

Knowing the Time, Knowing of a Time

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The Millennial Scientist: Isaac Newton Reading Daniel 7

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Introduction

Isaac Newton (1642-1727), almost three centuries after his death, still looms large in our culture. He is hailed as a founding father of modern science¹ for his numerous breakthroughs, such as his discovery of laws of motion or the invention of operational calculus. The praise of Newton is often heavily secularized, and hinders the possibility of appreciating the larger goals his scientific work was trying to address. He wanted to show the rational structure of the universe in order to demonstrate that it is the product of a divine being. "I am," Newton wrote, "compelled to ascribe the frame of this System to an intelligent Agent" (Buckley 1987: 138). Newton viewed his rationality as a sacred tool he could use to perceive the mind of God. Newton's God is one of dominion and providence. This evidence can be found not only by scientific experiment. Newton's life-long obsession with God which motivated his scientific work also made him pursue more esoteric channels. For example he wrote a commentary on the Emerald Tablet of Hermes Trismegistus, an alchemical treatise.² While he was polemical against it, he was quite familiar with the Kabbalah. He also extensively studied scriptural prophecy. As a student in Cambridge, he learned Hebrew, probably from Isaac Abendana, the first person to translate the Mishnah into

¹ Henri de Saint-Simon represents the extremes of this brand of veneration of Newton, where he was revered as a paradigm of the potential of reason. In 1802 he founded what he called the Religion of Newton. Similarly Champplain de la Blancherie tried to redate the calendar starting from Newton's birth (see Manuel 1974: 53). Another famous example of the extremes of venerating Newton's rational genius is Alexander Pope's quip: "God said: let Newton be!" (Ibid 1974: 20).

² The Emerald Tablet is also known as the Tabula Smaragdina. See Alexander Roob, *Alchemy and Mysticism* (Cologne, 1997), 8ff. See also Betty Jo Teeter Dobbs, "Newton's Commentary on the Emerald tablet of Hermes Trismegistus: its scientific and theological significance," in *Hermeticism and the Renaissance* (Washington, D.C., 1988), pp. 182-91; idem, *The Foundations of Newton's Alchemy* (Cambridge, 1975). About alchemy Newton wrote:

Alchemy tradeth not with metals as ignorant vulgar think ... this philosophy is not of that kind which tendeth to vanity and depict but rather to profit and to edification inducing first the knowledge of God ... so that the scope is to glorify God in his wonderful work, to teach Man how to live well and to be charitably affected helping our neighbour (cited in Kochavi 1994: 118).

Latin (Faur 1990: 528).³ The final product of years of studying the Bible was his book *Observations upon the Prophecies of Daniel, and the Apocalypse of St. John*, which was published posthumously in 1733. This work attempts to demonstrate that God orchestrates human history. This is how he understood providence, the demonstration of which inspired him to study both science and the Bible. He wrote: “For the event of things predicted many ages before will then be a convincing argument that the world is governed by providence” (Whitla 1922: 306). Since the Bible was thought to be divinely inspired, one can ‘prove’ that human history is all carried out according to a divine plan by showing how historical events correlate to biblical prophecy. This is what his book attempts to do.

Although his scientific achievements can not be understood without them, Newton’s esoteric interests have for generations been either ignored, dismissed, or even lampooned by his admirers. For example, Voltaire once said: “Sir Isaac Newton wrote his comment upon the Revelation to console mankind for the great superiority that he had over them in other respects” (cited in Collins 1993: 121 n.205).⁴

Apocalyptic works, such as the book of Daniel, have an abiding interest in providence (Collins 1977: 153-66; Hartman 1976: 1-14; Fröhlich 1996: 174-98, esp. p.192). Newton, like many who wrote the apocalypses, wanted to show that both human history and the natural world are orchestrated according to a Divine Plan. Newton endeavored to show that this divine orchestration was present in the natural world by means of science and that it was present in human history by means of exegesis of biblical prophecy.

Often apocalyptic texts demonstrate this providence by organizing history into successive stages (2 Bar 36-39, 56-72; 4 Ez 11-12; 1 En 83-90, 93; cf. Collins [1984] 1998: 63-5). John Collins, a leading scholar of apocalyptic literature, lists two reasons for this: “First, it enhanced the deterministic sense that history was measured out and under control. Second, it enabled the reader to locate his own generation near the end of the sequence” (1984: 11). Newton did view himself to be living close to the end of history. Newton wrote that:

‘Tis therefore a part of this Prophecy [Daniel], that it should not be understood before the last age of the world; and therefore it makes for the credit of the Prophecy, that it is not yet understood. But if the last age, the age of opening these things, be now approaching, as by the great successes of late Interpreters it seems to be, we have more encouragement than ever to look into these things (Whitla 1924: 306).

This depends in part on Dan 12:9, which reads, “These words are to remain secret and sealed until the time of the End.” Since he felt he had discovered the “true” meaning of Daniel, then, the end must be near. His own ability to exegete was seen as proof of the eschaton.⁵ Here he is also in-

³ He also apparently would on occasion work with own translations. See Whitla 1924: 225. For a less flattering, though not disparaging, assessment of Newton’s Hebrew, see Manuel 1974: 84.

⁴ We would also point out the remark of Giorgio de Santillana, who wrote that “It is usually considered a blemish on Newton’s life that he spent the last twenty years working on numerology from the Scriptures, and became impatient when people asked him questions about physics” (cited in Faur 1990: 530).

⁵ This also reveals that Newton saw himself as a type of inspired prophet, with his rational genius as a form of divine revelation. Matania Kochavi’s article on Newton’s interpretation of Daniel does a very good job of articulating the sense of chosenness with which Newton considered himself to be unveiling the truths of the Bible (1994: 105ff.). Similarly, Manuel has written that in Newton’s “moments of grandeur he saw himself as the last of the

fluenced by the millennial spirit current among many bible scholars and in the culture at large in the England of his day.⁶

In his different areas of inquiry, he strove for the same operating principles of rationality. This scientific methodology produced an exegetical approach based on several overarching principles.⁷ Among these overarching principles are:

interpreters of God's will in actions, living on the eve of the fulfillment of the times. In his generation he was the vehicle of God's eternal truth ..." (1974: 23).

⁶ Millennialism in sixteenth and seventh century England is a rich and complicated topic. It has a radical, populist manifestation, with such people as John Foxe or the Fifth-Monarchy men, and there is another version located in the academy, where biblical scholars scrutinized Daniel and Revelation in order to procure an end-time date purported to be imbedded in the text. Here we only mention in passing some of the more important millennialists of the period. Christian Andreae's *Christianopolis* (1620) is a text which describes a Utopia heavily based on Rev 21's New Jerusalem. John Henry Alsted's *Diatribes De Milleannis Apocalypticis, non illis Chiliastarum & Phantastarum sed BB. Danielis & Johannis* (Frankfurt, 1627; Eng. trans, 1642) also deserves mention. According to this work, the millennium would begin in 1694. It contains a great deal of computation of the numerical information of Daniel and Revelation. It holds that the Protestant Reformation anticipates the 'true' Reformation, i.e. the millennium. Joseph Mede (1586-1638) was one of the premier biblical scholar's of his age. He wrote *Clavis Apocalyptica* (privately pub., 1627). This work became very influential for its systematic analysis of patterns of Revelation imagery. This systemization is employed to adapt the work's images to a chronological schema. Like many English millennial works, it is stridently anti-papal. George Hakewill's *An apologie of the power and providence of God in the government of the world* (1627) has no end-time date, but does, however, predict a Golden Age. As many works do, it describes the anti-Christ as the Pope, and holds that the conversion of the Jews will be a sign of the return of Christ. One should also mention John Booker's *The Bloody Almanack* (1643) which employs a great deal astrology, as well as exegesis of Daniel and Revelation. Nicholas de Fatio is another good example of England's millennial sentiments. De Fatio was a French Huguenot scientist exiled in London who became deeply involved in mysticism. He eventually broke break with the scientific community. Newton and de Fatio knew one another. The Scotsman John Napier was a biblical scholar who argued that the fulfillment of prophecy is observable, demonstrable, and regular. Newton's biblical scholarship must be understood in light of this tradition. John Bale wrote *The Image of bothe Churches* (1645), which has an apocalyptic scheme of history. Another example of millennial scholarship would be Thomas Brightman's *A revelation of the revelation* (Frankfurt, 1609) which argued that Rome was fourth beast of Daniel 7. It is also proposed a periodization of history based on scriptural prophecy. Such work became standard in English millennialism.

For more on this topic, see C.A. Patrides and Joseph Wittreich, eds., *The Apocalypse in English Renaissance Thought and Literature* (Manchester, 1984); B.S. Capp, *The Fifth-Monarchy Men: A Study in Seventeenth-Century English Millenarianism* (London, 1972); K. Firth, *The Apocalyptic Tradition in Reformation Britain, 1530-1645* (Oxford, 1978); Rob Iliffe, "'Making a Shew': Apocalyptic Hermeneutics and the Sociology of Christian Idolatry in the work of Isaac Newton and Henry More," In James E. Force and Richard H. Popkin, eds., *The Books of Nature and Scripture* (Dordrecht, 1994), 55-88. Also please see Louise Brown, *The Political Activities of the Baptists and the Fifth-Monarchy Men* (London, 1912), esp. pp.1-28. Many of these works, with others, are listed on Iliffe 1994: 82.

⁷ For example, In his book *The Chronology of Ancient Kingdoms Amended* (1728), he employs recent discoveries in astronomy to place a vast body of ancient literature in historical sequence, based on their descriptions of the positions of stars. This research allows him to conclude that the Bible is the most ancient text in the world and as such is more accurate than the literature of Greece, Babylonia, Egypt, etc. He also uses this same technique in *Observations* to extrapolate a single chronology from texts which are from different ancient cultures (Whitla 1922: 233).

Scholars have in recent times been more willing to acknowledge the parity of Newton the scientist and Newton the exegete. See Manuel 1974: 23, 97; Iliffe 1994: 63; Kochavi 1994: 112. He was by no means alone in his era in this regard. For example, Herder in 1774 claimed that he knew of fifty *Physikstheologien* (Manuel 1974: 38).

- 1) An unflinching optimism in the potential of reason. This was quite common in the seventeenth century. As in science, there had to be one single correct interpretation, and the human mind had to have the ability to apprehend it. Newton said of scriptural prophecy, “If they are never to be understood, to what end did God reveal them?” (Manuel 1974: 88).⁸
- 2) Each verse of scriptural prophecy is one element of a larger general code. All of biblical prophecy is consistent. If the correct elucidation of a cryptic phrase is discovered, that discovery can be applied to all other attestations of that phrase in scripture. He wrote that “John did not write in one language, Daniel in other, Isaiah in a third and the rest in another” (Kochavi 1994: 107). Rather, all the prophets “wrote in one and the same mystical language” (Hutton 1994: 47).
- 3) Truth is recognized as such by its simplicity and harmony. Newton was committed to unveiling a “divine simplicity in Nature and Scripture” (Manuel 1974: 49). He wrote that “truth is ever to be found in simplicity and not in multiplicity and confusion of things” (Kochavi 1994: 109). It requires a specialist and his trained reason to unveil the true and simple interpretation which is concealed behind the cryptic language of prophecy.

We can see Newton’s understanding of scripture as a rational construct when he compares prophecy to an engine. He wrote on prophecy that “For as of an Engin made by an excellent Artificer a man readily believes that the parts [of the Bible] are right set together when he sees them joyn ...” (cited in Manuel 1974: 121).⁹

Another principle guiding his interpretation was the priority of the Book of Daniel. This is because it is the book of the Old Testament which deals most explicitly with the end-time, which for him is necessary to fully understand the rest of human history as a whole. Understanding history as a sequence of stages allows him to see it as something with a definite end. Thus he regarded Daniel as the “key” to the rest of the Bible (Whitla 1922: 148).

Daniel

Millennialists have for centuries turned to the Book of Daniel. Daniel addresses the question of how long the tribulation before the end will last more explicitly than any other apocalypse (Hartman 1976: 2; Collins 1997: 157-65). The book’s interest in the chronology of history was recognized even in antiquity. Josephus, in his first century AD work *The Antiquities of the Jews* wrote that Daniel “was not only wont to prophecy future things, as did other prophets, but he also fixed the time at which these would come to pass” (10.11.7. §267; Collins 1977: 153; *ibid* 1993: 52). The description of the final eschatological war against the Gentiles in the Qumran War Scroll is heavily influenced by the language of Daniel.¹⁰ In the New Testament Book of Revelation, the length of time that that the beast from the sea will reign on earth before the Day of Judgment is three and a half years. This is based on the length of the reign of the fourth beast in the vision of

⁸ This is symptomatic of general trends of that period of intellectual history. The scientific progress of Newton helped establish the Enlightenment, which is perhaps most succinctly described by Kant’s famous statement: “Aufklärung ist der Ausgang des Menschen aus seiner selbstverschuldeten Unmündigkeit.”

⁹ He also compares biblical interpretation to a geometrical proof of Euclid (Manuel 1974: 124).

¹⁰ Cf. 1QM 1:2 with Dan 11:32; 1QM 1:4 with Dan 11:44, 1QM 1:6 with Dan 11:12. See Collins 1993: 72-3; Hartman 1976: 5. For Qumran texts which cite Daniel, see 4Q174. See also 4Q243-5, 4Q242 and 4Q551.

Daniel 7 (Rev 13:5; Dan 7:25; Collins 193: 109).¹¹ Norman Cohn in his classic *The Pursuit of the Millennium* is undoubtedly correct when he calls Daniel the “fountain-head of the apocalyptic tradition” ([1957] 1970: 238).

This text is a collection of tales and visions ascribed to Daniel, a legendary sage from Israel’s past (cf. Ezek 14:14, 28:3; Jub 4:20). Ostensibly the stories takes place in Babylonia, when there was a Jewish community living there in Exile in the sixth century BCE. Much of the content of the book’s visions are what scholars call *ex eventu* prophecy. That is, an author describes events of his own day by placing them in the mouth of a figure from the past who ‘predicts’ them. Many of the visions of the book recount in cryptic language the rise and fall of the powerful kingdoms which surrounded Israel. The book is concerned with the Seleucid and Ptolemaic empires which formed as a result of the breakup of Alexander’s empire in 332 BCE. It provides an account of Hellenistic history, which culminates in the reign of Antiochus Epiphanes who ruled the Seleucid Empire from 175 to 164 BCE. He was vilified by many in Israel because of his promotion of Hellenization and disdain for Jewish tradition (cf. 1 Mac 1:10-15; 2 Mac 4:7-38; Fröhlich 1996: 69).¹² He did this in part by forcing Jews to sacrifice swine upon the altar of the Temple, by attempting to destroy all copies of the Torah (1 Mac 1:56), and by supplanting of Jewish festivals. He murdered the legitimate high priest, Onias III (2 Mac 4:30-38; Dan 9:26; Collins 1993: 62) and sold the priesthood to Onias’s brother Jason (2 Mac 4:8). Most radically, he pillaged and desecrated the Temple (1 Mac 1:37; Dan 11:31). These events led to the Maccabean Revolt. The temple was desecrated for roughly three and a half years, a figure which has often been pivotal for millennial exegesis. The rededication of the Temple in 164 BCE is celebrated today as Hanukkah. Daniel was a book compiled for Jews who were suffering from persecution and whose religious traditions were under attack. The book is an imaginative construction of these events designed to provide solace. The book ‘predicts’ that there will be a period of wickedness where the righteous will suffer (Collins 1993: 324).¹³ This wicked reign precedes the restoration of just rule at which time the wicked will be judged and punished.¹⁴ The book of Daniel is a Jewish salvation fantasy.

Daniel 7

The vision of the four beasts in the seventh chapter of Daniel is one of the most important in the book. It is written in Aramaic and was probably written shortly before 167 BCE (Collins 1984: 81). In it, Daniel has a dream where he sees four strange beasts: a lion with eagle’s wings,

¹¹ For the influence of the Son of Man from Daniel 7:13 on the New Testament, see Mt 24:24-31; Mk 13:24-27; Lk 21:25-27; John 3:18, 8:28, 12:34. See also Mt 24:15 and 1 En 46 and 48. Also Daniel heavily influences the eagle vision of 4 Ez 11-12, which is from the late first century AD. The interpretation of the vision mentions Daniel explicitly (12:12). It interprets the vision as signifying the final days when the Messiah will come and wage war against the unrighteous and judge them.

¹² He also apparently forced Jews to eat pork and sacrifice pigs (1 Mac 1:41-63; 2 Mac 6:6-11; Collins 1993: 62-4). Regarding the chronological sequence the book puts forth, Collins writes that Antiochus Epiphanes “clearly represents the peak of wickedness. He is the ultimate representative of sinful human dominion, and therefore the confrontations with God takes place in his time” (1977: 160). The excesses of his politics and personality led to him acquiring the nickname of Antiochus Epimevnh, or Antiochus The Mad (Whitla 1922: 259).

¹³ Cf. 2 Thes 2:8; 2 Cor 6:15; Rev 20:8.

¹⁴ For example chapters 11-12 describe the reign of terror of an evil king (11:44). It predicts a “time of great distress” (12:1) at which point the angel Michael will come and deliver the Jews. There will be a general resurrection of the dead, and those who are found worthy will be given eternal life. In the face of dire suffering, the book provides eschatological hope.

bear with three ribs in its mouth, a leopard with four bird's wings and four heads, and a beast with iron teeth and ten horns.¹⁵ An additional horn sprouts from the fourth beast. Three horns fall off because of this little horn, which has human eyes and a mouth full of boasting (7:8). We then have a vision where the Ancient of Days (/ymwy qytu) clothed in white sitting upon a throne where "Ten thousand times then thousand" minister to him (v.10), and fire emits from the throne.¹⁶ He judges the fourth beast, who is killed (vvs. 11-12). Then, in the dream, Daniel sees a "Son of Man" (vna rb) "coming on the clouds of heaven" (v. 13). The Ancient of Days, having killed the fourth beast, gives the Son of Man kingship over all the earth. His kingship "is an everlasting rule which will never pass away" (v. 14).

In the second half of the chapter, Daniel asks an unnamed person, presumably an angel, what all this means. He gives Daniel an interpretation:¹⁷ about the fourth beast and its horns. The interpreter says:

The fourth beast
is to be a fourth kingdom on earth,
different from all other kingdoms.
It will devour the whole world,
trample it underfoot and crush it.
As for the ten horns: from this kingdom
will rise ten kings, and another after them;
this one will be different from the previous ones
and will bring down three kings;
he will insult the Most High
and torment the holy ones of the Most High.
He will plan to alter the seasons and the Law,
and the Saints will be handed over to him
for a time, two times, and half a time (/du glpw /ynduw /du-du).
But the court will sit, and he will be stripped of his royal authority
which will be finally destroyed and reduced to nothing.
And kingship and rule
and the splendors of all the kingdoms under heaven
will be given to the people of the holy ones of the Most High,
whose royal power is an eternal power,
whom every empire will serve and obey. (Daniel 7:23-7).

¹⁵ four beasts emerged from the sea, each different from the others. The first was like a lion with eagle's wings and, as I looked, its wings were torn off, and it was lifted off the ground and set standing on its feet like a human; and it was given a human heart. And there before me was a second beast, like a bear, rearing up on one side, with three ribs in its mouth, between its teeth. "Up!" came the command "Eat quantities of flesh!" After this I looked; and there before me was another beast, like a leopard, and with four bird's wings on its flanks; it had four heads and was granted authority. Now, in the visions of the night, I saw another vision: there before me was a fourth beast, fearful, terrifying, very strong; it had great iron teeth, and it ate its victims, crushed them, and trampled their remains underfoot. It was different from the previous beasts and had ten horns (Daniel 7:4-7).

¹⁶ Cf. 1 En 14; Ezek 1:9, 26; Is 6; Rev 4:2-3; AsMos 4:2; TLev 5:1. Fire also issues from the throne in 1 En 14:19.

¹⁷ The angel's interpretation of the Saints of the Most High is: "Those who receive royal power are the holy ones of the Most High, and kingship will be theirs for ever, for ever and ever" (7:18; cf. SibOr 3:768-93).

This chapter, in particular the fourth beast, has fascinated millennialists and biblical scholars for centuries.¹⁸ Scholars commonly take the view that the four kingdoms represent Babylonia, Media, Persia and Greece, which were successive political powers when this vision was composed and the preceding three centuries (Collins 1984: 80; cf. also *ibid* 1993: 295-99; *ibid* 1977: 158-60; Caquot 1955: 5-13. For a different account, see Fröhlich 1996: 74).¹⁹ If the fourth beast is Greece, the consensus views, the ten horns represent various kings of the Seleucid Empire, which came out of Alexander's empire.²⁰ The "little horn" which boasts would then be Antiochus Epiphanes ([1984] 1998: 102). This reading is to a large extent based on v. 25, "He will plan to alter the seasons and the Law, which is taken as a reference to his suppression of Jewish festivals (2 Mac 6:6) and his attempt to destroy all copies of the Torah (1 Mac 1:56). The "time, two times and half a time" (/du glpw /ynduw /du-du) represents a figure of three and a half years (Collins 1993: 322).²¹ The Aramaic word for time /du can also mean one year. This length of time signifies the period of suffering, the final stage of history which God will allow before the Day of Judgment, . This length is based on the amount of time that the temple was desecrated by Antiochus. 1 Mac 4:54 says that the temple was profaned for three years.²² This length of time is used

¹⁸ For the history of exegesis on this see Collins 1993: 72-123. For patristic exegesis, see Jay Braverman, *Jerome's Commentary on Daniel* (Washington, D.C., 1978) and Gleason Archer Jr., *Jerome's Commentary on Daniel* (Grand Rapids, 1958). For medieval exegesis on Daniel see also Bernard McGinn, *Visions of the End* (New York, 1978) and Norman Cohn, *Pursuit of the Millennium* (New York, [1957] 1970), esp. pp. 234-52.

¹⁹ This is also supported by the dream in Dan 2:38-45. The demarcation of a sequence of four kingdoms is based on a rich mythological tradition. This is to a large extent due to Dan 2. In that chapter a dream of a statue made of four different sections, each made of a different metal is interpreted as signifying four successive kingdoms. It relates to a tradition where different world epochs are associated with different metals. Generally the sequence of metals begins with gold and proceeds to progressively lower grade metals. So we find a periodization of history where different periods are given different values. These value judgments of the metals is arranged often so that the entire sequence of historical periods describes a descent. The most well-known location of this mythologue is Hesiod's *Works and Days* 109-20. See also Ovid, *Metamorphes* 89-150; SibOr 4:49; *Bahman Yasht* (*Zand-i Vohuman Yasn*) chapter 1; Collins 1993: 162-70. Later writers occasionally add a fifth empire which for them is a cipher for Rome, such as Tacitus (*Histories* 5:8-9), Aemilus Sura and Appian (*Ibid* 1993: 167). See also D. Flusser, "The Four Empires in the Fourth Sibyl and in the Book of Daniel," *Israel Oriental Studies* 2[1972]: 148-75; Geo Widengren, "Les quatre Âges du monde," in G. Widengren, M. Philonenko and A. Hultgård, *Apocalyptique Iranienne et Dualisme Qoumrânién* (Paris: Maisonneuve) 23-62.

²⁰ For the symbolic nature of horns in biblical literature, see SibOr 3:387-400; Zech 2:1-4; 1 En 90:9; 1QSb 5:26; Collins 1993: 299; *ibid* 1984: 81).

²¹ Cf. Midrah ha-Hefes (*Yemenite Midrash*, San Francisco, 1996) 176.

²² It is a fascinating question as to whether the author of Daniel was predicting this length of time, or if this is an example of *ex eventu* prophecy. Collins, like many, argues that Daniel 7 was probably written shortly before 167 BCE (1984: 81). However, according to 1 Mac 4:52, the temple was rededicated on the twenty-fifth day of the month of Chislev in the year 148 (according to the reckoning of the Seleucid calendar), or December 164. However, since the desolation of the Temple began in December 167, Daniel 7:25's prophecy would place the dedication in the summer of 163. This discrepancy could be explained by suggesting that this three and a half year period was predicted by the author in 167 (Collins 1997: 160). This would also explain the different number of days in Daniel which also signify the period of distress: 1,150 days (8:14); 1,290 (12:11) and 1,335 (12:12). These can be interpreted as attempts to revise calculations of when the eschaton would occur. In this case, it would seem, those revising the book's end-time calculations were basing the establishment of the end-time on more than the restoration of the temple. See Collins 1977: 153-8. Collins suggests that after the restoration of the temple the expectation of the end might have become attached to an awaited general resurrection of the dead (1993: 400-1).

Another interesting location of this three and a half years motif is found in Augustine's *City of God* 20:13. It attempts to correlate the three and a half years of Dan 7 with the 1,000 years of Revelation 20. He concludes that the reign of the saints with Christ extends to the brief period when the Devil will no longer be bound.

in several other visions of the book (8:13-4, 9:26-7, 12:5-13) and is a central motif of the composition as a whole.

The Son of Man²³, Ancient of Days²⁴, or Saints of the Most High²⁵ are complicated figures which, unfortunately, we do not have time to cover adequately. We will focus on the four beasts.

Newton on Daniel 7

In his commentary on Daniel, Newton gives extended treatment to the vision of the four beasts.²⁶ In it, he provides a lexicon of symbols needed to decipher prophetic language. He asserts that in this way one can read prophetic language just as one reads natural phenomena. He wrote that: “This [prophetic] language is taken from the analogy between the world natural and an empire or kingdom considered as a world politic” (Whitla 1922: 149).

He claims that the four beasts of the vision represents Babylonia, Persia, Greece and Rome (Ibid 1922: 157; Kochavi 1994: 110). The inclusion of Rome is significant. He ‘proves’ that the prophecy includes Rome by demonstrating how historical evidence leads to that conclusion. The description of this “fearful, terrifying” beast (7:7) represents the Roman empire since it was “larger, stronger and more formidable” than any other (Whitla 1922: 158). But what clinches this interpretation is his view of the beast’s ten horns. In the vision, three horns are pulled away and a little horn grows up in their place. According to Newton’s symbolic lexicon, horns represent political powers (Ibid 1922: 152). He asserts that the ten horns represent the ten kingdoms which

²³ As for the Son of Man, reading him to be Jesus Christ goes back to the New Testament (Mk 14:62; Rev 14:14; cf. 1 En 46:1-48:10; Odes Sol 36:3; Collins 1977: 123-52; ibid [1984] 1998: 101-4; ibid 1993: 86-105, 299-311). The Archangel Michael is another frequent candidate for the Son of Man. See Dan 12:1; Rev 12:7; 1QM 17:6-8; Collins [1984] 1998: 103.

²⁴ Suffice to say, the Ancient of Days sitting on the throne distributing judgment has often been taken to be God. Cf. Rev 1:14; ApAb 11:2; 1 En 46:1. For Jerome’s interpretation, see Archer 1958: 78.

²⁵ The identity of the “Holy Ones” or “Saints of the Most High” (*ynwylu yvydq*) mentioned in the vision (vvs. 18, 25; cf. v. 14, 8:24) is often taken to represent persecuted Jews, who are conceptualized as angelic, with a privileged fellowship with God (Collins [1984] 1998: 104-7; ibid 1977: 123-26; ibid 1993: 313-19). This is a view many biblical scholars have today.

²⁶ While Newton lived in the formative period of modern biblical scholarship, many of his views were informed by exegetical traditions which were much older.

Two dominant traditions of Dan 7 in the history of its interpretation are that the fourth beast is Rome, not Greece, and that the little horn is not Antiochus Epiphanes, but rather the Pope or the Antichrist.

In both 4 Ezra and 2 Baruch, Jewish apocalypses from the first and second centuries AD, the four kingdom motif from Daniel (quite explicitly in 4 Ez 12:11) is borrowed and the fourth kingdom is understood to be Rome (cf. 4 Ez 12:12; 2 Bar 39:5). In the Book of Revelation, Rome is cast as the eschatological adversary of Christianity (Rev 17-18, esp. 17:5-6). Saint Jerome in his commentary on Daniel which he wrote in 407 AD also assumed the fourth kingdom to be Rome (see his commentary on 7:8, Archer 1958: 77). From the Church Fathers to the Reformation we can find this Roman interpretation of the fourth beast (Collins 1993: 112-21; McGinn 1978: 75, 131).

Newton, like Jerome, among others, was polemical against the interpretation that the little horn can not signify Antiochus Epiphanes (Archer 1958: 82; Manuel 1974: 123). Jerome thought that the little horn refers to the Antichrist (ibid 1958: 82). This also was a dominant interpretive tradition. Those who asserted this view include Augustine (*City of God* 20: 8,13) and Joachim of Fiore (Collins 1993: 119; McGinn 1978: 133). Luther speculated that the little horn might be Mohammed (Firth 1979: 11, 34, 93). By the late Middle Ages, it was increasingly common to identify the Antichrist as the Pope (Ibid 1979: 86). For example, when Jan Huss, who died in 1415, was accused of equating the Pope with the Antichrist, he would only offer the qualification that not every Pope is the Antichrist (McGinn 1978: 263; Collins 1993: 119). This perspective was happily endorsed in the seventeenth century England of Isaac Newton.

came to power with the collapse of the Roman Empire (Ibid 1922: 160-87). Showing remarkable learning, he reviews at great length the Vandals, Goths, the Visigoths, Franks and Huns, ten kingdoms in all,²⁷ starting in the fifth century, and how they rose to power and overthrew Rome. Crucial for him then is the idea that these ten horns are a continuation of the Roman Empire. He surveys how these groups adopted the Christianity of Rome (Kochavi 1994: 110; Whitla 1922: 195). He also reviews the history of the rise of the Roman Church. He concentrates on the Pope's accumulation of civil powers. Newton equates three of these acquisitions with the three horns of the fourth beast which were uprooted. He holds these three to be the Exarchate (or civil authority of the Roman Empire) of Ravenna, the kingdom of the Lombards and the Dukedom of Rome.²⁸ The Pope acquired this political power by help of the Franks and their king Charlemagne. These historical events led in part to Charlemagne being anointed by Leo III on Christmas Day 800 and become the first Holy Roman Emperor. The coronation of Charlemagne was considered by many to be the resurrection of the ancient Roman Empire.²⁹ He provides great detail to argue that Charlemagne's Holy Roman Empire was an extension of papal dominion. Charlemagne converted the Saxons and Huns he conquered to Catholicism and greatly magnified the power of Rome. Newton discusses coins with the Emperor on one side and the Pope on the other (Whitla 1922: 196). Since the prophecy is about the fourth "kingdom" he is combing papal history to find when the Pope achieves not only ecclesiastical dominion but political as well. He asserts the defining moment of the Papacy's achievement of political dominion is the coronation of Charlemagne in

²⁷ According to Newton, Daniel's ten kingdoms should be identified as the following: 1) the Vandals and Alans in Spain and Africa, 2) the Suevians in Spain, 3) the Visigoths, 4) the Alans in Gallia, 5) the Burgundians, 6) the Franks, 7) the Britians, 8) the Huns, 9) the Lombards, and 10) Ravenna. See Whitla 1922: 170ff.

²⁸ Ravenna became the seat of the Imperial residence in 404. It fell to the Lombards in 751. Pope Stephen III went with the Byzantine emperor to the King of the Lombards to persuade them to return Ravenna to the Emperor. This was unsuccessful and he had Pipin II, king of the Franks and father of Charlemagne, force Aistulphus, the Lombard king, to surrender. He didn't and instead sieged Rome. Pipin came to Rome's rescue and made the Lombards surrender Ravenna (ca. 755). After numerous Lombard raids, Charlemagne overthrew the Lombards and acquired their kingdom (ca. 773). According to Newton, the Pope held Ravenna and Lombardy "by grant of Charles" (Whitla 1922: 192). In 796, Pope Leo III gave Charlemagne "the golden keys of the Confession of Peter and the Banner of the city of Rome" (Ibid 1922: 192). After a dispute with the Senate and Dukedom of Rome, who considered themselves to have "inherited the rights of the ancient Senate and people of Rome," this body in the year 800 (Newton says 799) voted to have Charles as their Emperor. He was anointed by Leo III on Christmas Day and became the first Holy Roman Emperor.

Charlemagne's son, Ludovicus Pius granted to the Pope the Duchy of Rome, the Exarchate of Ravenna, and the territory of the Lombards. Newton about this writes: "These are his [the Pope's] conquests, and he was to hold them of the Emperor for the use of the Church *sub integritate*, entirely, without the Emperor's meddling therewith" (Whitla 1922: 197).

About the third horn Newton wrote: "Now the Senate and people and principality of Rome I take to be the third King the little horn overcame, and even the chief of the three. For this people elected the Pope and the Emperor; and now, by electing the Emperor and making him Consul, was acknowledged to retain the authority of the old Roman Senate and people" (Whitla 1922: 194-5).

²⁹ Cohn writes how this fueled millennial speculation in the medieval period ([1957] 1971: 71ff). This made it possible to speculate that he was Emperor of the Last Days who was expected because of Sibylline prophecies (cf. SibOr 1.387-400, 2:154-72, 3:63-74). For example, Notker the Stammerer in his *Life of Charlemagne* (c.885) wrote: "He who ordains the fate of kingdoms and the march of centuries, the all-powerful disposer of events, having destroyed one extraordinary image, that of the Romans, which had, it was true, feet of iron, or even feet of clay, then raised up among the Franks the golden head of a second image, equally remarkable, in the person of the illustrious Charlemagne" (cited in McGinn 1978: 305).

800. Newton is at pains to demonstrate that the little horn is the Pope³⁰ and that it is a product of the fourth beast, the ancient Roman Empire. Again he provides numerous historical examples to validate this interpretation. He cites numerous legal degrees to show how the papacy institutionalized its newfound power. Thus the detail in v. 25 that the little horn will “alter the seasons and the Law” prefigures the Pope (Whitla 1922: 200-11). He also takes the detail that the little horn has “a mouth full of boasting” (7:8) to signify the haughtiness of the Pope (Kochavi 1994: 111).

Crucial for his interpretation is the idea that the Pope did not become a major political power until the three horns would fall, which for Newton signified the events leading up to the coronation of Charlemagne and the birth of the Holy Roman Empire.³¹ Attaching a date to the Pope’s temporal dominion is crucial because one can know when to begin counting off the period of the wicked reign, the final period before the messianic kingdom. According to Daniel 7:25, the little horn will rule for a “time, two times and half a time” which scholars often take to signify three and a half years, or 1,260 days, based on a calendar year of 360 days.³² Newton assumed that a day in prophecy signified one year.³³ Thus for him Dan 7:25 stands for 1,260 years (Whitla 1922: 215; Kochavi 1994: 111; Collins 1993: 120; cf. Fröhlich 1996 171; Firth 1979: 65; Brown 1912: 24).³⁴ This amount of time was read as the length of the temporal dominion of the Pope.³⁵ After stating that the “little horn” acquired temporal dominion in the eighth century. He enigmatically cites the “time, times and half a time” verse (7:25). If we follow his logic, the political dominion of the papacy, which he dates to the coronation of Charlemagne, which is for him 799, will last 1,260 years. Is Newton implying that the papacy will end in 2059 (Whitla 1922: 227-29)? Unfortunately we are not given a clear answer. Once he cites Daniel 7:25 the chapter ends without further commentary on this point. There are several possible reasons for this. One possibility is that Newton was very careful about publicly airing unorthodox views. He once barred

³⁰ He polemically argues against reading the little horn as Antiochus Epiphanes (Kochavi 1994: 111; Whitla 1922: 222).

³¹ Newton about this has written: “While this Ecclesiastical Dominion [the Papacy] was rising up, the northern barbarous nations invaded the Western Empire, and founded several kingdoms therein, of different religions from the Church of Rome. But these kingdoms by degrees embraced the Roman faith, and at the same time submitted to the Pope’s authority” (Whitla 1922: 215).

³² This tradition of 1,260 days is seen as early as Rev 12:6, where the woman standing on the moon is hidden by God from the dragon for 1,260 days. This motif is also found in the forty-two months (three and a half years) in which the temple will be desecrated (Rev 11:2) and the length of time the beast will reign (12:5). See Collins 1993: 109, 400. 1,290 days is another figure this cryptic phrase has yielded (Dan 12:11).

³³ This exegetical move is often justified by the fact that Daniel 9 takes a similar license with the 70 years of Jeremiah 25, which is taken to refer to seventy weeks of years.

³⁴ At one other point in his commentary he also associates the destruction of the temple with 2,300 days, which in scripture for him signifies 2,300 years (Whitla 1922: 222). He uses this date to polemicize against the possibility of the fourth beast being Antiochus Epiphanes IV. He argues that the fourth beast can not be him because his reign did not last 2,300 years, but rather only 9. In the current state of the manuscript, which was published after his death, the figure did not appear to him to conflict with the 1,260 year reign of the fourth beast. In its present context, this 2,300 figure is not attached to any form of millennial speculation. See also Kochavi 1994: 111.

³⁵ In the time of Newton many exegetes operated with the figure of 1,260 years as a given. Earlier generations began counting off the 1,260 years from the year 381, the date of the First Council of Constantinople. At this council Emperor Theodosius I finally united the Byzantine Church against Arianism and the Trinity was established as church doctrine (it was also affirmed at the Council of Nicea in 325). This would have placed the end of the papacy (and for some the Second Coming) at the year 1641. This was one year before Newton was born. Newton was exegeting in a period where it was quite popular to revise millennial calculations and to discover the ‘true’ interpretation of Danielic prophecy (cf. Kochavi 1994: 116ff.; cf. Brown 1912: 24).

William Whitson, his former protege, from the prestigious Royal Society, for airing views which Newton himself had taught him.³⁶ Another is the haphazard way in which many of Newton's papers were edited and published. *Observations* was published posthumously in 1733 by his nephew Benjamin Smith. Smith did this purely to make money and he did not produce an accurate scholarly edition (Manuel 1974: 10). One can not say if Newton understood this book to be ready for publication, or even if he wanted to publish it at all. Today Newton's papers are scattered across rare book collections in libraries throughout the world, and no comprehensive publication of his writings exists to date. I find it hard to believe that Newton himself would have left such an important millennial question unexplored. He was fascinated with this question his entire life. In the Hebrew University at Jerusalem, for example, there is a collection of unpublished notes and calculations done in his early years which calculate the end of the world to happen in the 1680s (Manuel 1974: 99). While obsessed with figuring out the end of the world, throughout his career he avoided publicly asserting when exactly the end will come.³⁷

We have a discrepancy here. Although it is not stated, the logic of his vision of the four beasts points to the end-time date of 2059. However, as we have seen, Newton considered his ability to 'correctly' interpret proof that he himself was living in the end-time, or that it was at least imminent. Either this tension frustrated Newton, who died without finding its resolution, or he did resolve this tension, and the text where he resolves this was either lost or forgotten in some rare book collection.³⁸

Conclusion

What are we to make of Newton's reading of Daniel 7? For the modern interpreter, it is quite easy to criticize Newton's praising of his own scientific exegesis as a way to endow anti-Papal interpretations of Daniel, which were ubiquitous in seventeenth century England, with a veneer of objective accuracy. It was a way of asserting as absolute truth views which were a product of cultural conditioning.

However, whether we believe if Newton's exegesis was scientific or not is less important than the fact that he did. His exegesis and scientific experiments were driven by a need to demonstrate the providence of God. He was certainly not the only one in his period to make such claims. Many felt they had discovered by means of the rational scientific imagination the correct reading of scriptural prophecy which would let the Bible yield its great secrets of when the end of the world and coming of the Messiah will take place (i.e., Thomas More, Joseph Mede. See Firth 1979; Hutton 1994: 39-55). The optimism the seventeenth century placed in the rational faculties seems to us crude and quaint. The import of Newton's 'scientific' exegesis of Daniel 7 is that it

³⁶ These contentious views involved extreme anti-trinitarianism.

³⁷ On this question he wrote: "[T]he truth and manner of these things [the end-time] we shall not understand before the resurrection" (Ibid 1974: 102). He also wrote that ultimately time will be the interpreter of history (Whitla 1922: 229).

³⁸ Newton, by ultimately refusing to assert a final end-time date, participated in a revered tradition of condemning the calculation of an end-time date. For example, in the Talmud we find: "R. Jose said: He who calculates the end has no portion in the World to come" (*b. Tal. Derek 'Erez Rabbah* 9); "R. Samuel b. Nahmani said in the name of R. Jonathan: Blasted be the bones of those who calculate the end" (*b. Tal. Sanh.* 97b). Relevant here is also a joke found in Yemenite midrash, which goes as following: "A common [uneducated] Jew once asked Rabbi Joshua ben Levi, 'When shall the messiah come?' He said to him, 'Today!' He remained expectant until daylight faded, then he returned to him and said, 'It was not today, as you said.' He said, 'Yes, *today if you listen to My voice* [Ps 95:7]" (*Yemenite Midrash*, San Francisco, 1996, p.177).

lets us see how millennial thought changed as it entered the early stages of the Enlightenment. The onus of prophetic insight is less on direct revelation from God, and more upon human reason. Newton was convinced, for example, that his scientific discoveries, aside from being products of his mind, were rediscoveries of esoteric knowledge God had originally given to Moses (Kochavi 1994: 117).³⁹ The scientific mind was seen as the key to unlocking age-old religious questions, such as the date of the end-time. At this stage of the modern period, the rational faculty was not used to attack the claim of God's interaction with human history, and its culmination, but to discover it.

References

- Archer, Gleason L., Jr. 1958. *Jerome's Commentary on Daniel*. Grand Rapids, Mich: Baker Book House.
- Brown, Louise F. 1912. *The Political Activities of the Baptists and the Fifth-Monarchy Men*. London: Oxford.
- Buckley, Michael J. 1987. *At the Origins of Modern Atheism*. New Haven and London: Yale University Press.
- Caquot, A. 1955. Sur les Quatre Bêtes de Daniel VII. *Semitica* 5: 5-13.
- Cohn, Norman.[1957] 1970. *The Pursuit of the Millennium*. 2nd ed. New York: Oxford University Press.
- Collins, John J. 1977. *The Apocalyptic Vision of the Book of Daniel*. Missoula: Scholars Press.
- Collins, John J. 1984. *Daniel, with an Introduction to Apocalyptic Literature*. Forms of Old Testament Literature, 20. Grand Rapids: Eerdmans.
- Collins, John J. 1993. *Daniel*. Minneapolis: Fortress Press.
- Collins, John J. 1997. *Seers, Sybils and Sages in Hellenistic-Roman Judaism*. Leiden: Brill.
- Collins, John J. [1984] 1998. *The Apocalyptic Imagination: An Introduction to Jewish Apocalyptic Literature*. 2nd ed. Grand Rapids and Cambridge, U.K.: Eerdmans.
- Faur, José. 1990. Newton, Maimonides and Esoteric Knowledge. *Cross Currents* 40/4: 526-38.
- Firth, Katherine. 1979. *The Apocalyptic Tradition in Reformation Britain, 1530-1645*. Oxford: Oxford University Press.
- Fröhlich, Ida. 1996. 'Time and Times and Half a Time': Historical Consciousness in the Jewish Literature of the Persian and Hellenistic Eras. Sheffield: Sheffield Academic Press.
- Force, James E. and Richard H. Popkin. 1990. *Essays on the Context, Nature, and Influence of Isaac Newton's Theology*. Dordrecht: Kluwer Academic Publishers.
- Hartman, Lars. 1976. The Functions of Some So-Called Apocalyptic Timetables. *New Testament Studies* 22: 1-14.
- Hutton, Sarah. 1994. More, Newton, and the Language of Biblical Prophecy. In, *The Books of Nature and Scripture: recent Essays on Natural Philosophy, Theology, and Biblical Criticism in the Netherlands of Spi-*

³⁹ He felt that Moses disguised his scientific insights in obscure and mythic language as a way to make his message palatable to the uneducated masses (Manuel 1974: 46).

- noza's Time and the British Isles of Newton's Time*. James E. Force and Richard H. Popkin, eds. Dordrecht: Kluwer Academic Publishers.
- Kochavi, Matania Z. 1994. One Prophet Interprets Another: Sir Isaac Newton and Daniel. In, *The Books of Nature and Scripture*. James E. Force and Richard H. Popkin, eds. Dordrecht: Kluwer Academic Publishers.
- Manuel, Frank E. 1974. *The Religion of Isaac Newton*. Oxford: Clarendon Press.
- McGinn, Bernard. 1978. *Visions of the End: Apocalyptic Traditions in the Middle Ages*. New York: Columbia University.
- Whitla, William. 1922. *Sir Isaac Newton's Daniel and The Apocalypse*. London: John Murray.