As a creationist, I find it much more believable that the living beings of the vent communities were specially created by the loving hands of a Maker, who gave them the "tools" they would need to survive at the vents. Why He chose to place life in such a harsh, seemingly desolate environment is not a question that I can readily answer. Perhaps to confound the evolutionary geologists who would someday find them during their quest to explore every niche and cranny of the earth, perhaps to show creationists that He is capable of infinite variety and adaptation, or perhaps to give us a living parable about life; that it can survive and even thrive in the harshest of environments, when formed and guided by the hand of the Maker of Life.

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ADDITIONAL INFORMATION ON THE FREIBERG HUMAN SKULL COMPOSED OF COAL

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Abstract

Information available on the Freiberg East German skull is summarized. There is no evidence that this artifact contains fossil bone. The skull is not a fossilized human head; nor is it a carving. It was molded by somebody using particles of brown coal and other materials probably prior to the summer of 1813. Therefore it has little or no significance in creation/evolution considerations. There even is a suggestion that it was a late eighteenth or early nineteenth century hoax sculptured as "evidence" that humans existed before the Genesis Flood.

Introduction

The presence of a human skull composed of coal in Germany was brought to public attention by Whitcomb and Morris (1961, pp. 175-176). After a study of literature dealing with this artifact, Frair (1969) reported evidence indicating that the skull was an artistic fabrication. A review of this 1969 paper written by Anon. (1969, p. 4) left open the possibility that the artifact could be a "genuine skull."

Since 1969 some authors desiring to direct attention to the "puzzling human skull" have referred to material found in the Whitcomb and Morris (1961) book which includes a quotation from Stutzer (1940, p. 271). See Anon. (1975), Anon. (1982, p. 2), Bartz (1982, p. 1, 1985-1987), Beierle (1979, p. 33, 1980, p. 90), Daly (1972, p. 192), Jochmans (1979, p. 3), Mulfinger (1975, p. 3), Pearcey (1984, p. 6), Petersen (1990, pp. 130-131), Sharp (1986, p. 10), Tanner (1975, pp. 312-313), Taylor (1984, pp. 102-103, 448), von Fange (1974, pp. 16-17, 1981, p. 30), Wysong (1976, pp. 373,378). Some authors have embellished somewhat the primary source material but most have demonstrated some restraint in considerations of the significance of this skull as an "out of place fossil" with regard to dating and creation-evolution issues.

Certain authors have been somewhat less supportive of the idea that the skull could be genuine. For example in the 1977 German translation of the Whitcomb and Morris' 1961 book, Joachim Scheven wrote a footnote (p. 204) indicating that according to Roselt, the Freiberg skull clearly (or incontestably; Ger. *einwandfrei)* is an artificial product of unknown significance. Another more recent report (Williams, 1991, p. 29) indicates that the skull has been reported to be a fake; and Snelling (1991-1992, pp. 29-30) did not feel that the skull conclusively was a human fossil.

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In four of the above publications (Whitcomb and Morris, 1961; Daly, 1972; Tanner, 1975; Snelling, 1991-1992) there is reference to a suggestion that the skull could be a carving. However, the primary source literature on the skull does not specify "carving," but rather has terms like "artistic product," "falsification," or "skull molded from brown coal . . ."

Personal Observation of the Skull

During July, 1979, science teacher Helen Martin from the Unionville High School in Pennsylvania and I along with a German friend, Hermann Dybeok, visited the Royal Mining Academy in Freiberg. Here Martin and I spent about one hour in the office of Gerhard Roselt where we held the skull, macroscopically examined it carefully, and discussed it with Roselt. However, no photographs were permitted.

At that time I intended to write another paper about the skull, but Roselt strongly requested that I withhold doing so until after his forthcoming detailed report (Roselt, 1988). I agreed to abide by his desire and merely wrote a short note about previous unsuccessful attempts to get into the East German Freiberg museum and the fact that during the 1979 visit while examining the skull we were unable to find any indications of bone. See Anon. (1980).

Current Understanding

The best single source of information about the coal skull is Roselt's (1988) paper, "Regarding the coal skull in the Freiberg collections — conclusions until now and recent investigations." While preparing the following chronological series of important events relating to the skull, I relied upon Roselt's paper and personal communications from him. Also used to a lesser extent were papers by Stutzer, Kersten, and Frair.

1. The skull was in the estate of a Freiberg (southeastern Germany) apothecary named Loescher who died in 1813.
2. A mining engineer, Leschner, showed this skull at a meeting of the local Freiberg Mining Society. Leschner had found the skull in Loescher's estate but without any information about the origin of the skull. The date of the meeting was some time before Kersten's (1842) report of the event.
3. In the earliest available written report on the artifact, Kersten (1842) referred to it as a "human head." No trace of bone tissue was observed under a magnifying lens, but Kersten conjectured that chemical changes had caused partial petrification in a coal mine or similar location.
4. In the 1859 catalog of the petrification collection in the Royal Mining Academy of Freiberg the skull was listed under I. Fossil Animal Remains #331/l (running number 1). The notation read, "Interior filling of a human skull by a mass of coal (probably from Bohemia);" see Roselt (1988). Bohemia now is in western Czechoslovakia.
5. Otto Stutzer (1923, p. 274) in a footnote referred to the item as "a puzzling human skull" whose "original location is not known."
6. Stutzer (1927) wrote that close examination revealed the skull to be a "skillful fake." According to Stutzer this opinion was confirmed at the ethnographic department of the Zwinger Museum in Dresden whose report said that this human skull had been molded using brown coal mixed with other materials.
7. In 1940 Stutzer's German book (1923) with the footnote appeared in English translation (Stutzer, 1940, p. 271) without correction which would be expected in light of the 1927 report. Both author, Stutzer, and chief translator, Adolph C. Noe, died during preparation of the American edition; so apparently the 1927 paper was not available to editor Gilbert H. Cady and his associates who prepared the final draft of the 1940 edition.
8. Roselt's (1988) publication indicates that:
   a. No bony substance could be identified.
   b. The material of the skull is not the same in different regions.
   c. The skull is of brown coal which is composed of various size dark shiny particles called duxit. The duxit is believed to have been formed by volcanic heating of resin and wax in brown coal seams. In these seams, the melted wax-resin mixture solidified in layers and was named duxit because it first was discovered in the town of Dux (northern Czechoslovakia). Also the skull contains yellow resinous kernels and remains of plants including grass and seed.
   d. Fossil and other resins bind the entire mass together.
   e. The skull apparently was heated thus melting some of the skull mass which caused adhesion of the various materials. Heating also accomplished some exterior polishing of the skull.
   f. The skull is not of natural origin but rather is an artistic product. See Figures 1 and 2 from Roselt (1988, p. 347).

The most recently published data regarding the skull is by Herbert Bach, an anthropologist, who along with

Figure 1. The Freiberg coal skull from the front. Maximum length of the skull is 157 mm and maximum width 137 mm.

Roselt has written, "'The Freiberg coal skull' from an anthropological and historical viewpoint" (Bach and Roselt, 1991). The main factual data and speculations in this paper are:

1. The general form of the skull, including dimensions and ratios which are listed, resembles that of a child or a juvenile female. However, there are no teeth, residues of bone, or fine surface structures as expected for a genuine fossil skull.

Figure 2. Left side of Freiberg coal skull. Note the damaged region caused by Kersten's removal of material for his 19th-century analysis.

2. Carl Emanuel Loescher, who was born in 1750 and died 21 March 1813 of typhoid fever, apparently was a highly gifted man who had considerable experience with mining. He likely had access to duxit as well as to resins used in pharmacies. So he could have been the originator of this skull some time between 1785 and his death in 1813.

3. Because the skull was constructed of such unusual materials, it is suggested that it is a falsification which was produced to "prove" the pre-Genesis-Flood existence of humans. To my knowledge this speculation has not been mentioned in any previous literature. The following is a translation of the final paragraph in the paper.

> It may be suggested, however, that there is a connection with the "Genesis Flood Theory," which still was quite popular during the period in question, and the endeavors connected therewith to prove with concrete objects that man already had existed before the "Genesis Flood." Let me simply cite the efforts of Blumenbach and Cuvier regarding the so-called "anthropolite" [petrified human remains] (see Bach, 1957). These make it appear quite possible that the "Freiberg coal skull" was fabricated as "evidence" for the "pre-Genesis-Flood" existence of mankind. The use of brown coal, which is suitable as material for making a durable sculpture only after appropriate binders are added, certainly was not done without a purpose. The unusual material would be difficult to explain if the "skull" merely were intended to be a model. Therefore, a sensible suggestion is that the "Freiberg coal skull" is a falsification not revealed by its originator. (pp. 498-499)

Summary and Conclusions

So far none of those, including myself and Martin, who have examined the intact skull macroscopically or the material of which it is composed microscopically have been able to identify bone. So apparently this artifact was formed some time prior to the summer of 1813 by somebody who brought together various pieces of brown coal,* resins and plants.

The coal mass was molded to resemble a human skull. This object then was heated thus melting some of the component resins and consequently causing particles in the solid mass to adhere together so that the molded shape was retained. The artifact is not a carving; nor, especially considering that it was discovered in the early 19th century, is there a suggestion that it is an "evolutionary" hoax. However, it may have been a type of hoax made to be used as "proof" for pre-Flood humans.

The skull formerly has been used as evidence regarding human ancestry, but now we must recognize it not as a fossilized skull but rather a product of human endeavor, and possibly a hoax.

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Claude A. Foster, Jr. aided in arrangements for visiting the Freiberg museum in 1979. Friedhelm Radandt helped with the German including translation of Roselt's (1988) paper. Gerhard Roselt provided original photographs of the skull and made suggestions for this manuscript including information about some words (for example *Duxit; Copal*, a resin; and *Nichterze*, certain minerals) in his own 1988 report. Joachim Scheven and Kurt Wise gave encouragement as well as aid with references. Andrew A. Snelling and Trevor J. Major read and commented on the manuscript. Betty-Jane Kelley, Sandra Vasconez, Darlene Woods and Elizabeth Frair aided with references and manuscript preparation.

*Note that there now is recent evidence that some uniformitarian understandings of early coal formation are subject to more question than previously had been thought. See Major (1990), Snelling and Mackay (1984), Taylor (1989, pp. 45, 109).

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COMMENTS ON THE BREACHED DAM THEORY FOR THE FORMATION OF THE GRAND CANYON

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Abstract

A post-Flood breached dam theory for the formation of the Grand Canyon requires greater amounts of precipitation than at present. This requirement is likely met by a rapid Ice Age model following the Flood. Although the dam breach theory may be correct, at least five geological problems challenge its validity.

Introduction

The formation of the Grand Canyon is a mystery that confounds both evolutionist and creationist alike. Based mainly on geological relationships around the Grand Canyon, evolutionary geologists have come to the startling conclusion that the Colorado River is recent. They believe the river carved the canyon in only one or two million years, beginning about six million years ago. Lucchitta (1990, p. 331) states: "More likely, it began to cut shortly before five million years ago and was nearly as deep shortly after four million years ago as it is today." Even within the uniformitarian time frame, a mile deep canyon cut in only one to two million years is better labeled **catastrophic.** At the present time, solid uniformitarian theories to account for such rapid cutting are hard to find. This is why R.J. Rice (1983, p. 292) lamented: "After a century of study, we seem, if anything, to be further than ever from a full comprehension of how the Grand Canyon has evolved." Formation of the Grand Canyon, by whatever means, not only has significant geological implications, but also important biological effects as well (Meyer, 1985, 1987: Meyer and Howe, 1988).

As with other mysteries found in the rocks, uniformitarian assumptions most likely cause the enigma. Unfortunately, creationists also have difficulty explaining the formation of the Grand Canyon. However, I believe our paradigm is on the right track. A recent series of articles in the *Creation Research Society Quarterly* has reviewed uniformitarian and creationist theories and suggested that the catastrophic breaching of two or three large post-Flood lakes rapidly cutting the canyon is reasonable and plausible (Williams, Meyer, and Wolfrom, 1991, 1992a, b). These authors suggest the breaching of the dam possibly occurred at some point in the period from the end of the Flood to well within post Flood time. Austin et al. (1991, p. 87), who developed the breached dam hypothesis, favor a dam failure possibly several hundred years following the Genesis Flood. It may have taken several hundred years for the enclosed basins of the Colorado Plateau to have filled sufficiently from a wetter post-Flood climate—that is if they were empty following the Flood.

In this article, I will speculate on the post-Flood climate, especially the amount of precipitation, that would he expected on the Colorado Plateau based on my Ice Age model (Oard, 1990). I also suggest five possible geological problems for a dam breach theory a few hundred years after the Flood.

The Post-Flood Climate

According to my Ice Age model, the climate would have been much different after the Flood than at the present. Trapped volcanic dust and gases, left over from the enormous volcanism of the Flood, would have reflected a large portion of solar radiation back to space. Less sunshine at ground level would have resulted in cooler temperatures over land areas, especially the interiors of mid and high latitude continents. Volcanism would have continued at a more or less catastrophic pace for awhile after the Flood. Thus, post-Flood volcanism would have reinforced the initial cooling.

Extensive ash beds and lava flows commingle with "Pleistocene" sediments, both on land and in the ocean (Charlesworth, 1957, p. 601). Pleistocene sediments in the evolutionary time frame generally correspond to the time of the Ice Age. Izett (1981) has discovered at least 68 large ash falls just in the western United States that apparently occurred mostly during the immediate post Flood period. These ash falls dwarf the ash fall from the 1980 eruption of Mount St. Helens. Also during this period, dust from large eruptions of Taupo, New Zealand, and Toba, Sumatra, would have blocked out all sunlight for weeks over large areas of the earth (Froggatt et al., 1986: Rampino, Self, and Stothers, 1988; Rampino and Self, 1992). Rampino, Self, and Stothers (1988, p. 90) state: "If only 10% of this dust [from Toba] were injected into the stratosphere, conditions of total darkness could have existed over a large

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