

# GENERAL SCIENCE NOTES

## SCRIPTURAL GEOLOGY, 1820-1860: AN ESSAY AND REVIEW

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Terry Mortenson, now with *Answers in Genesis* (Florence, KY), has done a great service by providing his scholarly analysis of the historical roots of modern creationism to be found in the “Scriptural geology” movement. Many scientists and clergy of the period 1820 to 1860 in England and America countered the uniformitarian, non-catastrophist approach of the fledgling science of geology with an approach to earth history based upon three premises:

- 1) The age of the earth is not more than about 6000 years old, not the millions of years needed by uniformitarian geology.
- 2) The days of creation were literal days, which started with the beginning of time, not being preceded by millions of years as in the “ruin-restitution” or “gap theory.”<sup>1</sup>
- 3) The Biblical Deluge was a major agent of geological change in earth history and was worldwide in scope.

This intellectual movement is designated as “Scriptural geology.” It is best summarized from a creationist viewpoint in Terry Mortenson, *The Great Turning Point: The Church’s Catastrophic Mistake on Geology Before Darwin* (2004).<sup>2</sup> The more comprehensive treatment of the topic is found in his doctoral dissertation: “British Scriptural Geologists in the First Half of the Nineteenth Century” (1996).<sup>3</sup>

In his dissertation, Mortenson provides the reader with a lengthy summary of the historical conditions leading up to Scriptural geology, which was a reaction against both uniformity and multiple catastrophes found in early geology. The “father of uniformitarianism” was the Scottish geologist James Hutton, who in a 1788 lecture iterated the maxim that the present is key to the past in the words, “the results of our investigation therefore is that we see no vestige of a beginning, no prospect of an end.” The “father of stratigraphy” was the British canal engineer William Smith, who first published his map of the geological strata of England and Wales

in 1815. This is the year that marks the rise of the “Scriptural geology” movement, which was a Biblically-based approach grappling to explain the order of the geological strata.

If Hutton was the father of uniformitarian thinking and Smith was the one who provided the geological framework for its explanation, then Sir Charles Lyell, writing his three-volume set in 1830-1833 and using his lawyer mind, provided the greatest articulation of uniformitarianism in British nineteenth-century geology. Scriptural geology’s main pillar of belief was that the ultimate catastrophe, the Biblical Flood, explains the geological strata of the earth.

Mortenson’s dissertation focused upon thirteen of the several dozen “Scriptural geologists” from that era and has limited the scope to only those writing from England in the period 1820-1840. They are as follows (alphabetically listed, not in the order Mortenson discussed them):

Best, Samuel (1802-1873) – Cl.	Gisborne, Thomas (1758-1846) – Cl.
Brown, James Mellor (1796-1867) – Cl.	*Murray, John (1785/1786-1851)
*Bugg, George (1769-1851) – Cl.	*Penn, Granville (1761-1844)
Cockburn, William (1774?-1858) – Cl.	*Rhind, William (1797-1874)
Cole, Henry (1792?-1858) – Cl.	*Ure, Andrew (1778-1857)
*Fairholme, George (1789-1846)	*Young, George (1777-1848) – Cl.
Johnsone, Fowler de (pseudonym) – Cl.	

About half of these are clergy-scientists, denoted with the abbreviation “Cl.” An asterisk designates only those Scriptural geologists discussed in his 2004 work, which is a condensation and revision of his doctoral thesis, and is now available in electronic format.<sup>4</sup>

### **MORTENSON’S REASONS FOR THE DEMISE OF SCRIPTURAL GEOLOGY**

In the above two works Mortenson grapples with the question of how and why the Scriptural geology movement died out after reaching its peak at about 1840 in England. First, he lists the following reasons why this movement grew rapidly into prominence:

- 1) It was a time of great change and turbulence in British society; Scriptural geology opposed radical changes in understanding of geology.
- 2) Atheism, deism, and the French revolution were challenging the authority of the church; Scriptural geologists without exception defended the authority and inerrancy of the Bible.
- 3) Science was growing rapidly and achieving a new status in society and was promoting an independent means of discovering “truth;”

Scriptural geology was pointing out weaknesses in the speculative aspects of science, especially earth science.

- 4) England had a long tradition of writers who believed in natural theology and who related the Biblical Flood to geological phenomena; Scriptural geologists continued to uphold that approach.
- 5) The effects of the Flood were being debated at the time when leading geologists were giving up belief in a universal Flood; Scriptural geology was a reaction against these compromise positions by leading geologists, many of whom were also men of faith.
- 6) The ultimate effect of reinterpreting the Bible on the basis of science was the undermining of the authority of Scripture, a trend which the Scriptural geologists felt compelled to oppose. These conservative ideas resonated with the majority of the educated Christian population in England at that time.

Second, Mortenson discusses three possible reasons why Scriptural geology as a movement disappeared almost as rapidly as it had risen:

- 1) The major scientific and educational institutions and scientific journals were controlled by individuals who were hostile to traditional beliefs, thus preventing a new generation of Biblically-believing geologists to be trained.
- 2) The professionalization of geology as a science made it difficult for part-time geologists, such as the Scriptural geologists in every case were, to have a voice.
- 3) Liberal theology was slowly replacing orthodox theology as the dominant view in the Church, and this gave less impetus to the traditional views on Genesis and the Flood.

### **AN ADDITIONAL REASON SUGGESTED BY STILING**

If Mortenson had extended his study to writings beyond 1840 and beyond the confines of Great Britain, he could have added an additional reason why Flood geology began to wane rapidly — the shifting of the Flood to higher and higher strata, leaving most of the geological strata as antediluvian. Rodney L. Stiling notes this trend in his doctoral dissertation, “The Diminishing Deluge: Noah’s Flood in Nineteenth-Century American Thought.”<sup>5</sup> Flood geologists began ascribing the Flood to higher stratigraphic levels, so that what is now known as Paleozoic and Mesozoic deposits were considered to be antediluvian, while the Flood was thought to be represented by Tertiary and Quaternary deposits, in contrast to earlier views of putting all “secondary” formations (upper Paleozoic and Mesozoic in

today's terminology) within the Flood. Most scientists and professors of geology, whether young-earth or old-earth advocates, who believed in a universal Flood in the period 1820-1840, understood the Flood as forming what were then called the "diluvium," or diluvial deposits.<sup>6</sup> Starting in the 1840s in both Europe and America these deposits became assigned to the agency of ice and water, rather than solely liquid water, and an "ice age" was postulated, largely under the influence of a Swiss pastor's son and professor in geology — Louis Agassiz. This essentially eliminated the concept of the Flood as a geological agent, a process completed by 1860. In essence the ice age removed the need for a catastrophic Flood to explain the burial grounds of large mammals in caves, in peat deposits, and in river banks, such as the deposits of the mammoths and mastodons of the high latitudes in North America, South America, and Europe. The rise of Darwinism, which emerged full-fledged in 1859 with the publication of Darwin's *On the Origin of Species*, was, therefore, not responsible for the disappearance of Flood geology.

One of the striking examples of how Scriptural geology shifted the pre-Flood/Flood boundary higher and higher in the geological column is provided by the case of George Fairholme. Fairholme's 1833 work, *A General View of the Geology of Scripture*, suggested that the Flood was responsible for forming all the non-marine secondary formations and all the marine and non-marine tertiary formations.<sup>7</sup> But four years later in his second work on Scriptural geology, he acknowledged that he had erred in the way he assigned the Flood to the geological strata:

*In a desire to vindicate Scripture upon points which geological theories had invaded, I fell into the too common error of pushing even a sound argument too far; and of thus attributing to Diluvial action alone, formations which I have subsequently found, must have been in existence, as solid rocks, before the period of that event.*<sup>8</sup>

He had made the mistake of putting all the great coal beds of Europe stratigraphically above the "chalk beds" (now known as Cretaceous"). For him in 1833, the top of the chalk beds marked the transition from antediluvian to diluvial deposits.<sup>9</sup> This meant that the coal beds must have been formed by the Deluge. Four years later in assigning the coal beds to a position below the chalks beds as all other British geologists had already done, Fairholme in essence was viewing the coal beds as being antediluvian, thus correcting the "error" in his 1833 treatise.<sup>10</sup> This interpretation of Fairholme runs counter to most twentieth-century creationist writers, starting with George McCready Price and ending with Terry Mortenson, who have used Fairholme's publications to support the idea that the Flood formed the entire fossiliferous geological column.<sup>11</sup>

A proper interpretation of Fairholme's Flood model is critical to understanding the reason(s) why Scriptural geology had lost its support by the year 1860 in Britain and America. Limiting the Flood to the superficial gravels, loams, and erratic blocks, accompanied by the bones of mammoths, mastodons, rhinoceroses, and even humans in the upper Pleistocene, meant that ice became a plausible agent for their burial, not water as in a Deluge, when the concept of an "ice age" was developed in the 1850s and 1860s. When George McCready Price initiated the revival of "Scriptural geology" under the rubric of "Flood geology" in the early twentieth-century, the first thing he attempted to do was to eliminate any concept of an "ice age," the great nemesis of Scriptural geology.<sup>12</sup> Fairholme was writing prior to the time that an ice age had become an established geological dogma. In his earlier writings, Fairholme initially connected the Flood with the formation of the geological strata. In his later book, Fairholme appeared to limit the Flood to the upper portion of the geological strata. He postulated that, rather than creating the terrestrial geological strata on land, the Flood reversed the relative positions of the land and seafloor.<sup>13</sup> This happened at a time no more than 10,000 years ago, he calculated, and more likely 5,000 years ago, using geological chronometers, and it occurred after the strata had been laid down and had become indurated.

Two further examples can be given of how starting in the late 1830s Scriptural geologists began to limit the stratigraphic extent of the Flood, even though geographically it was considered universal. One work mentioned by Mortenson, but not analyzed by him, is *Facts, Suggestions, and Brief Inductions in Geology*, published under the obvious pseudonym *Biblicus Delvinus* in 1838, and republished in 1839.<sup>14</sup> This mysterious individual is probably the Scriptural geologist, George Bugg, who published his first work *The Geology of Scripture* (2 vols., 1826-1827) anonymously. The fact that he employed the same two publishers, Seeley and Hatchard, for both works, when other Scriptural geologists with one exception were not employing both publishers, leads to the conclusion that George Bugg and *Biblicus Delvinus* are to be equated.<sup>15</sup> This conclusion is significant in that Bugg over the twelve years after his first publication in 1826-1827 changed his position on the young earth. His later view was that creation happened millions of years ago with the creation of invertebrate ocean life, thus assigning the "transition strata" (today's lower Paleozoic) to a period prior to the six days' creation. The reasoning was simple — Genesis 1 does not speak of invertebrates being created, and the first created animal life is that of vertebrates on days 5 and 6 of creation. The "secondary strata," having evidence of only invertebrate life, then were produced prior to Creation week.<sup>16</sup>

Another example of a Scriptural geologist who added millions of years to the geological record is Samuel Best, discussed at length in Mortenson's dissertation but not in his 2004 work. In 1837 Best critiqued William Buckland for his old-earth views, but by 1871 he must have relented somewhat. His second of two works on creation was *Sermons on the Beginning of All Things as Revealed to us in the Word of God*.<sup>17</sup> In this work he viewed the first three days of creation as being non-literal because in his words "the sun...had not yet [by the end of the third day] assumed its office in the heavens, and time could not be counted by its rising and setting."<sup>18</sup> During the much-expanded "day" of creation, the vegetation that is now preserved in Carboniferous coal beds grew from the light and heat of internal fires from the earth, he speculated, not from the sun.<sup>19</sup> Best placed all of the lower Paleozoic rocks (up through the Carboniferous) within the first three days of creation, whereas his predecessor Biblicus Delvinus (=George Bugg) ascribed those same formations to the "without form and void" period of Genesis 1:2. The shifts of thinking we observe in the dual works produced each by Fairholme, Bugg, and Best indicate a movement away from the idea that most of the fossil record was produced in the year of the Flood. This shifting process started in 1837-1838 (with Fairholme and Bugg) and was complete by 1871 (with Best).<sup>20</sup>

### **THE LACK OF HUMAN FOSSILS A FACTOR IN SCRIPTURAL GEOLOGY'S DEMISE**

Another more crucial factor than the reasons proposed by Mortenson and Stiling to account for the demise of Scriptural geology was the lack of human fossils or human artifacts in geological strata. Some Scriptural geologists hypothesized that the antediluvian population was great, perhaps equaling in concentration if not in numbers the population of Western Europe at the beginning of the nineteenth century.<sup>21</sup> One detects a note of despair in the writings of all the Scriptural geologists at not having found evidence of human remains in the lower portions of the geological strata. For one example among many of human skeletons found in "Diluvial" or upper Tertiary strata, see the 1824 illustration taken from William Buckland in Figure 1. The only well-documented human skeletons were in "tertiary" strata. If the Flood was designed by God to wipe out a significant population of rebellious human beings by means of water, then one would expect to find their remains well preserved in diluvial strata. That was the main reason for placing the Flood in the "diluvium" because those deposits were known to contain bones of humans in association with those of extinct mammals.

Scriptural geologists offered five possible reasons for this apparent lack of finding human fossils in the "transition" and "secondary" strata of the earth:



- 1) The most common reason given was that at the time of the Flood the land and sea exchanged places.<sup>22</sup> The antediluvian seas were uplifted to become the postdiluvian lands, and the antediluvian land became the bottom of present-day oceans. No humans have been found because they currently lie buried in the ocean floor.
- 2) Antediluvian humans all lived in the region now known as Asia. Bones of humans had not been discovered in Asia (as of the 1840s), but it was thought they would be discovered there in the future with greater exploration.
- 3) Antediluvian humans were concentrated around what was the garden of Eden. This was the last place God chose to destroy at the time of the Flood, so that humans were the last creatures He destroyed with Deluge waters, thus depositing their remains at the top of the geological strata.
- 4) The antediluvian population was very small in contrast to the millions of land animals that were thought to be in existence when the Flood came. Hence, one would not expect to discover large bone beds with human remains. Also, scientific exploration was still in its infancy, and thus increased exploration at some future date would uncover the scant human remains in the lower reaches of the geological column.
- 5) Antediluvian humans were much more intelligent than any other creature, and they would have fled to the highest points of land during the Flood, and thus were the last creatures to be buried by rising Flood waters.

The lack of antediluvian fossil humans remains a problem to this day, the lowest confirmed strata with remains of *Homo sapiens* being the Pleistocene above the top of the Cenozoic. At various times creationists have reported on the occurrence of human-like tracks in the lower reaches of the geological strata, but none of the reports have been substantiated. Thus, Scriptural geologists were forced to limit the Flood eventually to the upper “tertiary” strata, where there were reported human remains, or to the “diluvium” where there were plentiful human remains. But when glaciation and not a worldwide Deluge was determined to account for the origin of the diluvium, the Flood disappeared almost entirely from the geological scene. This occurred by the end of 1840s in Britain and the end of the 1850s in America.

**Figure 1. Plate 21 of William Buckland’s *Reliquiae Diluvianae* (1824, London: John Murray), giving one example of human remains found in deposits labeled “Diluvial,” in the Sea Cliffs near Swansea. Photograph from the author’s private collection.**



## FINAL ATTEMPTS TO RESTORE SCRIPTURAL GEOLOGY

Two creative attempts to defend a waning Flood concept in the decade of 1850-1860 were submitted by William Elfe Tayler and Thomas A. Davies against the old-earth views of Hugh Miller, Scottish stone mason.<sup>23</sup> The first was the anonymously published *Voices from the Rocks*, now known to have been written by the English clergyman William Elfe Tayler in 1857.<sup>24</sup> It was a sharp critique of the newly published *Testimony of the Rocks* by Hugh Miller in 1857.<sup>25</sup> Tayler claimed to have found one devastating evidence that would overturn Miller's old-earth views — the presence of human footprints in the Old Red Sandstone, which Miller described in exhaustive detail in his 1857 work as being classified as Paleozoic. These footprints, which can now be viewed on the Internet,<sup>26</sup> appear to have been cleverly carved in the sandstone. Other than the purported human tracks in Paleozoic sediments, Scriptural geologists in the 1850s had no new evidences by which to connect the Biblical Flood to geological strata.

The second major critique of Hugh Miller was by a military man, Thomas A. Davies, who later ran for United States President in 1872. His work, published in 1860, was entitled *Answer to Hugh Miller and Theoretic Geologists*.<sup>27</sup> The problem was that Davies was even more speculative and theoretical than Miller himself, for he proposed that the entire fossil record with “sedimentary” rocks were created within the six literal days of Creation week.<sup>28</sup> He conjectures that there exist three kingdoms: animal, vegetable, and fossil/mineral. God created the entire pre-Adamite fossil record during the first three days of Creation, which were literal days, as archetypes that provided patterns for the living forms created during days three through six.<sup>29</sup> This idea may have been spawned by reading Philip Gosse, *Omphalos: an Attempt to Untie the Geological Knot* (1857), although Davies never acknowledged reading Gosse. At any rate both men advocated that the fossil record was created instantly in order to counter the day-age views of Hugh Miller and other Christian geologists.

## THE SHIFT AWAY FROM THE HARD FACTS OF GEOLOGY

The extreme views of William Elfe Tayler, Philip Gosse, and Thomas A. Davies illustrate an additional reason why the views of Scriptural geologists nearly disappeared from the geological scene after 1860: the more Scriptural geologists moved away from discussing the facts of the geological record and into the realm of speculation, the less credibility they had with the general public. A good example of a work that was nearly devoid of any geological facts was written by Fowler de Johnson, *Truth, in Defence of the Word of God—Vanquishing Infidelity. A Vindication of the Book of Genesis. Addressed to the Rev. William Buckland*.<sup>30</sup> “Fowler de Johnson” is clearly

a pseudonym. There is no British author with the surname “de Johnsons” writing in that period.<sup>31</sup> Who then is this intriguing Fowler de Johnsons?

The following facts, as gleaned by Mortenson, help us narrow down the field of possibilities:

- 1) He was a clergyman, possibly Anglican.
- 2) He lived in or near London.
- 3) He had a first-hand acquaintance with the writings of Martin Luther on Genesis.
- 4) He did not enter the debate about the nature and extent of the Flood, and wrote only one and a half pages on the Flood itself.
- 5) The title of his 1838 work shows that it was in the form of a letter “addressed to Rev. William Buckland.”
- 6) He had written a previous work in which he was attacked for his views.<sup>32</sup>

Since “de Johnsons” had written previously on the subject of geology, for which he was criticized, we can narrow down the field of candidates to those Scriptural geologists writing prior to 1838. Of the Scriptural geologists discussed by Mortenson eight were clergymen: Samuel Best, James Mellor Brown, George Bugg, William Cockburn, Henry Cole, Thomas Gisborne, and George Young. Of these eight, only two fit the rest of the six criteria laid out by Mortenson for the author using “Fowler de Johnsons” as a pseudonym, Henry Cole and William Cockburn. William Cockburn could not have been De Johnsons because Cockburn wrote his first work in 1838: *A Letter to Prof. Buckland, Concerning the Origin of the World*.<sup>33</sup> He wrote no previous work on geology. Moreover, Buckland was addressed with the title “Prof.” by Cockburn and “Rev.” by de Johnsons, suggesting the works had been authored by two different individuals. Besides, Cockburn would not have written two books in 1838 criticizing Buckland, the one published under a pseudonym and the other published under his real name.

The third point above, the fact that de Johnsons had a first-hand knowledge of Luther’s commentary on Genesis points then to only one of the remaining seven clergy discussed by Mortenson: Henry Cole. This factor alone is sufficient to limit the identification of de Johnsons to Cole because as far as we are aware no other Scriptural geologist writing in 1838 or earlier mentions Luther’s Genesis commentary as an argument in support of the universality of the Flood. The reason is simple: Luther’s commentary on Genesis had not been translated from Latin into English as of 1838, and Henry Cole was the first one to translate a portion of it into English in 1858.<sup>34</sup> Mortenson, who is thoroughly familiar with the writings of both men, takes exception to the proposed identification of “Fowler de Johnsons” as Henry Cole and asserts that both men are not to be equated because of different writing styles and modes of argumentation.<sup>35</sup> Assessments of style and methodology, however, are more subjective in contrast to the six points above.

On the other hand, an analysis of style is important and should not be underestimated. “De Johnsons’s” style is more pedantic and vitriolic than any other Scriptural geologist studied by Mortenson. Of his style, Mortenson has this to say:

*Throughout his book he used a very pompous style with plenty of metaphorical and symbolic language and conveyed an attitude that he was THE defender of the Bible.... It is hard to imagine who might have been convinced by "de Johnson's" lengthy but shallow argument written in his unusual style.<sup>36</sup>*

Cole/de Johnsonsone believed that he could use flowery language and a strong Biblical emphasis to convince the old-earth geologists of the errors of their ways, but such style without geological substance did not win any converts. Prior to the 1840s Scriptural geologists as a whole emphasized the importance of accepting the "facts" of geology while disagreeing with the speculative "theories" of geologists. Cole/de Johnsonsone was the first Scriptural geologist to ignore the facts of geology, while emphasizing that Scripture provides all final answers needed to combat the fledgling science of geology.

### **MORTENSON'S CONTRIBUTION TO THE DISCUSSION**

While Terry Mortenson disagrees with the above identification of Fowler de Johnsonsone with Henry Cole, he is to be commended for providing a wealth of valuable and accurate information for developing a balanced view of the writings of the Scriptural geology movement. He demonstrates that they were for the most part highly educated and often widely published writers, not geologically illiterate individuals as their opponents often portrayed them as.<sup>37</sup> They were not writing against geology as a science per se, but against those speculative aspects that collided with the Biblical world view of a short chronology.<sup>38</sup> Mortenson therefore would take exception to Rodney Stiling, who describes "Scriptural geologists" as not being geologists. Stiling writes: "Thus, while it may be proper to speak of Scriptural *Geology*, it is not really accurate to speak of Scriptural *Geologists*."<sup>39</sup> One must keep in mind that most of the early nineteenth-century geologists did not have formal training in geology, but were largely self-educated, because geology as an academic science was only in its infancy.

Mortenson's dissertation was not designed to be exhaustive in covering all the Scriptural geologists, but rather representative.<sup>40</sup> Not mentioned at all by Mortenson was Henry Browne, an obscure Scriptural geologist whose book *The Geology of Scripture* was published in 1832.<sup>41</sup> Browne advocated a universal Flood and presumably a short chronology, although for him the Flood was limited to the upper part of the geological column, apparently concentrated at the "Diluvium." Scriptural geologists who began their writing careers after 1840 gave less and less importance to the Flood in the geological column. And, as shown by the links between Henry Cole

and Fowler de Johnson and between George Bugg and Biblicus Delvinus, Scriptural geology began shifting away from an emphasis on the facts of geology and moving into the realm of speculation. While Mortenson does not mention these connections in writing his dissertation, he has offered a fresh, new perspective on the Scriptural geology movement from a sympathetic perspective, and already his contribution is being recognized by the scholarly world.<sup>42</sup>

## CONCLUSIONS

What can the modern creationist movement learn from the Scriptural geology movement of the early nineteenth century? It is fitting that we review Scriptural geology after having passed the 100<sup>th</sup> anniversary of the founding of the modern Flood geology movement with close historical and conceptual ties to Scriptural geology.<sup>43</sup> The list of what can be learned has positive as well as negative elements. On the negative side, we learn from the failures of Fowler de Johnson (i.e., Henry Cole) in employing a strategy of attacking the views of one's opponents with a polemical and sometimes caustic writing style. This type of style gets people's attention, but does not make a lasting contribution to the cause of creationism. Unfortunately, George McCready Price in the first half of the twentieth century exhibited much the same writing style, but was perhaps a little less inflammatory than Cole/de Johnson. Calmly reasoned positions based upon hard data hold greater power to convince than outright attacks on the character, theology, or methodology of one's opponents.

On the positive side of the ledger, Flood geology today has much to learn from the earlier Scriptural geologists, of which I have selected five pertinent observations:

- 1) The primary theological defense of a conservative creationist position is holding to the six literal days of creation forming the first week of time, after which all other weeks have been patterned. This was the motivating factor, or *modus operandi*, of virtually all the Scriptural geologists and more recently of all the Flood geologists. This is the starting point in building one's young-earth creationist worldview. Significantly, the Scriptural geologists repeatedly referred to the Ten Commandments, and in particular Exodus 20:8-11, as the major theological/exegetical argument in favor of literal creation days.<sup>44</sup>
- 2) Scriptural geologists all accepted geology as a legitimate science. They quarreled not with the "facts" of geology, but with the "inferences" derived from the facts that collided with a straightforward, literal reading of Scripture.<sup>45</sup>

- 3) Because they accepted the facts of geology, the Scriptural geologists discussed by Mortenson accepted the reality of a geological column — the reality of a sequential arrangement of strata in a predictable order.<sup>46</sup> George McCready Price’s major difference with Scriptural geologists was over this point, the reality of the geological sequence, which he categorically rejected. Yet no one has come up with a better way of discussing the relationships of strata in the past two centuries of research!<sup>47</sup>
- 4) There were as many differences among Scriptural geologists over the question of where to put the Flood in the geological column as there are today among Flood geologists. Of the 13 (in reality 12) Scriptural geologists discussed by Mortenson, only George Young believed the Flood to be responsible for forming the entire fossiliferous geological column.<sup>48</sup> In the twentieth-century George McCready Price, John C. Whitcomb, and Henry M. Morris followed the thinking of Young by including all or nearly all the geological column in the Flood.<sup>49</sup> Several Scriptural geologists limited the Flood mainly to the uppermost strata called the “tertiary,” or even to the uppermost stratum, the “diluvium,” which now is equated with the Pleistocene — Henry Browne, Samuel Best, John Murray, Andrew Ure, and George Fairholme (in his 1837 work only). Others, such as George Bugg, Granville Penn, Thomas Gisborne, and William Cockburn, assigned the Flood to the strata now equivalent to the upper Paleozoic, Mesozoic, and Cenozoic, assigning the lower Paleozoic to the antediluvian period from Creation to the Flood, to Creation week itself, or even to a pre-Creation week period (as in the case of Bugg/Delvinus). The discussion about the validity of differing Flood models in relationship to the geological strata is just as important today as it was nearly two centuries ago. No one Flood model avoids all the problems; hence we need to examine carefully a variety of possibilities on the topic.
- 5) Regardless of where in the geological column Scriptural geologists detected the work of the Flood, they all agreed that strata containing human fossils should be assigned to the Flood as a minimal consideration. Today creationists as believers in a historical Deluge may wish to take that position at least as a starting point. “Ancient” human remains found in deposits other than in caves can rightfully be considered as valid candidates for burial by catastrophic action, namely the Deluge. Criteria then can be deduced from the nature of those sediments to

identify other sediments lower in the geological record as being possible candidates for Deluge catastrophism. Unfortunately, most efforts today among Flood geologists are expended in identifying the beginning of Flood activity in Paleozoic or even pre-Paleozoic deposits with little or no consideration as to how the human fossil record relates to that. The question raised by a review of Scriptural geology is this: Would it not be more profitable to start at the top of the geological column, where we do find evidence of catastrophically-buried humans, and then work downward in the column in deciphering the nature and timing of catastrophic activity? In the end, there still remains the challenge of explaining why the fossil record of humankind apparently does not extend below Quaternary deposits.

Because Flood geologists today continue to wrestle with major issues confronted by Scriptural geologists, it is all the more imperative that we become aware of the views of those who have suggested solutions while trying to do justice to the validity of both Scripture and science. Terry Mortenson's two works are by far the best resource for getting acquainted with the historical roots of the modern creationist movement, which can be linked directly with the Scriptural geology movement of the early nineteenth century.

## ENDNOTES

1. The "gap theory" is the concept that Gen. 1:1-2 describes a creation happening "in the beginning" perhaps millions of years prior to the creation of the six days described in Gen. 1:3-31. It is inferred that the Creator destroyed that original creation about six thousand years ago and made the new creation on top of the old one; hence the designation "the ruin-restitution" view.
2. 2004. Green Forest, AR: Master Books.
3. 1996. Ph.D. thesis, Coventry University, Coventry, England.
4. Select chapters from his dissertation have been revised and reprinted, and are now available on the Internet: <http://www.answeringgenesis.org/tj/archive/> . Type "Mortenson" in the author box to view articles on nine Scriptural geologists.
5. 1991. Ph.D. dissertation, University of Wisconsin - Madison.
6. The geological period now deemed equivalent to the "diluvium" is the Pleistocene period, according to conventional geological thought.
7. Fairholme G. 1833. *A General View of the Geology of Scripture*. Philadelphia: Key and Biddle. The "transition" period is roughly equivalent to today's lower Paleozoic (Cambrian up through Devonian), the secondary is somewhat parallel to today's upper Paleozoic (Carboniferous-Permian) and Mesozoic formations, while the tertiary is equivalent to the Cenozoic. For a helpful discussion of how the geological column came to be categorized, see: Ritland RM. 1982. Historical development of the current understanding of the geologic column: Part II. *Origins* 9(1):28-50, which is now on the Internet: <http://www.grisda.org/origins/09028.html>.

8. Fairholme G. 1837. *New and Conclusive Demonstrations, Both of the Fact and Period of the Mosaic Deluge*. London: James Ridgway and Sons, p 64.
9. Fairholme, *Geology of Scripture*, p 207ff.
10. In chapter IX of his previous 1833 work, *Geology of Scripture*, Fairholme devotes a section to the “Diluvial Origin of Coal,” in which he assigned coal deposits to the Deluge. According to his own words, this was his biggest mistake, which he repudiated four years later: “Amongst various geological errors, to which I have myself to plead guilty, that respecting the diluvial origin of coal, is one of the most important. I was formerly led too hastily to adopt this idea, in the obscurity which was, and still is, so palpable, with regard to this interesting member of the series. Feeling assured of the fact of the Deluge...and satisfied that it occurred only *once*, in the history of our planet, I was led to connect this *unity*, with that above described, as belonging to the coal strata....Subsequent study from nature, has convinced me of the error of that hypothesis.” *Mosaic Deluge* (1837), 386, note. Creationists in the twentieth-century have overlooked this significant footnote in his 1837 work, as we shall observe shortly.
11. Mortenson states that Fairholme’s shift in thinking resulted in an expansion of the Flood to include all the geological column – the opposite of what I am proposing: “In his *Mosaic Geology* (1837), Fairholme stated that further personal study of the geological evidence convinced him that he had made some errors in his first book. The line of argument then in 1837 is quite different and more limited in scope, focusing completely on the Noachian flood, which he now believed, contrary to his earlier book, laid down virtually all the sedimentary fossiliferous rocks.” Mortenson, *The Great Turning Point*, p 129. Both of Fairholme’s works are available and searchable in full text on the Internet. See “Google Books.”
12. However, Price’s student and successor, Harold W. Clark, defended the concept of an “ice age” upon writing his first major treatise on Flood geology, *The New Diluvialism* (1946. Angwin, CA: Science Publications). Most Flood geologists today accept at least some evidence for an ice age, although greatly compressed in time compared with the conventional ice age.
13. According to Fairholme, at the time of the “Mosaic Deluge...an event of most unusual magnitude then occurred, by which the ancient seas and lands were transposed.” *Mosaic Geology* (1837), p 65. At the end of the discussion of the surface features of the lands of the earth, he concludes: “We are, therefore, naturally led to infer, that *the whole Design* of the Great Designer, both as to the *elevation* of the beds, and the more ready access to them by deep valleys, was brought into effect, *by one and the same event*.” *Ibid.*, p 102. Fairholme’s 1837 view of the Flood was that it was primarily an *erosional* event, whereas his 1833 view was that it was primarily a *depositional* event. For documentation of this, see his works on “Google Books.”
14. 1938. London: L. and G. Seeley; 1839. London: L. and G. Seeley, and Hatchard and Son.
15. As already indicated, no other Scriptural geologist (with one exception) published works by Seeley and Hatchard under this same imprint on the title page. The one exception is Henry Cole, who published *The Principles of Modern Dissident Evangelism Disclosed* (1839. London: Nisbet; L. and G. Seeley; and Hatchard and Son), but Cole as we will note later in this study took on the pseudonym “Fowler de Johnstone,” not “Biblicus Delvinus.” The use of the identical publisher twelve years apart is sufficient evidence then to equate George Bugg with Biblicus Delvinus. In addition, both works have an extensive discussion of the meaning of the phrase, “and the Spirit of God *moved* upon the waters” (Gen. 1:2), interpreting it to mean “brooded,” as a mother hen might brood her chicks. As far as is presently known, no other Scriptural geologists interpreted this phrase as meaning “the Spirit brooded over the waters of the deep.” For evidence, see Anon. [George Bugg]. 1826. *Scriptural Geology*.

- London: Hatchard and Son; Seeley and Son, vol. 1, p 123-124, and *Biblicus Delvinus* [George Bugg]. 1839. *The Facts, Suggestions, and Brief Deductions in Geology*. London: L. and G. Seeley; L. and G. Seeley, Hatchard and Son, 2<sup>nd</sup> ed.), p 11. For the revised 1839 ed., see the full text on [www.archive.org](http://www.archive.org), and enter the term “Biblicus Delvinus.” A careful comparison of the similar discussion of the Spirit’s “brooding” over waters supports the identity of Delvinus as none other than George Bugg.
16. Bugg’s interpretation of the Spirit’s role in “brooding” (Gen. 1:2), which can be supported in the original Hebrew, is crucial to his argument in 1838 (as “Delvinus”) because the term “brooded” suggested that the first forms of life were created in the “without form and void” period of earth’s history. As a result, he proposed that the “transition” strata, which includes living creatures, should be placed prior to the six days of creation. Bugg along with Granville Penn and George Fairholme can be considered among the three “founding fathers” of the Scriptural geology movement and the three most influential of the Scriptural geologists, according to Nicolaas Rupke. 1983. *The Great Chain of History: William Buckland and the English School of Geology, 1814-1849*. Oxford: Clarendon Press, p 44-46, and Millhauser (1954), p 70-73.
  17. 1871. London: Simpkin, Marshall, and Co. Available at <http://books.google.com>.
  18. *Ibid.*, p 44.
  19. *Ibid.*, p 53-54.
  20. Another Scriptural geologist, Thomas Hutton, who shifted the Flood higher in the geological strata, conjectured that the “primary” rocks were formed over the span of nearly two million years prior to Creation week, the “transition” and “secondary” formations (Paleozoic and Mesozoic) were deposited during the 2262 years of the antediluvian age (Septuagint chronology), and the “tertiary” deposits of the Paris Basin were deposited in 194 years after the Flood. Hutton J. 1850. *The Chronology of Creation; or, Geology and Scripture Reconciled*. Calcutta: W. Thacker and Co., p 471-479. After 1850 no Scriptural geologist assigned the majority of the fossil record to the Flood.
  21. As per Scriptural geologist George Young, according to Mortenson, “British Scriptural Geologists,” p 340.
  22. George Fairholme in both his 1833 and 1837 works suggests this. An American Scriptural geologist who based his Flood model entirely upon the exchange of land and sea is David Lord, who wrote *Geognosy: or, The Facts and Principles of Geology against Theories* (1855. NY: F. Knight). Lord’s book was used as a geology text at Battle Creek College, where the Flood geologist George McCready Price first gained his college education. Lord’s view may have had an impact upon Price.
  23. Milton Millhauser documents a “half dozen” works written in the last half of the 1850s critiquing the writings of Hugh Miller. See “The Scriptural Geologists,” p 80.
  24. Anon. (William Elfe Tayler). 1857. *Voices from the Rocks; or, Proofs of the Existence of Man during the Paleozoic or Most Ancient Period of the Earth*. London: Judd and Glass. See Google Books for the full text.
  25. Miller H. 1857. *The Testimony of the Rocks: or, Geology in Its Bearings on the Two Theologies, Natural and Revealed*. Boston: Gould and Lincoln. The full text of the 1871 edition is available through Google Books.
  26. The title page, showing an engraved plate with a picture of two human tracks, can be viewed on Google Books. See <http://books.google.com>, and do a title search on *Voices from the Rocks*.
  27. (1960. NY: Rudd and Carleton).
  28. Note especially: Davies TA. 1960. *Answer to Hugh Miller*. Rudd and Carlton, p 116-118. Elsewhere he asserts: “Hence, if the pre-Adamite fossils and the rocks which



- contain them were not made in those six days,...then the Mosaic account, the fourth commandment, and the Scriptural dependencies thereon, are *false* and utterly unworthy of being received as the basis of a true faith.” (Davies, p 127, emphasis in original).
29. Davies, p 32-35.
  30. 1838. London: R. Groombridge.
  31. A careful check of OCLC’s WorldCat database as well as the British consortium’s database, COPAC, fails to turn up anyone else with the surname “de Johnstone.” The *Biography and Genealogy Master Index* (1980. Detroit: Gale Research Co.) with its 3,200,000 entries covering the period 1300 A.D. to the present has only one name with the surname de Johnstone: Fowler de Johnstone.
  32. These six points are discussed in greater detail in Mortenson, “British Scriptural Geologists,” p 271-274. For example, in point no. 6 we find that de Johnstone was answering the charge that he had insufficiently addressed “geological” issues, which suggests that he had written previously on the subject. That was one of the most pointed critiques of his writings. *Ibid.*, 272. For Mortenson’s 2004 study of Fowler de Johnstone, see: [www.creationontheweb.com/images/pdfs/tj/j18\\_1/j18\\_1\\_76-77.pdf](http://www.creationontheweb.com/images/pdfs/tj/j18_1/j18_1_76-77.pdf).
  33. 1838. London: J. Hatchard and Son.
  34. The first complete English translation of Luther’s Genesis was accomplished in 1904-1910, according to WorldCat. The early chapters of Luther’s Genesis were published by Henry Cole, tr., *Luther Still Speaking: The Creation, A Commentary on the First Five Chapters of the Book of Genesis* (Edinburgh: T. & T. Clark, 1858).
  35. Mortenson describes his own view: “Cole wrote 19 works (many of them controversial, like his attack on Adam Sedgwick and old-earth geology) from 1823 till his death in 1858 and always identified himself as the author. Also the content of his argument was much more substantive than and his style was very different from Fowler de Johnstone’s work and his openly authored criticisms on geology in 1834 were four years before de Johnstone’s weird book. So Cole was most definitely *not* de Johnstone.” Personal communication, Terry Mortenson to Warren Johns, 9 June 2005. We do have one example of a Scriptural geologist who wrote one of his two works anonymously: John Murray. His *Portrait of Geology* (1838) was published anonymously seven years after his previous work on geology was published under his own name. Why would Henry Cole (=Fowler de Johnstone) publish pseudonymously four years after publishing under his real name? It was probably because he was severely attacked, and in fact castigated, for his criticisms of Adam Sedgwick in 1834. See Mortenson, “British Scriptural Geologists,” p 183-184 for evidence of his being attacked. Pseudonymity offered him a shield from personal attacks.
  36. Mortenson, “British Scriptural Geologists,” p 271, 274. In his revised chapter on Fowler de Johnstone, Mortenson adds this comment to the above words: “This style was utterly different from anything else I read from this time period by either scriptural geologists or others.” Mortenson, “British Scriptural Geologists: Part 10. Fowler de Johnstone,” *TJ* 18(2004):77, n.3. While the tone was more extreme and very pompous, the writing style was the same as Henry Cole’s. He had a definite preference for hyphenated words combining a noun with a gerund as in “peace-destroying streams” (Fowler de Johnstone, cited by Mortenson, “British Scriptural Geologists,” p 273), cf. Cole’s use of “revelation-subverting philosophy” (Cole H. 1834. *Popular Geology Subversive of Divine Revelation*. London: Hatchard and Son, p vi).
  37. One exception to this is Henry Cole, who gave very little attention to the subject of geology itself. Mortenson states of him: “When he came to a five-page analysis of the geological arguments for an old earth, he manifested his ignorance of the details and current state of geology.” Mortenson, *British Scriptural Geologists*, p 192.
  38. Even Henry Cole, whose major work on geology was entitled *Popular Geology Subversive of Divine Revelation*, appears in 1834 to have had respect for geology as a

- science. Mortenson quotes Cole as saying that “geology is a legitimate science.” *Ibid.*, p 186. Yet Mortenson acknowledges that Cole is not always clear whether he was attacking only the old-earth aspects of geology or perhaps the entire theoretical aspect of geology. *Ibid.*, p 187. Once it is acknowledged that Fowler de Johnstone is a pseudonym for Henry Cole, then we can better determine that in the end Cole was attacking the science of geology as a whole.
39. Stiling RL. 1999. “Scriptural Geology in America,” in: Livingstone DN, Hart DG, Noll MA, editors. *Evangelicals and Science in Historical Perspective*. NY: Oxford University Press, p 187.
  40. Mortenson acknowledges the contributions of other British Scriptural geologists during this time period: Frederick Nolan, Sharon Turner, George Croly, L. Vernon Harcourt, William Eastmead, Robert MacBrair, Charles Burton, Joseph Sutcliffe, William Kirby, Thomas Rodd, William Brande, William Martin, Walter Forman, Robert Fitzroy, William Cuninghame, David Morison, and the anonymous “Biblicus Delvinus.” See Mortenson, *British Scriptural Geologists*, p 12-13.
  41. Browne H. 1832. *The Geology of Scripture, Illustrating the Operation of the Deluge, and the Effects of Which It Was Productive*. Frome, Eng.: W. P. Penny.
  42. The authoritative *Oxford Dictionary of National Biography* (2004. Oxford University Press, vol. 39, p 959) cites Mortenson as an authority on the Scriptural geologist John Murray.
  43. The modern Flood geology movement, according to most historians, started with the prolific writings of George McCready Price, whose first work was published in 1902: *Outlines of Modern Christianity and Modern Science* (Mountain View, CA: Pacific Press Publ. Assn.). Rodney L. Stiling, however, finds no direct connection between the Scriptural geologists of the early nineteenth century and Flood geologists of the twentieth century. He writes: “Interestingly, American flood geology seems to have had no genetic relationship with the earlier Scriptural Geology. The phenotypic resemblance, so to speak, is there, but an examination of the genotype turns up no connection.” Stiling, “Scriptural Geology in America,” p 187. Stiling does not mention the fact that Price had the works of two Scriptural geologists in his personal possession at the time he was writing his works on Flood geology: Granville Penn (1825, 2 vols.) and George Young (1838), indicating their impact upon Price’s thinking. For evidence of this see Price GM/ 1925. *Science and Religion in a Nutshell*. Washington, D.C.: Review and Herald Publ. Assn., p 7-8.
  44. According to Mortenson, the following Scriptural geologists relied upon the use of Exo. 20:8-11 as a lead argument in favor of the literal creation week: J. Mellor Brown, George Bugg, Henry Cole, Thomas Gisborne, and Andrew Ure. Mortenson, *British Scriptural Geologists*, p 268, 133, 190-192, 207, 166.
  45. Biblicus Delvinus (=George Bugg) gives the title *Facts, Suggestions, and Brief Inductions to Geology* to his 1838 work, wherein he reasons that geological “facts” were not the problem, but certain “inductions” that were derived from the facts. The majority of Scriptural geologists I have examined make this same point. The influence of Francis Bacon and “Baconian induction” is apparent at this point.
  46. George Fairholme, in *Mosaic Geology*, p 81-82, gives a detailed chart of the geological column as it was understood in his day. His comments indicate that he accepted the reality of the column: “It is now an unquestioned fact that a certain order and succession exists, which, though rarely, if ever, complete, in all its parts, on any one spot, is never found to be actually *inverted*.” Fairholme, p 8, italics in original. George McCready Price took issue with Fairholme on this point and found examples of inverted order. But in all such cases, the inversion takes place in regions of great mountain uplifts, presumably causing strata to slide into a different position than original. Geologically these are known as “overthrusts.”

47. Creationists today can certainly accept the concept of the *relative* sequence of the geological column while rejecting the *absolute* dating of the column without compromising one's young-earth creationist position. The bulk of the creationist literature published today supports this thesis.
48. According to Mortenson, Young in his 1828 work concluded that "all the strata had a nearly contemporaneous deposition" and in his 1838 work Young still suggested "that the sedimentary rock record is largely the result on one depositional event, the Noachian Flood." "British Scriptural Geologists," p 332, 336.
49. See Whitcomb JC, Morris HM. 1961. *The Genesis Flood*. Philadelphia: Presbyterian and Reformed Publishing Co.