

## THE ROLE OF METEORITES IN A CREATIONIST COSMOLOGY

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### Abstract

*A catastrophic origin for meteorites is proposed, on a recent time scale. The model supposes the explosion of a planet originally located between Mars and Jupiter, the present asteroid belt. The idea is further connected with the Genesis Flood event. The ideas are clearly speculative, but a starting point for further discussion.*

### Crustal Nickel

One of the arguments which has been advanced in support of the belief that the earth had a recent origin is based on the observation that, at the present rate of meteoritic dust influx into the earth's atmosphere, the amount of meteoritic material which has accumulated in the earth's crust is not commensurate with an age of the earth on the order of  $5 \times 10^9$  years.\*\* Specifically if the earth were five billion years old, considerable meteoritic nickel would have accumulated such that the nickel content of the crust would be of mainly meteoritic origin:

Nickel, for example, is a very rare element in the earth's crust and especially in the ocean. Pettersson estimated the average nickel content of meteoritic dust to be 2.5 per cent, approximately 300 times as great as in the earth's crust. Thus, if all the meteoritic dust layer had been dispersed by uniform mixing through the earth's crust, the thickness of crust involved (assuming no original nickel in the crust at all) would be  $182 \times 300$  feet, or about 10 miles!

Since the earth's crust (down to the mantle) averages only about 12 miles thick, this tells us that practically all the nickel in the crust of the earth would have been derived from meteoritic dust influx in the supposed ( $5 \times 10^9$ ) year age of the earth! (Morris, 1985, p. 152)

However, from the viewpoint of an evolutionary cosmology, it may not be unreasonable to suppose that most of the crustal nickel was supplied by an extraterrestrial source. Nickel is a heavy element and, if the earth had formed from a molten state as some evolutionary cosmologists have claimed, virtually all the original nickel could have settled toward the earth's core. Almost all the nickel found in the earth's crust today could have then resulted from meteoritic accretion. The amount now present would be consistent with an estimated age of the earth of  $5 \times 10^9$  years. Even if the NASA data (Hawkins, 1976) are correct in indicating a rate of meteoritic dust influx approximately 14 times greater than what Pettersson (1960, p. 132) had determined, the resulting estimate of the earth's age still would be several hundred million years.

Yet, the relative absence of meteoritic dust on the surface of the moon (Morris, 1985, p. 152) would tend

to constitute evidence against this argument, since apparently little or no erosional and depositional mixing has occurred on the moon and a deep meteoritic dust layer, perhaps hundreds of feet thick, should have accumulated over a period of five billion or even several hundred million years.

### A Possible Scenario

Another possibility which must be considered: While the earth and moon might be ancient, meteorites might be of a relatively recent origin; hence meteoritic material would not have had time to accumulate to a significant extent either in the earth's crust or on the moon's surface. For example, most or all meteorites and meteoritic dust might be the products of a planetary explosion which occurred within the last few hundred thousand years. Some astronomers have hypothesized that there was a planet in an orbit between those of Mars and Jupiter, and this planet exploded leaving remnants in the form of the asteroid belt. This same explosion also might have produced the meteorites which bombard the earth and moon.

It might be countered that radiometric dating has been used to estimate the age of meteorites to be about the same as that of the earth and moon, and that meteorites could not have resulted from a relatively recent explosion. Ignoring legitimate questions about the extreme unreliability of radiometric dating techniques, this objection could be answered with the assumption that the debris from the explosion did not melt and recrystallize. It retained the same proportions of radioactive elements to decay products as the planetary material from which the meteorites were derived. If the debris did melt, the recrystallized material could still have retained the same proportions of elements.

In view of the above considerations, it seems that the data concerning influx of meteoritic material easily could be reconciled with a long geologic time scale, and might favor such a time scale. However, there is at least one more factor which may create insurmountable difficulties for any hypothesis about meteorites which is based on an evolutionary cosmology. While the surfaces of the moon and the "stony" planets Mars and Mercury are covered with numerous large meteorite craters, the surface of the earth is amazingly devoid of such craters. With the possible exception of a 200-mile-diameter circular structure which was recently identified in Czechoslovakia and which may represent the remnants of an enormous meteorite crater (United Press International, 1989), the earth has nothing to compare with even a medium-sized lunar crater. Secular geologists have attempted to explain this deficiency through the hypothesis that erosional processes have removed all traces of large meteorite craters from the earth's surface. But this explanation

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\*\*Editor's Note: This topic has been covered in the Quarterly previously. The following selected bibliography may be of interest to the reader. Slusher, Harold S. 1971. Some astronomical evidences for a youthful solar system. *CRSQ* 8:55-57; Mulfinger, Jr., George. 1973. Review of creationist astronomy. *CRSQ* 10:170-75; Morris, Henry. M. 1975. The young earth. *CRSQ* 12:19-22; Stevenson, Peter A. 1975. Meteoritic evidence for a young earth. *CRSQ* 12:23-25; Chaffin, Eugene F. 1987. A young earth?—a survey of dating methods. *CRSQ* 24:109-17.

presupposes that the craters were formed so long ago that erosional forces had time to obliterate them. In areas of sluggish erosion this might require tens of millions of years, yet, the almost total absence of meteoritic dust on the moon's surface would seem to preclude such a time scale.

Reasoning based on the premises of conventional geology can be used to explain *either* the relative absence of meteoritic material in the earth's crust and on the moon's surface by the hypothesis that meteorites had a recent origin or the absence of craters on the earth's surface by the hypothesis that meteorites did *not* have a recent origin. Because of the mutually exclusive assumptions involved, such reasoning apparently cannot account for *both* of these facts together.

However, it appears that a Biblically based interpretation could account for both observations. Such an interpretation might be as follows: Before the time of the worldwide Flood, there was a planet in an orbit between those of Mars and Jupiter. When God decided to obliterate the face of the earth, He caused this planet to explode. Some of its fragments had such a trajectory as to remain approximately in the orbital path of the destroyed planet, and became what we now know as the asteroids.\* Other fragments spread outward, many of them bombarding Mars, Mercury, the moon and the earth (as well as the other planets, but these would not show traces because of their dense atmospheres). On Mars these fragments not only formed craters but also triggered eruptive activity which formed the volcanic mountains which have been discovered on the planet's surface. On the moon and Mercury, the meteoritic bombardment caused numerous impact craters. But on the earth the meteoritic assault cracked the earth's crust, not only initiating volcanic activity as on Mars but also causing "all the fountains of the great deep [to] burst open" helping to bring about the Flood. Additionally, the sudden influx of a large quantity of meteoritic dust from the explosion might have disturbed and precipitated the primeval vapor canopy which many creationists believe to have existed above the earth's atmosphere as the "waters which were above the firmament" (Genesis 1:7).\*\* According to this explanation, all the meteorite craters on the earth would have been formed recently but *before* the Flood. The massive erosional and depositional activity during and after the Flood would quickly obliterate or bury them under thousands of feet of sediment.

\*Editor's Note: For a recent creationist discussion of this concept see Unfred, David W. 1984. Asteroidal impacts and the Flood-judgment. *CRSQ* 24:109-17.

\*\*Editor's Note: For readers interested in this topic the following bibliography may be helpful. Udd, Stanley V. 1975. The canopy and Genesis 1:6-8. *CRSQ* 12:90-93; Kofahl, Robert E. 1977. Could the Flood waters have come from a canopy or extraterrestrial source? *CRSQ* 13:202-265; Dillow, Joseph C. 1978. Mechanics and thermodynamics of the pre-Flood vapor canopy. *CRSQ* 15:148-59; 1979. Scripture does not rule out a vapor canopy. *CRSQ* 16:171-73; 1982. The waters above. Moody Press. Chicago; 1983. The vertical temperature of the pre-Flood canopy. *CRSQ* 20:7-14; Morton, Glenn R. 1979. Can the canopy hold water? *CRSQ* 16:164-69; Akridge, G. R. 1979. Venusian canopy. *CRSQ* 16:188-89; Westburg, V. Luther. 1979. Floodtime changes in the earth's heating and lighting. *CRSQ* 16:182-84; Peterson, Everett C. 1981. The necessity of canopies. *CRSQ* 17:201-204, 213.

While this explanation is purely hypothetical, it seems to account for several concepts: (1) the origin of meteorites and meteoritic dust; (2) the origin of asteroids; (3) the existence of numerous and often enormous meteorite craters on the moon, Mars and Mercury; (4) the virtual absence of such craters on earth; (5) the relative absence of meteoritic material in the earth's crust and on the moon's surface; (6) the initiation of the Flood as well as of volcanic activity on the earth and on Mars; (7) the current absence of widespread volcanic activity on the scale observed in the geologic record, since the earth's crust is no longer being disturbed and broken by the impacts of large meteoritic bodies. Additionally, this hypothesis would have the considerable merit of explaining why we see evidence of destruction and chaos on other planets, when God presumably created the universe and solar system in a state of perfect order and harmony. Thus a potential source of embarrassment to the creationist view of the cosmos could be explained.

### Suggested Research

Although testing the hypothesis would be difficult, there are several possible approaches based on the following considerations. 1. Meteorites are the products of an explosion. 2. They and the craters formed by them are of recent origin. 3. The craters formed within a very short period of time. Therefore, it would be necessary to search for evidence to determine if these three assumptions are correct. Some possible avenues of research might include recording the number of meteors entering the earth's atmosphere periodically. After a number of years of extensive sample-counting it might be possible to determine whether there is a significant progressive decrease in the rate at which meteors are entering the atmosphere. If this were found to be the case, an extrapolation backward in time could be made to determine if the rate was extremely high several thousand years ago, about the time of the hypothesized planetary explosion and meteoritic bombardment of the earth. Additionally, meteorites could be examined for physical and chemical evidence that they were the products of an explosion. Mathematical calculations could be made to determine whether or not the explosion of a planet could produce a mass of debris which would form meteorite craters just prior to and during, *but not after* the Flood.

### Conclusion

The ideas in this paper are completely speculative and would need extensive research to establish them. However, whether or not the particular hypothesis presented is correct, scientific creationists, as well as evolutionary cosmologists, must face the highly significant realities that the moon and other bodies in the solar system were at one time bombarded by thousands of meteorites, many of which were of enormous proportions and capable of causing cataclysmic impacts; and that virtually all traces of those impacts have been erased from the surface of the earth. It seems reasonable to say that no cosmology can be considered complete until it has accounted for these and other facts of meteoritics. It appears that the weight of the evidence at this time favors the creationist interpretation over the evolutionary one.

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## BOOK REVIEWS

*Quasars, Redshifts and Controversies\** by Halton Arp. 1987. Interstellar Media. Berkeley. 198 pages. \$19.95.

Reviewed by Allen W. Jang\*\*

Halton Arp has spent over three decades of research at some of the world's largest observatories. He is currently on the staff of the Max Planck-Institute for Astrophysics in West Germany. Once described as "The Most Feared Astronomer on Earth," his work is potentially revolutionary (Kaufmann, 1981). If Arp is correct, then much of the foundational basis for modern astronomy will have been overturned. The purpose of the book, according to Arp, is to present important information about the nature of the universe (p. i). He points out that "there is massive, incontrovertible evidence for important phenomena and processes . . . which we cannot currently understand or explain" (p. 2).

Redshift describes the fact that in a spectral analysis of remote galaxies and extragalactic sources, the characteristic lines due to the presence of various elements, compared to the position of those same lines as they would appear in a laboratory, appear shifted to the red. The standard interpretation, known as the Hubble law, attributes this to a recession velocity of the emitting source, or Doppler Effect. The greater the redshift, the farther away the object is and the faster it is moving away from us.

Scientists predicted that objects near each other would have similar degrees of redshifts. It was a shock when quasars were discovered with redshifts many times greater than that of galaxies to which they are

observed to be connected. The reaction of most astronomers was to simply assume that the visual closeness was due to an optical illusion and that the quasars were actually at a much greater distance in the background. In the many cases which are documented in this book, these are not optical illusions. They are objects that have been verified, by the use of various standard non-optical viewing instruments, to be physically linked together. If a high-redshift object can occur close to a low-redshift object, then it is obvious that the degree of redshift does not always indicate distance. This book is a compendium of observational evidence of galaxy pairs and galaxy-quasar combinations in which each member has a significantly different redshift. This challenges the redshift-distance relationship and suggests that there must be a non-doppler mechanism at work. One implication of this is that standard estimates of the size and age of the universe may be greatly exaggerated.

Arp asks "In case the thesis of this book is correct, we want to know what the factors are that led to this long, inplacable rejection of new knowledge, the wasted effort, and the retardation of progress" (p. 5). In subsequent chapters, he recounts the attempts by some scientists to censor his findings. The last chapter, entitled, "The Sociology of the Controversy," recounts the cases of Galileo and Fred Hoyle (who agrees with his findings) and how establishment science has often been guilty of engaging in the non-scientific work of censoring viewpoints that are in disagreement with the standard view.

The conclusion states:

It is of profound importance to recall now that for a number of classes of . . . objects there was never any shred of evidence that they obeyed a Hubble relation . . . The assumption that . . . objects obeyed a redshift-distance relation sprang simply from the feeling that if one kind of object [Sb galaxies] did, all objects must do so. Such a generalization is an example of the oldest of logical fallacies. Nevertheless, it has become an article of faith despite many examples of contradictory evidence (p. 178).

The book is well-written, illustrated and clearly organized with many charts and graphs, appendices and notes at the end of each chapter, a glossary, and an index. The subject treatment is basically non-mathematical. This book is highly recommended as an important reference source documenting the research of a gallant non-creationist scientist who has been the target of censorship efforts by scientists committed to the status quo.

## Reference

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