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'The long-lost truth': Sir Isaac Newton and the Newtonian pursuit of ancient knowledge

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Abstract

In the 1720s the antiquary and Newtonian scholar Dr. William Stukeley (1687–1765) described his friend Isaac Newton as 'the Great Restorer of True Philosophy'. Newton himself in his posthumously published *Observations upon the prophecies of Daniel, and the Apocalypse of St. John* (1733) predicted that the imminent fulfilment of Scripture prophecy would see 'a recovery and re-establishment of the long-lost truth'. In this paper I examine the background to Newton's interest in ancient philosophy and theology, and how it related to modern natural philosophical discovery. I look at the way in which the idea of a 'long-lost truth' interested others within Newton's immediate circle, and in particular how it was carried forward by Stukeley's researches into ancient British antiquities. I show how an interest in and respect for ancient philosophical knowledge remained strong within the first half of the eighteenth century.

Keywords: Isaac Newton; William Stukeley; Ancient theology; Antiquarianism; Arianism; Stonehenge; Avebury

> Is he the God of the Jews only? is he not also of the Gentiles? Yes, of the Gentiles also: Seeing it is one God. (Romans 3:29–30)

Understanding the precise nature of the relationship between ancient knowledge and the advancement of modern science in later seventeenth-century England is a complex process. To Sir Isaac Newton, as well as to a number of other early Fellows of the Royal Society of London with Newtonian affiliations, to have a true

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understanding of natural philosophy required a true understanding of theology, and in order to understand this it was necessary to understand ancient history, chronology and prophecy. It seemed clear to Newton that in ancient times theology and natural philosophy had been intimately connected; it also appeared clear to him that the rediscovery of what he called 'the long-lost truth'[1] was imminent, and that the Millennium was soon to be expected. Though Newton's fame lay upon his scientific work this was, as historians have increasingly come to appreciate, by no means his sole field of study. As the Scottish mathematician and Newtonian scholar John Craig observed after Newton's death in 1727, 'they were little acquainted with him, who imagine that he was so intent upon his studys of Geometry & Philosophy as to neglect that of Religion and other things subservient to it. And this I know that he was much more sollicitous in his inquirys into Religion than into Natural Philosophy'.[2] One eighteenth-century reader of Newton's work was subsequently surprised to discover that Newton considered the Ancients to be 'men of great genius and superior minds who had carried their discoveries (particularly in Astronomy and other parts of Mathematicks) much further than now appears from what remains of their writings',[3] This search was not entirely without worth, given that ancient philosophers such as Anaximander, the Pythagoreans and the Atomists had held certain natural philosophical opinions seemingly more advanced and less theologically circumscribed than those of the medieval scholastics, against whose theories Copernicus and Galileo had responded.

Influenced either by Newton himself, or by his published works, those 'Newtonians' who expressed at least a passing interest in both natural philosophy and ancient history included the Cambridge Arian controversialists William Whiston and Samuel Clarke, the Oxford astronomers David Gregory and Edmond Halley, the mathematician Nicolas Fatio de Dullier, and the physician and antiquary William Stukeley; the freethinking pantheist John Toland was another contemporary who, if not actually a Newtonian, shared a keen interest in Newtonian natural philosophy and ancient history. A similar concern with ancient knowledge was shown by the early Freemasons, whose Grand Lodge was founded in London in 1717 and a number of whose earliest 'brothers' were also prominent Royal Society Newtonians: they included the Society's Vice-President Martin Folkes, the

[1] Newton (1733), p. 252. The search for 'the long-lost truth' was by no means confined to England, though it was obviously charged by Protestant notions of corruption and millenarianism. Leibniz also took an interest in ancient theology, which, given his connection with Newton, is of particular interest. Through a correspondence with Jesuits in China, Leibniz's attention was drawn to the numbers of the *I-Ching*, attributed to the mythical Chinese emperor Fohi, whom Christian commentators identified phonetically as Noah. Leibniz identified the *I-Ching* with his invention of the binary system, and in 1705 published a paper in the *Mémoirs de l'Acadèmie Royal des Sciences* on his binary arithmetic and its association with Fohi's characters. In a letter to his Jesuit correspondent Leibniz observed: 'I have always been inclined to believe that the ancient Chinese, like the ancient Arabs (witness the book of Job), and perhaps the ancient Celts (that is to say Germans and Gauls) were far from idolatry, and were rather worshippers of the sovereign principle' (quoted in Walker, 1972, p. 199).

[2] John Craig to John Conduitt, 7 April 1727, Cambridge, King's College, Keynes MS 132.

[3] Francis Atterbury, quoted in Force (1999), p. 243.

experimental philosopher John Theophilus Désaguliers and the mathematician Brook Taylor, and William Stukeley, who perceived Freemasonry to be a survival of the Ancient 'mysteries', which were, he wrote, themselves 'no other than the first corruption of tru[e] religion, when they began to deviate from the patriarchal religion, into idolatry & superstition … after the noachian deluge'.[4]

William Stukeley was a graduate of Corpus Christi College, Cambridge, where he had been well taught in the writings and practice of the 'new science'. In 1717 he was a pivotal figure in the re-establishment of the Society of Antiquaries, and on being admitted a Fellow of the Royal Society in 1718 he was quickly accepted into the Newtonian inner circle.[5] Yet his attitude to philosophy, ancient history and modern science—in particular his defence at the Society in the late 1710s of Genesis and the biblical account of the Flood—led Roy Porter to characterise him as a staunch defender 'of traditional shapes of Earth history' and a 'self-appointed' opponent 'of Enlightenment trends in religious and scientific thought'.[6] Although it is true Stukeley was mocked in the last years of his life for his firm adherence to the word of the Bible, Porter's interpretation offers a narrow of view of what we should understand as the English Enlightenment in the first decades of the eighteenth century: a period of debate and argument over the exact validity of 'modern' approaches to understanding nature and the universe. As the authors of the encyclopaedic *Universal history* observed in 1736 when tackling the touchy subject of the creation, 'The Opinions of the Philosophers are, for the most part, absurd, incoherent, and contradictory; whereas the Mosaick Account, if rightly understood, carries with it all the Marks of Truth and Probability'.[7] In an age of uncertainty, religious apologists who looked for the 'truth' in the past did not simply belong to what might crudely be called 'the old school'. William Whiston, chosen by Newton as his successor to the Lucasian Chair at Cambridge, had made his name in 1696 through his Newtonian-based defence of the Mosaic account of the universe in *The new theory of the earth*. And Edmond Halley similarly utilised contemporary scientific theory, in particular the recent discovery that comets orbited the Sun, to explain the biblical Flood in natural philosophical terms.[8] The clear interest of Newton and certain of his contemporaries in ancient history and chronology is worthy of more detailed attention, and shows how natural philosophy and the history of religion remained closely linked well in to the eighteenth century.

Despite the so-called 'Battle of the Books', belief in the truth of the biblical account of creation together with a reverence for the knowledge of the Ancients remained strong in the later seventeenth century. As Newton famously (if ambiguously) declared in a letter to Robert Hooke in 1676: 'you defer too much my

[4] William Stukeley, London, Wellcome Library, MS 4722, fols. 8–10.

[5] On Stukeley's intellectual career, see Haycock (2002).

[6] Porter (1977), p. 117.

[7] Anon. (1736), Introduction, 'The cosmogony, or creation of the world'. As well as reviewing all the ancient theories of the origin of the universe, this knowledgeable and extensive introduction also considered—and countered—the arguments of Spinoza, Descartes, Burnet and Whiston.

[8] Halley (1724).

ability for searching into this subject … If I have seen further it is by standing on ye sholders of Giants'.[9] Taking issue with this long-standing metaphor, Stukeley observed how in his opinion the Ancients

> as far outstrip us in Capacity as in Years. Some will not allow a thought so derogatory to Modern Learning, for say they, a child set upon a Gyants shoulders can see further than he, but they observe not their argument proves too much & that by their own comparison, they grant a concession they are not aware of, vizt. that the Gyant represents the Antients, the Child our Selves.[10]

Not unsurprisingly, one of Stukeley's contributions to the Royal Society's *Philosophical Transactions* was his account of the eclipse predicted by the Milesian philosopher Thales in the sixth century B.C.[11] Yet Stukeley also looked to the future; he was a committed Baconian who, despite his interpretative enthusiasms, used 'modern' empiricist techniques in his pursuit of antiquarian knowledge. Notwithstanding his own later advice that ultimately 'the discovery of things is to be taken from the light of nature, not recovered from the shadows of antiquity',[12] Francis Bacon himself had taken an interest in ancient knowledge. It did appear to Bacon that ancient knowledge could conceal traces of natural philosophical 'truths' that dated from the earliest days of the world when God had created Adam, and which had been recorded in the Old Testament books of Moses. In his essay *De sapientia veterum* of 1609 (published as 'A discourse of the wisdom of the Ancients' in a collected edition of his writings in 1701), Bacon wrote:

> The Antiquities of the first Age (except those we find in Sacred Writ) were buried in Oblivion and Silence: Silence was succeeded by Poetical Fables; and fables again were followed by the Records we now enjoy. So that the Mysteries and Secrets of Antiquity were distinguished and separated from the Records and Evidences of succeeding Times by the Veil of Fiction, which interposed it self, and came between those things which perished, and those which are extant.[13]

Bacon explained that he was 'inclined to imagine' that 'under some Ancient Fictions lay couched certain Mysteries and Allegories, even from their first invention'.[14] He did not believe that the tales told by Classical writers such Homer and Hesiod had been invented by them, but 'that they were delivered, and related as things formerly believed, and received, and not as newly invented, and offered unto us'. They were not the 'inventions of the Poets' but were rather 'as sacred Relicks, or abstracted Airs of better times, which by Tradition from more Ancient Nations,

[9] Newton to Hooke, 5 February 1676, in Newton (1959–1977), Vol. 1, p. 146. Force (1999), p. 243 persuasively suggests that Newton's 'Giants' are in fact Descartes and Hooke, and not the Ancients.
[10] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 323, fol. 7.
[11] Stukeley (1753).
[12] Francis Bacon, *The new organon* (L. Jardine & M. Silverthorne, Ed. & Trans.) (Cambridge: Cambridge University Press, 2000), Book I, aph. 122, quoted in Dear (2001), pp. 58–60.
[13] Bacon (1701), p. 9.
[14] Ibid., p. 10.

fell into the Trumpets and Flutes of the *Græcians*'.[15] Bacon proceeded to explain that

> in the first Ages (when many humane Inventions and Con[c]lusions which are now common, and vulgar, were new, and not generally known), all things were Full of Fables, Enigma's, Parables, and Similies of all sorts: By which they sought to teach, and lay open, not to hide and conceal Knowledge; especially seeing the Understandings of Men were in those times rude and impatient, and almost incapable of any Subtilties … for as *Hieroglyphicks* preceded Letters, so Parables were more ancient than Arguments.[16]

Bacon then went on to interpret the ideas which he believed were concealed in various Greek myths: the Sphynx, for example, he took to be an allegory for science, its wings standing for the swift passage of knowledge and inventions, and its sharp talons for 'the Axioms and Arguments of Science' which 'so fasten upon the mind, and so strongly apprehend and hold it'.[17] In his discussion of the Greek myths concerning 'Pan, or Nature', he suggested that the Greeks 'either by intercourse with the *Ægyptians*, or one way or other' had 'heard something of the *Hebrew* Mysteries; for it points to the state of the World, not considered in immediate Creation, but after the fall of Adam, exposed and made subject to Death and Corruption'.[18]

In the decades after Bacon's death a number of European scholars made more detailed explorations into the relationship between ancient myths and Judeo-Christian theology. The Florentine humanist Marsilio Ficino had already written in *De Christiana religione* (1474) that 'Every religion has something good in it; as long as it is directed towards God … it is a true Christian religion',[19] and the sixteenth-century Italian Augustinian scholar Agostino Steuco, who had drawn on this Neoplatonic *prisca theologia* tradition, wrote in *De perenni philosophia* (1540) that there was 'one principle of all things, of which there has always been one and the same knowledge among all peoples'.[20] But in *De theologia gentili et physiologia Christiana* (1641), the Dutch scholar Gerard Vossius undertook an extensive taxonomy of pagan religious beliefs, showing where traces of the original religion that had been given to Mankind by the Old Testament God were to be found. Vossius (who actually dismissed Steuco) attempted to illustrate how the gods and heroes of pagan texts were simply biblical characters by other names: pagan religion could thus be identified as the corrupted, vestigial remains of the one true religion.[21] Another Dutchman, Hugo Grotius, also took an interest in unravelling the survival of ancient religious practices. First translated into English in 1680 as *The truth of the*

[15] Ibid., pp. 10–11.
[16] Ibid., pp. 11–12. On hieroglyphs in seventeenth-century English thought, see Singer (1989).
[17] Ibid., pp. 86, 89.
[18] Ibid., p. 27.
[19] Quoted in Harrison (1990), p. 13.
[20] Quoted in Schmitt (1966), p. 517.
[21] Force & Popkin (1990), p. 10.

Christian religion, his highly influential study aimed 'to prove the Truth of the Christian Religion in General, against Atheists, Deists, Jews, or Mahometans'.[22] A particularly extensive chapter in his book showed how the ancient writings of the Phoenicians, Indians, Egyptians, Greeks and Romans were all 'exactly agreeable to the Relations of Moses', and he explained that 'all those things which we read in the Poets wrapped up in Fables, (a Liberty they allow themselves), are delivered by the antient Writers according to Truth and Reality, that is, agreeable to *Moses*'.[23]

A few years later, in *Origines sacrae: Or, a rational account of the grounds of natural and reveal'd religion* (1662), Edward Stillingfleet, a young Fellow of St. John's College, Cambridge, expounded this increasingly received idea: Christianity was simply the one true modern manifestation of the ancient religion, remnants of which could be discovered throughout heathen and gentile religious practices. Stillingfleet's declared intention was to demonstrate 'that there was a certain original and general tradition preserved in the World concerning the eldest Ages of the World'; that this tradition had been corrupted by the heathens, but that 'there were sufficient remainders of it to evidence its true original'; and 'that the full account of this tradition is alone preserved in those Books we call *Scriptures*'.[24] In *De legibus Hebraeorum earum rationibus* (1685), John Spencer, sometime Master of Corpus Christi College, Cambridge, published one of the earliest works of comparative religion. A more controversial outlook on the history of religion was provided by Lord Herbert of Cherbury, author of *De religione gentilium* (1663) and often described as the first English deist. In due course these arguments would be brought to their logical conclusion in 1731, when Matthew Tindall, a Fellow of All Souls College, Oxford, published his hugely controversial *Christianity as old as the creation: Or, the Gospel a republication of the religion of nature*. It is within this intellectual context that the works of Newton and his fellow Newtonians interested in the 'long-lost truth' can be placed.

Newton certainly read Vossius, as well as other seventeenth-century Christian Hebraists such as Samuel Bochart and Sir John Marsham, as the Yahuda manuscripts in the Jewish National and University Library in Jerusalem make clear.[25] He was clearly interested in what the Ancients had hidden behind their myths and hieroglyphs, suggesting at one point that 'it's certain that ye old religion of the Egyptians was ye true religion tho corrupted before the age of Moses by the mixture of fals Gods with that of ye true one'.[26] He spelt out at least some of his views on ancient history to Stukeley. In April 1726 Stukeley visited Newton and, as well as being shown a prepublication copy of the new, third edition of the *Principia*, Stukeley recorded that they 'had some discourse about Solomons temple of which he had formerly made the plan. he says it was older than any great heathen tem-

[22] Grotius (1711), 'Translator's preface'.
[23] Ibid., Book I, section 16, 'From Foreign Testimonies', pp. 25, 44.
[24] Stillingfleet (1709), p. 9.
[25] See Force (1999), pp. 240–241.
[26] Newton, Jerusalem, Jewish National and University Library, Yahuda MS 41, fol. 5, quoted in Gascoigne (1991), p. 190.

ples. that Sesostris from hence made his temples in Egypt[,] one in each Nomus[,] & that from thence the Greeks made theirs & borrowd their religion'.[27] Stukeley later told Conduitt that he had discussed the subject of Solomon's Temple with Newton, who

> had formerly drawn it out & considerd it. we were not very particular, but both agreed in this, that it was nothing like any drawings or descriptions yet publick. he says it was older than any other great temple. that Sesostris from this model built his temples in Egypt, one in each nomos. & that from thence the Greeks borrowd their architecture, as they had their religious rites. I have likewise had some small conference with him about the first plantation of thes western parts of the world, after the flood & had the satisfaction to find I had fallen into the same notion as he.[28]

Newton and Stukeley had reached a similar conclusion on the design of early temples: Stukeley reflected how 'the first idea of temples was to make somewhat resembling the universe[,] the habitation of the deity[,] therefore round & open the best form'.[29] Newton likewise wrote that 'Temples were anciently contrived to represent the frame of the Universe as the true Temple of the great God'.[30] That they reached similar opinions is not surprising, given their similar sources, such as the Spanish Jesuit scholar Juan Bautista Villalpando, author of *In Ezechielem explanationes* (2 vols.) (1594–1605).[31]

Other shared sources naturally included Classical authors. From his reading of Lucian, Newton noted how 'the Temples of Egypt are beautiful & large being built of costly stones but if you seek a God within you will find either an Ape or a Stork or a Swallow or a Cat. To represent things by'. He explained that these 'beasts wch the Egyptians honoured were nothing else than the symbols or hieroglyphics of their first fathers propagated down to their several tribes'.[32] He also perceived an analogy between the Egyptians' use of hieroglyphs and the language of the biblical prophets who, he wrote, 'frequently used' 'the same language', so that birds, animals and insects were used by both to represent 'kingdoms & bodies politic, fire to signify warr wch consumes them, the sun moon & stars to signify the king & his people'.[33] Newton proceeded to suggest that this was the reason the Egyptians had apparently worshipped animals and animal-headed gods, and had built temples in their shape, for

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[27] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 533, fol. 41.
[28] Stukeley to John Conduitt, Grantham, 26 June–22 July 1727, Cambridge, King's College, Keynes MS 136.
[29] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 323, fol. 203.
[30] Quoted in Westfall (1980), p. 354.
[31] See Goldish (1998), Ch. 5, 'The Temple of Jerusalem'.
[32] Newton, Oxford, Bodleian Library, New College MS 361/2, fol. 108v.
[33] Ibid., fol. 108r.

> under these characters or hieroglyphics the several tribes or Nomes honoured their first fathers & worshipped them as Gods. And this I take to be the reason of the Egyptians worshipping their Gods in the shapes & species of Birds, Beasts, ffishes & Plants … for the making & worshipping such images was referred to & prohibited in the second commandment when Israel was newly come out of Egypt & there fore was older than ye days of Moses …[34]

This was the commandment: 'Thou shalt not make unto thee any graven image, or any likeness of any thing that is in heaven above, or that is in the earth beneath, or that is in the water under the earth'.[35] Undoubtedly Newton was also here reminded of St. Paul's remark concerning the Gentiles' corruption of divine worship: 'Professing themselves to be wise, they became fools. And changed the glory of the uncorruptible God into an image made like to corruptible mortal man, and to birds, and fourfooted beasts, and creeping things'.[36] Scripture appeared to confirm the evidence available from archaeology, and it was this evidence that Stukeley would go in even further search of than Newton ever did, writing such papers as 'The hieroglyphics of the Egyptians', 'Egyptian antiquities' and 'Egyptian hieroglyphs and Chinese writing', many of them read by him at the Society of Antiquaries.[37]

The key term for understanding seventeenth- and early eighteenth-century attitudes to the 'long-lost truth' is corruption. Newton and his contemporaries believed the corruption of ancient religious truth had developed through a two-fold or 'exoteric' and 'esoteric' philosophy. The clear pools of the *prisca theologia* had, over passage of time, been clouded. This argument was partly based on the belief that the ancient priest-king-philosophers who had been the guardians of the true knowledge of the Divine and the universe had, either in order to safeguard this knowledge or for their own self-aggrandisement, supplied the uninitiated with a simplified philosophy.[38] This process of concealment, of 'veils of fiction' and hieroglyphs, had, it was believed, led to corruption and error in ancient philosophy and theology. For commentators such as Newton, the early Christian church was equally guilty of concealment and corruption, particularly in the process whereby it had effected the conversion of polytheistic pagans. It is an attitude to the past—and a belief in the diminishment rather than the advancement of knowledge—that is lucidly summed up in the Anglican *Book of common prayer*, itself a product of the seventeenth century: 'There was never any thing by the wit of man so well devised, or so sure established, which in continuance of time had not been corrupted'.[39] This view point was upheld in *The history of the Royal-Society*, pub-

[34] Ibid.
[35] Exodus 20:4.
[36] Romans 1.22–23.
[37] All these papers are in the collection in the Freemason's Library, Grand Lodge, London, MS 1130 Stu.
[38] See Newton (1959–1977), Vol. 2, p. 331.
[39] 'Concerning the service of the church'.

lished in 1667 and written by one of its founder members, the future Bishop of Rochester, Thomas Sprat. Sprat began by observing that it was 'evident, from the universal Testimony of *History* that all Learning and Civility were deriv'd down to us, from the Eastern parts of the World'.[40] He then added that it was 'from them proceeded the first *Corruption* of Knowledge'.[41] Sprat explained that it had been the custom of Chaldean and Egyptian 'Wise Men, to wrap up their observations on Nature … in the dark shadows of *Hieroglyphicks*, and to conceal them, as sacred Mysteries from the apprehensions of the Vulgar'.[42]

It was believed by some early modern writers, however, that what was lost could be found again, and that ancient evidence suggested an advanced philosophical knowledge amongst the Ancients. As Peter Harrison has recently shown, in the mid-seventeenth century the Cambridge Platonist Henry More saw in the writings of Moses evidence for a Copernican view of the solar system, for the vortices of Descartes, and for the corpuscular theory of Robert Boyle. Harrison has also pointed out that Richard Bentley, who sought advice from Newton in preparing the first Boyle Lectures, declared there that 'the mechanical or corpuscular philosophy, though peradventure the oldest as well as the best in the world, had lain buried beneath contempt and oblivion, till it was happily restored and cultivated anew by some excellent wits of the present age'.[43] Hidden or lost ancient knowledge was there to be rediscovered, be it in the hieroglyphics on the temples and statues of the Egyptians, the allegories contained in myths of the Greeks, or in what Robert Boyle called 'the great volume of nature' which 'is full of real hieroglyphicks, where … things stand for words, and their qualities for letters'.[44] In this context we can see how unsurprising it was that Stukeley could describe Newton as 'the Great Restorer of True Philosophy'.[45]

This belief in the ancient corruption and the concealment of true learning was firmly held by numerous other Newtonians. Samuel Clarke, in his introduction to *The Scripture-doctrine of the Trinity* (1712), declared that 'For, Matters of Speculation indeed, of Philosophy, or Art; things of humane invention, experience, or disquisition; improve generally from small beginnings, to greater and greater Certainty, and arrive at Perfection by degrees: But matters of Revelation and divine Testimony, are on the contrary complete at first; and Christian Religion, was most perfect at the Beginning'.[46] Clarke believed, like his Protestant contemporaries, that good Christian worship had declined over the centuries, from its original

[40] Sprat (1667), p. 5.
[41] Ibid.
[42] Sprat (1667), p. 5.
[43] Bentley, *The works of Richard Bentley DD* (3 vols.) (London: Macpherson, 1838), Vol. III, p. 74, quoted in Harrison (1998), p. 136.
[44] Boyle, 'Some considerations', in *The works of the Honourable Robert Boyle* (6 vols.) (T. Birch, Ed.) (London: Printed for J. and F. Rivington …, 1772), Vol. 2, p. 29, quoted in Harrison (1998), p. 270.
[45] Stukeley, 'The Creation' manuscript, London, Grand Lodge, Freemason's Library, MS 1130 Stu (1), fol. 179.
[46] Clarke (1712), p. viii.

purity in its earliest centuries until the Reformation, at which point 'it began to recover',[47] although Clarke believed its recovery was by no means completed by the time he was writing. John Craig in his *Theologiae Christianae principia mathematica* (1699) went so far as to apply the theory of probabilities to show how historical or theological evidence was gradually weakened through its transmission through successive hands. By his mathematical calculations, Craig argued that by the year 3144 A.D. *all* evidence in favour of the truth of the Gospels would have diminished to zero, and he therefore inferred from this that the Messiah's second coming *must* occur before that date.[48] This use of modern methodology in pursuit of conventional or traditional ends highlights the complex relationship between 'Ancients' and 'Moderns', which even in the early eighteenth century was not seen as particularly paradoxical.

William Whiston also joined the debate. Dedicating his book to Newton and the Royal Society, he devoted an extensive section of his *Astronomical principles of religion, natural and reveal'd* (1717) to the subject of ancient theology. Having carefully developed his argument to show the authenticity of the Newtonian system and, upon this foundation, the principles of natural religion, Part VIII of the book was used to show that his foregoing inferences were 'the common *Voice of Nature and Reason*', and that this could be proved 'from the *Testimonies* of the most considerable Persons in all Ages'.[49] Which is to say, Whiston believed the intellectual systems of all the ancient philosophies could be reconciled with the Scriptural (and Newtonian) account. In Whiston's argument, Scripture was true because everyone in the past (once confusion and errors had been removed) recorded identical accounts of the natural history of the world. After presenting over thirty-five pages of extracts from the Bible to illustrate this, Whiston proceeded to present similar 'Testimonies, from the ancient Heathen Writers'.[50] In the final part of the book, addressed 'especially to the *Scepticks* and *Unbelievers* of our Age', he cited Grotius and Stillingfleet as sources showing how the 'Sacred Records' were 'evidently' supported by 'those most Ancient, Authentick, and Numerous books and Fragments'.[51] Although he suggested the ancient Greeks could be ignored because they

> followed their own Reasonings in all such Matters ... Yet was it quite otherwise with the more ancient Ages, and those Natural and Divine Doctrines which they received by Tradition from their first Founders, and which most probably were originally deriv'd from the first Parents of Mankind, or at least from the earliest of their Progenitors after the Deluge. Those I mean whose Traces and Fragments are still extant in the earliest Sacred Books of the *Egyptians*, *Druids*,

[47] Ibid, p. ix.
[48] *DNB*.
[49] Whiston (1717), p. 156.
[50] Ibid., p. 194.
[51] Ibid. p. 271.

Tyrians, and *Zoroastres*, &c. and in the *Sybilline* Oracles; those Parts, I mean, of them which are well attested to by *Heathen*, *Jewish*, and *Christian* Antiquity.[52]

In the eighteenth century it became increasingly commonplace to see these ancient priests and philosophers as holders of original knowledge on the true nature of the world, knowledge passed directly from Adam, Noah and Moses. Stukeley, who had an off-and-on friendship with Whiston from the early 1720s until the 1750s, would be the most dedicated proponent of this argument. He spent much of his life from 1719 onwards researching and writing *Stonehenge: a temple restor'd to the British Druids* (1740) and *Abury: a temple of the British Druids* (1743), where he attempted to prove that the Celtic Druids had been, in all essentials, Trinitarian proto-Christians. Other books, such as his *Palaeographia sacra: Or, discourses on monuments of antiquity that relate to sacred history* (1736) fitted into this same project. Though not so thorough-going as Stukeley in their search for ancient monuments, Halley and Newton had both taken an interest in Stonehenge, which (like Stukeley, who discussed the subject with Halley) they considered to be far older than most of their contemporaries. Following a dinner with Halley in 1722, the Oxford antiquary Thomas Hearne recorded in his diary, 'Dr Halley hath a strange, odd notion that Stonehenge is as old, at least almost as old, as Noah's Floud'.[53] Newton, meanwhile, observed how 'In England neare Salisbury there is a piece of antiquity called Stonehenge wch seems to be an ancient *Prytaneum*'.[54] For Newton, a prytanea was a temple at the centre of which burnt a ceremonial fire, and which he took as evidence for the Ancients' belief in the heliocentric system[55]—a belief which at least some ancient philosophers, such as Aristarchus of Samos, had indeed held.

In Newton's published work the clearest attempt to relate ancient natural philosophy to the corruption of religion appeared in the conclusion to *Opticks* (1721). There he attacked the 'Heathen' philosophers for having worshipped 'the Sun and Moon, and dead Heroes' instead of 'our true Author and Benefactor, as their Ancestors did under the Government of Noah and his Sons before they corrupted themselves'.[56] As is now well known, Newton had also intended to add further details on his belief in the wisdom of the Ancients to the second edition of *Principia mathematica*. In these 'classical scholia' Newton stated his belief that the Pythagoreans had known the inverse square rule of gravity which he had first announced in 1687, and that they had 'adumbrated it by the harmony of the celestial spheres … measuring the intervals of the spheres by the intervals of the tones'.[57] Newton also believed that his theory of gravitation included the fate of

[53] Hearne (1906), p. 350.
[54]
[55] See Haycock (2002), pp. 124–125, 152.

[56] Newton (1721), p. 379.
[57] McGuire & Rattansi (1966), p. 115.
[58] Harrison (1998), pp. 143–144.

the solar system, which would ultimately collapse.[58] The end of the world would be both a religious and a natural philosophical event; the two were not mutually exclusive.

Newton's ultimately unpublished notes for the classical scholia were read by David Gregory, who made use of them in writing the preface to his *Elements of astronomy, physical and geometrical* (1702, English translation 1715). Gregory had been the first man to lecture publicly on Newtonian philosophy, and with Newton's assistance had been made Savilian Professor of Astronomy at Oxford in 1691. In *Elements of astronomy*, which was the first published textbook on gravitational principles, Gregory discussed and 'proved' the notion that Newton's discovery of universal gravity 'was both known and diligently cultivated by the most ancient Philosophers'. Gregory claimed Pythagoras had understood 'that the Gravity of the planets towards the Sun (according to whose measures the Planets move) was reciprocally as the Squares of their Distances from the Sun'.[59] Gregory's book was read by Stukeley, who used its argument to support his own researches into the wisdom of the Ancients, writing that Gregory 'might well conclude that [the planets] movd in their Orbs according to the compleatest harmonic ratio, which Sr *Isaac Newton* in our days has provd by his immortal demonstration in *Princip[ia] Philos[ophica] Mathemat[atica]*'.[60] Others too were aware of Newton's belief that the ancients had been cognisant with the true operation of the universe. Nicolas Fatio de Duillier, who was close to Newton in the 1690s, told Christiaan Huygens that Newton believed that, gathered together, the fragments of ancient texts showed the ancients 'Effectively had the same idea as those laid out in the *Principia*'.[61] And according to Newton's executor, John Conduitt, 'Sir I. thought Pythagoras's music of the spheres was intended to typify gravity, & as he makes the sounds and notes to depend on the size of the strings, so gravity depends on the density of matter'.[62]

It was Conduitt who was responsible for posthumously publishing two of Newton's manuscripts dealing with questions of chronology and prophecy. These were his *Chronology of ancient kingdoms amended* (Newton, 1728), to which was prefixed his 'Short chronicle from the first memory of things in Europe, to the conquest of Persia by Alexander the Great', and his *Observations upon the prophecies of Daniel, and the Apocalypse of St. John* (1733). According to Frank Manuel, the chronological accuracy sought by Newton in these works had been necessary for him in order 'to establish absolute bench-marks against which to verify the fulfilment of prophecy'.[63] Newton explained in *Observations* that God had given the

[58] Harrison (1998), pp. 143–144.
[59] Gregory (1715), pp. iii–iv, xi; the book was first published in 1702 as *Astronomiae physicae et geometricae elementa*.
[60] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 401, fol. 81. See McGuire & Rattansi (1966) and Casini (1984).
[61] Fatio de Duillier to Huygens, quoted in Iliffe (1995), pp. 164–165.
[62] Conduitt in Cambridge, King's College, Keynes MS 130; see Dobbs (1991), p. 196.
[63] Manuel (1974), p. 93.

prophecies of the Apocalypse of Daniel and St. John, and other prophecies of the Old Testament,

> not to gratify men's curiosities by enabling them to foreknow things, but that after they were fulfilled they might be interpreted by the event, and his own Providence, not the Interpreters, be then manifested to the world. For the event of things predicted many ages before, will then be a convincing argument that the world is governed by providence. For as the few and obscure Prophecies concerning *Christ*'s first coming were for setting up the *Christian* religion, which all nations have since corrupted; so the many and clear Prophecies concerning the things to be done at *Christ*'s second coming, are not only for predicting but also for effecting a recovery and re-establishment of the long-lost truth, and setting up the kingdom wherein dwells righteousness. The event will prove the *Apocalypse*; and this Prophecy, thus proved and understood, will open the old Prophets, and all together will make known the true religion, and establish it.[64]

Newton believed that the Apocalypse, the Second Coming and the restoration of 'the long-lost truth' were imminent, for, he wrote, 'There is so much of the Prophecy fulfilled'.[65] He observed that 'Amongst the interpreters of the last age, there is scarce one of note who hath not made some discovery worth knowing; and thence I seem to gather that God is opening these mysteries'.[66] Newton essentially believed that Christianity had been irredeemably corrupted in the fourth century, when Pope Gregory (who, as Bede noted, had told St. Augustine of Canterbury that he should 'on no account' destroy the temples of the Anglo-Saxons)[67] had facilitated the conversion of the pagans. Newton believed that this had been achieved by replacing the festivals of their gods with 'annual festivals to the *Saints* and *Martyrs* ... By the pleasures of these festivals the *Christians* increased much in number, and decreased as much in virtue'.[68] The corruption of the most ancient, true, Noachic religion was, therefore, later paralleled by the pattern of corruption of Christianity and its descent from the fourth century onwards into the idolatry of the worship of saints: this was essentially no different from the Egyptians' earlier adoration of dead kings and heroes.

Stukeley was understandably interested in Newton's posthumous works: in a letter to the antiquary Roger Gale he explained:

> Mr Conduitt has sent me Sir Isaac Newton's chronology; I don't admire his contracting the space of time; he has pursued that fancy too far. I am satisfied he has made severall names of different persons one, who really lived many ages assunder. He has come pretty near my ground plott of the temple of Solomon, but he gives us no uprights. He runs into the common error of making Sesac

[64] Newton (1733), pp. 251–252.
[65] Ibid., pp. 252–253.
[66] Ibid.
[67] Bede (1968), Ch. 30, pp. 86–87.
[68] Newton (1733), pp. 204–205.

> and Sesostris one person, with Marsham and many others, the consequence of which is, that the Aegyptians borrowed architecture from the Jews, when I am satisfied all architecture was originally invented by the Aegyptians.[69]

Roger Gale replied to Stukeley's letter on the 26 March: 'You[r] observations appear to me very just. There are more mistakes than one [in] it'.[70] Another of Stukeley's friends, William Warburton, the soon to be famous author of the abstruse *Divine legation of Moses demonstrated* (1737 and 1741) which contained a highly original analysis of Egyptian hieroglyphs,[71] dismissed Newton's *Chronology* out of hand. 'Though he was a prodigy in his way', he told Stukeley, 'yet I never expected great things on this kind (which requires a perfect knowledge of antient Literature, History, and Mankind), from a man who spent all his days looking through a telescope'.[72]

But at least one of Stukeley's friends was more enthusiastic. This was David Hartley, a former Fellow of Jesus College, Cambridge, who had abandoned plans to take holy orders and had become a physician and a Fellow of the Royal Society. He had continued to pursue his own researches in theological matters, however, reading the early Church Fathers and interesting himself particularly in biblical chronology. Like Stukeley, Hartley was a committed Newtonian, and his *Observations on man*, for which he is best known, concludes with a long disquisition on the truth of Christianity and the usefulness of his own philosophical theories to orthodox theology.[73] In 1734 Hartley wrote to Stukeley on the subject of Newton's *Observations upon the prophecies of Daniel*, which, he said, 'appeared to me worthy not only of him, but of the Religion itself; and I do not know that any one else had spoke so well of them before'.[74] A year later Hartley inquired of Stukeley,

> How go your Chronological affairs on? As far as I am a judge, you gentlemen who have abilities and inclination to defend Revelation ought not to be idle. There seems to be a general doubt at least of Christianity prevailing amongst all the moderately learned of the world; and some of good learning and abilities are quite Infidels. I have no fear but the History and Chronology of the Scriptures can never be too much studied, because the arguments of that kind, when once explained rightly, are level to all capacities, and yet so convincing, that I think nothing can resist them . . .[75]

In another letter Hartley told Stukeley (in a remark that seems to echo John Craig's speculations in *Theologiae Christianae principia mathematica*), 'I have heard, since I came to town, that Sir Isaac used to say, that Infidelity would prob-

[69] Lukis (1882–1887), Vol. 2, p. 262.
[70] Ibid., Vol. 1, p. 203.
[71] Iversen (1993), p. 104.
[72] William Warburton to Stukeley, 10 February 1733, in Nichols (1817), Vol. 2, p. 21.
[73] See Smith (1987), p. 124.
[74] Hartley to Stukeley, 5 April 1734, in Nichols (1817) p. 804.
[75] Hartley to Stukeley, 19 December 1735, in ibid., p. 805.

ably prevail till it had quite banished Superstition, but would then be swallowed up by the great Light and Evidence of true Religion'.[76] Clearly to Hartley, who obtained a copy of Stukeley's *Palaeographia sacra* in 1736, such researches into ancient history were not without their merit for modern times.[77]

Following Newton's death, Stukeley became the principal Newtonian investigator into the 'long-lost truth', and he used his researches towards at least one Newtonian end. In *Abury* (1743) he advanced a complex theory which suggested that the prehistoric circles and avenues of stones represented an ancient hieroglyph of the Holy Trinity. Through his personal acquaintance with Whiston, Stukeley was well aware of the antitrinitarian accusations that had been levelled against Newton. Indeed, in his 1752 manuscript biography of Newton, based on notes he had written for John Conduitt in 1728, he declared:

> several people of heretical, & unsetled notions, particularly those of Arian principles, have taken great pains to inlist Sr. Isaac into th[e]ir party. but *that* with as little justice, as the anti-christians. the ch[urch] of England intirely claims him as her son, in faith & in practice.[78]

Towards this end of claiming an orthodox Newton, Stukeley, in field notes written at Avebury in the early 1720s, wrote, 'Tho' the druids by reason of their abhorrence of writing have left us little on record of their principal doctrines of thir religion, yet they have left us the largest draught of the trinity that ever was, whence one cannot reasonably doubt of their faith in that divine truth'.[79] This 'draught' was a 'hieroglyphic'—a key word given Newton's use of it—of the winged snake and circle (or what he dubbed a 'Dracontium'), the remains of which Stukeley identified at Avebury, and which he believed he could decode. He explained that there was a precedence for such a symbolic structure: as Christian churches and cathedrals had been designed upon the shape of 'our saviour's body extended on the cross', so in ancient times 'they form'd them upon the geometrical figures or pictures, or manner of writing, by which they express'd the deity, and the mystical nature thereof'.[80] The 'symbol of the snake and circle' was 'the picture of the temple of *Abury*'.[81] It had been taken by the Egyptians together with 'hieroglyphic writing in general, from the common ancestors of mankind. This is sufficiently prov'd from the universality of the thing, reaching from *China* in the east, to *Britain* in the west, nay, and into *America* too'.[82]

From an early stage of his fieldwork, therefore, Stukeley was searching for the meaning and origin of the snake–circle–wings hieroglyph. On the reverse of a drawing of the termination of the Kennet avenue and temple, dated 15 May 1724,

[77] Allen (1999), p. 31.
[78] Stukeley, Royal Society MS 142, fol. 67.
[79] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 323, fol. 140.
[80] Stukeley (1743), p. 8.
[81] Ibid., p. 56.
[82] Ibid.
[82] Ibid.

he made a sketch of this glyph, and noted beside it, 'this is the representation of god or the great soul of the world among the persian magi[,] the egyptian priests & we find it here among the western Druids doubtless tis of vastest antiquity & borrowd by them all from the post diluvian times'. After noting that the Egyptians' doctrines were concealed 'in hieroglyphs & symbolical characters', he wrote that he had no doubt 'but every part of this & like works has such secret meanings tho' now we have no means left of discovering it'.[83] Stukeley held a largely Renaissance interpretation of hieroglyphs, as espoused by Athanasius Kircher in *Oedipus Ægyptiacus* (1652–1654), via Plato's *Phaedrus*.[84] As the original source of letters and writing, Egyptian hieroglyphs formed an important area of study for classical historians. The Greek philosopher Plotinus argued that hieroglyphs were not simply images of the things they represented, but that they possessed a symbolic quality which revealed to the initiated profound insights 'into the very essence and substance of things, and an intuitive understanding of their transcendental origin, an insight which was not the result of reasoning or mental reflection, but was acquired spontaneously by means of divine inspiration and illumination'.[85] Following Marsilio Ficino's translation of Plotinus's *Enneades*, Egyptian hieroglyphs were interpreted as a divinely inspired form of symbolic writing.[86]

It is clearly this conception of the hieroglyph that Stukeley perceived in the pattern of stones at Avebury. He did not believe the Egyptians worshipped the idols in their temples as gods, but rather as symbolic devices which 'would effectually draw down the influences & blessing of the fountain of goodness'.[87] It was Kircher who had first identified the hieroglyphic of the globe, serpent, and wings as a form of the divine Trinity, and in his 1724 essay on 'The hieroglyphics of the Egyptians' Stukeley identified 'the learned Kircher' as having 'unlocked the Springs of this kind of learning'.[88] As Stukeley explained, the snake was a representation of the Messiah, as 'All writers *jewish* and *christian* with one mouth assert'. The snake's practice of shedding its skin 'and returning to youth again' made it 'A fit emblem of [Christ's] resurrection from the dead, and of returning to an immortal life'.[89] The circle 'in hieroglyphs means, divine',[90] and was a clear symbol for God who, as described by Hermes Trismagistus, was 'without beginning & ending whose center is every where & circumference no where'.[91] The 'wings'—the final part of the Trinity which were not actually physically portrayed at Avebury because of the difficulty of illustrating them in stones—represented the Holy Spirit, 'the moving &

[83] Stukeley, Oxford, Bodleian Library, Gough Maps 231, fol. 31.
[84] Iversen (1993), p. 43.
[85] Ibid., pp. 45–46.
[86] Ibid., p. 64.
[87] Stukeley, 'The Creation' manuscript, London, Grand Lodge, Freemason's Library, MS 1130 Stu (3), unpaginated.
[88] Ibid.
[89] Stukeley (1743), pp. 59–61.
[90] Ibid., p. 62.
[91] Stukeley, Oxford, Bodleian Library, MS Eng. misc. c. 323, fol. 132.

penetrative person of power of the deity'.[92] He claimed that although knowledge of hieroglyphs 'depends much on a knowledg of the Egyptian Philosophy and Theology' this was not a problem, 'because tis not materially different from what we have at this day. as nature is the same[,] true philosophy must beso [sic] too thro' all ages'. As he interpreted it,

> the ancients, probably even from Adam's time, express'd in writing, the great idea of the deity ... [by] a circle with wings, and a snake proceeding from it. A figure excellently well design'd to picture out the intelligence they had, no doubt, by divine communication, of the mysterious nature of the deity... By this means they produc'd a most effective prophylact ... which could not fail of drawing down the blessings of divine providence upon that place and country ...[93]

Whilst we do not know whether Stukeley and Newton had ever communicated with one another on this subject, the idea of an ancient stone temple representing the Egyptian hieroglyphic of a snake in a circle with wings would have by no means been unacceptable to Newton.

When *Stonehenge* was published in 1740, Samuel Gale wrote and told Stukeley that it had been 'well received' at the Society of Antiquaries, and 'it is agreed, if you can maintain the truth of your mensurations, the whole must be owned a demonstration'.[94] Roger Gale, meanwhile, declared 'Without flattery I think it is a masterpiece, and that for the future no one will dare to dispute the true founders of that stupendous work'.[95] Like his brother, Roger considered Stukeley's detailed measurements of the monument (the clearest legacy of Stukeley's Baconian education) the lynchpin of his argument that it had been built by the Druids, 'for that is the foundation of all your observations, & being once allowed, your whole superstructure is immoveable'.[96] *Abury*, it would appear, was equally well received. In the summer of 1744 the wealthy Quaker physician, collector and philanthropist John Fothergill, who owned copies of both *Abury* and *Stonehenge*, visited Bath. As he told a friend, along the way 'I just took a transient view of the remains of the celebrated ancient temple at Avebury on Marlborough Downs, which, if it was what Dr Stukeley says it was, has been a most astonishing performance, and by what appears it seems not unlikely'.[97] It seems clear from the contemporary evidence that Stukeley's interpretation of these stone monuments had triumphed, succeeding any notion that they might have been built in Roman or medieval times. It was an interpretation that remained dominant throughout the eighteenth and nineteenth centuries.

Stukeley's synchronistic approach to the past was ultimately overhauled by the rationalist historicism of men such as Henry St. John, first Viscount Bolingbroke,

[92] Ibid., fol. 230.
[93] Stukeley (1743), p. 9
[94] Samuel Gale to Stukeley, 14 May 1740, in Lukis (1882–1887), Vol. 1, p. 320.
[95] Roger Gale to Stukeley, 20 May 1740, in Ibid., Vol. 3, p. 274.
[96] Roger Gale to Stukeley, 11 December 1741, in Ibid., Vol. 1, p. 329.
[97] Fothergill to Dr. Robert Key, London, 6 August 1744, in Booth & Corner (1971), pp. 94–95.

whose *Letters on the study and use of history* was published posthumously in 1752, and David Hume, whose *Four dissertations* (1757) included his 'Essay on natural history of religion', which posited that monotheism had developed out of polytheism and idolatry and not vice versa, as Vossius, Stillingfleet, Newton, Stukeley and most other critics had for so long argued. Hume's thesis marked a revolution in scholarly opinion, and that it did not meet with immediate popular support is unsurprising: too much was staked on the traditional interpretation. What it is key to understand, and what I have tried to show here, is that this current of thought remained strong in England through the first half of the eighteenth century, and that one of its chief proponents was firmly placed within the Newtonian circle, and succeeded to and developed upon ideas clearly held by Newton himself.

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