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## The Roots of Creationism

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*A Definition:* Throughout, the term 'Creationist' is used to describe those who hold to a 'Young Earth' i.e. 6000–20000 years old, in contradistinction to those Christians who also believe in Creation (and thus are Creationists) but who take positions which may be termed Progressive or Ancient Creationism or Theistic Evolution.

Until a few years ago, most evolutionists thought that the final battle between the forces of ignorance—religion—and the forces of wisdom—science—had been won convincingly at Dayton, Ohio in 1925 when, despite the legal victory of Jennings Bryan, the real victors were Scopes, Darrow and the evolutionists.<sup>1</sup> Today the battle is in full swing again with more Monkey Trials in the USA and Creationism (arguments for and against) littering the pages of *Nature*, *New Scientist*, *The Times*, *The Guardian*, *The Daily Telegraph*, *Science* and even the *Radio Times*.

The history of the recent revival of Creationism is moderately well known. Most Creationists acknowledge their debt to the seminal work, *The Genesis Flood*, by Morris and Whitcomb published in 1961. The progress (or evolution) of Creationism since then has been well documented by Ronald Numbers.<sup>2</sup> In 1963, the Creation Research Society was formed to halt the evolutionism of the American Scientific Affiliation, and by the end of the decade *The Genesis Flood* was published in Britain and in the 1970s two further Creationist societies were formed in Britain. However, all this is branches and not roots.

There are two false trails that are frequently followed in a superficial attempt to 'expose' the roots of Creationism. First, Creationism is considered to be an action replay of Bishop Samuel Wilberforce's blunders at the British Association in 1860. Thus writes Philip Kitcher 'In 1860 . . . Thomas Henry Huxley, Darwin's Bulldog, vanquished Bishop Wilberforce in a famous debate . . . Over 120 years later, the conclusions and the debating methods of "Soapy Sam"

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1. See especially S. J. Gould, *Hen's teeth and horses' toes*, p.263–280, 1983. Further references in M. Ruse, *Darwinism defended*, p.336, 1982.

2. R. L. Numbers, *Creationism in 20th century America*, *Science*, 1982, *218*, p.538–544.

are alive and well, and playing in Peoria'.<sup>3</sup> This is pure undiluted 'History of the warfare of science and religion' and is abusing history. The view was initiated by Draper and White<sup>4</sup> and seeks to show how the Church has always tried to prevent the growth of science; the case of Galileo being the paradigm. Thus, supposedly, in the early 19th century the church tried to keep geology within the Creation Week and later tried to throttle evolution at birth. This has passed into popular mythology and is repeated *ad nauseam* by Christian and non-Christian alike. Ironically, one Creationist writer on the 'Rise of evolution' (Malcolm Bowden)<sup>5</sup> has taken the warfare model and used it with the roles of cowboys and indians reversed! To historians of science, the warfare model has become less and less attractive as it confuses the historical issues. It is convenient to dismiss Wilberforce and his fellow religionists as obscurantists but it does not do justice to the facts. Contemporary reports do not support Wilberforce's defeat<sup>6</sup> and many leading scientists including the geology Professors at both Oxford and Cambridge, not to mention Agassiz, also opposed Darwin.<sup>7</sup> Though Wilberforce has historically at least been shown to be on the losing side, he was quite a competent naturalist and scientist. Geology was his forte, he was a pupil of Buckland and a committee member of the Geological Society of London. His scientific views were not 'Creationist' in a sense of a 'Young Earther', and he held a similar progressive creationist outlook to Buckland, Sedgwick and Phillips, i.e. an ancient earth and all the geological column of Cambrian, Silurian and Devonian etc. As Buckland was anathematised by George Bugg, a Scriptural Geologist of the 1820s, so would Wilberforce be criticised by today's Creationists, as is progressive Creationist Davis Young.<sup>8</sup> It is part of contemporary mythology that Wilberforce and other churchmen were obscurantist anti-evolutionists, and Richard Dawkins is typical of this mistaken view '... in 1862 ... the 4004 BC date for the Creation then favoured by churchmen'.<sup>9</sup>

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3. Kitcher, P. *Abusing science*, p.1, M.I.T. Press 1982.

4. White, Andrew, *Warfare of science with theology*, 1896. Draper, J. W. *History of the conflict of science and religion*, 1874.

5. Bowden, M. *The rise of the evolution fraud*, 1982.

6. The Athenaeum, 7th July 1860. Lucas, J. R. *Wilberforce and Huxley*, Historical journal 1979, 22, p.313-330.

7. See Moore, J. *The post-Darwinian controversies*, 1979. Hull, D. L. *Darwin and his critics*, 1973.

8. (Bugg, George) *Scriptural Geology*, 2 vols., 1826-7 eg. p.9 and *passim* on Buckland and others. Morris, H. M. *Science, Scripture and the Young Earth*, 1983 on Young, D. A. *Christianity and the age of the earth*, 1982.

9. Article on 'Evolution' in McFarland, D. (Ed.) *Oxford Companion to animal behaviour*, p.155, 1981.

Wilberforce was typical of Churchmen in the early 1860s with a high view of Scripture combined with an acceptance of modern science; the vast ages of geology were accepted as commonplace. Apart from the Brethren, Philip Henry Gosse<sup>10</sup> and B. W. Newton,<sup>11</sup> the only Anglicans who come to mind as accepting (more or less) an Ussher chronology are Henry Moule (father of Bishop Hanley Moule) and possibly J. W. Burgon. Archdeacon Pratt is typical of the conservative evangelical with his *Science and Scripture not at variance*<sup>12</sup> which was revised to attack both the *Origin of Species* and Lyell's *Antiquity of Man* (1863) but is well-informed geologically. In histories of geology, Pratt is given favourable references for his work on Isostasy in the Himalayas. In the early 1860s most Christians were antagonistic to evolution, but with another decade increasing numbers of Christians were accepting evolution, and the *Journal of the Transactions of the Victoria Institute* carried its first evolutionary article in 1875. All this should be common knowledge and is supported by the Darwinian writers,<sup>13</sup> and Christian writers such as Bernard Ramm and Davis Young.<sup>14</sup>

The second false trail is to reckon 'Creationism' as the common view of all 'Fundamentalists'. The term 'Fundamentalist' is an over-used word, especially used when one wishes to condemn by a label. Again, this is common mythology which does not do justice to the history of Fundamentalism. Fundamentalists do hold to the 'fundamentals' of the faith, with a stress on substitutionary atonement, a high view of Scripture etc. but they cannot be classified into either dispensationalism or Creationism or both. The word 'Fundamentalist' has changed in meaning, today it is used to describe a very literalistic faith and is willingly so-called by only the most literal. Most would prefer to be called 'evangelical'. But the first fundamentalists were named after the twelve booklets *The Fundamentals* published in 1910 to 1915 to affirm the 'fundamentals' against the rise of modernism. As well as articles by highly competent conservative theologians and some by less able 'Bible Teachers', *The Fundamentals* contain several pro-evolutionary essays such as those by James Orr and G. F. Wright, a glacial geologist of high repute. The earliest fundamentalists were the heirs of conservative, evangelical Christians of the late 19th century, whose leaders almost without exception took a Progressive

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10. Gosse, P. *Omphalos*, 1857.

11. Newton, B. W. *Remarks on Mosaic cosmogony*, (my edition is of 1882).

12. Pratt, John *Scripture and science not at variance*, 1856 and later editions. Greene, Mott T. *Geology in the 19th century*, p.238-242, 1982.

13. eg. Moore, J. *The post Darwinian controversies*, 1979.

14. Ramm, B. *The Christian view of science and Scripture*, 1955. Young, D. A. *op. cit.* 8.

Creationist or an Evolutionary viewpoint. Not even J. C. Ryle,<sup>15</sup> Scofield or R. A. Torrey are exceptions to this. At the turn of the century 'Young earthers' were a very rare species indeed.<sup>16</sup>

Working backwards from the present the first clue for the roots of Creationism can be found in the Scopes Trial of 1925. The lawyer for the prosecution was the thrice-failed Presidential candidate, William Jennings Bryan. Paradoxically, Bryan was no Young Earther and privately accepted evolution for the whole animal kingdom excluding man. He considered evolution in its social forms to have disastrous ethical results and also to lead directly to Modernism. Bryan did refer to two 'expert witnesses'. The first was George Frederick Wright, a Congregational minister and first-class geologist. Wright was a Darwinian in his younger years but later became quite hostile to Darwinism, while yet retaining geological views though preferring a limited age of the earth—24 million years.<sup>17</sup> Ironically, Wright was writing this as radiometric dating was being developed, and almost immediately estimates of the age of the earth of 20 to 100 million years (all following Kelvin) were superseded by, initially, 2000 million years and since 1950 by 4600 million years.<sup>18</sup> Wright was unable to attend, having died some years earlier, but Bryan's other witness was alive and otherwise engaged lecturing in London to the Victoria Institute. This was the Seventh Day Adventist, George McCready Price (1870–1963)<sup>19</sup> who two years before, in 1923, had published a massive 726-page tome entitled *The New Geology: a textbook for colleges, normal schools and training schools and for the general reader*. At first glance this is a competent work, well illustrated and produced. Geologists do not think so and Schuchert accused the author of harbouring a geological nightmare. The nightmare was his assertion that this alleged historical order of the fossils is clearly a scientific

15. Ryle was a 'doughty protestant evangelical'. Owen Chadwick misrepresents Ryle to say that he 'believed in the physical information in the Old Testament' (Chadwick, Owen *The Victorian Church*, Vol. 2, 2nd. ed. 1972, p.24) Ryle's acceptance of Geology is clear from his *Principles for Churchmen*, p.426, 1889.

16. My extensive, but by no means exhaustive, searches have found only a handful of 'young earthers' among evangelicals. These are mainly in the independent churches, especially the Brethren. The vast majority of evangelicals were either Progressive Creationists or mild Evolutionists. On Spurgeon—see Russell, C. A. *Crosscurrents*, p.170–174, IVP, 1984.

17. Wright, G. F. *The passing of evolution* in *The Fundamentals*, Vol. VII, 1910–1914. Other references in Moore, J. R. *op. cit.* 13.

18. See Burchfield, J. D. *Lord Kelvin and the age of the earth*, 1975. Holmes, Arthur *The age of the earth*, 1913 (later editions 1927 & 1937).

19. Numbers, R. L. *op. cit.* 2. Price, George Edward McCready entry in the *Directory of American biography*, Supplement 7, 1961–1965. Ramm, B. *op. cit. passim*. Numbers, R. L. *Sciences of satanic origin*, Spectrum, 1979, 9, p.17–28.

blunder' (page 676 and Chapter 28) and his 'great law of conformable stratigraphic sequences'. 'Any kind of fossiliferous beds whatever, "young" or "old", may be found occurring (sic) conformably on any other fossiliferous beds "older" or "younger"'. Thus Cambrian may lie conformably on top of Cretaceous, and Mississippian on Miocene, or vice versa, in any order. As in his previous works, Price went for an alternative explanation of the strata—they were laid down in a great catastrophe—the Noachian Deluge. This was because as a young man he had read the series of Old Testament character studies 'Patriarchs and Prophets' by Ellen White, the founder of the Seventh Day Adventists. She wrote of the geological efficacy of the Flood 'The entire surface of the earth was changed by the flood . . . At this time immense forests were buried. These have since been changed to coal . . .'<sup>20</sup> This prevented Price from adopting geological or evolutionary views to which he had nearly succumbed and from then on he was a prolific writer for flood geology and the anti-evolution view, with books entitled *Illogical Geology*, *Q.E.D.*, *New Geology* etc. Another contemporary Seventh Day Adventist also considered things evolutionary, but came to the opposite conclusions to those of Price and thus left the Seventh Day Adventists. He was Dr. Kellogg, a doctor-turned-food technologist, whose 'harmonies' of science and religion were typical of his era and are now forgotten.

It is too simple to see the Scopes Trial as a legal battle of enlightened science, with Mr. Scopes as the SAS raiding party and Clarence Darrow as Supremo, fighting against Jennings Bryan, an old-style Field Marshal commanding vast troops of rural Americans wanting the old-time religion. In the 1920s American Fundamentalism was hardening in the aftermath of the Great War and the loss of control of denominations to Modernism, losing the open-ness of the Fundamentals, but it was not monochrome Young Earth. Throughout the wilderness years of Fundamentalism—the thirties and forties—the dominant and majority view of Fundamentalists was some kind of Progressive Creationism.<sup>21</sup> This is to be expected, as it was the hey-day of Dispensationalism and the Scofield Bible. Despite his literalistic views of Biblical prophecy, Scofield held to the gap theory of Genesis 1:1–2, thus allowing aeons of geological time; others held to a Day-age theory. Fundamentalists did hold that Evolution was fundamentally wrong. Throughout this period, Young Earthers were in the minority. Many of the Young Earthers were in the immigrant

20. White, E. G. *Patriarchs and prophets*, p.93–94, 1897.

21. Most helpful on fundamentalism is Marsden, George *Fundamentalism and American culture 1870–1925*, 1980 and *Creation versus Evolution*, Nature 1983, 305, 571–574, reprinted in *Faith and Thought*, 1983, 110, p.124–139.

Reformed and Lutheran tradition who, at that time, held aloof from Fundamentalists because they were considered to be lacking in Confessional Theology.<sup>22</sup> Others, like Henry Rimmer, were in the Elmer Gantry mould.<sup>23</sup> It was into this environment that Morris (a Baptist) and Whitcomb (a Lutheran) launched their *Genesis Flood* in 1961 and it quickly found, and filled, a religious niche, thus indicating that the compromise of the post-Scopes Fundamentalists was a weak one, probably because with the emphasis on the literal truth of Scripture it was only a short step to accept the literal truth of early Genesis.

With Fundamentalists' rejection of Evolution, uneasy acceptance of geology, and tendency to literalism, it is instructive to go back to the pre-Darwinian days of the 19th century as there seems to be a marked similarity in outlook. The decades which saw the rise of geology (1800–1840) are most fascinating and important both for the history of science and of theology. They were turbulent years in Britain, of both radicalism and reaction. The Napoleonic years saw reaction. In England, Erasmus Darwin was despised and Priestley's house was burnt and he left for the States. In the 1820s Bishops were stoned in the street, and in 1824 Buckland received a poison-pen letter. 'Mr. Professor (sic) . . . (some latin) . . . Pray have mercy on the infant authors of that peurile production of *Systema Natura* (i.e. Linnaeus) from *An Enemy of Radicalism*',<sup>24</sup> an indication that some (or many) saw the new science as an agent of infidelity, political radicalism and the Reform Movement. The popular view of these four decades is that there was a warfare between Genesis and geology, and during the last year this viewpoint has been portrayed twice on television with much dramatic effect, and more inaccuracy, by Don Cupitt and James Burke.<sup>25</sup> It is probably significant that the main opposition to geology on religious grounds took place in the 1790s and then again in the 1820s and 1830s—all decades of social ferment. However, we get the wrong picture if we visualise progressive scientists being obstructed by traditional churchmen. This was not the case in either England or Scotland. Walter and Susan Cannon try to make the case that geology was supported by Broad churchmen

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22. Reformed: Hepp, V. *Calvinism and the philosophy of nature*, 1930; Berkhof, Louis *Systematic theology*, 1941 (and frequent reprints); Lutheran (Missouri Synod) Graebner, T. *God and the cosmos*, 1932.

23. For example: Rimmer, H. *Modern science and the Genesis record*, 1937. (Who simultaneously held to the Gap Theory and Flood Geology!) See Ramm, B. *op. cit.* 14 *passim*.

24. Buckland Papers in the University Museum at Oxford.

25. On Cupitt, D.—see Roberts, M. B. *All at sea with faith*, Biblical Creation, 1984, 19, p.3–8.

rather than by their Conservative brothers.<sup>26</sup> It is not convincing. Clerical geologists and their supporters came from the whole range of the ecclesiastical spectrum and were honestly convinced that geology was no threat to religion but rather supported it. The emphasis on the Noachian Deluge was neither obscurantism nor pandering to religiosity but a genuine viewpoint which stemmed from the contemporary, cultural outlook and seemed to fit geological discoveries. The English Diluvial Geology is a development of the 17th and 18th century early attempts which also without exception regarded the Flood as *the* one major geological event;<sup>27</sup> for example, the Theories of the Earth of Burnett, Whiston and Woodward. In the mid 18th century, Catcott, whose Hutchinsonian 'Treatise on the Deluge' of 1768 contains not only long lists of animal occupants of the ark (with the 1825 sheep needed for the rapacious beasts, quoting the Latitudinarian Bishop Wilkins of Chester) but also some extremely good geological observation and reasoning, was quoted with approval by Conybeare in 1822,<sup>28</sup> whose evangelical heritage did not prevent his geological development.

By 1800, English geologists had multiplied deluges, so that the Noachian Deluge was seen as the last of several, and according to Buckland as the last of many. In a 'Warfare' historiography these Diluvial Geologists are an object of derision, but that does not do justice to them, and the way that they developed their geological understanding. Further, it must be noted that much early Geology was carried out on the marine Mesozoic rocks of Southern England, and their frequent highly fossiliferous bands (or fossil graveyards) positively shrieked 'Deluge' to those early workers. Up to the early '20s a multiple deluge theory fitted their findings and then, and only then, was Diluvialism found wanting, first by the Scottish Evangelical Calvinist John Fleming<sup>29</sup> and Lyell,<sup>30</sup> followed by the recantation of Sedgwick in 1831<sup>31</sup> and a little later by Buckland.

This Diluvialism, with both its many deluges and a greatly

26. Cannon, W. F. *Scientists and Broad Churchmen*, Journal of British Studies, 1964, 4, p.65-68; Cannon, S. F. *Science in culture*, 1978. (These two are the same author.)

27. See especially Porter, Roy *The making of geology*, 1977. Rupke, N. A. *The great chain of history*, 1983. Catcott, A. *Treatise on the Deluge*, p.263-264, 1768.

28. Conybeare, W. D. and Phillips, W. *Outlines of the geology of England and Wales*, p.xxv, 1822.

29. Fleming, J. *Remarks on the modern state*, Edinburgh Philosophical Journal xii, p.116-127, 1825. Fleming, J. *The geological Deluge as interpreted by Baron Cuvier inconsistent with the testimony of Moses and the phenomena of nature*, Edinburgh Philosophical Journal xiv, p.205-239, 1826.

30. Lyell, C. *Principles of Geology*, 1830-1833.

31. Sedgwick, A. Proc. Geological Society 1831, 1., p.313.

extended time-scale (already reckoned to be millions rather than thousands of years) was acceptable to both the evangelical and the non-evangelical alike. (In the Anglican Church there was little doctrinal difference between Evangelicals and others; the difference was mainly 'enthusiasm', which many non-Evangelicals, following Joseph Butler, saw as a 'very horrid thing'). It is remarkable how many early Bampton lectures were on Enthusiasm and Methodism. The Evangelicals were divided over geology, but so were non-Evangelicals. Buckland drew his supporters from a wide spectrum. One was Shute Barrington, then in his eighties, who must lay claim to being the most conservative Bishop of Durham in the last 200 years, spending his 57 years as a Bishop (initially at Llandaff and Salisbury) refusing to induct clergy of dubious theology and resisting any attack on the 39 Articles (Paley was in the forefront of a relaxation on the Articles). Two others were leading Evangelicals, G. S. Faber<sup>32</sup> and John Bird Sumner (later Archbishop of Canterbury),<sup>33</sup> both of whom by 1814 had happily taken on board geology. Another was Edward Copleston, intellectual leader in Oxford in the 1820s, who as the founder of the Oriel Noetics is reckoned to be the founder of liberal theology. Simeon could find no great difference of opinion with him but Lyell found him to be most awkward when seeking the Geology chair at Kings College, London because Copleston wanted to preserve the historicity of the Deluge. Other Evangelicals opposed geology; in 1817 Thomas Gisbourne (Wilberforce's spiritual director) published *The Testimony of Natural Theology to Christianity* with a 'Young Earth' and 'Deluge Geology' outlook. During the 1820s and 1830s there was a spate of 'anti' or 'Scriptural Geologies', many by Evangelicals. My favourite is George Bugg's *Scriptural Geology*. The list of 200 subscribers includes many clergymen, notably Charles Simeon. Little is known of Bugg. He had weighed in virulently on Baptismal regeneration as expounded in Mant's Bampton in 1816,<sup>33b</sup> was dismissed from his curacy in 1818, and later ended up as a Unitarian. When he wrote 'Scriptural Geology' in 1826 he appears to have been an evangelical and bewails how the errors of Buckland, Sumner and Faber have 'been translated into the pages of the Christian Observer'<sup>34</sup> (*The Christian Observer* was the leading evangelical Anglican magazine.) His starting point is

32. His sympathies with geology are to be seen in Faber, G. S. *The origin of pagan idolatry*, 1816, 1, p.281ff. Faber, G. S. *Christian dispensations*, 1823, 1, Chapt. 3. Faber was so up-to-date in his geology that he refers to Buckland's work on the Kirkdale Cavern prior to Buckland publishing anything.

33. Sumner, John Bird *A treatise on the records of the Creation*, 1816.

33b. Bugg, G. *Spiritual Regeneration*, 1816. When I read the copy in the Bodleian Library, Oxford, all the pages were uncut.

34. Bugg, George *Scriptural Geology*, p.4, 1826.

a literal reading of Scripture and this can only mean six 24-hour days for Genesis 1 to which 'Christian geologists are bound in honour and conscience to agree'.<sup>35</sup> In Chapter 8, he stresses that animals were not created carnivorous, or else death would have existed from the beginning, whereas death came in at the Fall. Another Evangelical, Frederick Nolan, gave the Bampton Lectures in 1833, only weeks before Keble's epoch-making sermon on National Apostasy in the same church.<sup>36</sup> These Bampton lectures gave Buckland apoplexy, with their rejection of geology, even of a diluvialist brand.<sup>37</sup> Nolan avoided referring to Buckland, but the implications were there.

Throughout the 1820s and 1830s the pages of the *Christian Observer* buzzed with controversy over geology, reflecting the division among Evangelicals. The Editor, S. C. Wilks, was clear where he stood and frequently gave footnotes of considerable length and erudition (with information supplied by Conybeare or Buckland) in reply to the Scriptural geologists.<sup>38</sup> There were also non-Evangelical opponents to geology. Some were traditional, orthodox like Edward Nares, the Regius Professor of History at Oxford, whose Bampton and other works were hostile to geology. Most notorious at the end of this period was Dean Cockburn of York who lost no opportunity of stressing the infidelity of geology, and published several short works to the chagrin of geologists.<sup>39</sup> The Revd William Kirkby, an entomologist, also argued for 'Scriptural Geology' in his 1835 Bridgewater Treatise,<sup>40</sup> again to the annoyance of Buckland, among others.

'Anti-geologies' were not restricted to clergymen. We may cite Granville Penn's *A Comparative estimate of the Mineral and Mosaical Geologies*, and more will be found in the literature.<sup>41</sup> These are considered by Rüpke to represent the strong Oxbridge Classical tradition which regarded ancient written sources, i.e. classical

35. *op. cit.* p.50.

36. Nolan, F. *The analogy of revelation and science*, 1833.

37. Morrell, J. and Thackray, A. *Gentlemen of science*, p.234-235, 1981.

38. *Christian Observer*—various issues from 1832, 1834 (especially) and 1839 as referred to by Smith, J. Pye *Geology and Scripture* (Bohn ed.) p.200.

39. See Morrell and Thackray, *op. cit.* 37, p.243-244.

40. Kirby, W. *On the power, wisdom and goodness of God as manifested in the creation of the animals* Bohn ed. Vol. 1, Chapt. 1, p.71ff.

41. There is little published on the Anti- or Scriptural-Geologies. Milhauser, *Scriptural Geologists, Osiris*, 1954, II, p.65-68 is most unhelpful. So far the best are the chapters in Rüpke, N. A. *The Great Chain of History*, 1983, Chapt. 16, though he is weak in his theological analysis (but he is a historian of science rather than a church historian). His bibliography for the early 19th century is especially good.

42. Rüpke, N. A. *op. cit.* 41, p.51-57. Reventlow, H. G. *The Authority of the Bible and the Rise of the Modern World*, p.223-243, 1984.

writers, as far more reliable and important than scientific discoveries. This probably ties in with the Latitudinarianism discussed below, which owes more to the Renaissance than the Reformation and is 'Cultural' rather than 'Religious' Protestantism.<sup>42</sup>

During the 1820s, William Brande of the Royal Institution published his lectures on geology, which allowed of only one Deluge.<sup>43</sup> In 1829 his friend, Andrew Ure of Glasgow, (who is normally only remembered for a disparaging reference in *Das Kapital* and for an experiment (1818) on the effect of electric current on a recently executed criminal, a macabre version of a recently killed frog's leg, thus causing Bryon to write 'And Galvanism has set some corpses grinning'<sup>44</sup> published his *New system of Geology*. Responses were decidedly hostile; Lyell in his usual jocular manner wrote 'It is to prove the Hebrew cosmogony, and that we all ought to be burnt in Smithfield. So much the better ...' The theological *British Critic* contained a very hostile review—anonymous, but believed by Buckland to be by the evangelical Sumner, then Bishop of Chester.<sup>45</sup> In his Presidential Address to the Geological Society, Sedgwick was positively damning<sup>46</sup> and Geologist Bakewell writing to Silliman was scathing. 'Ure is said not to be a practical religionist any more than he is a practical geologist. In this country, a pretence to religion and principle is more often esteemed than the reality'.<sup>47</sup>

It is probably surprising to some that no mention has been made yet of the 'Catastrophism-Uniformitarianism' dispute of the early 19th century. This is because that dispute was one *within* Geology and Catastrophist and Uniformitarians were not as far apart as they are often made out to be.<sup>48</sup> Both held to the same geological column—there was no argument over the order of the strata or over the vastness of geological time; thus the Catastrophist Henslow could recommend Darwin to take the Uniformitarian Lyell's *Principles of Geology* on the *Beagle*, with a warning against Lyell's philosophy of geology,<sup>49</sup> which Darwin did not heed! The scriptural geologists of the day were critical of the Catastrophist Geologists, especially

43. Brande, W. *Outlines of geology*, 1829 (these have not been referred to) but his articles in the *Quart. Journal of Science, literature and Arts* (the organ of the Royal Institution) contain several articles from 1823 to 1827).

44. Farrar, W. V. *Andrew Ure FRS and the philosophy of manufactures*, Notes and records of the Royal Society, 1973, p.299–324.

45. *Anon Review of a new system of Geology*, *British critic* Vol. VI, 1829, p.387–412.

46. Sedgwick, A. *Proceedings of the Geological Society* 1830, 1, p.208–210.

47. Quoted in Farrar *op. cit.* p.323.

48. Hooykaas, R. *Natural law and the divine miracle*, 1959. Gould, S. *Ever since Darwin*, p.147–153, 1977.

49. Darwin, Charles *Autobiography*, 1969, p.101 and 1983 p.59.

Buckland, because even though they accepted a universal Noachian Deluge it was only the last of innumerable deluges, and they had departed from a literal Genesis. George Bugg said of Buckland's *Vindiciae Geologicae* that he had allowed only the last 30 yards of strata to the 'last revolution' and thus to 'OUR CREATION'.<sup>50</sup> Looking for historical precedents for modern-day Creationism, within the early 19th century, the only possible candidates are the Evangelically-inclined Scriptural geologists who, like Bugg, held that 'Whatever is contrary to the Bible must be false'.

The other 'Anti-geologists' (the change of nomenclature is deliberate) have a slightly different motive and provenance, being more cultural than evangelical and are the consistent heirs of the late 17th century *Theories* of the Earth. Many creationist writers look to these 'Theories' as their precursors, and often stress that until 1800 the 'Flood Geology' of Whiston and Woodward was the norm.<sup>51</sup> One example of many is Henry Morris in *Men of Science, Men of God* who, in his chapter on 'The Age of Newton' refers to Newton's writing a book defending the Ussher chronology and 'believed that the worldwide Flood of the Bible accounted for most of the geological phenomena and he believed in the literal six day creation record'. He then writes of Thomas Burnet (1635–1715)—'one of the first geologists' and author of *The sacred theory of the earth* and then of William Whiston (Newton's successor) author of *A new theory of the Earth* and John Woodward author of the *Essay towards a natural history of the Earth*.<sup>52</sup> During the last quarter of the 17th century there was a spate of these *Theories*.<sup>53</sup> There is a common pattern to each; all more-or-less hold to an Ussher chronology and that the Flood of Noah laid down the strata, and look to a consummation and the end of the World. There the similarities end. Almost everyone refutes the others on details—the copy (second edition 1691) of Burnet that I read includes a refutation by an Erasmus Warren and a counter-refutation by Burnet. More refutations accumulate in later editions.

At first sight these *Theories* are in succession to a long line of outlines of world history based on the historical books of the Bible including early *Genesis*. One of the earliest is the apologetic work *Ad Autolyicum* by Theophilus of Antioch written in about A.D. 180. In this, Theophilus takes Biblical history as the norm and fits in various other ancient history from Greek and classical authors. He deals at great

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50. Bugg, *op. cit.* p.27.

51. Gish, D. *Evolution—the fossils say No!*, p.62, 1979.

52. Morris, H. M. *Men of science—men of God*, p.45–53, 1982.

53. Willey, B. *The eighteenth century background*, p.33–46, 1940. Allen, D. C. *The legend of Noah*, 1949. Porter, Roy *op. cit.* 27.

length with the events of the Creation Week and concludes with a long section on Biblical chronology in which he states that the earth was 5695 years old when the Emperor Marcus Aurelius died, i.e. Creation was in 5515 B.C.<sup>54</sup> The next 1500 years saw a general acceptance of an earthly existence of a few thousand years. Luther took for granted Creation at 4000 B.C., Ussher and Lightfoot refined this and arrived at their date of 4004 B.C., the latter being particularly precise on the day and the month—9.00 a.m. on Sunday 23rd October.<sup>55</sup> On one level, the 17th century chronological calculations and theories of the earth are a continuation of the long tradition going back to the Rabbis, and in the Christian church, to Theophilus and Luther to name but two; but there was a very significant shift in the 17th century studies of the Flood and the chronologies as compared to those of the Reformation. Whereas, Luther was most definitely 'Gospel Protestant', those of the 17th century were 'Cultural Protestants', adopting more and more a moralistic Latitudinarian position.<sup>57</sup> The Reformers, English and Continental, were extremely strong on Soteriology but this emphasis was increasingly lost by 17th century English theologians, both Anglican and Puritan. This is superbly charted by C. F. Allison in his aptly titled *The rise of Moralism*, tracing out the change from Hooker and Donne to the moralistic Latitudinarians of the late 17th century. Archbishop Tillotson is the supreme example and his sermons are thoroughly moralistic. Allison writes, with an embarrassing accuracy 'Starting from assumptions that can be characterised only as Pelagian, soteriological thought, by an implacable logic, moved through an exemplarist atonement to an adoptionist Christology to a Socinian deity and finally from deism to atheism'.<sup>58</sup> The writers of the *Theories* were well down that road. Jesus Christ was the founder of a new law, with stress on his being a moral teacher, rather than a Redeemer. Anti-Trinitarianism in its various forms was widespread such as in Newton,<sup>59</sup> Clarke and Whiston.<sup>60</sup> The Latitudinarians such as Tillotson and Burnet did not go so far, but they represent a general shift from the Reformation to Latitudinarianism.<sup>61</sup> They too had moved from the Bible as revelation, and put more

54. Theophilus of Antioch *Ad Autolyicum*, 1970, III 28, p.143-145. Haber, F. C. *The age of the world: Moses to Darwin*, 1959 traces the story up to Darwin.

55. Brice, W. C. *Bishop Ussher, John Lightfoot and the age of creation*, Journal of Geological education, 1982, 30, p.169-174.

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57. Reventlow *op. cit.* 42.

58. Allison, C. F. *The Rise of Moralism*, p.192, 1966.

59. Manual, F. E. *The religion of Isaac Newton*, especially p.59-63, 1974.

60. Reventlow *op. cit.* 42, p.335ff especially p.341.

61. Reventlow *op. cit.* 42, p.223-243.

emphasis on the 'Book of God's Works' and judged all by the principle of reason. Allen aptly writes 'During the latter half of the 17th century the attempt to prove that the Flood was universal was an obsession of scientists, but reason, rather than supernatural revelation, was the great instrument of this attempt'.<sup>62</sup> The intention of supporting the Christian faith by an appeal to reason resulted in failure. With the loss of soteriology this led first to the Socinianism of Newton and Whiston and then to the Deism of the 18th century.<sup>63</sup> No wonder Erasmus Darwin spoke of Unitarianism to Coleridge as a 'feather bed to catch a falling Christian'.<sup>64</sup>

It is hard to see how creationism can look to the Theories of the Earth as their forerunners, since creationists are, without exception, extremely strong on soteriology with an emphasis on penal substitution and propitiation. Despite this, paradoxically, creationists are correct to identify The Theories of the Earth as their forebears. Newton and others coalesced the two Books into one; thus the Book of God's Word was subsumed into the Book of God's Works, with the Bible giving physical information on the world<sup>65</sup> ignoring Calvin's warning 'he who would learn astronomy and other recondite arts, let him go elsewhere'.<sup>66</sup> Creationists do the same, and no appeal to scientific creationism hides that fact. The Canopy Theory (the Water Vapour Theory) and the aqueous source of the 'fountains of the deep' are examples, and both have forebears from that period.<sup>67</sup> It is difficult to decide which is the greater, the exegetical gymnastics of using a text like Genesis 7:11 for the source of the Flood waters or the scientific

62. Allen, D. C. *op. cit.* 53, p.92.

63. Reventlow *op. cit.* 42 Part III, p.289-406.

64. King-Hele, Desmond *Doctor of revolution*, p.260, 1977. Coleridge later changed from Unitarianism to Christianity and described the evolution of Darwin as 'Orang Outang theology of the human race substituted for the first chapters of the Book of Genesis' p.302.

65. Manuel, F. E. *op. cit.* 59, p.31ff.

66. Calvin, J. *Commentary on Genesis* on Genesis 1:15. Hooykaas, J. Religion and the rise of modern science, p.118, 1972.

67. Jonathan Edwards (I regret that I have lost the reference to his scientific writings republished in the 1960s in the USA, probably by Yale) in the 18th century, discusses a 'water vapour canopy'. Halley's *Some considerations about the cause of the universal deluge*, in Phil. Trans. Royal Society, 1724, 33 p.118-125 deals briefly with the 'fountains of the deep' but draws no firm conclusion on what these were. Not surprisingly he concluded that a comet had caused the Deluge! His ideas, in fact, predated Whiston (1696). Woodward's *An essay toward a natural history of the earth*, 1695, Part 3, p.115-169 discusses both but rejects a 'canopy' (p.159). Whitehurst, John *An enquiry into the original state and formation of the earth*, 1778, discusses the absence of rain before the Deluge and that Noah's rainbow was the first ever and that the high humidity leading to copious dews (p.139-140). This is similar to the 'Water vapour canopy' theory and is surprising for a friend of Erasmus Darwin.

gymnastics involved in dismissing all science which does not fit into a six-day Flood Geology frame-work. This results in refutation and counter-refutation, which occurs among creationists and especially with their opponents, Christian or non-Christian. This situation has parallels in the closing years of the 17th century with the refutation, and counter-refutation of Burnet, Whiston, Woodward and others.

### **Conclusion:**

To many, the roots of Creationism are obvious—a hangover from interfering literalistic clerics like Samuel Wilberforce. That view is manifestly wrong and is due to the whole mythology of the 'Warfare of Science and Religion' which has not yet been sufficiently demythologised. Though superficial parallels between today's creationists and various 19th century churchmen can be found, the vast majority of churchmen including Evangelicals were not hostile to geology, and as the century wore on, less hostile to evolution. Thus no roots for creationism can be found in Wilberforce and his colleagues, or the early Fundamentalists.

There is a greater similarity of modern creationists to the more evangelical scriptural geologists of the 1820s–1840s but these do not find any acknowledgement today. Despite claims to the contrary, there is no way that the roots of creationism can be found in the multiple Catastrophists like William Buckland and Cuvier. Tracing creationism back to the late 17th century theories of Burnet, Whiston and Woodward is similarly mistaken, despite the common emphasis on Flood Geology, as these theories have a thoroughly rationalistic, moralistic and Latitudinarian and, at times, anti-Trinitarian outlook consonant with a weak, if not absent Soteriology. Creationists do themselves a disservice to claim lineage from them.

Ultimately there is one, and only one, root of creationism and that is the teachings and writings of the Seventh-Day Adventist George McCready Price, who derived his views from the teachings of the Seventh-Day Adventists' founder, Ellen White. This has been grafted most successfully onto a Fundamentalist outlook which inclines to literal interpretation of the Bible.

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