

Abstract

The geological theories of an earth billions of years old were developed in the late 18th and early 19th centuries. This paper describes that development and focuses on a group of writers, known as the “Scriptural geologists,” who opposed these geological theories. These scientists and non-scientists wrote short pamphlets and massive books raising Biblical, geological and philosophical arguments against the idea of an old earth. They also refuted the reinterpretations of Genesis that arose in an attempt to harmonize the Bible with old-earth geological theory (such as the gap, day-age and local Noachian flood theories). Four of the geologically most competent Scriptural geologists are introduced to the reader before giving a summary of their main Biblical and geological objections to the idea of an old earth. The paper concludes with an analysis of the real nature of the 19th century Genesis-geology debate and how it relates to the creation-evolution and age-of-the-earth debates in the church today.

Introduction

In this paper I would like to discuss a little known controversy in the early 19th century, which centered on the age of the earth. The participants were, on the one hand, the leading geologists of the day and on the other hand, a group of scientists and non-scientists, primarily in Britain, who collectively became known as the “Scriptural geologists.”¹ Like contemporary young-earth creationists, the Scriptural geologists held to the dominant Christian view within church history² and at the beginning of their own time, namely, that Genesis 1-11 is inspired, inerrant Scripture which should be interpreted literally as a reliable, fully historical account. This conviction led them to believe that Noah's flood was a unique global catastrophe, which produced most of the geological record, and that the earth was roughly 6000 years old, having been created and furnished with all kinds of life in six literal days. From this young-earth creationist position they opposed with equal vigor both the “uniformitarian” and “catastrophist” old-earth geological theories. They also opposed all the old-earth reinterpretations of Genesis, such as the gap and day-age theories, the tranquil and local flood theories, and the “Genesis is myth” theory, all of which were developed and popularized in the church at this time.

This early 19th century debate is an interesting and important one for students of the history of science, especially the history of the relationship of science to Christianity. The Scriptural geologists have been greatly misrepresented, both by their contemporary old-earth opponents and by nearly all later historians, whether secular or Evangelical. But the battle the Scriptural geologists fought in the 19th century is also very relevant for understanding the current growing debate about evolution and creation and especially the debate among Christians about the age of

¹ This was the title given to them by their opponents. To my knowledge, it was never used by these men to describe themselves, though two of their books bore the title *Scriptural Geology*. In fact, none of them claimed to be geologists. But then, at the time most of them wrote, there were hardly any geologists in the modern sense of the word. Most “geologists” in the early 19th century, till about 1840, were geologists by avocation, nor vocation. It was a hobby (largely self-learned) of wealthy men. Nevertheless, they, like a few of the “Scriptural geologists” developed an impressive knowledge of the rocks and fossils.

² See David Hall's thorough historical research on this matter in chapters 3-5 of his book on the Web, *Holding Fast to Creation*: at <http://capo.org/holdfast0.html>.

the earth.³ To understand both the 19th century debate and the current one, we need first to consider briefly the historical context.

The relation of Scripture and science

Two important people in the 16th century greatly influenced the Genesis-geology debate of the early 19th century. Those two men were Galileo and Francis Bacon. As is well known, **Galileo** (1564-1642) was a proponent of Copernicus's theory that the earth revolves around the sun, not vice versa. Initially the Roman Catholic Church leadership had no problem with this idea, but for various academic, political and ecclesiastical reasons in 1633 the Pope changed his mind and forced Galileo to recant his belief in heliocentricity on threat of excommunication. But eventually heliocentricity became generally accepted and with that many Christians absorbed two lessons from the so-called "Galileo affair." One was from a statement of Galileo himself. He said that the Bible tells us how to go to heaven, but it does not tell us how the heavens go. In other words, it was reasoned, the Bible teaches us theology and morality, but not astronomy or science. The other closely related lesson was that the church will make big mistakes if it tries to tell scientists what to believe about the world.⁴

Galileo's contemporary in England, Francis **Bacon** (1561-1626), was a politician and philosopher who significantly influenced the development of modern science. He emphasized observation and experimentation as the best method of gaining true knowledge about the world. He also insisted that theory should only be built on the foundation of a wealth of carefully collected data. But although Bacon wrote explicitly of his belief in a recent literal 6-day creation,⁵ he, like Galileo, insisted on not mixing the study of what he called the two books of God: creation and the Scriptures.⁶

So as a result of the powerful influence of Galileo and Bacon a strong bifurcation developed between the interpretation of creation (which became the task of scientists) and the interpretation of Scripture (which is the work of theologians and pastors). When we come to the 19th century we find that often the old-earth geologists, whether Christian or not, referred to Bacon and Galileo's dictums to silence the objections of the Scriptural geologists. The warning was obvious and powerful on the minds of the public, namely that defenders of a literal interpretation of Genesis regarding creation and Noah's flood are repeating the same mistake the Roman Catholic Church made three centuries earlier in relation to the nature of the solar system, and just look at how that retarded the progress of science.

³ A fully documented analysis of the Scriptural geologists and their opposition to old-Earth geology may be found in my 500-page Ph.D. thesis: T. J. Mortenson, "British Scriptural Geologists in the first half of the Nineteenth Century" (Coventry University, 1996). This is available from the British Library Thesis Service either on microfilm for loan or on paper for purchase. Order from the Web: <http://www.bl.uk/services/bsds/dsc/brittheses.html>.

⁴ Much has been written about this complex Galileo affair. Helpful analysis can be found in Thomas Schirmacher, "The Galileo Affair: history or heroic hagiography?", *Creation Ex Nihilo Technical Journal*, 14(1), 2000, pp. 91-100 (available on the Web at http://www.answersingenesis.org/Home/Area/Magazines/tj/docs/TJ14_1-Galileo.pdf); William R. Shea, "Galileo and the Church," in *God and Nature* (Berkeley: UC Press, 1986), David C. Lindberg and Ronald L. Numbers, eds., 114-35; Pietro Redondi, *Galileo Heretic* (London: Penguin, 1989).

⁵ Francis Bacon, *The Works of Francis Bacon* (London, 1819), II:480-88.

⁶ Francis Bacon, *Advancement of Learning* (Oxford, 1906), Book I, part VI.16, p. 46.

New theories about the history of creation

In contrast to the long-standing young-earth creationist view, different histories of the earth began to be developed in the late 18th century, which were evolutionary in character. Three non-Christian French scientists were prominent and all were either atheists or very skeptical theists. In 1778 **Buffon** (1708-88), a nominal Catholic, but probably a secret skeptic, postulated that the earth was the result of a collision between a comet and the sun and had gradually cooled from a molten lava state over at least 78,000 years.⁷ **Laplace** (1749-1827), an open atheist, published his nebular hypothesis in 1796.⁸ He imagined that the solar system had naturally and gradually condensed from a gas cloud during a very long period of time. In his *Zoological Philosophy* of 1809, **Lamarck** (1744-1829), who roared the fence between deism and atheism, proposed a theory of biological evolution over long ages, known as the inheritance of acquired characteristics.

New theories in geology were also being advocated at the turn of the 19th century as geology began to develop into a disciplined field of scientific study. Abraham **Werner** (1749-1817) was a German mineralogist and probably a deist. Although he published very little, his impact on geology was enormous because many of the 19th century's greatest geologists had been his students. He theorized that the strata of the earth had been precipitated chemically and mechanically from a slowly receding universal ocean. In his mind the earth was at least one million years old. His oceanic theory was quickly rejected, but the idea of an old-earth remained with his students.

The Scotsman, James **Hutton** (1726-97), was trained in medicine but turned to farming for many years before eventually becoming interested in geology. In his *Theory of the Earth*, published in 1795, he proposed that the continents were gradually and continually being eroded into the ocean basins. These sediments were then gradually hardened and raised by the internal heat of the earth to form new continents, which would be eroded into the ocean again. With this slow cyclical process in mind, Hutton could see no evidence of a beginning to the earth, a view that precipitated the charge of atheism by many of his contemporaries, though he too may have been a deist.

Neither Werner nor Hutton paid attention to the fossils in rocks. But another key person in the development of old-earth geological theories, who did, was the Englishman, William **Smith** (1769-1839). He was a drainage engineer and surveyor and helped build canals all over England and Wales, which gave him much exposure to the strata and fossils. He is called the "Father of English Stratigraphy", because he produced the first geological maps of England and Wales and he developed the method of using fossils to assign relative dates to the strata.⁹ As a vague sort of theist who embraced a catastrophist theory like Cuvier's, he too imagined that the earth was much older than the Bible taught.

The Frenchman, Georges **Cuvier** (1768-1832), was a comparative anatomist and a Lutheran, who popularized the catastrophist theory of earth history. By studying fossils found largely in

⁷ Buffon, *Epochs of Nature* (1778).

⁸ Laplace, *Exposition of the System of the Universe* (1796).

⁹ William Smith, *Strata Identified by Organized Fossils* (London, 1816) and *Stratigraphical System of Organized Fossils* (London, 1817).

the Paris Basin he believed that over the course of untold ages there had been at least four regional or nearly global catastrophic floods, the last of which probably was about 5000 years ago.¹⁰ This obviously coincided with the date of Noah's Flood, but Cuvier never explicitly made this identification in his published theory.¹¹

Finally, Charles **Lyell** (1797-1875), a trained lawyer turned geologist and probably a deist or unitarian, began publishing his three-volume *Principles of Geology* beginning in 1830. Building on Hutton's uniformitarian ideas, Lyell insisted that the geological features of the earth can, and indeed must, be explained by slow gradual processes of erosion, sedimentation, earthquakes and volcanism operating at essentially the same rate and power as we observe today. By the 1840's his view became the ruling paradigm in geology. So, at the time of the Scriptural geologists there were three views of earth history (**appendix 1**).

It should be noted that two very influential geologists in England (and in the world) at this time were William **Buckland** (1784-1856) and Adam **Sedgwick** (1785-1873). Buckland became the head professor of geology at Oxford University in 1813 and Sedgwick gained the same position at Cambridge in 1818. Both were ordained Anglican clergy and both initially promoted old-earth catastrophism. But under the influence of Lyell they both converted to uniformitarianism with public recantations in the early 1830s. Buckland is often viewed as a defender of Noah's flood because of his 1823 book, *Reliquiae Diluvianae*. But this apparent defense of the flood was actually a subtle attack on it, as Scriptural geologists accurately perceived. Because of their powerful positions in academia and in the church Sedgwick and Buckland led many Christians in the 1820's to abandon their faith in the literal interpretation of Genesis and in the unique and geologically significant Noachian Flood.

One more thing needs to be mentioned about geology at this time. The world's first scientific society devoted exclusively to geology was the London Geological Society, founded in 1807. From its inception, which was at a time when very little was known about the geological formations and fossils in them, the London Geological Society was controlled by the assumption that earth history is much older and different from that presented in Genesis. And a few of its most powerful members were Anglican clergy.

Christian compromises with old-earth geological theories

During the early 19th century many Christians made various attempts to harmonize these old-earth geological theories with the Bible. In 1804, the gap theory began to be propounded by the young pastor, Thomas **Chalmers** (1780-1847), who soon became one of the leading Scottish evangelicals.¹² This became the most popular reinterpretation of Genesis among Christians for

¹⁰ Georges Cuvier, *Theory of the Earth* (Edinburgh, 1813). This was the first English translation of the French original, "Discours Préliminaire" in *Recherches sur les ossements fossils de quadrupèdes* (Paris, 1812).

¹¹ It was the editor and publisher of Cuvier's English editions, Robert Jameson, who made the clear connection between Cuvier's last catastrophe and Noah's Flood, no doubt to make it more compatible with British thinking at the time. The Oxford geologist, William Buckland made this idea even more popular. See Martin Rudwick, *The Meaning of Fossils* (Chicago: University of Chicago Press, 1985), pp. 133-35.

¹² William Hanna, *Memoirs of the Life and Writings of Thomas Chalmers* (Edinburgh, 1849-52), I:80-81; Thomas Chalmers, "Remarks on Curvier's Theory of the Earth," *The Christian Instructor* (1814), reprinted in *The Works of Thomas Chalmers* (1836-42), XII:347-72.

about the next half-century. The respected Anglican clergyman, George Stanley Faber (1773-1854), began advocating the day-age theory in 1823.¹³ This was not widely accepted by Christians until Hugh **Miller** (1802-56), the prominent Scottish geologist and evangelical friend of Chalmers, revived it in the 1850s.¹⁴

Also in the 1820s the evangelical Scottish zoologist, Rev. John Fleming (1785-1857), began arguing for a tranquil Noachian deluge,¹⁵ and in the late 1830s the prominent evangelical Congregationalist theologian, John **Pye Smith** (1774-1851), advocated a local creation and a local Flood, both of which supposedly occurred in Mesopotamia.¹⁶ And then as German liberal theology was beginning to spread in Britain in the 1830s, the view that Genesis is a myth, which conveys only theological and moral truths, started to become popular.

So from all this it should be clear that by 1830, when Lyell published his uniformitarian theory, most geologists and much of the church already believed the earth was much older than 6000 years and that the Noachian Flood was not the cause of most of the geological record. Lyell is often given too much credit (or blame) for the church's loss of faith in Genesis. In reality, most of the damage was done before Lyell, often by Christians, who were otherwise quite Biblical, and this compromise was made at a time when geologists knew very little about the rocks and fossils of the earth.

Nevertheless, many Evangelicals and High Churchmen still clung to the literal view of Genesis. In fact, up until about 1845 the majority of Bible commentaries on Genesis taught a recent six-day creation and a global catastrophic flood.¹⁷ So in the early 19th century there were competing old-earth geological theories of the earth and competing interpretations of the early chapters of Genesis. And the Scriptural geologists fought against all these ideas.

Philosophical developments

As a prelude to this Genesis-geology controversy, the 18th century also witnessed the spread of two competing worldviews: deism and atheism. These two worldviews flowed out of the Enlightenment, in which human reason was elevated to the place of supreme authority for determining truth. Apart from the Deists' belief in a Creator God and a supernatural beginning to the creation, they were indistinguishable from atheists in their views of Scripture and the physical reality. In Deism, the Bible is merely a human book, containing errors, and not the inspired Word of God, and the history and function of the creation can be totally explained by the properties of matter and the "inviolable laws of nature." Deists and atheists often disguised their true views, especially in England where they were not culturally acceptable. Many of them gained influential

¹³ George S. Faber, *Treatise on the Genius and Object of the Patriarchal, the Levitical, and the Christian Dispensations* (1823), Vol. 1, chap. 3.

¹⁴ Hugh Miller, *The Two Records: Mosaic and the Geological* (1854) and *Testimony of the Rocks* (1856), 107-74.

¹⁵ John Fleming, "The Geological Deluge as Interpreted by Baron Cuvier and Buckland Inconsistent with Moses and Nature," *Edinburgh Philosophical Journal*, Vol. XIV (1826), 205-39.

¹⁶ John Pye Smith, *Mosaic Account of Creation and the Deluge illustrated by Science* (1837) and *Relation between the Holy Scriptures and some parts of Geological Science* (1839).

¹⁷ See the detailed analysis of commentaries before and during this period in my thesis (footnote 2 above), pp. 53-67.

positions in the scientific establishment of Europe where they subtly promoted what is today called “philosophical naturalism.” But the effects of deistic and atheistic philosophy on Biblical studies and Christian theology also became widespread on the continent in the late 18th century and in Britain and America by the middle of the 19th century. As Reventlow concluded in his thorough study,

we cannot overestimate the influence exercised by Deistic thought, and by the principles of the Humanist world-view which the Deists made the criterion of their biblical criticism, on the historical-critical exegesis of the nineteenth century; the consequences extend right down to the present. At that time a series of almost unshakeable presuppositions were decisively shifted in a different direction.¹⁸

So the Biblical worldview, which had dominated the Western nations for centuries, was rapidly being replaced by a naturalistic worldview.

The Scriptural geologists

It was in the midst of these revolutions in worldview and the reinterpretation of the phenomena of nature and the Bible that the Scriptural geologists expressed their opposition to old-earth geology. Well, who were these men? The Scriptural geologists were a very diverse group of individuals. I discovered over 30 authors writing between about 1815-1855, but there probably were more. Although some of them knew of each other and appreciated each other's writings, they never formally organized themselves into a group. Most of them were from Great Britain, although I found a few in America also and maybe there were some in continental Europe.¹⁹

Some of the Scriptural geologists were clergy and some were not. Some were highly trained scientists, and others had no such training. A few were very competent in geology, both as a result of extensive reading and field study of geological formations and fossils in Britain and on the European continent. Their writings ranged from short pamphlets to massive well-documented books and they raised Biblical, philosophical and geological objections against old-earth theories.

What was most interesting for me as a historian was the fact that the old-earth opponents of the Scriptural geologists, including fellow Christians, generally misrepresented them as being opposed to science and being ignorant of geological facts. None of the old-earth geologists responded to the arguments of the geologically most competent Scriptural geologists, even though it was clear that in at least a couple of cases old-earth geologists personally knew one or more of these Scriptural geologists.

In my Ph.D. thesis, I wrote individual chapters on each of thirteen Scriptural geologists, giving a biographical sketch and a detailed summary of their arguments against the old-earth

¹⁸ Henning G. Reventlow, *The Authority of the Bible and the Rise of the Modern World*, John Bowden, transl. (London: SCM Press, 1984), p. 412.

¹⁹ Byron Nelson, in his *The Deluge Story in Stone* (Mpls: Bethany Fellowship, 1968), briefly referred to several American and European Scriptural geologists at that time. See also Rodney L. Stiling, “Scriptural Geology in America,” in David N. Livingstone, D.G. Hart and Mark A. Noll, eds., *Evangelicals and Science in Historical Perspective* (New York: Oxford University Press, 1999), pp. 177-192. With regard to Germany, help may also be found in Stephan Holthaus, *Fundamentalismus in Deutschland: Der Kampf um die Bibel im Protestantismus des 19. und 20. Jahrhunderts*, Biblia et Symbiotica 1, Bonn: Verlag für Kultur und Wissenschaft, 1993. This is a PhD dissertation from ETF-Leuven.

theories. In this paper I am limited to briefly introducing you to four of the most geologically competent Scriptural geologists. To set the context, it is helpful to see what Charles Lyell, the leading uniformitarian geologist in the 19th century, had to say about the opponents of old-earth geological theories. Lyell described them as “wholly destitute of geological knowledge” and unacquainted “with the elements of any one branch of natural history which bears on the science.” He said that they were “incapable of appreciating the force of objections, or of discerning the weight of inductions from numerous physical facts.” Instead he complained that “they endeavour to point out the accordance of the Mosaic history with phenomena which they have never studied” and “every page of their writings proves their consummate incompetence.”²⁰ As will be clear, these men were far from being the anti-geology, scientific ignoramuses that Lyell, most of their other contemporary critics and nearly all historians have portrayed them.²¹

George Young

First, George Young (1777-1848) was born into a poor but godly farming family in Scotland. He got his first degree from the University of Edinburgh, where he focused on mathematics and natural philosophy and was a favorite student of professor John Playfair, who at this time was in the process of becoming the articulate interpreter of James Hutton's uniformitarian theory. Young then studied theology for five years under a leading Scottish theologian. In 1805 he moved to the little port of Whitby in Yorkshire and became the pastor of a Presbyterian congregation, called Whitby Chapel, where he served faithfully until his death in 1848. After beginning his pastoral ministry he also received an M.A. and an honorary Doctor of Divinity.

As a godly pastor, Young was respected for his concern for the poor and his generous, self-denying, Christian spirit, because of which he delighted to unite with Christians of other Protestant denominations in joint efforts of witness and service. His congregation fixed a monument over the pulpit of the church after his death, which honored Young for having “preached the Word of God within these walls with unabated zeal for 42 years, actuated and sustained throughout solely by a sense of duty, and an anxious desire for the salvation of souls.”²²

Beyond this, his scholarly attainments were also considerable. He had a more than common knowledge of Hebrew, Greek, Latin, French and Italian, as well as an acquaintance with Arabic,

²⁰ Charles Lyell, Review of *Memoir on the Geology of Central France*, by G.P. Scrope, *Quarterly Review*, Vol. XXXVI, No. 72 (1827), p. 482. Lyell likely had in mind, among others, Granville Penn, George Bugg and George Young, who all wrote substantial works on the subject before 1827 and who feature in my thesis.

²¹ Even Davis Young, the professing evangelical old-Earth geologist at Calvin College who has influenced so many other evangelical scholars in the last few decades, has misled his readers on this subject. In his *Christianity and the Age of the Earth* (Grand Rapids: Zondervan, 1982, p. 54) Young implied that these Scriptural geologists had no real geological knowledge: “A torrent of books and pamphlets were published on ‘Scriptural’ geology and Flood geology, all designed to uphold the traditional point of view on the age and history of the world. The ‘heretical’ and ‘infidel’ tendencies of geology were roundly condemned by some churchmen, few of whom had any real knowledge of geology. Those who had geological knowledge were now largely convinced that the Earth was very old.” In his more recent work, *The Biblical Flood* (Grand Rapids: Eerdmans, 1995, p. 124-28), he is a little more generous, when he states that, “a few were competent field observers who had described regional geology.” He names George Young, but briefly discusses only the views of Granville Penn, George Fairholme and William Kirby. He does not mention John Murray and William Rhind, who along with Young and Fairholme were the most geologically competent Scriptural geologists. All these men except Kirby are discussed thoroughly in my thesis.

²² Francis K. Robinson, *Whitby* (1860), 145.

Chaldee and Syriac, and was considered quite an authority on the Anglo-Saxon language.

In 1823 he became a founding member and the first secretary of the Whitby Literary and Philosophical Society, a position he held until his death and which also included the establishment of the Whitby Museum. He was also a corresponding member of the Wernerian Natural History Society and an honorary member of several regional “philosophical societies” (which were very scientific in orientation since in those days science was often called “natural philosophy”). He served as an advisor to the Yorkshire Philosophical Society and as its coastal representative obtaining fossil and mineral collections.

Young published 21 books, which included books of sermons, theology, history, a biography and scientific treatises. He was the most geologically competent of the Scriptural geologists. Three of his books and six scientific journal articles dealt with geology and were based on wide reading and very thorough investigations of the strata of his home area of Yorkshire, where a great percentage of the so-called “geological column” was exposed in the mines and on the sea coast. He gave the most thorough analysis of the geological record done by any Scriptural geologist. One of Young’s journal articles was about this fossil crocodile found near Whitby.²³ He also sought to answer in a gracious and respectful, yet challenging way, the specific geological and theological arguments of the leading old-earth geologists. He contended that the rocks and fossils gave abundant evidence that most of the geological record was the result of Noah’s Flood. His *Geological Survey of the Yorkshire Coast*, published in 1822 and revised and expanded in 1828, was praised by leading geologists of his day for its accurate observations, although they ignored his lengthy theoretical interpretations at the end of the book. Ten years later in 1838 he published *Scriptural Geology* to defend Genesis against old-earth geology. This was followed two years later by *Appendix to Scriptural Geology* (1840), in which he responded to John Pye Smith’s theory that Genesis described merely a local creation and local Noachian Flood.

George Fairholme

George Fairholme (1789-1846) was born into a wealthy Scottish family. These paintings of his father and uncle (in the possession of two living relatives) were the closest I came to a picture of Fairholme. His early education probably resulted from home tutoring and self-education. There is no record of him attending any of the major universities of the UK, but he became well educated nonetheless. His wealth enabled him and his family to travel extensively in England, Scotland and Ireland as well as on the European continent, especially in Belgium, France and Germany. His devout Christian faith was expressed in his writings on geology, and also in his will, which I discovered among the possessions of one of his living relatives in London.

Besides being well read in the leading British and foreign geological and scientific literature of his day, Fairholme also did considerable geological fieldwork and studied other aspects of nature during his extensive travels. He personally visited or corresponded with other naturalists, developed his own collection of rocks and fossils, did investigations at leading museums and zoos,

²³ George Young, *Geological Survey* (1828), 299-300; “Account of a fossil crocodile recently discovered in the alum shale near Whitby,” *Edinburgh Philosophical Journal*, Vol. XIII (1825), 76-81.

performed scientific experiments and attended some of the meetings of both the German and British associations of science. On this basis, he published seven scientific journal articles on such diverse topics as coal, Niagara Falls, human fossils, spiders, elephants, woodcocks and microscopic animals. His most significant writings, however, were his two 400-page books on geology: *The Geology of Scripture* in 1833 and *Physical Demonstrations of the Mosaic Deluge* in 1837. In these he sought to correlate the geological record with the order of events described in the Biblical accounts of creation and the Flood. In his second book on the Flood he carefully argued from the present state of the valley systems of the continents and the erosion rates of the seacoasts and several prominent waterfalls in Germany and America, concluding that the Flood must have occurred about 5,000 years ago.

John Murray

John Murray (1786?-1851) was born in Stranraer, Scotland, and from an early age he demonstrated a great interest in science. Eventually he attained the M.A. and Ph.D. degrees in science. He became well known throughout Great Britain as a traveling lecturer on the philosophy of physics and chemistry for much of his life, and was described by a prominent contemporary as one of the best lecturers in the world. Although he was a loyal member of the Church of Scotland and a strong Calvinist all his life, the local paper said of him at his death, "His benevolent heart was a stranger to bigotry and sectarianism. He loved all who loved the Lord Jesus Christ. In the hours of sickness and of death he manifested the same meek, patient, and amiable spirit which had characterized his deportment through life."²⁴

With great industry he developed an impressive breadth of knowledge in many subject areas of both science and literature. He did not gain great eminence in any single field, though he contributed much to chemistry and to mining. Between 1816 and 1835 he wrote several scientific papers, conducted many experiments and lectured often on the subject of the safety lamps used by miners. This miner's lamp was one of Murray's many inventions. Because of this expertise, he was invited in 1835 to testify on safety lamps and mine ventilation before a committee of Parliament.

His knowledge and experience qualified him to become a Fellow of the Linnaean Society in 1819, the Society of Antiquities in 1822, the London Geological Society in 1823 and the London Horticultural Society in 1824. He was almost appointed in 1831 to the chemistry chair of King's College, London. His membership in the Geological Society continued throughout his career. Additionally, he was a member of the Meteorological Society of London, the Wernerian Natural History Society of Edinburgh and many other regional scientific or medical societies as well as the mechanics institutes²⁵ in several cities.

Besides lecturing and doing experimental research he also traveled extensively to do his own first-hand archaeological and geological fieldwork, some of which was done at great physical risk,

²⁴ "Death of Dr. Murray, Ph.D., &c.," *Galloway Advertiser and Wigtownshire Free Press* (3 July, 1851).

²⁵ In the 1820s mechanics institutes began to form in a number of provincial cities. These were intended to teach artisans and mechanics the scientific information that would be practically useful in their trades. For a number of reasons they failed in this objective, though they did help to encourage young people to pursue scientific studies, and some of the Institutes went on to become polytechnics or universities.

for example, exploring the top of an active volcano. Additionally, he was a prolific writer, publishing 28 books and at least 60 articles in scientific journals, plus frequent correspondence over many years to the *Mechanics' Magazine* and the *Mining Journal*. He had nearly 20 inventions, which came into practical use. His journal articles addressed subjects in chemistry, physics, medicine, geology, natural history, and manufacturing. His books, some of which went through two or more editions, covered such diverse topics as the cultivation of the silkworm, modern paper, atmospheric electricity, ventilation, disinfection and other sanitation measures, poisons, diamonds, a method for forming an instantaneous contact with shore during a shipwreck, and plant physiology. He also wrote a passionate pamphlet calling for the end of slavery in the colonies, a book of minor poems, and a scientific/historical travel memoir of his three-month journey through Switzerland in 1825.

Murray wrote two books which directly related to geology and the Bible. *The Truth of Revelation* was published in 1831, with an expanded second edition appearing in 1840. In this book he endeavored to demonstrate the truth and inspiration of the Bible by an appeal to the existing monuments, sculptures, gems, coins and medals from ancient peoples of the Near East and elsewhere. His 1838 *Portrait of Geology* was written primarily to give proofs from geology of divine design in creation, and secondarily to add verification of the truth of Scripture by presenting his geological and Biblical reasons for rejecting old-earth theories.

William Rhind

Finally, William Rhind (1797-1874) was yet another Scotsman who was a geologically competent Scriptural geologist. His university studies at Marischal College, Aberdeen, were devoted to medicine and he became a Licentiate of the Royal College of Surgeons of Edinburgh in 1818. Shortly thereafter he began his medical practice in London but soon reestablished it back in Scotland. Although he became quite successful as a doctor, his real love was literature and scientific research and so in the mid-1820s he moved to Edinburgh, where he spent nearly forty years of his life writing and lecturing on various subjects of natural science, primarily botany, zoology and geology. In 1854, he became a lecturer in botany for a few years in the medical faculty at Marischal College and then spent the last decade of his life in poor health living with his older brother near Newport, Fife.

Rhind was likely a member of the Church of Scotland and his writings reflect a strong commitment to the Scriptures. According to one biographer, "he was universally loved for his character and bearing, and a most amiable man. He was unassuming and retiring in his manner, but a most agreeable and interesting member of society."²⁶

In addition to his early membership in the Royal College of Surgeons of Edinburgh, by 1830 he also had become a member of the Royal Medical Society and Royal Physical Society of Edinburgh, and some time before 1858 he became an honorary member of the Natural History Society of Manchester.

Rhind also was a voluminous writer on many subjects. His non-scientific books included a historical work on his home county and three tourist guides of Scotland. Of his scientific writings,

²⁶ Robert Douglas, *Sons of Moray* (1930), 6.

a number reflected his strong commitment to see good textbooks available for the education of children, aged 10-18 years. Many of these books went through several editions and included class books on the natural history of the earth, botany, geology, zoology, meteorology, physical geography, and elementary geography. In 1829 he published the first thorough work on the nature and cure of intestinal worms in the human body. His magnum opus discussing living and fossil plants was his 700-page *History of the Vegetable Kingdom*, which first appeared in about 1841 and went through eight editions up to 1877. In addition to his books, Rhind published several scientific journal articles on various topics: a species of worm in sheep (1830), the erroneous idea of spontaneous generation of living creatures (1830), the geological arrangement of the strata (1844), the hydrology of the British Isles (1855), and coal found in Seil Island, Argyleshire (1858).

His books dealing directly with geology at an adult level were three. In 1833 he produced a book of excursions around Edinburgh, which illustrated the geology and natural history of the area and received high scientific reviews, especially for its accurate geological information. In 1842 he published *The Geology of Scotland and Its Islands*, a purely descriptive work, which he hoped would stimulate further geological research by local geologists. But the work in which Rhind discussed geological theory was *The Age of the Earth*, published in 1838. In it he presented his Biblical and geological reasons for rejecting the old-earth theories.

The Scriptural geologists' BIBLICAL arguments against old-earth geology

As would be expected they did not write identical works. But there were a number of Biblical and geological objections that were shared by many, and sometimes all, of the Scriptural geologists.

With regard to Biblical objections, some of them gave quite detailed refutations of the various old-earth re-interpretations of Genesis. But two important general criticisms commonly appeared. First, they contended that these old-earth compromise views were only possible if Christians **superficially read Genesis 1-11** and ignored other relevant Scriptures. Nearly all old-earth proponents *ignored* two critically important passages, even though they insisted that their views did not contradict Scripture. Those passages were the account of Noah's Flood in **Gen. 6-9** and the Fourth commandment in **Ex. 20:11**. Yet these passages were *referred to* by nearly all the Scriptural geologists, who saw them as fatal to the old-earth theories. So the Scriptural geologists insisted that one could not legitimately speak of the harmony between the Bible and old-earth geological theory, if one paid scant attention to what the Bible actual says.

Another major Biblical objection of the Scriptural geologists was related to the Biblical teaching about **death**. The old-earth theories postulated long ages of violence, death and destruction in the creation before the creation and fall of man. But the Scriptural geologists argued that the Bible says that God brought death into the world when He judged man and the whole creation because of man's sin. So the vast geological ages proposed by the old-earth geologists could not possibly have taken place. Rather the geological evidence of death, violence and extinction pointed primarily, though not exclusively, to Noah's flood. Modern, young-earth creationists are still using this argument today.²⁷

²⁷ For a popular treatment, see these Web articles: <http://www.icr.org/pubs/imp/imp-191.htm> and

The Scriptural geologists' GEOLOGICAL arguments against old-earth geology

With respect to geological evidence the Scriptural geologists raised five important objections, though the geologically competent Scriptural geologists also gave many different detailed objections to old-earth theories. The Scriptural geologists believed that the old-earth geologists were closing their minds to evidence that was contrary to their theories and that there were logical errors in their old-earth interpretations of their otherwise accurately described geological evidence.

One important geological objection related to the **gradual transitions** between different mineralogical formations. Several Scriptural geologists²⁸ and many old-earth geologists²⁹ observed that it was quite common in the geological record to find one kind of mineral deposit gradually changed into another kind, for example, sandstone blending into limestone. Furthermore, the Scriptural geologists noted that, at this transition boundary, there was no evidence of soil or erosion, as would be expected if the lower layer had been exposed to water or air for a long period of time. The theoretical implications of this observation were almost universally ignored by old-earth geologists when they accurately described this phenomenon, but it indicated to the Scriptural geologists that the strata were deposited in rapid succession (as expected during a year-long global flood), while the subjacent stratum were still rather soft and moist.

A second important geological objection related to certain **polystrate fossils**, which were often found in an upright position and cutting through two or more strata of rock.³⁰ One of the most famous polystrate fossils of the early 19th century was this tree found in a quarry in Scotland in 1830, which can be seen to be passing through many strata of rock. Two theories to explain such fossils were proposed and debated by leading geologists well into the 1840's, namely, either 1) that the trees had been gradually buried where they grew, or 2) that the trees had been uprooted, transported and deposited by flood waters, which rapidly buried them in sediments. Since a dead tree would rot and disintegrate over hundreds or thousands of years, the Scriptural geologists, along with some old-earth geologists,³¹ believed that these trees had been transported

<http://www.answersingenesis.org/docs/4126.asp>. For scholarly discussions see James Stambaugh, "Creation and the Problem of Evil" (paper given at ETS national meeting, Nov. 17, 1995) and "Creation and the Curse" (paper given at ETS Far West regional meeting, April 26, 1996). Both papers can be obtained from the author at Michigan Theological Seminary, 41550 Ann Arbor Tr., Plymouth, MI 48170. See also Thane Hutcherson Ury, "The Evolving Face of God as Creator: Early Nineteenth-Century Traditionalist and Accommodationist Theological Responses in British Religious Thought to Paleontological Evil in the Fossil Record" (Ph.D. dissertation, Andrews University, 2001).

²⁸ E.g., George Young, *Scriptural Geology* (1838), pp. 22-23 and George Fairholme, *Physical Demonstrations of the Mosaic Deluge* (1837), pp. 12, 80, 285, 395-98.

²⁹ E.g., William Smith, *Strata Identified by Organized Fossils* (1816), pp. 1, 9-11, 13, 15, 21, 27, 32.; Thomas Weaver, "Geological Observations on Part of Gloucestershire and Somersetshire," *Transactions of the Geological Society*, 2nd Ser. Vol. I, Pt. 1 (1822), pp. 323-24, 339, 343, 349, 360; Adam Sedgwick and Roderick I. Murchison, "On the structure and Relation of the Deposits contained between the Primary Rocks and the Oolitic Series in the North of Scotland," *Transactions of the Geological Society*, 2nd Ser. Vol. III (1835), 130, 132, 141, 147, 150.

³⁰ E.g., Fairholme, Ref. 28, pp. 392-94; Young, Ref. 28, pp. 12-14; William Rhind, *The Age of the Earth* (1838), pp. 36-37.

³¹ S.P. Hildreth, "Notice of Fossil Trees, near Gallipolis, Ohio," *Philosophical Magazine*, N.S., Vol. II, No. 10 (Oct. 1827), 311-13; H.L. Pattinson, "On the Fossil Trees found in Jefferies Rake Vein at Derwent Lead Mine in the County of Durham," *Philosophical Magazine*, N.S., Vol. VII, No. 39 (March 1830), 185-89; John

and buried catastrophically. And since the formations where these trees were found were analogous in their mineralogical characteristics to other formations where no trees were found, the Scriptural geologists saw them as an important piece of evidence that most of the strata were deposited rapidly by Noah's flood. Polystrate fossils are still being used (by both young-earth creationists and old-earth, evolutionary "neo-catastrophists") to argue for the rapid, catastrophic deposition of the strata in which they are found.³²

A third important geological objection related to **shell creatures**. Since these made up the majority of fossils, they had a great, if not singular, importance for old-earth geologists in working out their history of the earth. William Smith, the "Father of English Stratigraphy," based his depiction and relative dating of the geological record primarily on shell creatures.³³ In 1828 Lyell worked out his interpretation of the Tertiary formation (or Cenozoic, as it is called today) solely on the basis of shells.³⁴ Buckland stated that fossil shells were "of vast importance in investigating the records of the changes that have occurred upon the surface of our globe" and that "in fact without these [organic remains], the proofs of the lapse of such long periods as Geology shows to have been occupied in the formation of the strata of the earth, would have been comparatively few and indecisive."³⁵ Geologist James Smith said in 1838 that judging the age of a deposit purely on the basis of shells was a sound rule of geological reasoning.³⁶ Even in 1888 shells were still the primary tools used to date the strata. The highly touted, but now demonstrably unreliable, radiometric dating methods were not developed until the early 20th century.³⁷ Fossil shells remain the dominant index fossils (OHT) used for dating geological formations.³⁸

Phillips, *Illustrations of the Geology of Yorkshire* (1829-36), I:95; John Phillips, *Treatise on Geology* (1837-39), I:160; John Lindley and William Hutton, *The Fossil Flora of Great Britain* (1831-1837), II:xx-xxi; Henry Witham, "A Description of a Fossil Tree discovered in the Quarry of Craigleith," *Transactions of the Royal Society of Edinburgh*, Vol. XII, Pt. 1 (1834), 147-52.

³² E.g., John Morris, *The Young Earth* (Colorado Springs: Master Books, 1994), pp. 100-102 and Derek Ager, *The New Catastrophism* (Cambridge: Cambridge Univ. Press, 1993), pp. 47-50.

³³ William Smith, *Stratigraphical System of Organized Fossils* (London: , 1817), p. vi and "Geological Table" after page xi. Most of the fossils he discussed were shell creatures.

³⁴ Charles Lyell, *The Antiquity of Man* (London, 1863), 3-5.

³⁵ William Buckland, *Bridgewater Treatise* (London: John Murray, 1836), I:110, 112.

³⁶ James Smith, "Relative levels of the land and sea in the British Islands," *Memoirs of the Wernerian Natural History Society*, Vol. VIII (1838), 84-85.

³⁷ For information exposing the fatal problems with the radiometric dating methods, see the following. Arguments written for non-specialists but with full documentation include: Marvin Lubenow, *Bones of Contention* (Grand Rapids: Baker, 1992), pp. 247-266; Steven Austin, *Grand Canyon: Monument to Catastrophe* (El Cajon: Institute for Creation Research, 1994), pp. 111-132; John Morris, *The Young Earth* (Colorado Springs: Master Books, 1994), pp. 45-68. For a thorough technical analysis see: John Woodmorappe, *The Mythology of Modern Dating Methods: Why million/billion-year results are not credible* (El Cajon: Institute for Creation Research, 1999), 117pp., and Larry Vardiman, Andrew A. Snelling & Eugene F. Chaffin, eds., *Radioisotopes and the Age of the Earth: A Young-Earth Creationist Research Initiative* (El Cajon: Institute for Creation Research, 2000), 675pp. The latter scholarly book sets the stage for a 5-year scientific research project involving many Ph.D. young-Earth scientists working to solve the riddle of radiometric dating (for they are convinced by the existing scientific research that this method is not giving the true age of the rocks).

Also, search the Web site, www.AnswersInGenesis.org, for relevant articles for the specialist and non-specialist.

³⁸ John Thackray, *The Age of the Earth* (London: Institute of Geological Sciences, 1980), p. 8-9, 10, 13. Referring to his figure 21 on p. 10 (showing predominantly shell creatures) Thackray says (p.8-9), "Two ideas form

But a number of Scriptural geologists,³⁹ along with several respected conchologists (experts on shell creatures) and even a few old-earth geologists objected that these shells were an unreliable means of dating the rock formations, for several reasons.⁴⁰ First, the taxonomic classification of shell creatures was very controversial and confusing at this time. Often different species or even genus names were given to what in reality was a single species. Secondly, there was experimental and observational evidence that the same creature could produce different shells depending on slight changes in such variables as the salinity or temperature of the water, or the surface to which the creature frequently attached itself. And thirdly, it was known that marine shell creatures could adapt to fresh water and that fresh water shell creatures could adjust to life in the sea. This meant that the distinction of fresh-water and salt-water deposits solely on the basis of shells was questionable to say the least.

A fourth major geological objection related to **human fossils**. This intriguing specimen was found in Guadeloupe and reported in a scientific journal in 1814. A primary reason that the majority of geologists at that time believed that most of the geological record was deposited long before the creation of man was that apparently no fossil human bones had been found with extinct animals in lower formations but only in recently formed deposits close to the earth's surface. But several Scriptural geologists⁴¹ argued that there were several fossil discoveries which refuted this widespread opinion, but that this evidence had been misinterpreted due to superficial investigations or that the correctly interpreted evidence had been ignored or suppressed by old-earth geologists.

Finally, another important objection of the Scriptural geologists to the old-earth theories was that since **geology was in its infancy** as a science in the early 19th century, geological knowledge was far too limited to justify a theory of the whole earth based solely on the geological data.⁴² But again, the Scriptural geologists were not the only ones raising this objection.⁴³ It is

the basis of [time] correlation [of the strata] using fossils today: first that all members of a species evolve together over their whole geographical range, so that evolutionary changes can be regarded as taking place at the same time wherever they occur, and second that evolution is a process which does not repeat itself, so that once a species or fauna has gone, it will never reappear. For a fossil to be useful in time-correlation it must be widely distributed in a variety of rock types, reasonably common and easy to recognise, and a member of a well defined, rapidly evolving lineage. No fossil satisfies all these requirements and all have their particular problems. The most useful are those like graptolites and ammonites which moved freely in the surface waters and are therefore found over wide areas in many different rock types. Less adequate are those like corals, gastropods, and bivalves, which evolved slowly and which were confined to a narrow range of environments. Widely used fossils, including some of the unfamiliar microscopic forms which are very important in borehole correlation, are shown in figure 21."

³⁹ E.g., Thomas Gisborne, *Considerations on the Modern Theory of Geology* (1837), pp. 19 & 51; George Bugg, *Scriptural Geology* (1826-27), Vol. I, pp. 210-211; and George Young & John Bird, *Geological Survey of the Yorkshire Coast* (1828), pp. 329-32.

⁴⁰ E.g., George Cuvier, *Theory of the Earth* (1813), pp. 58-60; F.S. Beudant, "Extract from a Memoir read to the Institute on the 13th of May 1816 on the Possibility of making the Mollusca of Fresh Water live in Salt Water, and vice versa," *Philosophical Magazine*, Vol. XLVIII, No. 22 (1816), pp. 223-27; John E. Gray, "Remarks on the difficulty of distinguishing certain Genera of Testaceous Mollusca by their shells alone, and on the Anomalies in regard to Habitation observed in certain Species," *Philosophical Transactions*, Pt. 2 (1835), pp. 301-310.

⁴¹ E.g., Fairholme, Ref. 28, pp. 41-52; John Murray, *A Portrait of Geology* (1838), pp. 82-96; Granville Penn, *Comparative Estimate of the Mineral and Mosaic Geologies* (1825), Vol. II, pp. 124-34, 394-412.

⁴² E.g., Rhind, Ref. 30, pp. 111-14; Young and Bird, Ref. 39, pp. 2-3, 8-9; Gisborne, Ref. 39, p. 6; John Murray, *The Truth of Revelation* (1840), 137-38, 142; Bugg, Ref. 39, pp. I:10-14, II:289, 343.

⁴³ E.g., T., anonymous review of Bakewell's *Introduction to Geology* (3rd edition), *Magazine of Natural*

important to note that Werner based his theory only on his knowledge of the sedimentary rocks around his home in Saxony, Germany.⁴⁴ Hutton first sketched his theory of the earth in a journal article *before* he had done any fieldwork and he traveled very little inside or outside Scotland to look for confirmation of his theory.⁴⁵ Cuvier built his catastrophist theory exclusively on the fossils and formations of the Paris Basin, most of which he did not personally investigate in the field. But furthermore, in a candid and revealing admission, he stated that almost all of the fossils upon which he based his theory were found by people, who did not carefully observe or record the precise geological location where the bones were found.⁴⁶ And Charles Lyell developed the essential points of his whole uniformitarian theory after only a few years of geological observations in England and before his first major geological tour on the European continent.⁴⁷ These theories were indeed based on a very limited knowledge of the geology of Britain and Europe, to say nothing of the rest of the earth. The Scriptural geologists rightly concluded that this theorizing on skimpy data was contrary to the method taught by Bacon.

So because of these major geological objections and other minor ones, along with Biblical objections, the Scriptural geologists argued that the old-earth theories were false and that the acceptance of them would not only undermine the Christian faith and morality, but would also slow the progress of geology in the acquisition of true knowledge.

So what was the debate really about?

In spite of these significant objections against the theories of both the catastrophists and the uniformitarians, the writings of the most geologically competent Scriptural geologists were ignored or misrepresented, but never refuted. Why? Well, the historical evidence clearly shows that they were not rejected because their objections had no basis in the science of their day. They were not naïve, Bible students nor “wholly destitute of geological knowledge,” as their opponents and historical critics said.⁴⁸ Rather, I believe that the reason they were ignored is that they were in a conflict of philosophical or religious worldviews.

The Scriptural geologists were not opposed to geological facts, but to the interpretation of those facts. And they argued that old-earth interpretations were based on anti-Biblical philosophical assumptions. They did not label those assumptions with the modern term of

History, Vol. I (1829), pp. 250-51; William Conybeare, “Report on th Progress, Actaul State, and Ulterior Prospects of Geological Science,” *Report of the BAAS: 1831-32* (1833), pp. 410-13; William Whewell, *The History of the Inductive Sciences* (1837), Vol. III, pp. 621-22.

⁴⁴ Milton Millhauser, *Just Before Darwin* (Middleton: Wesleyan U. Press, 1959), pp. 42-43. Millhauser, a respected historian of science, bluntly states that Werner “drew the broadest generalizations from the scantiest and most haphazard supply of facts; untraveled, indifferent to contemporary studies abroad, he evolved out of local formations and his own consciousness an intricate, largely hypothetical, immensely influential, and almost completely wrong theory of the world.”

⁴⁵ Article on Hutton, *Dictionary of National Biography* (UK), p. 354; Charles Lyell, *Principles of Geology* (1830), Vol. I, p. 62.

⁴⁶ Cuvier makes his revealing admission of ignorance in his *Theory of the Earth* (1822), pp. 111-13.

⁴⁷ Martin J.S. Rudwick, “Lyell on Etna, and the Antiquity of the Earth,” in Cecil J. Schneer, ed., *Toward a History of Geology* (Cambridge: MIT, 1969), p. 289.

⁴⁸ The quoted words are from Charles Lyell, Review of *Memoir on the Geology of Central France* by G.P. Scrope, *Quarterly Review*, Vol. XXXVI, No. 72 (1827), 482.

“philosophical naturalism.” But they clearly perceived them as such. They also insisted that there was a difference between, on the one hand, the experimental scientific studies which use observations of presently occurring processes and repeatable experiments to determine how the present creation operates and, on the other hand, the historical scientific studies which use circumstantial evidence and written records to try to reconstruct the origin of the creation and its historical development to its present state. The Scriptural geologists insisted that in constructing a history of the earth geologists should not limit themselves to the circumstantial evidence of rocks and fossils, but should also carefully consult the more important eyewitness testimony of God’s Word.

So the Genesis-geology debate was really a conflict of worldviews--that is, deism, vague forms of theism and atheism joined together against Biblical Christianity. Sadly, many Christians, even clergy, absorbed many of the anti-biblical philosophical assumptions hidden in scientific writings in those days (and our days), and so they unconsciously became semi-deists, as society was enjoying the lush and seemingly boundless fruits of human reason at work in the Industrial Revolution. This is the ultimate reason, I believe, that the writings of the geologically competent Scriptural geologists were rejected without refutation by the leading geologists of their day. By the publication of Darwin’s theory in 1859 the Scriptural geologists, as a “species” of thinkers, had almost passed into extinction. Their thinking about both Scripture and the geological evidence surprisingly resurfaced in the last half of the 20th century with the modern young-earth creationist movement, which is now worldwide.

I think the battle the Scriptural geologists fought is very relevant for today, for at least two reasons. First, their existence helps to expose the fallacy of the recent charge by evangelical church historian, Mark Noll, who follows the former Seventh Day Adventist and now agnostic, historian of science, Ronald Numbers. These two men have discredited modern young-earth creationism by attempting to root it in the teachings of Seventh Day Adventism and stating that young-earth geology began in the early 20th century with Adventist George McCready Price.⁴⁹ Certainly, Price’s geological writings influenced men such as Henry Morris. But Price and the earlier Scriptural geologists made many of the same observations and interpretations of the geological phenomena, which modern creationists have also observed. And the Scriptural geologists, the early Adventists and the modern creationists all obtained their young-earth ideas from a literal interpretation of Genesis, which freed their minds from anti-Biblical philosophical assumptions in geology and which is the way Genesis was almost universally interpreted in the church prior to the 19th century. So, Mark Noll is badly misinformed as a historian and greatly misleads his readers when he states in his influential book, *The Scandal of the Evangelical Mind*, that, young-earth creationists use “a fatally flawed interpretive scheme of the sort that no responsible Christian teacher in the history of the church ever endorsed before this century.”⁵⁰

⁴⁹ Mark Noll, “The Scandal of the Evangelical Mind,” *Christianity Today* (Oct. 25, 1993), pp. 29-32 and *The Scandal of the Evangelical Mind* (Grand Rapids: Eerdmans, 1994), esp. pp. 12-14, and Ronald Numbers, *The Creationists* (New York: Knopf, 1992).

⁵⁰ Noll, Ref. 49 (1994 book), p. 14. For an incisive review of Noll’s book by a leading creationist, see Carl Weiland’s article, “Missing the Mark: The Tragedy of the New Evangelical ‘Intellectualism’” on the Answers in Genesis Web site: http://www.answersingenesis.org/home/area/magazines/tj/docs/v10n1_br.asp#f4.

A second lesson from the Scriptural geologists' battle with old-earth Christians of their day is that the increasingly popular old-earth Intelligent Design Movement, lead by Phillip Johnson, is fatally flawed. But I appreciate what IDM writers are doing to expose the inadequacy of theories of biological evolution to explain the incredible design we see in living creatures and to challenge the philosophical naturalism that controls science, they are leading many Christians astray regarding geological and astronomical (or cosmic) evolution, which most IDM people uncritically accept as proven fact. Like the early 19th century old-earth advocates, Phillip Johnson and the IDM are only focusing on design in creation and overlooking the obvious witness in creation to God's wrath poured out at the fall and at the flood. Also, they apparently fail to see (or at least explain to others, if they do see), that philosophical naturalism controls geology and astronomy as much as, if not more than, it controls biology and that naturalism did not take control of science through Darwin but through old-earth geology and astronomy half a century earlier. Ultimately the age of the earth controversy is not just a philosophical argument; rather old-earth geology and old-universe astronomy, like evolutionary biology, are massive assaults on the authority and clarity of the Word of God. Furthermore, as in the 19th century, Intelligent Design proponents insist on keeping the Bible, or at least Genesis, out of the discussion or, when they do allow the Bible in, they give only a superficial attention to the text. In his recent book, Johnson encourages Christian readers, "The place to begin is with the Biblical passage that is most relevant to the evolution controversy. It is not in Genesis; rather, it is the opening of the Gospel of John."⁵¹ He then quotes and discusses Jn. 1:1-3.

This same kind of old-earth, intelligent-design approach by Christians almost 200 years ago failed to halt the rising tide of skepticism and unbiblical religion. All the early 19th century Christian old-earth proponents used or supported intelligent design arguments against pre-Darwinian evolutionary theories.⁵² Furthermore, all of them gave very superficial attention to the text of Genesis. But the old-earth geology they supported actually paved the way for Darwin's victory. I see no reason to think that the present strategy of the IDM will lead the culture or individuals back to the God of the Bible and to His inspired, inerrant and authoritative Word.

One final point can be made here. Several of the Scriptural geologists expressed their concerns that if the early chapters of Genesis were rejected as literal accurate history it would only be a matter of time before other parts of the Bible would be rejected as well, leading inevitably to the spiritual decline of the church and its evangelistic mission and the moral decay of society. As one of the Scriptural geologists, Rev. Henry Cole, put it this way in 1834:

⁵¹ Phillip Johnson, *The Wedge of Truth* (Downers Grove: IVP Press, 2000), p. 151. He has said similar things many times to Christian audiences. In a recent interview in Australia (P. Hastie, "Designer genes: Phillip E. Johnson talks to Peter Hastie," *Australian Presbyterian*, No. 531, October 2001, pp. 4-8) he stated, "I think that one of the secondary issues [in the creation-evolution debate] concerns the details of the chronology in Genesis. . . . So I say, in terms of biblical importance, that we should move from the Genesis chronology to the most important fact about creation, which is John 1:1. . . . It's important not to be side-tracked into questions of biblical detail, where you just wind up in a morass of shifting issues." This article is on the Web at <http://members.iinet.net.au/~sejones/pjaustpr.html>.

⁵² Next to William Paley's *Natural Theology* (1802), probably the most famous examples of design arguments against naturalistic explanations for the origin of living things were the series of eight *Bridgewater Treatises*. These were written from 1833-36 by eight different prominent authors, only one of whom (William Kirby, an entomologist) was a young-Earth proponent.

“Many reverend Geologists, however, would evince their reverence for the divine Revelation by making a distinction between its *historical* and its *moral* portions; and maintaining, that the latter only is inspired and absolute Truth; but that the former is not so; and therefore is open to any latitude of philosophic and scientific interpretation, modification or denial! . . . According to these impious and infidel modifiers and separators, there is not one third of the Word of God that *is* inspired; for not more, nor perhaps so much, of that Word, is occupied in abstract moral revelation, instruction, and precept. The other two thirds, therefore, are open to any scientific modification and interpretation; or, (if scientifically required,) to a total denial! It may however be safely asserted, that whoever professedly, before men, disbelieves the inspiration of any part of Revelation, disbelieves, in the sight of God, its inspiration altogether. If such principles were permitted of the most High to proceed to their ultimate drifts and tendencies, how long would they be sweeping all faith in revealed and inspired Veracity from off the face of the earth?” . . .

“What the consequences of such things must be to a revelation-possessing land, time will rapidly and awfully unfold in its opening pages of national scepticism, infidelity, and apostacy [*sic*], and of God's righteous vengeance on the same!”⁵³

I would suggest that the last 170 years in the Western World has confirmed the Scriptural geologists' worst fears. This seems particularly obvious in Britain and America, where the gospel has previously had such great cultural influence.

So, in light of all this, I will stand with my Scriptural geologist forefathers and insist that the age of the earth and its history matter--enormously. It is not a secondary side issue, but it strikes at the very heart of philosophical naturalism's stranglehold of science, culture and much of the church, which first seized its victims in the early 19th century Genesis-geology debate. We need to realize that biological evolution (in whatever form) is only one strand of naturalistic interpretations of the physical creation. In Eccl. 4:12 we read that, “a cord of three strands is not easily torn.” Removing one strand may weaken the rope. But the church will not be liberated from the bondage to philosophical naturalism, if only biological evolution is rejected. Old-earth geological evolution and old-universe astronomical evolution must also be rejected. Both the Bible and the demonstrated scientific facts require it. The Scriptural geologists of the early 19th century were convinced of this and wrote to persuade other Christians. Today, we likewise need to become informed and convinced of the plain and literal truth of Genesis and contend for that truth, when the scientific evidence is more clearly on the side of Genesis than it was even in the early decades of the 19th century.

⁵³ Henry Cole, *Popular Geology Subversive of Divine Revelation* (London: Hatchard and Son, 1834), pp. ix-x, 44-45 (footnote), emphasis in original. In this book Cole, an Anglican minister, is responding to the writings of old-Earth Cambridge University geologist and fellow ordained Anglican, Adam Sedgwick.

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