mention of Euler’s religious beliefs was made at all—and the presenter, a British mathematician, at another point in the programme series, stated that he himself was not a believer: he clearly was more impressed by Gauss, a brilliant but self-centred mathematician who refused to help younger scholars and attributed their accomplishments to his own influence on them!

We shall endeavour to set the record straight. A brief overview of Euler’s life and work will be followed by illustrations, in his own words, as to how he defended the classic biblical faith of Christianity.²

Euler’s Life in Summary

Euler lived in the first century of modern secularism, the 18th. That century, characterized as “the Age of Reason” by Thomas Paine, was a time when the most influential thinkers such as Voltaire jettisoned historic Christianity for varieties of the religion of “Nature.” The Bible came to be regarded as a collection of ancient superstitions, the very opposite of anything factual or scientific. The natural world

¹ *The Genius of Euler*, ed. William Dunham (Washington, DC: MAA, 2007). See also Dunham’s *Euler: The Master of Us All* (Washington, DC: MAA, 1999).

² As an introduction to Euler’s life and work, see the detailed article on him, with excellent bibliography, by A. P. Youschkevitch in the *Dictionary of Scientific Biography*, ed. Charles Coulston Gillispie, *et al.*, (16 vols.; New York: American Council of Learned Societies/Charles Scribner’s Sons, 1970-1980), Vol. 4, pp. 467-84.

was all the revelation one needed—for it pointed to a Creator and to a natural morality.³

This, however, was not the way Leonhard Euler was brought up, and he never wavered in his lifelong belief in the truth of historic Christianity. He was born in Basel, German-speaking Switzerland, close the French border. His father was a Reformed pastor and his mother a pastor's daughter. His father wanted him to study for the ministry, but was persuaded by one the members of the Bernoulli family (a clan of distinguished mathematicians in their own right) that Leonhard's talent for mathematics was so remarkable that he simply had to make his career in the natural sciences.

Euler entered the University of Basel at the age of 13, graduated two years later, and went on to earn a master of arts degree in philosophy. But his attempts to obtain a professorship at the University of Basel were unsuccessful. Two of the Bernoulli brothers had succeeded professionally at Peter the Great's Imperial Russian Academy of the Sciences in St Petersburg, and when one of them died of appendicitis, Euler was invited to replace him. Thus began a lifetime association with the Russian crown and its successful attempts to build an academic culture comparable to that in western Europe.

Euler had a photographic memory, and conquered the difficult Russian language with no problem. It was noted later by others that he could quote the entire *Aeneid* of the Roman epic poet Virgil—even indicating which lines began and ended the pages he had memorized.

Euler's tenure in Russia was interrupted owing to political intrigues and he spent some twenty-five years in Germany at Frederick the Great's Berlin Academy (1741-1766). However—in part surely because of Frederick's Enlightenment sympathies—they did not get along. Among Frederick's invitees to his Academy was Voltaire, who enjoyed making fun of Euler, the latter not being as effective a debater and social wit as Voltaire. The oft-repeated story that Euler drove Diderot out of Berlin by citing a mathematical formula to prove God's existence is entirely apocryphal.⁴

³ See John Warwick Montgomery, *The Shaping of America* (Minneapolis: Bethany, 1976), Part I, chap. 2 ("The Enlightenment Spirit"), pp. 47-68.

⁴ B. H. Brown, "The Euler-Diderot Anecdote," in *The Genius of Euler (op. cit.)*, pp. 57-59. The story is, sadly, accepted without question by authors who should have known better (e.g., E. T. Bell, *Men of Mathematics*).

On receiving a magnanimous offer from Catherine the Great, one that included a handsome salary, a fine house, and promises to take care of the future of Euler's children, Euler returned to St Petersburg and remained there for the rest of his life—during the last 17 years of which he suffered from total blindness.

Euler's productivity in Berlin (as in St Petersburg) was enormous, and his most popular publication was a collection of the letters he wrote in the course of tutoring Frederick's niece, the princess of Anhalt-Dessau. These letters show how effectively he could explain abstruse scientific concepts to an educated but non-specialist audience. We shall return to these letters shortly, since they offer much insight into Euler's Christian convictions as well as his apologetic for the truth of the faith.

Euler was happily married for 40 years to the same woman. They had thirteen children, but only five reached adulthood. After his wife's death, he married her half-sister, who took care of him during his last years of total blindness.

Interestingly, Euler's mathematical productivity did not diminish as a result of the loss of sight. He commented that it removed "distractions" so that he could concentrate even more fully on his mathematical and scientific interests.

Euler was buried in a Lutheran cemetery. As a testimony to Euler's great reputation, his body was later removed to a Russian Orthodox monastery built by Peter the Great.⁵

Euler's Mathematical Accomplishments

Euler's mathematical and scientific productivity was simply enormous. If all of his surviving notebooks were printed, they would fill 60 to 80 quarto volumes.⁶ Here we shall do no more than to summarize the major areas of his mathematical contributions.

Number Theory. Euler proved Fermat's "little" theorem (it would become "Euler's theorem") and his theorem on the sums of two squares—as well as Newton's identities.

⁵ For more biographical detail on Euler's life and career, see Emil A. Fellmann, *Leonhard Euler*, trans. E and W. Gautschi (Basel: Switzerland: Birkhäuser Verlag, 2007).

⁶ The Euler Archive (eulerarchive.maa.org) contains some 850 entries, representing original works by Euler and their translations into other languages.

Topology and Graph Theory. Euler developed a formula relating the number of faces, vertices, and edges of a convex polyhedron; this formula was a key element in the origin of modern topology. He also solved, in anticipation of modern topological theory, the hoary conundrum of the “Seven Bridges of Königsberg” by showing that there was no route by which one could cross each of the seven bridges only once and return to the point of origin.⁷

Analysis and Complex Analysis. Euler was responsible for introducing the concept of the function in general, the exponential function in particular, and logarithms in analytic proofs. He refined the power series: functions as sums of infinitely many terms. He invented the calculus of variations. The prime number theorem was the direct product of his work on the distribution of prime numbers and his proof of the infinitude of primes. Richard Feynman considered Euler’s formula showing that for any real number Φ , the complex exponential function satisfies $e^{i\Phi} = \cos \Phi + i \sin \Phi$ “the most remarkable formula in mathematics,” especially since the so-called Euler’s identity” is a special case of that same formula: $e^{i\pi} + 1 = 0$ (a formula containing the five most important mathematical constants, interlocking arithmetic, geometry, calculus, and the realm of imaginary numbers).⁸

Notation. Perhaps the most influential of Euler’s contributions lay in his revolutionizing of mathematical notation. Our use of the sigma (Σ) notation for summation and e as the base of the natural logarithm are due to him (e is now termed “Euler’s number”). He introduced $f(x)$ for functions and the modern way of describing trigonometric functions. He began the use of i to represent the square root of -1.

We do not have the space here to describe Euler’s influence in applied mathematics (including music). But his work in theoretical astronomy, especially the treatment of planetary motions, is particularly worthy of mention. His accomplishments included determining with remarkable precision the orbits of comets and other celestial

⁷ See David S. Richeson, *Euler’s Gem: The Polyhedron Formula and the Birth of Topology* (Princeton, NJ: Princeton University Press, 2008).

⁸ Richard Feynman. “Algebra,” *The Feynman Lectures on Physics*, Vol. I, chap. 22 (June, 1970). Feynman also says of the formula, “This is our jewel. Cf. Paul J. Nahin, *Dr. Euler’s Fabulous Formula* (Princeton, NJ: Princeton University Press, 2006).

bodies and calculating the parallax of the sun. His calculations also contributed to the development of accurate tables of longitude.

Suffice it to say that no mathematician before or since has had such a universal impact on the entire field and its future development.⁹

Euler As Christian Believer and Apologist

As indicated above, this aspect of Euler's life and thought has been sadly neglected. The only monograph appears to be a German thesis defended in 1851 by K. R. Hagenbach: *Leonhard Euler, als Apologet des Christenthums : Einladungsschrift zur Promotionsfeier des Padagogiums d. 28. Apr. 1851*. Hagenbach, not so incidentally, would later be known for his widely-used *A Text-Book of the History of Doctrines* (no less than 20 editions published in English between 1861 and 2015).

Even the Marquis de Condorcet, who as a rationalist could not tolerate the introduction of theology into scientific thinking, had to acknowledge Euler's personal faith. Euler, he said, "would gather his children, his servants and those of his students who lived with him, for group prayer each evening. He would read them a chapter of the Bible and sometimes accompanied this reading with an exhortation."

Euler published a treatise defending the faith and the inerrancy of the Holy Scriptures over against freethinkers: *Rettung der Göttlichen Offenbahrung gegen die Einwürfe der Freygeister* (Berlin: A. Haude & J. C. Spener, 1747). This work was translated into English only in 2011, and it gives us a systematic insight into Euler's apologetic approach to the unbelief of his time.

Euler's theological commitments can be seen in his classic, *Lettres à une princesse d'Allemagne*.¹⁰ The French edition by Condorcet omitted all of Euler's theological

⁹ For a taste of Euler's early mathematical contributions, see C. Edward Sandifer, *The Early Mathematics of Leonhard Euler* (Washington, DC: MAA, 2007).

Fascinating insights as to how Euler developed his proofs have been provided in Sandifer's *How Euler Did It* (Washington, DC: MAA, 2007).

¹⁰ My valuable copy of the French text, in 2 vols. (Paris: L. Hachette, 1842), was obtained for a song from a Parisian *bouquiniste* along the Seine. Euler, whose academic writings were composed in German, his native language, or Latin, wrote these letters in French. We shall be citing a reprint edition of an early English translation by Henry Hunter, with the restoration of omitted passages as identified (1805) by the printer/bookseller Adrien Le Clère in his *Annales littéraires et morales*, Vol. 11 (and translated into English by Andie Ho).

material (his references to God, salvation, and the Scriptures), since, from Condorcet's Enlightenment perspective, they were "anathema" to the teaching of science and rationalism.¹¹

Let us begin with typical theological material from the *Letters*, afterwards proceeding to the *Rettung*.

The Letters are replete with acknowledgements of biblical truth. Divine creation is evident from such phenomena as the complexity of the human eye. Sin and the demonic are affirmed, as is the essentiality of the saving work of God to counter the effects of a fallen world.

In Letter 18, Euler argued for the necessity of special revelation:

"How unfortunate would we be if God had abandoned us to ourselves with regards to the invisible world and our eternal salvation. On this important point, a revelation is absolutely necessary to us. We should make the most of it with the greatest veneration; and when this revelation presents us with things that seem inconceivable, we have but to remember the weaknesses of our mind, which strays so easily, even for the visible things."¹²

Letter 44 contains the following passage (again, omitted by Condorcet):

"Atheists have the audacity to maintain that eyes, as well as the entire world, are but the product of chance. They find nothing in it that merits their attention, they acknowledge no mark of wisdom in the structure of the eye. Rather they believe to be very right to criticize its imperfections, because they can see neither in the dark nor through a wall, nor distinguish the smallest objects on bodies far away, such as the moon and other celestial bodies. They proclaim that the eye was not made on purpose, that it was formed by chance, like silt encountered in the countryside, and that it is absurd to say that we have eyes in order to be able to see; rather we should say that, having received eyes by chance, we take as much advantage of them as their nature allows. Your Highness will be indignant to learn that such beliefs exist, and yet these are all too common today among people who believe they alone are wise and who loudly mock those who find in the world the most prominent signs of a Creator who is sovereignly powerful and just. It is useless to get involved in a

¹¹ Dominic Klyve, "The Omnipresent Savant: Seeking the Original Text of Euler's Letters to a German Princess," *Opusculum: The Euler Society Newsletter*. Vol. 3, Issue 2 (Summer, 2011); available on line in pdf. format.

¹² This passage was omitted by Condorcet in his French edition.

debate with these people. They remain unshakable in their belief and deny the most respectable truths. What the psalmist says is true: Only fools believe in their heart that there is no God.”

Letter 90 defends prayer over against the freethinkers¹³ and, in the second edition of the English translation, the editor restores a passage Condorcet excised:

“However extravagant and absurd the sentiments of certain philosophers may be, they are so obstinately prepossessed in favour of them, that they reject every religious opinion and doctrine, which is not conformable to their system of philosophy. From this source are derived most of the sects and heresies in religion; but in that case, divine truth ought surely to be preferred to the reveries of men, if the pride of philosophers knew what it was to yield. Should sound philosophy sometimes seem in opposition to religion, that opposition is more apparent than real; and we must not suffer ourselves to be dazzled with the speciousness of objection.”

Euler’s argument in favour of answered prayer runs as follows:

“When God established the course of the universe, and arranged all the events which must come to pass in it, he paid attention to all the circumstances which should accompany each event; and particularly to the dispositions, to the desires, and prayers, of every intelligent being; and that the arrangement of all events was disposed, in perfect harmony, with all these circumstances. When, therefore, a man addresses to God a prayer worthy of being heard, it must not be imagined, that such a prayer came not to the knowledge of God till the moment it was formed. That prayer was already heard from all eternity; and if the Father of mercies deemed it worthy of being answered, He arranged the world expressly in favour of that prayer, so that the accomplishment should be a consequence of the natural course of events.”

Euler’s *Rettung--A Defense of Revelation--* consists of 53 numbered paragraphs. We shall quote a selection:¹⁴

XIX. Either there is a divine revelation or there isn’t. Nobody yet has dared to maintain the absolute impossibility of a revelation, and the freethinkers are limited

¹³ Leonhard Euler, *Lettere on Different Subjects in Physics and Philosophy Addressed to a German Princess*, trans. Henry Hunter (2d ed., 2 vols; London: Murray and Highley, 1802), Vol. 1, pp. 345-46.

¹⁴ The translation is by Andie Ho (2011) and can be found in the Euler Archive (www.eulerarchive.maa.org).

to uniting all their forces to eliminate the characteristics of a divine revelation from the Holy Scripture. God did not simply create man; because He simultaneously accorded them everything necessary to attain true happiness, it is distinctly clear that God must have a hand in the salvation of men. Consequently, if the revelation can contribute to the advancement of their happiness, then not only is the revelation not impossible, but it is even to be presumed that God proved kindness to man in this regard.

XXXII. Thus, if we find in the Holy Scripture, with the pure doctrine of God, the true source of all virtues and the most magnificent and powerful ways to lead us there, offered in the most explicit manner, it necessarily follows that this book will contribute to the advancement of our true happiness. And even if one does not want to attribute it to a divine origin, one is at least forced to acknowledge this unmistakable consequence: that the author of this book had not only some distinct ideas on the essence of true happiness, but that he also worked diligently to keep men from all vices and to lead them down the path of virtue. Would it not be just as absurd as it is unjust to want to denounce this author as crazy or even as a liar?

XXXIII. It follows that when authors of sacred texts, sensibly and with an integrity of which we are perfectly convinced, recount things that seem incredible to us, it would be most unjust to reject them simply and absolutely. The Holy Scripture tells us in a detailed manner about several things concerning the miracles performed by people glorying in a divine mission. Despite the incredibility of these miracles, believing in the arguments of the freethinkers, arguments which are born partly from a wild imagination and partly from ignorance, would be even more incredible, for it would mean that God had blinded men to lend support and credence to their masquerade.

XXXIV. The apostles and a multitude of Christians unanimously agree not only that Jesus Christ rose from the dead, but also that they have seen him with their own eyes since the resurrection and that they even communicated with Him. If one has paid attention to the doctrine and to the constancy with which it been maintained, one cannot say with any semblance of truth that one has believed nothing of what has been said in this regard and that it is thus an obvious lie. One would be even less likely to say that the apostles were seduced by false imagination and that their facts were nothing but an illusion. Either that or we will be forced to state that God had miraculously blinded them all at the same time in order to propagate a false doctrine.

XXXV. Using the evidence that the strongest of objections has been long refuted, it seems to me that the considerations I have proposed so far on the purity of the doctrine taught in the Holy Scripture and its perfect harmony with the happiness of

man manage to destroy all doubts that incredulity alone is capable of forming, especially if one reflects at the same time on the nature of a true divine revelation which has already been stated. For such a revelation should not be accompanied by evidence that is too great, and it is enough that it includes all that can lead to the salvation of men who want to work diligently towards the reformation of their heart. This destroys without exception all the arguments that form unceasingly on the manner in which the Christian religion is spread throughout the world.

XXXVI. The resurrection of Jesus Christ is also an incontestable fact, and since such a miracle can only be the work of God alone, it is thus impossible to doubt the divinity of the Savior's mission. Consequently, the doctrine of Christ and his apostles is divine, and since its goal is our true happiness, we can be most assured of our belief in all the promises that the Gospel has made to us, both for this life and the one to come, and we can regard the Christian religion as a work of God who is tied to our salvation. It is not necessary to expand any further on these reflections, since it is impossible for anyone, once they are convinced of the resurrection of Jesus Christ, to retain the slightest doubt about the divinity of the Holy Scripture.

XXXVII. The freethinkers cannot put forward anything plausible against this bedrock on which the divinity of the Holy Scripture firmly rests. When they are forced to turn their attentions to this, they do all they can not to address the root of the question. They resort to all manner of loopholes to change the subject and attack other items, where they claim to find incomprehensible things and even contradictions. Most often, their reasoning does not have to do with the doctrines contained in formal terms in the Holy Scripture but with other writings from which only certain conclusions can be drawn. Although these conclusions are mostly legitimately derived, their process lacks rigor when, in raging against these conclusions, they try to persuade men that they are sufficient to entirely discredit the Holy Scripture.

XXXVIII. When the credibility of a writing is attacked using methods foreign to the bedrock on which the credibility rests, there is a certain indication of hidden malice. To judge by those who behave in this way, if there existed another divine revelation besides the Holy Scripture, they would not be any more inclined to believe in it, since divine truths can never allow any prejudices or passions which guide them. Thus, we can grant the freethinkers that the Holy Scripture must contain things that they do not agree with and which seem unreasonable to them. Contrarily, this agreement between the Scripture's doctrine and the ideas of the freethinkers is one of the most harmful things to the Holy Scripture.

XXXIX. As for the arguments formed by these adversaries and the apparent contradictions they claim are in the Holy Scripture, it would not be useless to begin

by remarking that there is no science, no matter how solid its foundation, against which one cannot make objections just as strong or even stronger. There are also apparent contradictions which, at first glance, seem impossible to resolve. But since we are in a position to return to the primary principles of these sciences, this provides the means by which to destroy these arguments. However, when they are not seen through to the end, these sciences lose nothing of their certainty. Why would such similar reasons be enough to remove all authority from the Holy Scripture?

XL. Mathematics is regarded as a science in which nothing is assumed that cannot be derived in the most distinct way from the primary principles of our knowledge. Nevertheless, there have been people far above average who have believed to have found great problems in mathematics, whose solutions are impossible; by this they imagined themselves to have deprived this science of all its certainty. Indeed, this reasoning that they propose is so deceptively attractive that much effort and insight is required to refute them precisely. However, mathematics is not lessened in the eyes of sensible people, even when it does not clear up these problems entirely. So then what right do freethinkers unwaveringly think they have to reject the Holy Scripture because of a few nuisances which mostly are not nearly as considerable as the ones in mathematics?

XLI. In mathematics, one also encounters rigorously demonstrated propositions that, when not examined with the highest degree of attention, seem to contradict one another. I could produce several examples here if their complexity did not require a deeper knowledge of mathematics than I suppose most readers to have. But I can at least say with assurance that these apparent contradictions are much more significant than those that are supposedly found in the Holy Scripture. Despite this, no one suggests dismissing the certainty of mathematics. This doubt does not even exist in those who do not have the capacity required to refute these contradictions and to demonstrate that they do not hold.

XLII. The other sciences have even more such inconveniences. They appear especially when we want to subject the primary principles of our knowledge to a more thorough examination. No one, for example, doubts that there are bodies in the universe. We are equally certain, or not, that they are composed of simple beings. But deciding upon one of these two opinions is so difficult that no one has yet been able to defend one of them in a way that fully satisfies those who support the opposing argument. If one wanted to conclude that neither of these two opinions represented the truth, it would be necessary to resort to denying the existence of the bodies. Although some fanatics have indeed taken this side, no man who uses his faculties of reasoning would imitate them.

XLIII. We have also seen people who absolutely deny all movement. They say that if a body moves itself, it must be either in the place it currently occupies or in another. The first case cannot happen, for as long as a body stays in its place, no movement can be attributed to it. The second is even more absurd, for how could a body move itself to where it is not? Perhaps there are a few people who are capable of resolving this sophism, but this will lead them to question the very least possibility of movement. Is it not then the greatest recklessness conceivable to utter an unappealable decision against the Holy Scripture as soon as one imagines to have encountered some difficulties whose solutions do not come to mind?

XLIV. Without going into a detailed examination of all the objections to the Holy Scripture, we can draw from all we have said thus far the certain conclusion that the enemies of this sacred book act most unjustly and inexcusably when, because of some difficulties that seem to them impossible to resolve, they dare deny the revelation entirely. Most of them are forced to admit that it would be entirely beyond their capabilities to respond to the objections that mathematics offers against the existence of bodies and the possibility of movement. Yet it has never occurred to them to reject the truth and to contest the existence of these things. Thus, it is a sure sign that the methods they use are not borne out of love for the truth, but originate from another source entirely, an impure source.

XLV. One thing that should be considered is that the Holy Scripture is limited to revealing to us things which we could not reason our ourselves, or at least not without great difficulty; for it would completely contradict the purpose of a divine revelation to only include knowledge that anyone could plainly see. But if the things themselves, which are the result of reason, are examined so closely that they sometimes seem to contain contradictions, then it necessarily follows that the revealed doctrine, which depends on principles superior to those of reason, contain ones that are at least as great and that it would be even more wrong to be scandalized by them.

XLVI. These reflections should well and truly destroy the objections of the freethinkers, but they seem to be much more substantial than they really are. The freethinkers have yet to produce any objections that have not long been refuted most thoroughly. But since they are not motivated by the love of truth, and since they have an entirely different point of view, we should not be surprised that the best refutations count for nothing and that the weakest and most ridiculous reasoning, which has so often been shown to be baseless, is continuously repeated. If these people maintained the slightest rigor, the slightest taste for the truth, it would be quite easy to steer them away from their errors; but their tendency towards stubbornness makes this completely impossible.

LIII. No matter how obvious and unwavering the principles on which we have just founded the divinity of the Holy Scripture, there is no hope that they are effective enough to save the freethinkers and libertines from their foolish behavior and to make them renounce their evil ways. On the contrary, the Holy Scripture assures us that their impudence will continue to increase, especially towards the end, and the exact fulfillment of this prophecy is not the least of the proofs of the divinity and the revelation. However, I hope with all my heart that these reflections will be the salvation of some people who are not completely corrupted and will return to the right path those who had the imprudence and misfortune to listen to dangerous ideas.

* * *

Euler's apologetic, like Pascal's, begins with the human condition: our need to find true happiness and our inability to achieve this by any kind of human effort. The natural world powerfully supports the existence and work of a Creator God. But, ultimately, it is biblical revelation that offers the only infallible solution to the human condition, and the arguments against it are puerile in comparison with those in its favour. Miracles, especially the resurrection of Jesus Christ from the dead, offer overwhelming proof of the divine truth of Scripture.

Euler employs his specialties in mathematics and the natural sciences to bolster his Christian claims. Difficulties and unsolved problems in the physical realm and in mathematics do not cause us to jettison them. Alleged errors and contradictions in Holy Scripture offer even less reason to reject the biblical message—which alone offers the route to genuine human happiness.

The *Defense* shows with utmost clarity the intimate connection between Euler's mathematics and his faith. Is this not another example of how biblical truth informs the most sophisticated intellectual endeavours, leading inexorably to a realization on the part of believers that the faith must be defended in a modern secular world?¹⁵

¹⁵ Cf. John Warwick Montgomery, "Computer Origins and the Defense of the Faith," in his *Christ As Centre and Circumference* (Bonn, Germany: Verlag fuer Kultur und Wissenschaft, 2012), pp. 78-103. That article earlier appeared in *Perspectives on Science and Christian Faith: Journal of the American Scientific Affiliation*, September, 2004.

The New Reformation of Scientific Naturalism – A Case of Protestantism-minus-Christianity

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Abstract: *The concept of a “new reformation” has a long history among Protestant intellectuals. Theologians, philosophers, historians, and men of science have all called for another reformation of religion, a purification rather than abandonment of Protestant Christianity. But in the hands of nineteenth-century scientific naturalists, the trope of “New Reformation” underwent a dramatic transformation. From a Protestant self-critique, its appropriation by figures such as Thomas H. Huxley, John Tyndall, Herbert Spencer, and others, became a polemic against orthodox Christianity. While they continued to use the language of Protestants, these men of science had rejected the doctrinal beliefs of traditional Christianity.*

Many historians of science have argued that the scientific naturalists employed the “conflict thesis,” the notion that science and religion are fundamentally and irrevocably at odds. Their goal of redefining science in the latter half of the nineteenth century led to the “secularization of society and the sacralization of nature.”¹ Among the most well-known of them were the biologist Thomas H. Huxley (1825-95), physicist John Tyndall (1820-93), and evolutionary philosopher Herbert Spencer (1820-1903). Huxley, for instance, once declared that “extinguished theologians lie about the cradle of every science as the strangled snakes beside that of Hercules.” He believed that history demonstrated that “whenever science and orthodoxy have been fairly opposed, the latter has been forced to retire from the lists, bleeding and crushed if not annihilated; scotched, if not slain.” Indeed, the historical record proved, he asserted, that as natural knowledge increased, belief in

¹ See, e.g., Colin A. Russell, “The Conflict Metaphors and its Social Origins,” *Science & Christian Belief*, vol. 1, no. 1 (1989): 3-26.

the supernatural decreased. According to Huxley, no one should “imagine he is, or can be, both a true son of the Church and a loyal soldier of science.”²

Scientific naturalism was no doubt the “English version of the cult of science in vogue throughout Europe during the second half of the nineteenth century.”³ But the scientific naturalists were not necessarily anti-religious. While there is no doubt that by the last years of the nineteenth century there was a perceptible sense that Christianity was under duress, most did not abandon belief in God. What occurred rather was a loosening or redefinition of Christianity and the appearance of alternative forms of religious belief. As historian of religion John Wolffe writes, “running through all varieties of alternative belief, spiritual experimentation, and agonized doubting was an underlying religiosity. Men and women might reject the teaching of a specific Church or even Christianity as a whole, but they remained desperately concerned to find some kind of religion or, at least, ‘ultimate concern’ to give meaning and coherence to their own lives and to the society and culture in which they lived.”⁴ Rather than a time of increasing secularization, the late Victorian period should be “viewed as a time of religious change.”⁵

We must be equally attentive to the continuing power of religion in late Victorian scientific naturalism. Scientific naturalism was a rival worldview which opposed the authority of orthodox Christianity, not religion. Huxley, Tyndall, Spencer and many of their allies drew upon the work of Thomas Carlyle (1795-1881), Ralph Waldo Emerson (1803-82), and other leading representatives of idealist and romantic philosophy.⁶ Indeed, a number of scholars have recognized that the science and

² Thomas H. Huxley, *Darwiniana* (London: Macmillan and Co., 1894), 52, 58, 82 149; Thomas H. Huxley, *Essays Upon Some Controverted Questions* (New York: D. Appleton and Co., 1893), 5; and Thomas H. Huxley, *Method and Results* (London: Macmillan and Co., 1894), 159.

³ Bernard Lightman, “Victorian Sciences and Religions: Discordant Harmonies,” *Osiris*, 2nd Series, vol. 16 (2001): 343-66, on 346.

⁴ John Wolffe, *God & Greater Britain: Religion and National Life in Britain and Ireland 1843-1945* (New York: Routledge, 1994), 6.

⁵ Livingston, *Religious Thought in the Victorian Age*, 2.

⁶ See, e.g., Tess Cosslett, *The ‘Scientific Movement’ and Victorian Literature* (New York: St. Martin’s Press, 1982); John Holmes, “The X-Club: Romanticism and

religion positions of Huxley, Tyndall, and Spencer were far more complex than what was once believed.⁷

Perhaps more than any other historian, Bernard Lightman has challenged our conventional views of the scientific naturalists. He has argued that “there were many vestiges of traditional religious thought embedded in Victorian agnosticism,” and has suggested the possibility that “agnosticism originated in a religious context.” A closer reading of the leading scientific naturalists reveals that many were indebted to a Nonconformist tradition, which “sought to set forth a serious new, non-clerical religious synthesis.” Though they may have rejected Christian orthodoxy, they nonetheless aspired to a “religion pure and undefined,” stripped of the dogma they considered as accretions and perversions of Christ’s original message. According to Lightman, the agnostics are to be seen as “new natural theologians,” who had a “sense of the divine in nature” and attempted to “treat science as a religion since it was the study of divine natural law.” In short, the scientific naturalists pursued “genuine religious goals and not merely the substitution of something secular for something religious.” By conceptualizing “religion” in terms of an inner spirituality, they believed themselves to be harmonizers, and, as such, denied that any conflict with science was possible.⁸

Victorian Science,” in Amanda Mordavsky Caleb, ed., *(Re)Creating Science in Nineteenth Century Britain* (Newcastle: Cambridge Scholars Publishing, 2007), 12-31; and Bernard Lightman, “Science and Culture,” in Francis O’Gorman, ed., *The Cambridge Companion to Victorian Culture* (Cambridge: Cambridge University Press, 2010), 12-42.

⁷ See, e.g., Adrian Desmond, *Huxley: From Devil’s Disciple to Evolution’s High Priest* (Reading, MA: Addison-Wesley, 1997); Paul White, *Thomas Huxley: Making the “Man of Science”* (Cambridge: Cambridge University Press, 2003); Stephen S. Kim, *John Tyndall’s Transcendental Materialism and the Conflict between Religion and Science in Victorian England* (New York: Edwin Mellen, 1996); Ursula DeYoung, *A Vision of Modern Science: John Tyndall and the Role of the Scientist in Victorian Culture* (New York: Palgrave Macmillan, 2011); Mark Francis, *Herbert Spencer and the Invention of Modern Life* (New York: Cornell University Press, 2007); and Michael Taylor, *The Philosophy of Herbert Spencer* (London: Continuum, 2007).

⁸ See, e.g., Bernard Lightman, *The Origins of Agnosticism: Victorian Unbelief and the Limits of Knowledge* (Baltimore: Johns Hopkins University Press, 1987), and idem., *Evolutionary Naturalism in Victorian Britain: The ‘Darwinians’ and their*

Drawing on Lightman and others, I want to place greater emphasis on the continuity between scientific naturalism and the Protestant tradition. In this paper, I concentrate on what the scientific naturalists and others called the “New Reformation.” This Victorian cohort of scientists and intellectuals saw themselves as new “reformers,” fulfilling the work that began with Martin Luther. They sustained in their language strong traces of a Protestant polemic against superstition, corruption, authority, and even apostasy from the true gospel of Jesus Christ. They consistently eschewed accusations of atheism and materialism, and maintained that they were not against religion per se, but theological dogmatism. This sense of religion as apart from theology was usually characterized in a romantic fashion, emphasizing emotion and feeling instead of reason. Science and religion thus belonged to two separate realms, and if they stayed within their boundaries, there would be no conflict between them. By distinguishing theology from religion, agnostics like Huxley, Tyndall, and Spencer claimed that there was only potential conflict between science and theology, not religion and science. The scientific naturalist made the case that this kind of religion was not their invention, but was rather the “true religion” that had been disguised and disfigured by clergy over the centuries. For Huxley and many of the other scientific naturalists, the “New Reformation” would bring mankind one step closer to fulfilling (indeed, completing) the Reformation of the sixteenth century.

Picturing the founders of the so-called “conflict thesis” as sympathetic to religion may stretch credulity. But it is important to keep in mind most of the scientific naturalists were raised in devout, Nonconformist Protestant homes. This Protestant upbringing, of course, included an antagonistic attitude toward the religious establishment, and especially the Roman Catholic Church. Traces of these Protestant

Critics (Aldershot: Ashgate, 2009). See also shorter studies such as “Does the History of Science and Religion Change Depending on the Narrator? Some Atheist and Agnostic Perspectives,” *Science & Christian Belief*, vol. 24, no. 2 (2012): 149-68; and “The Creed of Science and its Critics,” in Martin Hewitt, ed., *The Victorian World* (New York: Routledge, 2012), 449-65. More recently, see the collection of essays in Bernard Lightman and Michael S. Reidy, eds., *The Age of Scientific Naturalism: Tyndall and his Contemporaries* (London: Pickering & Chatto, 2014), and Gowan Dawson and Bernard Lightman, eds., *Victorian Scientific Naturalism: Community, Identity, Continuity* (Chicago and London: Chicago University Press, 2014).

elements are readily found in their writings. As we shall see, the scientific naturalists were particularly indebted to commonplace Protestant historiography. More importantly, Huxley and his allies were not alone in distinguishing between a religion of the heart and a theology of the head. Many liberal Protestant theologians equally accepted and even promoted the division between religion and theology as a strategy for defending religion. Liberal Protestants responded to the trumpet call of the “New Reformation” just as eagerly as scientific naturalists. An examination of the religious perspectives of men like Huxley will bring into sharp relief the close interrelationship between Protestantism and scientific naturalism at the end of the nineteenth century.

I. The New Reformation of Scientific Naturalism

Thomas H. Huxley’s religious views were nurtured in the company of religious Nonconformity, and as he grew to be a man he was remarkably keen to align his cause with the Protestant Reformation.⁹ In coining the term “agnostic” in 1869 to describe his own views, he in fact credited his agnostic epistemology to the common-sense philosophy of Protestant philosophers and theologians William Hamilton (1788-1856) and Henry Longueville Mansel (1820-71). He even explained that the term came to him as “suggestively antithetic to the ‘gnostic’ of Church history, who professed to know so much about the very things of which I was ignorant.” Later in life he contended that his agnosticism was the outcome of following the principles of the Protestant Reformation. “My position is really no more than that of an expositor,” he wrote, “and my justification for undertaking it is simply that conviction of the supremacy of private judgment (indeed, of the impossibility of escaping it) which is the foundation of the Protestant Reformation.”¹⁰

Reared in a Protestant environment where anti-Catholic sentiment infused nearly every aspect of Victorian life, it is no surprise that Huxley was also vehemently anti-

⁹ See Bernard Lightman, “Interpreting Agnosticism as a Nonconformist Sect: T. H. Huxley’s ‘New Reformation,’” in Paul Wood, ed., *Science and Dissent in England, 1688-1945* (Aldershot: Ashgate, 2004), 197-214.

¹⁰ Thomas H. Huxley, *Science and Christian Tradition* (London: Macmillan and Co., 1894), 239, 267. On the origins of the term “agnosticism,” see Bernard Lightman, “Huxley and Scientific Agnosticism: The Strange History of a Failed Rhetorical Strategy,” *British Journal for the History of Science*, vol. 35, no.3 (2002): 271-89.

Catholic. He described the Roman Catholic Church as “that damnable perverter of mankind,” and believed strongly that one of the greatest merits of the theory of evolution is that it “occupies a position of complete and irreconcilable antagonism to that vigorous and consistent enemy of the highest intellectual, moral, and social life of mankind—the Catholic Church.”¹¹ Moreover, when he visited the Catacombs in Rome in 1885, he wrote to his eldest son that the primitive church was a “simple maiden,”

*vastly more attractive than the bedizened old harridan of the modern Papacy, so smothered under the old clothes of Paganism which she has been appropriating for the last fifteen centuries that Jesus of Nazareth would not know her if he met her.*¹²

He described the rituals of the Roman Church as “elaborate tomfooleries,” and declared that “you have only to go from the Pantheon to St. Peter’s to understand the great abyss which lies between the Roman of paganism and the Roman of the papacy.” Remarkably, he sided with the iconoclasts when he said that “the best thing, from an aesthetic point of view, that could be done with Rome would be to destroy everything.” When asked about the differences between modern Christianity and the primitive church, Huxley stated explicitly that “the Church founded by Jesus has not made its way; has not permeated the world—but did become extinct in the country of its birth.”¹³

Huxley presented himself both privately and publicly as a religious rebel who continued the work of Protestant reformers. Born into a lower-middle-class family, Huxley was reared, as he himself put it, “in the strictest school of evangelical orthodoxy.”¹⁴ By his teens, however, Huxley no longer accepted the religion of his upbringing. But while he came to reject traditional Christianity, he retained much of its evangelical fervor for sincerity, truth, earnestness, and upright conduct. When

¹¹ Huxley, *Darwiniana*, 147.

¹² Leonard Huxley, *Life and Letters of Thomas Henry Huxley*, 2 vols. (New York: D. Appleton and Co., 1902), 2.98.

¹³ L. Huxley, *Life and Letters*, 2.243.

¹⁴ Huxley, *Science and Christian Tradition*, 228.

Darwin's cousin and founder of the eugenics movement Francis Galton (1822-1911) asked for a brief statement about his character, Huxley admitted to a "profound religious tendency capable of fanaticism, but tempered by no less profound theological scepticism."¹⁵

As early as the 1850s, Huxley was proclaiming to students that "there is a definite Government of this universe that its pleasures and pains are not scattered at random, but are distributed in accordance with orderly and fixed laws." He believed that to omit the new sciences of biology and physiology from the university curriculum was to be "blind to the richest sources of beauty in God's creation."¹⁶ He even argued that scientific progress not only conferred material benefits to humanity, but also leads to intellectual and religious improvement as well. "I say that natural knowledge," he wrote, "seeking to satisfy natural wants, has found the ideas which can alone still spiritual cravings." The new discoveries of the sciences, Huxley asserted, encouraged "worship chiefly of the silent sort, at the altar of the Unknown and Unknowable."¹⁷

It was the intellectual progress of his day that convinced Huxley that a "New Reformation" was on the horizon. In 1859, the year Darwin published his *Origin of Species*, Huxley told students that science was a divinely sanctioned activity which confirmed the order in both the physical and mental world. He claimed that the laws of nature were the "signs and wonders, whereby the Divine Governor signifies his approbation of the trust of poor and weak humanity, in the guide which he has given it." This alleged co-founder of the "conflict thesis" maintained that "Of all the miserable superstitions which have ever tended to vex and enslave mankind," the "notion of the antagonism of science and religion is the most mischievous." He affirmed that "true science and true religion are twin-sisters, and the separation of either from the other is sure to provide the death of both. Science prospers exactly in proportion as it is religious; and religion flourishes in exact proportion to the scientific depth and firmness of its basis." All the "reformations" in the history of

¹⁵ Quoted in Cyril Bibby, *T. H. Huxley: Scientist, Humanist and Educator* (New York: Horizon Press, 1960), xxii.

¹⁶ Thomas H. Huxley, *Science and Education* (London: Macmillan and Co. 1894), 62, 65.

¹⁷ Huxley, *Method and Results*, 31-38.

religion, Huxley asserted, has been “due essentially to the growth of the scientific spirit, to the ever-increasing confidence of the intellect in itself—and its incessantly repeated refusals to bow down blindly to what it had discovered to be mere idols.” One must distinguish between the “eternal truths of religion” from the “temporary and often disfiguring investiture which has grown round them.” Huxley concluded this address to working-class men that they should “despise both bigotry and scoffing doubt, and regard those who encourage you in either, whether they wear the tonsure of a priest, or the peruke of a Voltaire, as your worst enemies.”¹⁸

That same year Huxley told his friend Frederick D. Dyster (1810-93) that his popular lectures were “meant as a protest against Theology and Parsondom in general—both of which are in my mind the natural and irreconcilable enemies of Science.” He added that “few see it but I believe we are on the eve of a new Reformation.”¹⁹

The following year Huxley candidly confessed his religious opinions to Broad Churchman Charles Kingsley. He claimed that science embodied the “Christian conception of entire surrender to the will of God.” The man of science sits down before “fact as a little child,” prepared “to give up every preconceived notion,” and follows “humbly wherever and to whatever abysses nature leads.” Huxley admitted that “few men have drunk deeper of all kinds of sin than I,” and contended that his redemption came not by some hope of immortality or future reward, but in reading Carlyle, who taught him to “know that a deep sense of religion was compatible with the entire absence of theology.” He believed that science provided a firmer foundation than authority and tradition, and claimed that he reached this position, like the heroes of the Reformation, after exercising his private judgment. “But I can only say with Luther,” he wrote, “*Gott helfe mir, Ich kann nichts anders.*” He concluded that Kingsley and his friends should recognize him and his allies as the “new school of prophets,” and that “if that great and powerful instrument for good and evil, the Church of England, is to be saved from being shivered into fragments by the advancing tide of science—an event I shall be very sorry to witness—” it must be saved through the efforts of men like Kingsley himself.²⁰

¹⁸ Thomas H. Huxley, “Science and Religion,” *Builder*, 18 (1859): 35-36.

¹⁹ T. H. Huxley to F. D. Dyster, 30 Jan 1859; quoted in Desmond, *Huxley*, 253.

²⁰ L. Huxley, *Life and Letters*, 1.233-39.

The mention of Carlyle here is important. According to Frank Turner, Carlyle had “conceptually separated religion and spirituality from their contemporary institutional and dogmatic incarnations. Religion for Carlyle was wonder, humility, and work amidst the eternities and silences. The true realm of religion and the spirit was the inner man; all else was unessential externality.”²¹ Carlyle introduced German romanticism and idealism to the British, and was most well-known for his *Sartor Resartus* (1836), *Heroes and Hero Worship* (1841), *Past and Present* (1843), and *Latter-Day Pamphlets* (1850). In these works and others, not only does Carlyle discuss the immanent divinity of the natural, he also declares that the reigning “sham” priesthood will be replaced with a more industrious, honest, courageous, effective, and active leadership. Interestingly enough, his biographer once referred to Carlyle as a “Calvinist without the theology,” his writings suffused with a religiosity based not on grace or redeeming love but on proud and passionate self-assertion.²²

A good friend of Carlyle, Emerson—sometimes called the “American Carlyle”—also dismissively viewed orthodoxy as “that old religion.” More importantly, he understood the religious changes occurring in his day as the continuation of the Protestant Reformation. He saw progress in theology, declaring that “Calvinism rushes to be Unitarianism, as Unitarianism rushes to be pure theism,” a development he ascribed as the result of the Reformation. Indeed, the Reformation appears as a trope in a number of Emerson’s essays and lectures. In an 1879 lecture delivered at the Divinity Chapel in Cambridge, Emerson declared that “the venerable and beautiful traditions in which we were educated are losing their hold on human belief, day by day; a restlessness and dissatisfaction in the religious world marks that we are in a moment of transition; as when the Roman Church broke into Protestant and Catholic, or, earlier, when Paganism broke into Christians and Pagans.”²³

²¹ Frank M. Turner, *Contesting Cultural Authority: Essays in Victorian Intellectual Life* (Cambridge: Cambridge University Press, 1993), 141.

²² James Anthony Froude, *Thomas Carlyle*, 2 vols. (London: Longmans, Green, and Co., 1882), 2.2.

²³ See Ralph Waldo Emerson, *The Complete Works of Ralph Waldo Emerson*, 12 vols. (Boston: Houghton, Mifflin and Co., 1883), 10.117; 10.217.

The link between Carlyle, Emerson, and scientific naturalists like Huxley, Turner observed, was social critique and calls for a new intellectual elite. As Turner wrote, “Carlyle believed the problems of Britain’s social and physical well-being should be addressed by leaders whose authority and legitimacy stemmed from talent, veracity, and knowledge of facts.”²⁴ Huxley and many of the other scientific naturalists saw themselves as this new intellectual clerisy, often portraying the man of science as prophet, priest, and saviour of modern society.²⁵

At this time Huxley was also being drawn into the Darwinian controversies. He spoke at the Royal Institution of London in 1860 about the critical reception of Darwin’s theory, arguing that the duty of all is to discredit those foolish enough to think they are doing the “Almighty a service by preventing a thorough study of his works.” Talking in terms of a reformation, Huxley claimed that Darwin’s new book is not the first nor the last that will unsettle the orthodox mind, and those who “watch the signs of the times, it seems plain that this nineteenth century will see revolutions of thought and practice as great as those which the sixteenth witnessed. Through what trials and sore contests the civilized world will have to pass in the course of this new reformation, who can tell?”²⁶

In 1864, Huxley more publicly made his point that although there was indeed a potential conflict between theology and science, there was no conflict between religion and science. He wrote that “religion has her unmistakable throne in those deeps of man’s nature which lie around and below the intellect, but not in it.” Huxley believed that religion, rightly conceived as belonging to the realm of feeling, could never come into conflict with science. Conflict only arose when theology was confused with religion.²⁷ The main target of Huxley’s aggressive rhetoric, then, was what he variously called “Parsonism,” “clericalism,” “Ecclesiasticism,” or more

²⁴ Frank M. Turner, “Victorian Scientific Naturalism and Thomas Carlyle,” *Victorian Studies*, vol. 18, no. 3 (1975): 325-43, on 330-31.

²⁵ Frank M. Turner, “The Victorian Conflict between Science and Religion: A Professional Dimension,” *Isis*, vol. 69 (1978): 356-79.

²⁶ Michael Foster and E. Ray Lankester, eds., *The Scientific Memoirs of Thomas Henry Huxley*, 4 vols. (London: Macmillan and Co., 1899), 2.392-93.

²⁷ Thomas H. Huxley, “Science and ‘Church Policy,’” *Reader*, vol. 4, no. 105 (1864): 821.

commonly as orthodox theology—not religion. By separating religion from theology, Huxley could maintain the basic harmony between science and religion.

Huxley was still discussing the “New Reformation” a decade later. In 1873, at the height of his career, he wrote to his wife that “we are in the midst of a gigantic movement greater than that which preceded and produced the Reformation, and really only the continuation of that movement.” For Huxley, this “gigantic movement” against “traditional authority” will be the “work of generations of men.” He hoped that he “may be able to help a little in this direction.”²⁸

The following year he publicly pledged his allegiance to the “New Reformation” when he observed that the “act which commenced with the Protestant Reformation is nearly played out, and a wider and deeper change than that effected three centuries ago—a reformation, or rather a revolution in thought [...] is waiting to come on.” All the issues that motivated the first Protestant Reformation—corruption, dogma, blind obedience to tradition—were again at work in the nineteenth century. This reformation, once complete, would create a new church.²⁹

Indeed, perhaps most surprisingly, Huxley did not wish for the complete eradication of institutional religion. Rather, he envisioned “an Established Church which should be a blessing to the community.” This church would be devoted to presenting an ideal of “true, just, and pure living,” rather than the “iteration of abstract propositions in theology.” And if such a church existed, Huxley declared, “no one would seek to disestablish it.”³⁰

More radical Nonconformist parties such as Unitarianism provided a spiritual home for many who were troubled by doubts and could no longer accept orthodoxy, but who nevertheless wished to retain religious belief of a more rational if not emotional kind. It is no accident, then, that Huxley depicted liberal clergyman Joseph Priestley (1733-1804) as a scientific hero who served as a model of piety and sincerity. In an 1874 address to a Nonconformist audience in Birmingham, for example, Huxley

²⁸ L. Huxley, *Life and Letters*, 1.427-28.

²⁹ Huxley, *Science and Education*, 191-92.

³⁰ Thomas H. Huxley, *Critiques and Addresses* (New York: D. Appleton and Co., 1873), 28.

declared that Priestley's theological views were "worthy of the deepest respect." According to Huxley, Priestley was a "fearless defender of rational freedom in thought and in action." He believed Priestley's views paved the way for the present, and that they had become "commonplaces of modern Liberalism." Indeed, he considered that theology in his day had "broadened so much, that Anglican divines put forward doctrines more liberal than those of Priestley." Priestley had become a symbol for the Nonconformist, and Huxley was keen to draw parallels between himself and Priestley.³¹

In the 1880s, Huxley continued to maintain that "the antagonism between science and religion [...] appears to me to be purely factitious—fabricated, on the one hand, by short-sighted religious people who confound a certain branch of science, theology, with religion; and, on the other, by equally short-sighted scientific people who forget that science takes for its province only that which is susceptible of clear intellectual comprehension." The core of religion, he would go on to say, is found in the words of the Hebrew prophet Micah, "and what doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?" He concluded that the "antagonism of science is not to religion but to the heathen survivals and the bad philosophy under which religion herself is often well-nigh crushed."³²

At the turn of the decade, Huxley published a series of articles defending his attitude toward agnosticism, where he wished to demonstrate that "Christ [himself] was not a Christian." He told James Thomas Knowles (1831-1908), editor of *Nineteenth Century* magazine, that "if it should be possible for me to give a little shove to the 'New Reformation' I shall think the fag end of my life well spent."³³ The "New Reformation," like the original, would usher in a "new" religion, and one that was really a return to the "old." Although Huxley never provided anything like a systematic outline of his religious beliefs, he offered something like an approximate formula in an 1892 letter to biologist George John Romanes (1848-94). Huxley told Romanes that "I have a great respect for the Nazarenism of Jesus—very little for later 'Christianity.' But the only religion that appeals to me is prophetic Judaism.

³¹ Huxley, *Science and Education*, 1-37.

³² Huxley, *Science and Hebrew Tradition*, 160-63.

³³ L. Huxley, *Life and Letters*, 2.235-45.

Add to it something from the best Stoics and something from Spinoza and something from Goethe, and there is a religion for men.”³⁴

It was his hope that science would eventually purge religion of all false theology. “If the religion of the present differs from the past,” Huxley avowed, “it is because the theology of the present has become more scientific than that of the past; because it has not only renounced the idols of wood and idols of stone, but begins to see the necessity of breaking in pieces the idols built up of books and traditions and fine-spun ecclesiastical cobwebs.”³⁵ Huxley maintained that the controversy between natural and supernatural knowledge is as old as the Protestant Reformation, which proposed “to reduce the Supernaturalism of Christianity within the limits sanctioned by the Scriptures.” Their call of “freedom of private judgement,” however, furnished “forth creeds and confessions as diverse as the quality and the information of the intellects which exercise, and the prejudices and passions which sway, such judgements.” In the final analysis, this Protestant principle contained within itself the germs of its own destruction.³⁶

A year before his death, Huxley continued to believe that “most people mix up ‘Religion’ with Theology and conceive that the essence of religion is the worship of some theological hypostasis or other.”³⁷ As we shall see below, Huxley’s commitment to the “New Reformation” did indeed win support from influential Nonconformists and more liberal churchmen. From his announcement of the theme in 1859 to his analysis of Protestant principles in his “prologues” to his collected essays in the 1890s, Huxley maintained that he looked forward to the coming “New Reformation.” Huxley even claimed that his scientific achievements meant nothing “if I could not hope that I had somewhat helped that movement of opinion which has been called the New Reformation.”³⁸ While he was unforgiving to religious critics, Huxley clearly retained important Protestant sympathies.

³⁴ L. Huxley, *Life and Letters*, 2.361.

³⁵ Huxley, *Method and Results*, 38.

³⁶ Huxley, *Essays Upon Some Controverted Questions*, 5-7.

³⁷ T. H. Huxley to J. Creelman, 11 June 1894; quoted in Lightman, “Does the History of Science and Religion Change Depending on the Narrator,” 165.

³⁸ Huxley, *Method and Results*, 17.

II. Dissident Intellectuals, Liberal Anglicans, and the New Reformation

While the scientific naturalists were no doubt an influential force within British science in the second half of the nineteenth century, they were only one group among many vying for cultural authority. Among them were those dissident intellectuals who published in the radical weekly newspaper *The Leader*, edited by Chartist Thornton Leigh Hunt (1810-73) and literary critic George Henry Lewes (1817-78). Financially backed by liberal clergyman Edmund R. Larken (1809-95), the progressive weekly declared in its “prospectus” that its master principle was “the right of every opinion to its own free utterance.” This included religious utterances. The editors were particularly sympathetic to what they called “pure religion,” which they defined simply as “faith in God obeyed in love to man.”³⁹ A few months after its launch in 1850, the editors were proclaiming their hope in the “New Reformation.” “To restore religion to its function,” they declared, “it must be emancipated, and to achieve that blessed end is the object of the new Reformation.”⁴⁰ In an open letter, Lewes himself declared “the New Reformation will start from a fuller development of Luther’s great principle,” which was, of course, the “liberty of private judgment.” The New Reformation, however, will go beyond Luther by offering “absolute freedom,” “giving to every soul the sacred privilege of its *own* convictions.”⁴¹ As Mark Francis has pointed out, Huxley, Tyndall, Hirst, and other scientific naturalists were all avid readers of the *Leader*.⁴²

By mid-century, London had attracted a number of dissident intellectuals that came to be known as the prophets of the “New Reformation.” Many of these intellectuals were part of a circle associated with radical publisher John Chapman (1821-94), who insisted that orthodox Christianity could no longer address the spirit of the modern age. These men and women of Chapman’s circle, such as George Combe (1788-1858), Robert Chambers (1802-71), Harriet (1802-76) and James Martineau (1805-1900), Francis W. Newman (1805-97), John Stuart Mill (1806-73), William R. Greg

³⁹ “Prospectus of the Leader,” *The Leader*, vol. 1, no. 1 (Mar 30, 1850): 22.

⁴⁰ “The New Reformation,” *The Leader*, vol. 1, no. 5 (Apr 27, 1850): 105-06; see also “The Progress of the New Reformation,” *The Leader*, vol. 1, no. 7 (May 11, 1850): 153.

⁴¹ G. H. Lewes, “Social Reform,” *The Leader*, vol. 1, no. 20 (Aug 10, 1850): 469-70.

⁴² See Francis, *Herbert Spencer*, 111-31.

(1809-81), James Anthony Froude (1818-94), and George Eliot (1819-80), all believed in the progress of science and religion.⁴³ George Eliot, in her first published review for Chapman's radical *Westminster Review*, urged readers to recognize "the presence of undeviating law in the material and moral world"⁴⁴ She penned those words in a review of Robert William Mackay's (1803-82) *The Progress of the Intellect*, which was first published in 1850. Interestingly enough, Mackay claimed that "religion and science are inseparable." But by "religion," he meant an "Elder Scripture, writ by God's own hand, Scripture authentic, uncorrupt by man." In the intellectual progress of religion, he argued, "the hypothesis of miracle has lost its usefulness." Miracles, according to Mackay, implied "something inconsistent with the order of a perfect government, something overlooked in the original plan requiring an interpolation contradictory to its general tenour." A "perfect and immutable being," Mackay argued, "cannot break his own laws, or be at variance with himself." Thus notions of miracles ought to be replaced with the belief in the perfection and uniformity of natural law.⁴⁵

Of Chapman's circle, J. A. Froude was perhaps the most widely influential.⁴⁶ While he memorably expressed his religious doubts in his semi-autobiographical novels *The Shadows of the Clouds* (1847) and *Nemesis of Faith* (1849), these books were more than thinly disguised autobiographies—they were also Froude's thoughts on intellectual history, ranging from German biblical criticism, theology, religious history, and the contemporary state of Anglicanism.

⁴³ See Rosemary Ashton, *142 Strand: A Radical Address in Victorian London* (London: Vintage Books, 2006), and idem., *Victorian Bloomsbury* (New Haven: Yale University Press, 2012). See also comments in Francis, *Herbert Spencer*, 132-43.

⁴⁴ George Eliot, "Mackay's Progress of the Intellect," *Westminster Review*, vol. 54, no. 2 (Jan 1851): 353-68.

⁴⁵ Robert William Mackay, *The Progress of the Intellect, As Exemplified in the Religious Development of the Greeks and Hebrews*, 2 vols. (London: John Chapman, 1850), 1.20, 22, 40. It is worth nothing that Mackay also went on to publish *A Sketch of the Rise and Progress of Christianity* (London: Williams and Norgate, 1854).

⁴⁶ On Froude, see the definitive volume of Ciaran Brady, *James Anthony Froude: An Intellectual Biography of a Victorian Prophet* (Oxford: Oxford University Press, 2013).

However unorthodox his views, Froude always claimed to be Protestant. But it needs to be emphasized that for Froude the Protestantism of his day was not Protestantism at all.⁴⁷ As historian Michael Madden observes, Froude thought nineteenth-century Protestantism was a “mere shadow of the movement begun at the Reformation.”⁴⁸ Protestantism, according to Froude, placed its faith in reason and free inquiry, not authority. He thus criticized nineteenth-century Protestants for failing to live up to the original principles of the Reformation.⁴⁹

Most importantly, Froude also viewed Protestantism as a revivalist and corrective force in world history. Protestantism was not just a sixteenth-century phenomena—it was part of a general law, a regenerative principle throughout the course of human history. In this sense, rigid doctrinal formulations paralyzed religious progress. Religion, according to Froude, was “not a series of propositions or a set of outward observances of which the truth or fitness may be properly argued; it grows with the life of a race or nation; it takes shape as a living germ develops into an organic body.”⁵⁰

Dissident intellectuals like Froude regarded themselves as deeply religious individuals. Religion to them was the living kernel, theology the dying husk that it inevitably outgrew. In this sense, the relationship between dissident intellectuals and the Nonconformist cannot be denied. Nonconformists, or Dissenters, considered the Articles of the Church a distraction from what they believed was the sole source for Christian authority: the freedom of private interpretation of the Bible.⁵¹

⁴⁷ Froude’s self-critique of Protestantism can be found in the numerous essays he published in popular periodicals, some of which were later collected in his *Short Studies on Great Subjects*, 4 vols. (New York: Charles Scribner’s Sons, 1888).

⁴⁸ Michael Madden, “Curious Paradoxes: James Anthony Froude’s View of the Bible,” *Journal of Religious History*, vol. 30, no. 2 (2006): 199-216.

⁴⁹ Froude, “Conditions and Prospects of Protestantism,” in *Short Studies on Great Subjects*, 2.165.

⁵⁰ Froude, “The Oxford Counter-Reformation,” in *Short Studies on Great Subjects*, 4.155.

⁵¹ On English Nonconformity, see, e.g., the detailed studies by Michael R. Watts, *The Dissenters*, 3 vols. (Oxford: Clarendon Press, 1978, 1995, and 2015).

As the famous 1854 Census of Religious Worship showed, Victorian Protestant Nonconformity was extremely diverse and complicated.⁵² At the same time, most Nonconformists were influenced by the evangelical revivals of the late eighteenth and early nineteenth centuries, which accorded to each individual greater weight of responsibility for his own salvation. The commitment to the idea of freedom of choice and the significance of individualism, paralleled much of the new liberalism of the period. In time, Nonconformist denominations would become increasingly liberal. An early proponent of such a push was, unsurprisingly, Unitarian clergymen Joseph Priestley, who claimed in his *A Free Address to Protestant Dissenters, As Such, By a Dissenter* (1769) that Dissenters were “friends of civil liberty.”⁵³ The following decade Samuel Palmer, in his *The Protestant-Dissenter’s Catechism* (1773), declared that the grand principles on which the Dissenters grounded their separation from the Established Church was “the right of private judgment and liberty of conscience, in opposition to all human authority in matters of religion.”⁵⁴

By the nineteenth century, David Bogue (1750-1825) and James Bennett (1774-1862), in a four-volume *History of Dissenters, from the Revolution in 1688, to the Year 1808* (1808-12), treated Dissenting Christians as the natural guardian of libertarian principles: “If there be an individual in the whole family of man who is warranted to be strongly attached to the cause of liberty, it is the disciple of Jesus Christ.”⁵⁵ Unitarian theologian James Martineau likewise appealed to liberal Nonconformists. He proposed to establish a Free Christian Union that would “restore the natural order of religious organization and growth.” Character and conscience, not doctrines, rites, and creeds, would ally “reformers” of all communions in public testimony to their spiritual quest for the “Church of the Future.” “The Reformation did the work of its time,” he wrote, “but not of all

⁵² Horace Mann, *Census of Great Britain, 1851: Religious Worship in England and Wales* (London: George Routledge and Co., 1854), 11ff.

⁵³ Joseph Priestley, *A Free Address to Protestant Dissenters, As Such, By a Dissenter* (1769; London, 1788), 25-26.

⁵⁴ Samuel Palmer, *The Protestant-Dissenter’s Catechism*, 9th edn. (1773; London, 1792), 35.

⁵⁵ David Bogue and James Bennett, *History of Dissenters, from the Revolution in 1688, to the Year 1808*, 4 vols. (London, 1808-12) , 1.179 .

time.”⁵⁶ By the 1870s, a writer in *Fraser’s Magazine* argued that the Nonconformist movement had shifted its convictions over the years, abandoning its strict Calvinist origins and embracing “liberal thought of an advanced kind.”⁵⁷

But liberal Anglicans, or Broad Churchmen, also responded to calls for a “New Reformation.” Indeed, they shared a common bond with liberal Nonconformists, dissident intellectuals, and the scientific naturalists. As Dennis G. Wigmore-Beddoes observed long ago, there was a remarkable affinity between Broad Churchman and other liberal Protestants, particularly the Unitarians.⁵⁸ The affinities were evident, for example, with respect to higher criticism, biblical inspiration, miracles, everlasting punishment, the atonement, and Christ’s divinity. Although neither a party nor a faction but a set of individuals, Broad Churchmen shared the belief that the authority of the Bible and the Church must be subjected to historical and scientific criticism. Influenced by German idealism and romanticism, they stressed the importance of religious experience, feeling, and intuition over against the claims of theological dogmatism. Authority lay in private judgement and in the individual conscience. By encouraging latitude of opinion, they hoped to bring peace between faith and the modern world.⁵⁹

The Broad Church is often divided into two generations. The first generation included men such as Thomas Arnold (1795-1842), Julius C. Hare (1798-1855), Connop Thirlwall (1797-1875), Frederick Denison Maurice (1805-72), Richard Whately (1787-1863), and Charles Kingsley (1819-75), who all spoke of and called

⁵⁶ James Martineau, *The New Affinities of Faith: A Plea for Free Christian Union* (London: Williams & Norgate, 1869), 7, 21. See also the recent essay by Michael Ledger-Lomas, “Unitarians and the contradictions of liberal Protestantism in Victorian Britain: the Free Christian Union, 1867-70,” *Historical Research*, vol. 18, no. 221 (2010): 486-505.

⁵⁷ Robert Edward Bartlett, “Some Aspects of Non-Conformity,” *Fraser’s Magazine*, vol. 18, no. 106 (1878): 503-15.

⁵⁸ Dennis G. Wigmore-Beddoes, *Yesterday’s Radicals: A Study of the Affinity between Unitarianism and Broad Church Anglicanism in the Nineteenth Century* (Cambridge: James Clarke & Co., 1971).

⁵⁹ For a history of the Broad Church, see, e.g., Tod E. Jones, *The Broad Church: A Biography of a Movement* (Lanham, MD: Lexington Books, 2003).

for reforms in religious belief. As early as the 1830s, for instance, Arnold had been urging a broader, more critical, and less dogmatic approach to theology. Arnold joined forces with the Nonconformists in opposing the Tractarians and their attempt to accentuate the traditionalism of the Church of England. Launching one of the bitterest attacks on the Oxford Movement, Arnold called them the “Oxford Malignants,” comparing them to the “Judaizers of the New Testament.”⁶⁰

Other liberal Anglicans sought to liberate Christianity from what they believed were outdated doctrines. In 1853, founder of Christian Socialism F. D. Maurice published a collection of *Theological Essays* where he rejected both the traditional substitutionary view of the Atonement and the notion of eternal punishment.⁶¹ Moreover, in a series of letters between him and a “layman” on the question of the Bible and science, Maurice declared that “divinity [i.e., theology] needs reformation,” and that he was grateful to “the physical student [i.e., man of science] if in anywise he helps the Reformation forward.”⁶²

Kingsley’s own interest in the sciences is well known. He participated in many scientific circles, and was elected a fellow in the Linnean Society and Geological Society of London. He also kept a busy correspondence with a number of scientific men, including, as we have seen, Huxley. In 1863, Kingsley even told Maurice that he was busy “working out points of Natural Theology, by the strange light of Huxley, Darwin, and Lyell.”⁶³ Indeed, shortly after reading Darwin’s *Origin of Species*, he believed that “all natural theology must be rewritten.”⁶⁴

⁶⁰ Thomas Arnold, “The Oxford Malignants and Dr. Hampden,” *Edinburgh Review*, vol. 63, no. 127 (1836): 225-39.

⁶¹ Frederick Denison Maurice, *Theological Essays* (London: Macmillan & Co., 1853).

⁶² Frederick Denison Maurice, *The Claims of the Bible and of Science* (London: Macmillan & Co. 1863), 117.

⁶³ *Charles Kingsley, His Letters and Memories of his Life*, 2 vols., ed. Mrs. Charles Kingsley (London: Macmillan and Co., 1894), 2.155.

⁶⁴ Francis Darwin, *The Life and Letters of Charles Darwin*, 2 vols. (New York: D. Appleton and Co., 1896), 2.81-82.

The next generation, more radical still, consisted of Baden Powell (1796-1860), Henry B. Wilson (1803-88), Mark Pattison (1813-84), Arthur P. Stanley (1815-81), Benjamin Jowett (1817-93), Rowland Williams (1817-70), Frederick Temple (1821-1902), among others. Many of this second generation believed that Church's traditional teachings had to be modified or completely discarded in order to preserve its most important truths. This younger generation of Broad Churchmen also believed that a "second Reformation" was coming, hailing the triumph of private judgement and individual inquiry over the "abominable system" of ecclesiastical tyranny.⁶⁵

These streams of thought culminated in the notorious publication of *Essays and Reviews* in 1860. A monument and manifesto of liberal Anglican thought, Temple, Williams, Powell, Wilson, Pattison, Jowett, and layman Charles W. Goodwin sought to "illustrate the advantage derivable to the cause of religious and moral truth, from a free handling, in a becoming spirit, of subjects peculiarly liable to suffer by the repetition of conventional language, and from traditional methods of treatment." Despite its seemingly innocuous preface and inconspicuous title, the "Septem contra Christum," as they were later called, brought the full impact of German historical scholarship and biblical criticism to England, provoking one of the greatest religious controversies of the Victorian age.⁶⁶

While this composite volume provoked one of the greatest religious controversies of the Victorian age, its authors were not without defenders. Maurice, for instance, wrote to Arthur P. Stanley in 1861 that the clergy should accept the *Essays and*

⁶⁵ See, e.g., Evelyn Abbott and Lewis Campbell (eds.), *Life and Letters of Benjamin Jowett*, 2 vols. (London: John Murray, 1897), 1.160, 362; Rowland E. Prothero and G. Bradley, *Life and Correspondence of Arthur Penrhyn Stanley*, 2 vols. (London: John Murray, 1893), 2.238, 239.

⁶⁶ "To The Reader," *Essays and Reviews* (London: John W. Parker and Son, 1860). For detailed discussion, see, e.g., the two major monographs by Ieuan Ellis, *Seven against Christ: A Study of "Essays and Reviews,"* (Leiden: Brill, 1980), and Josef L. Altholz, *Anatomy of a Controversy: The Debate over "Essays and Reviews," 1860-1864* (Aldershot: Scholar Press, 1994). See also the superbly annotated recent edition by Victor Shea and William Whitla, eds., *Essays and Reviews: The 1860 text and its reading* (Charlottesville: University Press of Virginia, 2000).

Reviews as ushering a “new reformation” in the Church.⁶⁷ That same year, Stanley himself produced an important defense of the essayists in an article published in *Fraser’s Magazine*. While he disagreed with the general tone of the volume, he pointed out that “the principles, even the words, of the Essayists have been known for the last fifty years, through writings popular amongst all English students of the higher branches of theology.” He asserted that “science, history, and the principles of our moral nature are formidable antagonists to Theology if she sets herself against them.” Like so many others, Stanley made the distinction between religion and theology, and asserted that a “new reformation” was emerging within the Church through the agency of German critical scholarship.⁶⁸

Huxley and the scientific naturalists, as Paul White observed, used the “resources of liberal theology and romantic criticism” to redraw the boundaries of religion.⁶⁹ Indeed, in 1861 Huxley and the scientific naturalists organized a defense for the support of the authors of *Essays and Reviews*. The “Scientists’ Testimonial” declared that “Feeling as we do that the discoveries of Science, and the general progress of thought, have necessitated some modification of the views generally held on Theological matters, we welcome these attempts to establish religious teaching on a firm and broader foundation.”⁷⁰ Among its signatories were George Busk, William B. Carpenter, Charles Darwin, John Lubbock, Charles Lyell, and William Spottiswoode. Although never published, this collective effort shows the rally of the men of science in support of the more liberal churchmen. This unholy alliance became more public however when, in the pages of *The Reader* (a short-lived journal published by Huxley, Tyndall, and Spencer), an anonymous author praised Broad Churchmen for embracing historical criticism and recent scientific discoveries. With the *Essays and Reviews*, the author wrote, “the new theology had publicly burst forth.”⁷¹

⁶⁷ Frederick Maurice, *The Life of Frederick Denison Maurice, Chiefly Told in His Own Letters*, 2 vols. (London: Macmillan & Co. 1884), 2.383.

⁶⁸ A. P. Stanley, “Theology of the Nineteenth Century,” *Fraser’s Magazine*, vol. 11, no. 422 (1865): 252-68.

⁶⁹ White, *Thomas Huxley*, 104.

⁷⁰ Quoted in full in Shea and Whitla, *Essays and Reviews*, 657-59.

⁷¹ [Anon.] “The Edinburgh and the Quarterly on the New Theology,” *Reader*, vol. 4, no. 83 (July 30, 1864): 123-24. It should be noted that the *Reader* was the

Like the scientific naturalists, Broad Churchmen looked back into history for vindicating their views. They hailed the Reformation as the triumph of private judgment and individual inquiry over organized ecclesiastical tyranny. In 1864, for example, Stanley excitedly wrote to a friend that “we are on the verge of a religious revolution—a revolution more gradual, I trust, and therefore more safe, but not less important, than the Reformation and ending, I hope, not in further divisions, but in further union.” “I agree with you,” he wrote to another friend the following year, “that the prophet of the second Reformation has not yet appeared. Perhaps he never will. But that a second Reformation is in store for us, and that the various tendencies of the age are preparing the way for it, I cannot doubt, unless Christianity is doomed to suffer a portentous eclipse.”⁷²

III. A Series of Unintended Consequences

The Protestant Reformation was a potent metaphor for liberal churchmen, radical Nonconformists, dissident intellectuals, and agnostics alike. For many, the “New Reformation” represented the building of a new religion that would recover what had been lost by Christianity when it perverted the pure ideals of its founder. The scientific naturalists saw themselves as continuing the process of theological purification and moral improvement initiated by Luther. A “new” or “second” reformation became the clarion call of those who sought religious and moral guidance through the free pursuit of science.

Important theological changes needed to occur to make such a position possible. It was not that large numbers of hitherto faithfully orthodox believers suddenly had a “crisis of faith” and gave up Christianity. Rather, many now found it possible to drop particular beliefs which they personally found objectionable or unsatisfactory. Christianity had openly become less creedal, less dogmatic, less specific, and more vague.

forerunner of *Nature*. See Melinda Baldwin, *Making nature: The History of a Scientific Journal* (Chicago: University of Chicago Press, 2015), esp. 21-47.

⁷² Prothero and Bradley, *Life and Correspondence of Arthur Penrhyn Stanley*, 2.238-39.

Such diffusive Christianity would eventually succumb to alternatives to Christianity. The divinity of Christ was replaced with the humanity of Christ; his miracles with his moral teaching. But as Michael Watts has shown, the chipping away of the foundations of Nonconformist theology was accomplished largely by themselves.⁷³ Liberal Nonconformity and liberal Anglicanism shared these experiences. They both experienced the intellectual pressure of modernity upon traditional theology: science, historical criticism, and changing notions of morality applied to traditional doctrine caused Nonconformists and Anglicans to modify traditional beliefs.

To be sure, while Broad Churchmen continued to believe that Protestantism could still guide men and women, Huxley and the scientific naturalists believed in a Protestantism minus Christianity. While Huxley rebuffed the efforts of English positivists as “Catholicism minus Christianity,”⁷⁴ he himself appropriated the historiographical traditions of Protestant intellectuals in support of their vision of the “new religion” of the “New Reformation.” Ironically, liberal Protestants also insisted that “real Christianity” is more than the prevailing religious system of professed Christians. Ultimately, it was nineteenth-century liberal Protestant intellectuals that domesticated, privatized, and, in the final analysis, gave religion its optional character. While there is no clear trajectory from the Reformation to modern unbelief, there still might be some truth to John Henry Newman’s claim that “Protestantism leads to infidelity.”⁷⁵ We cannot ignore the fact that churchmen of this era were engaged in a periodic and ongoing struggle to relieve Christianity of “superstitious” excrescences.

That the Protestant Reformation, which began as a movement to renew and purify Christianity, but which quickly turned into polemics between Protestants and Catholics, and subsequently between contending Protestant sects, had a tacit and perhaps even explicit role in creating the perception that science and religion were in conflict or at war, lends credence to a notion first articulated by German sociologist Max Weber, and further developed by James Turner, Michael Buckley, and more

⁷³ Watts, *The Dissenters Volume III: The Crisis and Conscience of Nonconformity*, esp. 28-35.

⁷⁴ Huxley, *Method and Results*, 156.

⁷⁵ Anne Mozley, *Letters and Correspondence of John Henry Newman: During his Life in the English Church*, 2 vols. (London: Longmans, Green, and Co., 1890-91), 2.319.

recently by Charles Taylor, Michael Gillespie, and especially Brad Gregory: namely, that modern unbelief betrays roots to the Reformation.⁷⁶ What this paper hopes to have shown, however, is that it was a particular kind of Protestantism which subjected Christianity to both rational criticism and subordinated it to experiential religion, which eventually gave birth to a conflict narrative that, in turn, enabled the rise of secularism. There was indeed a deep kinship between liberal Protestantism and secularism, the boundaries of which were remarkably porous.

⁷⁶ See, e.g., Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (London: Routledge, 1930); James Turner, *Without God, Without Creed: The Origins of Unbelief in America* (Baltimore: Johns Hopkins University Press, 1985); Michael J. Buckley, *At the Origins of Modern Atheism* (New Haven: Yale University Press, 1987); Charles Taylor, *A Secular Age* (Cambridge, MA: Belknap Press of Harvard University Press, 2007); Michael Allen Gillespie, *The Theological Origins of Modernity* (Chicago: University of Chicago Press, 2008); Brad S. Gregory, *The Unintended Reformation: How a Religious Revolution Secularized Society* (Cambridge, MA: Belknap Press of Harvard University Press, 2012).

Cognitive ‘Science’ is Theology; ‘scientists’ renege on heliocentrism

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Abstract

The philosophy of Cognitive science (CS), a fast-growing new discipline, identifies it with theology. It debunks what opposes religion. CS of religion, this article suggests, is religion. CS undermines misleading truth, and compliments Christian theology. Because theology is not based on literal interpretations, criticism of its literal expression can miss the point. Insights arising from CS can help facilitate healthy relationship between the West and the majority world.

Keywords: *cognitive science, philosophy, theology, religion, majority world.*

Introduction

CS (cognitive science), is a new inter-disciplinary study of the workings of the mind.¹ CS’s capture by psychology and other *secular* persuasions might not surprise us given secularism’s recent global dominance. Yet, fundamentally CS, while ‘new’, shares much in common with theology: “our neurology, anatomy, and sensory motor capacities provide us with a species-specific ... understanding ... including [that of] God” (Sanders 2016:244). CS’s focus on the mind gives a kind of God-eyed view. People being made in the image of God (Genesis 1:26-27; 2:7), studying people through CS throws light on the nature of God. CS claims to be interdisciplinary, yet its rejection of cartesian dualism declares a break with secular tradition, aligning it with post-modernism.²

¹ “Cognitive science is the interdisciplinary study of mind and intelligence, embracing philosophy, psychology, artificial intelligence, neuroscience, linguistics, and anthropology.” <https://plato.stanford.edu/entries/cognitive-science/>

² “Cartesian philosophy is inconsistent with findings about the embodiment of mind. The mind is embodied, not disembodied. Concepts are embodied. Concepts get their meaning through the brain and body and through embodied experience” (Lakoff and Johnson 1999:495).

The heyday of positivism, against which CS rebelled (Lakoff and Johnson 1980:ix), was a ‘low’ for Christian belief. ‘Religion’ in the public arena has more recently been on the rise. The CS of religion (CSR) is described as expanding exponentially (Martin 2004:203) and burgeoning.³ Yet not so theological study.⁴ Why should religion and CS grow together, but theology be left behind? That study of the mind (i.e. CS) has become more popular than study of God (theology), is telling. We might ask; how does God speak to people, except through their minds? Much of contemporary Western theology is built, by default if not by design, on the back of philosophies that CS is rejecting, particularly analytical philosophy (Lakoff and Johnson 1999:87). Perhaps such philosophies should be rejected by theology? Perhaps CS is integrally about ‘understanding God’?

Much of academia once implicitly believed in behaviourism. Pavlov’s dogs are probably best known here.⁵ By pulling psychology in their direction, behaviourists postponed the development of CS for decades (Bermudez 2014:kindle). By assuming the actions of animals, including people, to be predictable responses to the environments in which they find themselves, behaviourists could avoid “speculating about unobservable mental states” (Bermúdez 2014:kindle). On the contrary, CS recognises that the mind shapes its environment. CS (contrary to its self-declared identity as a ‘science’), begins with the mind, and the person, not science. Thus CS, enabled by the undermining of behaviourism, is a step back to tradition.

This article builds on Lakoff and Johnson’s discovery that human language is implicitly metaphorical. It acknowledges that foundational metaphors used by people come from the physical nature of their bodies, and bodily interaction with their environment. For example, if someone says ‘I have a number of thoughts’, it is as if thoughts are physical possessions. Asking ‘please give me a leg up’ when wanting help with a maths question, is a metaphorical use of physical help, applied to understanding. ‘Things are looking up,’ presupposes that ‘up’ is better, on the

³ <http://www.iacsr.com/csr-links/journals-resources/>

⁴ I consider ‘religion’ to be a euphemism for ‘Western Christianity’, so take theology as the traditional ‘study of religion’.

<http://religioninsights.org/articles/theological-education-rebounds-fewer-students-enroll>

<https://www.christiantoday.com/article/will.the.uk.s.bible.colleges.survive.into.the.future/37156.htm>

<https://www.insidehighered.com/news/2013/03/29/luther-seminary-makes-deep-cuts-faculty-and-staff-amid-tough-times-theological>

⁵ <https://www.simplypsychology.org/pavlov.html>

basis that when one gets more of something, the pile we are looking at becomes higher. These are ways in which language is said to be embodied, i.e. its use always depends on particular physical features of our human bodies and their environment.

Ladders to Heaven

Genesis records Jacob's dream of a ladder that extends to heaven (28:10-22). To modernists, such a fanciful notion has no truth value, as for them dreams have little to do with 'reality.'⁶ Cognitive scientist Louchakova-Schwartz disagrees. A mental image as a ladder she found is a natural consequence of human cognition, because an "inward extension of the condensed hyletic sense of self ... organises the sequencing of internal impressions: [that] ... emerge in a step-by-step progression" (Louchakova-Schwartz 2016:66). This vindicates the work of Theophanus, the author of a poem describing the steps of a ladder towards a knowledge of God, long favoured by orthodox monks (2016:53-54). Hence, research in CS can authenticate theological truth.

The Science of CS (Cognitive Science)

CS claims to provide a uniquely workable perspective on the functioning of the human mind (Bergen 2012:248). I ask; in what sense is CS *scientific*?

Traditionally science is understood to be firmly rooted in *reality*. This is considered a break with non-science,⁷ which includes imagination, dreaming, invention, and so on. This traditional notion is rooted in the still popular but since-undermined understanding known as positivism, that scientific truth builds on a firm foundation.⁸ CS researchers like Lakoff were part of the reaction against positivism. In contradiction to the then-contemporary understanding that human language is literal, Lakoff and Johnson pointed out that it is heavily metaphorical (1980). They extended that view into an overt challenge to the whole of traditional Western philosophy (1999 front page). If human language uses metaphors that arise from the structures of the human body and mind, how can it claim to be rooted in objectivity (Lakoff and Johnson 1999)? If the very conceptual system people are obliged to use is subjective, and this is the means by which they examine themselves and examine

⁶ Freud and Jung put forward modern theories of dreaming

(<https://www.scientificamerican.com/article/the-science-behind-dreaming/>)

⁷ The term 'non-science' does in English sound remarkably similar to 'nonsense'!

⁸ Positivism is belief that "that positive knowledge is based on natural phenomena and their properties and relations as verified by the empirical sciences."

(<https://www.merriam-webster.com/dictionary/positivism>)

the world around them, then perhaps CS ought to be called ‘cognitive *reflection*’ or ‘cognitive *introspection*’ and not cognitive *science*? (For purposes of this article I will continue to use the term ‘cognitive science’, as this has become conventional.)

If science is not rooted in objectivity (Lakoff and Johnson 1999:89), then how has it managed to come up with so many helpful insights? Traditional understanding, that remains dominant, has been that science is enabled when ‘religion’ is put aside. This presupposes there are two things that make up humanity; religion and science. The former is said to be irrational, the latter is achieved when it is got rid of. Thankfully this view is, amongst scholars, largely defunct (Nongbri 2013:2). There is no such thing as ‘religion’, except Christianity. Because there is no universal thing called ‘religion’ that can be put aside to reveal the secular, so there is no universal thing called the secular. Western secularity is not universal. It emerges only in contexts of Western Protestantism (Taylor 2011:31).

Today’s scientific and technological advances cannot be rooted in the putting aside of religion. They are rooted in a correct understanding of God. Genesis 2:4 tells us ‘God made the world.’ Because God was there before the world was made, he has an existence independent of the world. This is the beginning of dualism, that leads to science. For Christian scholars to distinguish God from the world requires a knowledge of God. Knowing God thus enables knowing the world, i.e. not-God, to become evident. Science thus, is not rooted in objectivity, but in theology.

Intimate and community-wide knowing-of-God occurred when the English population turned massive attention to interpreting the Christian Scriptures (Mangalwadi 2011:87-88). This was the time when movers for science, like Copernicus, Galileo, and Kepler were active, during which the church had “formidable power and authority” (Zakai 2007:141). By insisting that “an adequate understanding of sovereignty necessitated the exclusion of any contribution to divine providence from human being or nature” (2007:127), Protestants demythologised the world. Whether right or wrong, this demythologising proved “essential to the development of experimental science” (Zakai 2007:128). Hence the discovery of science was enabled by a deep and profound comprehension of not-science, i.e. God. CS takes us back to this God-vista, i.e. from a heliocentric to a subject-centric universe.

Efforts by cognitive scientists to study religion (CSR – the CS of Religion) have tended to debunk ‘religion’ (Oviedo 2016:148). I suggest that this is because CS researchers of religion have not realised that in researching ‘religion’, they are

practising religion.⁹ CSR (the cognitive science *of* religion) needs to be restated as ‘cognitive science *is* religion’.

I suggest that God is more integral to the workings of the world than is supposed by many contemporary academics. Hence Newtonian physics only works within certain limits, and ceases to work beyond those limits, and Quantum physics reveals greater complexity and not simplicity in the world. Religious fundamentalism, a reaction “to the marginalisation of religion” (Appleby 2011:230), demonstrates people’s unease with life led by science (modernity).

Christian apologists who assume themselves obligated to prove God’s ‘supernatural’ qualities are extra-biblical. There is no such term, and no such understanding in the bible. (There cannot be, as biblically there is nothing like a modern understanding of ‘nature,’ the latter having been discovered, or invented, in modern times.¹⁰) To declare God to be ‘supernatural’, while over-extending the boundaries of ‘nature’ (i.e. assuming nature to be as it is understood in modern times, leading to positivism, naturalism, secularism), has been to manoeuvre faith in God into an impossible corner.¹¹

Message for Theologians

1. Studies on human cognition throw light on the nature of God. CS sees human cognition as central to human existence and as bodily, as do Christians.

CS does not, I suggest, threaten the church. It represents a revitalised theological toolbox. Contrary to certain pre-cursors to CS, such as behaviourism, that considered humans to be ‘reactionary’ (see above), and unlike secular philosophies that see people as part of the ‘natural’ world, CS ascribes agency to people. Emphasising human agency favours understanding of divine agency. By beginning with the mind CS debunks nature in favour of the creative agency of God. This is a biblical God, distinguished from ‘false God’s’ as ‘creator of heaven and earth’ (Genesis 1:1, Acts 4:24, Acts 14:15).

2. For Christians believers, all genuine truth points to God.

⁹ My claim here clearly hinges on how religion is defined – religion is clearly an amorphous word.

¹⁰ “Kepler’s three laws of planetary motion were the first modern ‘laws of nature’,” (Zakai 2007:136).

¹¹ For more on the undermining of naturalism, positivism and secularism, see Harries (2018).

CS undermines versions of truth put forward by modern secular society that have challenged Christian ontologies.

3. To question ‘literal’ understandings of God, is not to disprove his existence.¹²

Hurtienne shows how CS can aid user interface design for modern technology. The design of things like central heating controllers (2015:kindle) is helped by recognition of metaphorical ways in which humans understand relatively abstract things, like temperature. Whether a knob is raised or lowered to set temperature levels on such a controller is not arbitrary; because hotter things are said to be of a *higher* temperature. Hence an interface will be easier to operate if it uses an upwards movement to increase temperature. Because time is habitually conceptualised as a container (things happen *in* a period of time) interfaces can helpfully represent time as containers.¹³

From the above – for a representation to be helpful to bring human understanding, does not necessarily require it to be literally true: Something hotter not literally being ‘higher’ than something colder does not negate the advantage of representing ‘hot’ as higher than ‘cold’. Any evidence found to show that ‘hotter’ is not actually any ‘higher’ than cold, is irrelevant to the advantageousness of a particular design of a technology-to-human interface. ‘Reality’ such that hot is higher than cold, while being a human construct, is not therefore useless or wrong. It assists human understanding and development. How much then of God’s communication with people is of the same ilk? That is: has evidence gathered to refute God’s existence and actions, been seeing behind only God’s interface with people and not undermining God at all?

4. “Secularism is often defined negatively – as what is left after religion fades,” (Calhoun et al. 2011:5). For secularism to be universal, therefore, there must be something called ‘religion’ which is universal, which will ‘fade’. Because religion describes Western Christianity (Cusack 2015:4), here is no identifiable universal thing called ‘religion’ apart from Christianity. Hence ‘secularism’ can be no more universal than the Gospel.

Notions of the universality of secularism were built on the understanding that there are things, like reason, objectivity, science or even common-sense, that are distinct

¹² Even Dawkins himself “considers only supernatural gods [to be] delusional,” (Dawkins 2006:36).

¹³ For more detail see Hurtienne (2015).

from ‘religion’. At the time, the only legitimate role for metaphor in language was considered to be for “poetic imagination and the rhetorical flourish” (Lakoff and Johnson 1980:4). Now, following discoveries in CS that all of life is metaphorical (Underhill 2012:61), I suggest that everything is ‘religion’ (or nothing is religion). This leaves no room for secularism. We have noted above that all human understanding is indelibly rooted in particular features of the human body, mind, and context. Understanding by people of their context, is always a human-understanding. Because there is no objective foundation on which to build human-rationality,¹⁴ there is no positivism, there is no naturalism, and frankly, there is no secularism.¹⁵ The above conceptions were constructed on misunderstandings of the Christian faith; they arose from Christianity. They can be no more universal than the Christianities that birthed them.

5. Western scholars looking at God and at ‘religion’ are these days unnecessarily bound by their implicit dualistic thinking that portrays God as ‘other’, and gives centre stage to questions of his being *real*.

If there is no dualism, how can God be either real, or unreal? In the light of CS, if God were ‘real’, how could we people, who are unable to escape the subjectivity of our own cyclical perceptions, ever know that to be the case, or not to be the case? What then, if God just is?

God being ‘just is’, or as the bible puts his self-description; ‘I am who I am’ (Exodus 3:14), raises the question of how to know him? Our forefathers have long been working on that question. We are beneficiaries of ways they were guided. We do not have a blank slate. God says ‘I am,’ and that we are because he first loved us (1 John 4:17-19). This understanding, handed down to the West from their forefathers, *is* the foundation on which science was built and is the foundation on which so-called secularism is building (Von de Poll 2017).

CS is ‘going back to the basics’. It describes people as they are. Pure CS, having undermined dualism, decries enlightenment disciplines originated in contexts infected by thoughts about positivism and naturalism. When real versus unreal is no more, we hear God say; “I am who I am.”

6. Globalisation is complicating the centuries old picture where others are ‘them’, and the West is ‘us’.

¹⁴ “We reject the simpleminded ideas that all science is purely objective,” (Lakoff and Johnson 1999:89).

¹⁵ More on this in Harries (2018).

The West should recognise and realise who they are and what makes them unique. Translation into Western languages that conceals differences with the rest of the world (Venuti 1998) plus policies such as the prohibition of racism, that are a refusal to accept the ongoing existence of non-Western thinking, have muddied waters of global understanding. The lie that ‘others’ are not different from them, the façade that secularism is universal, is the West fooling itself.

Enabling the rest of the globe to *get* the West requires undoing the fictional pretence that the world is ‘secularising’, and instead telling them about he who describes himself as ‘I am who I am’. This is how the majority world can be enabled to ‘catch-up’ (Tshehla 2002:19). CS points us squarely to God. Mankind is made in God’s image (Genesis 1:27). To know God and to know mankind, are inseparable avenues of exploration. Non-Westerners could be assisted, through a true knowledge of God, to perceive a degree of healthy dualism. God does not have to prove himself to be real. God is.

Conclusion

CS is amazingly Christian; both in that its origins are in Western Christian civilisation, and in the process it engages to search for understanding. As CS researches cognition in humankind, it discovers, as if by default, things about God (in whose image people are made). This article shows how science, that CS sees itself as emulating, originates and originated in ‘correct theology’. CS fails to find God when it considers that he has to be *supernatural*.

Cognitive scientists should assist Christian believers to discover more about themselves, and about God. Truth of God has always been metaphorical. CS openly building on metaphor reveals its theological colours. CS not building on the literal undermines Western philosophy, which has made Christianity peculiarly Western. Take away dualism, and CS’s theological bent is clear. God does not have to be ‘real’ in order to *be*. Some insights in this article are of critical importance in developing relationships between the West and the majority world.

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A Response from Bob Allaway:

Dear Jim,

I appreciated your article in the last Faith and Thought.¹⁶ It is important to speak to people within their own world-view, as well as in their own language, not least because it can help us recognise where we have been shaped by our own culture's unquestioned world-view, without realising it. I was, though, a little puzzled by your reference to "cognitive science" and what this involved. Your latest article helps me raise questions about this. Perhaps you might like to respond to them?

What is **science**?

We cannot call something 'cognitive science' unless we have a definition of what science is. This is more than simply dealing with an objective, real world. It means making hypotheses whose predictions can be tested against that reality. This can only be done objectively if the things we test can be measured. For more complex systems, this will involve the statistical analysis of large samples, rather than direct measurement.

Far from standing over against Christianity, this scientific approach to analysing reality actually needed a Biblical, Christian world-view in which to develop. In his multivolume survey of *Science and Civilization in China*,¹⁷ Joseph Needham asked

¹⁶ Faith and Thought, 64 (April 2018), p37

¹⁷ Science and Civilization in China, (in particular, Vol. 2), Cambridge U.P., 1956

why modern science did not start in China, even though they were initially more technologically advanced than the West. He concluded, “... the absence of the idea of a creator deity, and hence of a supreme law-giver, ... led to a concept of all-embracing Order in which there was no room for Laws of Nature, and hence, no fixed regularities to which it would be profitable to apply mathematics ...”.¹⁸ Note this was already being said over 60 years ago!

Equally established is the recognition that there is, in practice, no neutral observer.

In both quantum physics and medical testing, the presence of the observer can affect the results observed. This means that experiments must be planned to take account of this. (Coupled with the inability to make predictions for individuals in complex systems, this also gives room for ‘agency’.)

Since Thomas Kuhn’s *The Structure of Scientific Revolutions*¹⁹, it has been widely recognised that scientific hypotheses tend to be produced (and results published by peer assessed journals) within an existing dominating world-view. A radical change in science may only become possible because it fits with radical change in society at large. Why was Darwin’s theory of evolution by natural selection taken up so widely, when (at that time) there was little *measurable* evidence to support it? Because the powers-that-be could misrepresent it to justify capitalist economics and political imperialism. By contrast, Alfred Russel Wallace, who had published an almost identical theory a year before²⁰, was side-lined, because he had met supposedly ‘primitive’ peoples, and affirmed that they were as civilised as we are, in their own way. But that, the imperialists did not want to hear.

However, in spite of all these qualifications, I would dispute the claim that ‘science is not rooted in objectivity’. If something is not objectively there, it cannot be measured, and if it cannot be measured, it cannot be handled by science. This is not to say that other things are ‘supernatural’ or unreal, just that they are not within the remit of science.

The love that my wife and I have for one another is all too real, and objectively observable by all who know us, but it is not scientifically measurable!

I am also puzzled by claims that because language is so metaphorical, this also undermines objectivity. When I was a child, I saw pictures of atoms that looked like miniature solar systems. This was metaphorical and, I now know, in many ways

¹⁸ Science and Society, 20 (1956), p320

¹⁹ T. S. Kuhn, *The Structure of Scientific Revolutions*, University of Chicago Press, 1970

²⁰ Colin A. Russel, *Cross-currents*, IVP: Leicester, 1985, p146

misleading. Nevertheless, there are atoms; they do contain negative electrons somewhere around a central positive nucleus. I can measure how many atoms are in a certain mass of an element; I can measure how long it takes for half a sample of radioactive nuclei to disintegrate. An upward measure of temperature on a graph may be metaphorical, but it is a real temperature that is being accurately measured.

However, I will save future discussion of metaphor for when I deal with theology ...

What is **religion**?

People like the Charity Commission have big problems defining religion. Is it to do with God? But Theravada Buddhism is godless. Is it to do with preparing for an after-life? But the Sadducees were religious without such a hope. Our local SACRE (which draws up our local RE syllabus) has a Humanist on it. Why not? They are a 'faith community', if a 'secular' one. A further complication is that many people nowadays will say they are 'non-religious' but express an interest in 'spirituality'.

I find it odd to read: "There is no such thing as 'religion', except Christianity." In fact, many theologians since Barth would deny that Christianity is a religion! They would say, "Religions are about people seeking God, 'the meaning of life', or whatever is of ultimate concern to them. Christianity is about God seeking people."

What is **theology**?

Since God is God, and everything else is his creation from nothing, there is (almost) nothing in creation that directly corresponds to him, so all our talk of him must, of necessity, be metaphorical. Yes, we are said to have been created in his image (Genesis 1: 26, 27), but to what extent is that image now messed up by sin? Only Jesus Christ is now said to be "**the** image of the invisible God" (Colossians 1: 15), so only he can validly shape our language about God.

"People being made in the image of God (Genesis 1:26-27; 2:7), studying people through CS throws light on the nature of God. ... Studies on human cognition throw light on the nature of God." This would seem to reduce theology to anthropology. Only God (in Christ) can "throw light on the nature of God."

Over to you!

Bob Allaway

In Memorium - Dr James Brooks: 1938-2017

Dr Brooks was an eminent geochemist and long-standing member of Faith & Thought; a fine example of a man whose high scientific achievement and deep personal faith complemented each other perfectly. Born in County Durham but raised in Yorkshire, he studied at Bradford University, and went on to complete the full spectrum of Bradford qualifications with bachelor, master, doctoral and higher DSc degrees. He went on to serve as president of the University Alumni Association.

His list of achievements is long; fellow of Royal Society of Chemistry, fellow of the Geological Society (serving as vice-president and honorary secretary), and founder and first chairman of the Petroleum Group of the Geological Society of London. He received the Distinguished Achievement Award from the American Association of Petroleum Geologists, the Distinguished Service Award from the Geological Society, and the Doctor of Science Degree from Bradford University. He made significant and widely recognised research contributions in chemistry, geology and petroleum sciences. His PhD thesis concerned the chemistry of sporopollenin (on which he became an authority) a virtually indestructible component of plant spores found in ancient rocks, which provided evidence of life on Earth at least 3,500m years ago.

He was an active researcher and author / co-author of 80 papers and 18 books. Amongst these was the beautifully presented 'Origins of Life' published by Lion in 1985.

He became a research chemist in chemical palynology with BP from 1969–75. He returned to Bradford University as a Senior Research Fellow from 1975–77 before joining the British National Oil Corporation in Glasgow in 1977 as Head of Geochemistry, leaving as Senior Scientist in 1986 to form Brooks Associates as a consultant. He lectured and consulted through the UK, Europe, North America, India and USSR and is remembered as a superb lecturer who had *'a wonderful dry wit and was always good company. Above all he will be remembered for his humanity, kindness and loyalty.'*

In an obituary for The Geological Society, Professor Bernard Leake said: *'Jim's Christian faith and church-led community service was at his core, whether in Yorkshire or Glasgow and he became a near full-time Secretary of the burgeoning Queens Park Baptist Church, Glasgow, for a decade ending in 2002–3 when he was the last President of the Baptist Union of Scotland.'*

The Baptist Union of Scotland remembers: *'Jim served our Baptist family with great care, love, laughter, wisdom and determination and we are thankful to God for his life, which was dedicated to God in all the spheres he touched.'*

Writing for the University of Bradford, Professor William Shepherd said: *'He was one of the good guys. He will be missed.'*

He is survived by his wife, Jan, whom he married in 1973, children Daniel and Naomi and his four grandchildren.

Alan Kerry – Editor

Book Reviews

Keith Ward. *The Christian Idea of God.* 2017 229 pp. Hb. Cambridge University Press. ISBN 9781108419215

Professor Keith Ward has frequently in his writings and lectures demonstrated the inadequacy of materialism to explain the universe and has instead argued, on the basis of philosophical idealism, for the primacy of mind and in particular for the existence of an infinite eternal Mind (God) who is the creator and sustainer of the universe. The object of this book is to develop a philosophical foundation for faith on the basis of personal idealism. Most of our readers would identify with both his outline of the Christian Faith and his adherence to personal idealism. He sees the Christian Faith as the revelation of God as self-giving love through the human person of Jesus who is the embodiment of God and the saviour of the world. By personal idealism he means that the whole material universe is the product of mind and depends on it for its existence. This is a view shared by modern quantum physics and neuroscience.

The opening chapters of the book are devoted to developing personal idealism and showing the inadequacy of materialism to account for the universe in which we live and, in particular, for the existence and nature of mind. Reductive materialism is incapable of being defended because we cannot know that it is either true or false because what we think and believe is not something that we can know but is something determined by factors outside of our control. Minds (souls) are intimately linked with our bodies and brains but our thoughts, perceptions and pains are not simply the firing of neurons in the brain. So when we hear a symphony we are not aware of electrochemical impulses but of a succession of sounds that make up a tune and stir emotions. All this does not apply to God, the Primal Mind, who does not get

information from the surrounding environment, which was not there, but exists eternally and necessarily and generates every possible state that does or will exist. For Ward the existence of a primordial mind that experiences every possible state of being and lays down patterns and rules which govern interactions between states is preferable to a belief that blind, unconscious forces created an elegant and ordered universe that eventually produced conscious intelligent being.

In subsequent chapters the author describes his understanding of the nature of God and how the universe evolved to ultimately lead to the existence of human beings. The final chapters draw out the moral implications of his thesis. He believes that the universe exists for the purpose of generating intelligent agents with freedom of choice to improve or destroy what he has made. He appreciates the fact that evil exists in the universe but nevertheless believes that God delights in beauty and order and is perfect in every respect including being totally good. Ward acknowledges that the universe contains suffering and he develops a theodicy to account for it. Idealism rejects the idea of a changeless and impassible God but rather thinks of Him as someone who creates a universe with emergent powers which may involve destruction e.g. exploding stars necessary for the creation of heavier metals which are, in turn, needed for the ultimate creation of life forms. God cannot use His power coercively without destroying freedom (the freewill defence).

What about morality? Nature is indifferent to morality but Ward argues that idealism believes that good should be pursued for its own sake. God sets achievable goals which can be frustrated but which ultimately will be redeemed when the whole cosmos is transformed. Ward sees this as the heart of the Christian message. God takes on a human form giving up his omnipotence and omniscience in order to enter into and to transform suffering. Through the power of the Holy Spirit mankind is given a share in the divine life and the redemption of the cosmos. What about the afterlife? Basing his thought on 1 Corinthians 15 Ward considers the possibility of our continuing existence with spiritual bodies in a transformed universe.

This is not an easy book to read but the reader who perseveres will find it not only intellectually stimulating but also spiritually enlightening. If the experience of philosophy is the motivating force, then personal idealism sees God as the supreme mind expressed ultimately in Jesus as self-giving and redemptive love. This is not a dry academic treatise but a study leading the reader to a greater understanding of the universe and our place in it as well as a call to worship the benevolent creator of all things. The author has accomplished what he set out to achieve. I highly recommend this book.

Reviewed by Reg.Luhman.

Abraham Joshua Heschel, *The Prophets* (Two Volumes in One), Hendrickson / Peabody, Massachusetts, 2009 (originally published by HarperCollins in 1962)

This year we have been remembering the 50th anniversary of the assassination of Martin Luther King Jr. Watching some documentaries, you may have noticed an elderly rabbi was sometimes on the platform alongside him. This was Abraham Heschel (1907-1972). Reading an article about his involvement in the Civil Rights movement, I was introduced to his major work: *The Prophets*, and decided I needed to read it. A local Jewish bookshop had a copy. Although they only had the hardback, it was only a few pounds more than I had seen quoted for the paperback on the internet. (I wanted to see a hard copy, to make sure it had both volumes in it.)

In Volume 1, he surveys Amos, Hosea, Isaiah (1-39), Micah, Jeremiah, Habakkuk and “Second Isaiah”, seeking to draw out what the Biblical prophets have in common. He was plainly a scholar, and can quote the best contemporary Old Testament scholarship of his day, Jewish and Christian (though he does not so label them). What strikes me, though, is his use of English, with one powerful turn of phrase after another. He must have been a dynamic preacher in the synagogue!

His central theme is the “pathos” of the Biblical God (by contrast with the god of the philosophers) and the “sympathy” of the Biblical prophet, who is at one with his people before God, while seeing them from God’s point of view. As a Christian, I would say “Amen” to these, and see them achieving their greatest expression in Christ. Heschel does not criticise Christian interpretations of, for example, the Suffering Servant in Second Isaiah, he simply ignores them! Perhaps he was being diplomatic.

Volume 2 moves into “Faith and Thought” territory. He investigates the phenomenon of prophecy, contrasting Biblical prophets, as analysed in Volume 1, with those, such as pagan shamans, who can be falsely confused with them. Here, he is happy to quote Christian writers explicitly, when they are criticising “false prophets” on the basis of Scripture (for example, early Church Fathers condemning the Montanists). He usefully contrasts the world-view of Biblical monotheism with the world-views of other religions, and touches on the psychology and sociology of religion. Some of his insights might be relevant for churches wanting to discern the gift of prophecy in their midst, today.

One word of warning: in my edition, Volume 2 has separate pagination from Volume 1; however, where Volume 1 has references to pages in Volume 2, it does so as if the pagination is continuous!

Reviewed by Bob Allaway

John Gray *Seven Types of Atheism* 2018 London: Allan Lane.

Gray, a self-confessed non-Christian, gives us a deeply considered re-evaluation, rooted in extensive historical research, of the state of contemporary and ancient atheism. “Contemporary atheism is a continuation of monotheism by other means,” Gray concludes. This book is, in the interests of enabling ‘catch-up’ by the non-Western world, a thinly veiled appeal for a mainstream revival in Christian teaching.

A constant theme of Gray’s, is that contemporary Western thinking is integrally historically rooted in Christian theology. As a result, atheisms of all sorts, even those that overtly claim the contrary, are reflections on Christian theology. Atheists of all stripes known to Gray (except those of pre-Christian times) engage Christian theology. “If you can see how theologies that affirm the ineffability of God and some types of atheism are not so far apart, you will learn something about the limits of human understanding,” Gray tells us at the end of his book.

The bulk of Gray’s text is concerned with descriptions of what he considers to be seven kinds of atheism. Those who thought that ‘atheism is simply atheism’, are challenged to reconsider. Gray’s studies draw on the lives and writings of diverse European historical scholars. All this has required careful historical research.

Gray has a particularly low opinion of recent atheisms. Amongst victims of his attacks on atheism are liberals, considered to be the founding fathers of racism, that only Christian believers effectively countered. In addition to Christianity, ancient gnosticism is found to have had a powerful effect on contemporary atheistic thinking. “The God of monotheism did not die, it only left the scene for a while in order to reappear as humanity – the human species dressed up as a collective agent, pursuing its self-realisation in history,” Gray concludes.

Gray acknowledges that the “belief that humans are gradually improving,” that humanists have adopted, originated in “monotheistic religion”. This has left the West with an enormous debt to the Gospel. “A free-thinking atheism would begin by questioning the prevailing faith in humanity. But there is little prospect of contemporary atheists giving up their reverence for this phantom,” Gray admits. This is, to me, a key insight we get from Gray. When the West, with its atheistic self-understanding meets the rest of the world, it pushes its humanistic understanding forward as the answer to other people’s problems. Whereas the rest of the world searches for divine help, the West believes in itself. Certainly in parts of Africa, when Africans seek to understand God, they end up learning about Western humanism. One outcome of this, is that we get a ‘theology of humanism’. This theology is inflexible, and is hard to deal with. It precludes room for manoeuvre in a

majority world that is dominated by the West. Short of Christian revival, this might be condemning the majority world to a permanent second-class status, if not to disaster.

Reviewed by Jim Harries

If you have found something you have read helpful, and it is relevant to our objectives, please write a review for us! Contact the editor at drapkerry@gmail.com

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We are looking for new Council Members to help direct the activities of Faith & Thought. We usually meet for Council Meetings in January, May and September, normally in London. We are particularly looking for women or men with an interest in biblical archaeology, but applications would be welcome from anyone. Our constitution requires that Council Members sign a short declaration of faith i.e.:

1. I declare my faith in Jesus Christ as my Saviour, my Lord and my God, whose atoning sacrifice is the only and all-sufficient ground of my salvation.
2. I will seek, both in life and in thought, to be ruled by the clear teaching of the Bible, believing it to be the inspired word of God.

If you are interested in applying, or know of someone who might be please contact our administrator on drapkerry@gmail.com

Faith & Thought Academic Grants

Are you engaged in or planning postgraduate study of some form into the area of Faith & Thought? Perhaps you're planning a sabbatical or enrolled on a course already. Maybe you work for an academic institution and would like to pursue your own study or research area? We are making available two grants per year of £1000 each to support such work. Maybe you know someone else who would benefit from this? At the 2018 AGM it was agreed that:

- a) Faith & Thought (The Victoria Institute) invites applications for up to two academic grants per year of £1000 each.
- b) Applicants should be undertaking post-graduate study of some form which addresses the interface between contemporary thought and the Christian Faith.
- c) Applicants are required to submit a brief proposal of up to 1000 words outlining the proposed study regarding aims, questions, methodology and impact of the potential insights gained from this work. This should include details of how the grant might assist the applicant in undertaking this work.
- d) Applications will be considered by Faith & Thought Council based on the following criteria:
 - a. the relevance of the proposed study to Faith & Thought's overall objectives
 - b. the clarity and coherence of the applicant's proposal
 - c. the impact the study will have on Faith & Thought's mission and the wider field of knowledge in this area
- e) Before awarding the grant, successful applicants will need to have a named supervisor in place willing to give a reference for the applicant (though the supervisor need not necessarily be from an academic institution, for example those undertaking sabbatical studies may identify a senior minister, or other person willing to affirm the application).
- f) Successful applicants should make available an article based on their research / studies to be published by Faith & Thought.

The Application Form is available on the Faith & Thought website www.faithandthought.org. We look forward to hearing from suitable applicants.

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