

COMMITTEE VI
The Universe and Its Origin:
From Ancient Myth to Present Reality
and Fantasy

DRAFT - 9/15/85
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WERE THERE COMETARY COLLISIONS IN HISTORICAL TIMES?

by

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DISCUSSION PAPER

on

S.V.M. Clube's

GIANT COMETS AND THEIR ROLE IN HISTORY

The Fourteenth International Conference on the Unity of the Sciences
Houston, Texas November 28-December 1, 1985

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Professor S.V.M. Clube introduces his thesis by providing a brief history of the development of cometary theory. He contends that the demise of catastrophism in Earth history was primarily due to acceptance of Newton's "other law" which held that comets were not only harmless, but also beneficial to the solar system. However, Clube's analysis overestimates the role astronomical uniformitarianism played in winning acceptance of geological and biological uniformitarianism. The astronomical view of an orderly universe did influence the thought of early earth scientists and biologists, but Professor Clube neglects other currents of thought and other discoveries which occurred in the seventeenth-nineteenth centuries. For example, in 1669 (before Newton proposed his "other law") Nicholas Steno's observation that most fossil deposits contained creatures which normally inhabited the same environment led him to conclude that geological strata and their fossil contents had been deposited by a natural process, not by catastrophes such as great floods. His contemporary Robert Hooke (originator of a wave theory of light and a kinetic theory of gasses, among other things) agreed that fossils were natural deposits which could be used to reconstruct a chronology for the earth much longer than that suggested by the Bible. These ideas influenced James Hutton's uniformitarianism (1785) and that of Lyell

(1830-33) as did the discovery that prehistoric man was contemporary with some extinct species. The antiquity of man was denied by eighteenth and early nineteenth century catastrophism which was intent on upholding the biblical chronology for man's creation. Professor Clube's historical sketch pays too much attention to Newton and not enough to the interplay of science, early archaeology and religion. Fortunately, this does not seriously affect his theory.

There are two major theses in Professor Clube's very interesting paper. The first is that there are giant comets which are qualitatively different from the smaller more ordinary comets. Through fragmentation these giant comets may produce meteor streams whose asteroids probably encountered the Earth a number of times in the past, extinguishing many species and inducing ice-ages. The second contention is that the most recent giant comet to approach the earth produced the Taurid-Arietid meteor stream during the past 5000 years and that these fragmentations correspond in time with periods of climatic deterioration on Earth. Eventually it may be possible to show by retrocalculation that a fragmented giant comet is the source of the entire Taurid-Arietid stream. But at present Professor Clube's description of the formation of giant comets and their fragmentation into meteor streams is only speculative, as are all other theories of cometary

origins. Astronomers and earth scientists eventually will have to decide the validity of his hypothesis.

While the basic portions of Professor Clube's theory cannot yet be demonstrated, what of the claim that the Earth has experienced cataclysms of cosmic origin a number of times within the past 5000 years? Here the evidence does not seem to support the catastrophist scenario.

Professor Clube suggests (p. 22) that the appearance of temples, astronomical observatories, astronomy, the pyramids and Stonehenge soon after 3000 B.C. was due to the spectacle of comets splitting and assaulting the Earth at that time. If all these features were due to comet-inspired terror, why do comets play such a minor role in the religions of the earliest civilizations? The gods and goddesses of the ancient world were associated with the major heavenly bodies -- the sun, moon and planets. But none of them has a comet god as a major figure in its pantheon! Velikovsky avoided this problem by having his comet become Venus, but the failure of the ancients to worship comets or shooting stars is difficult to explain under Clube's hypothesis.

There is little evidence of Mesopotamian astronomy or astrology before c. 1800 B.C., and in Mesopotamian omen texts the appearance of clouds and other meteorological phenomena are viewed as portents almost as often as astronomical

phenomena are.¹ Comets are conspicuous by their absence. It should also be noted that shooting stars were either good or bad omens for Mesopotamians, depending on the area of the heavens where they were seen. On occasion the ancient Romans also regarded comets as good omens.² These facts do not seem to support Professor Clube's contention that the ancients were led to scan the heavens because of their fear of comet-related catastrophes.

In The Cosmic Serpent Clube and Napier comment on the paucity of Mesopotamian and Egyptian references to comets. "This cannot be because they did not exist," they argue, "so it must be because they were generally described as something else."³ Not only does this statement exhibit faulty logic (the conclusion is not the only one which can be drawn from the lack of ancient Egyptian and Mesopotamian references to comets), but it also has the effect of making the hypothesis of historical cometary catastrophes unfalsifiable. If there is evidence of catastrophes it is used to support the hypothesis. But if there is no clear evidence of cometary catastrophes, then that also proves the theory, since it shows that people were so terrified of comets that they could not refer to them openly or that the dark age created by the catastrophe was so deep that only dim memories of the event survived. How does one argue against such a view?

It seems immune to logic, like the citizen of a large American city who, according to the story, always wore an amulet to keep wild elephants away. When his friends pointed out to him that there were no wild elephants on the entire continent the man's response was, "Of course not! See how well it works!"

However, not only does the ancient textual evidence provide little support for a theory of historical cosmic disasters, but the physical evidence is also against such a theory. The extensive floods which should have accompanied a c. 3000 B.C. cataclysm are not evidenced in the archaeological record. The various early flood deposits of Mesopotamia (not a single great deposit throughout the Tigris-Euphrates valley as Clube and Napier claim)⁴ belong to different ages, most of them earlier than 3000 B.C. And some Mesopotamian sites, including al-'Ubaid near Ur, exhibit no flood deposits at all.⁵ There is also no evidence of a flood at other Near Eastern sites occupied this early (Jericho, for example). There does not seem to have been a single great flood which gave rise to biblical, Mesopotamian and other flood stories.⁶

Except for the biblical Exodus account (which is subject to a variety of interpretations), textual evidence is also lacking for a fourteenth century B.C. cataclysm. In The Cosmic Serpent Clube and Napier see a fourteenth century

B.C. catastrophe reflected in other texts, particularly the Egyptian "Admonitions of Ipuwer," by following Velikovsky and lowering Egyptian chronology by a little more than 400 years.⁷ This would lower the Middle Kingdom date of the Ipuwer papyrus to the 1360's B.C. and make it contemporaneous with the Israelite Exodus as Velikovsky claimed (though Velikovsky dated the Exodus and Ipuwer papyrus to c. 1450 B.C.). However, this chronological change for the Egyptian dynasties is untenable, and without it, most evidence for a fourteenth century cataclysm vanishes.

The archaeological and historical evidence against Velikovsky's dating scheme (most of which would apply also to that of Clube and Napier) has been listed elsewhere.⁸ Here, let me summarize just one point. Clube and Napier, like Velikovsky, did not attempt to revise the chronology of the Israelite monarchy which is tied to the detailed chronology of Mesopotamia. In Palestinian archaeological terminology, the period of the Hebrew monarchies, the Assyrian Empire and the subsequent Neo-Babylonian Empire is the Iron Age. According to the revised chronology, the Iron Age is also the era of the Egyptian Eighteenth and Nineteenth Dynasties (c. 1086-520 B.C. in the chronology of Clube and Napier). But stratified archaeological deposits in Palestine-Syria indicate that the Egyptian Eighteenth and Nineteenth

Dynasties were contemporary with the Palestinian Late Bronze Age, not the Iron Age! Late Bronze Age occupation layers containing material from Eighteenth and Nineteenth Dynasty Egypt are found below Iron Age strata. The stratified physical evidence at archaeological sites will not allow one to move Egyptian chronology forward by more than 400 years while keeping Israelite and Mesopotamian chronology at rest!

Prehistoric Greek chronology is also linked to Egypt by archaeological deposits. Large numbers of Mycenaean pottery vessels were uncovered at Tell el-Amarna, capital of the Egyptian Eighteenth Dynasty pharaoh Akhenaton. Mycenaean pottery is also often found in Late Bronze Age deposits in Palestine-Syria. It does not occur in Iron Age II layers where it should according to the revised chronologies. Instead, Greek proto-Geometric and Geometric pottery occurs in Palestinian-Syrian Iron Age strata. And these pottery styles are found in layers above Mycenaean remains at Greek sites. It may seem easy to eliminate the Greek dark age and move directly from the Mycenaean Period to the Archaic Era when formulating a chronology, but the physical evidence of archaeology cannot be disposed of so easily. The Geometric Period follows the Mycenaean Age and precedes the Archaic Period in Greece, and the Geometric Period corresponds to the Palestinian Iron Age. The earlier Mycenaean Age and

the Egyptian Eighteenth and Nineteenth Dynasties were contemporaneous with the Palestinian Late Bronze Age.

Hatshepsut cannot be made a contemporary of Solomon or Ramesses II moved to c. 864 B.C. unless one also revises the stratigraphic correlations between archaeological deposits and biblical events. This has been tried,⁹ and it also has failed to stand the test.¹⁰ Egyptian chronology cannot be revised as radically as Velikovsky or Clube and Napier suggest. And without their chronological revisions, most of the textual and archaeological evidence for cosmic catastrophes in the fourteenth or fifteenth centuries B.C. is invalid.

Professor Clube's astronomical theories are intriguing, and if valid, may help explain some of the mass extinctions of species in past geological ages. More limited contacts between the Earth and meteor streams containing large amounts of space dust might also explain less radical climatic changes such as the one which seems to have taken place c. 1300-1150 B.C. or the so-called "Little Ice Age" which began c. 1550 A.D. and ended only recently (c. 1915-20). But he has extended his theory beyond the limits of the evidence in arguing for major cataclysms during the past 5000 years. Archaeological and historical sources do not support his scenario, and subjective interpretations of myths and legends (which Clube and Napier supply in The Cosmic Serpent) simply cannot substitute for hard evidence.

NOTES

¹Otto Neugebauer, The Exact Sciences In Antiquity (Providence, Rhode Island: Brown University Press, 2nd edition, 1957), pp. 97-103 and S. N. Kramer, The Sumerians (Chicago: University of Chicago Press, 1963), pp. 90-91.

²For Mesopotamian omens regarding shooting stars see A. Leo Oppenheim, Ancient Mesopotamia (Chicago: University of Chicago, 1964), p. 219 and for a Roman interpretation of a comet as a good omen see Michael Grant, The Twelve Caesars (New York: Charles Scribner's Sons, 1975), p. 55.

³Victor Clube and Bill Napier, The Cosmic Serpent (New York: Universe Books, 1982), p. 163.

⁴Ibid., p. 209.

⁵John Bright, "Has Archaeology Found Evidence of the Flood?," Biblical Archaeologist, 5, No. 4 (December, 1942), pp. 55-62.

⁶See William H. Stiebing, Jr., Ancient Astronauts, Cosmic Collisions, and Other Popular Theories About Man's Past (Buffalo, New York: Prometheus Books, 1984), pp. 9-22.

⁷Clube and Napier, The Cosmic Serpent, pp. 226-237.

⁸Stiebing, Ancient Astronauts, Cosmic Collisions, pp. 62-80.

⁹John Bimson, "Can There Be a Revised Chronology Without A Revised Stratigraphy?" Ages In Chaos? (Proceedings of the Residential Weekend Conference, Glasgow, 7-9 April 1978), S.I.S. Review, 6, Nos. 1-3 (1982), pp. 16-26 and Donovan A. Courville, The Exodus Problem and Its Ramifications (Loma Linda, California: Challenge Books, 1971).

¹⁰Stiebing, Ancient Astronauts, Cosmic Collisions, pp. 75-80 and William H. Stiebing, Jr., "Should the Exodus and the Israelite Settlement be Redated?" Biblical Archaeology Review, 11, No. 4 (July/August, 1985), pp. 58-69.

¹¹Reid A. Bryson and Christine Padoch, "On the Climates of History," in R. I. Rotberg and Theodore K. Rabb, eds., Climate and History (Princeton, New Jersey: Princeton University Press, 1981), pp. 3-17.

BIBLIOGRAPHY

Bimson, John, "Can There Be A Revised Chronology Without A Revised Stratigraphy?" "Ages In Chaos?" (Proceedings of the Residential Weekend Conference, Glasgow, 7-9 April 1978), S.I.S. Review, 6, Nos. 1-3 (1982), pp. 16-26.

Bright, John, "Has Archaeology Found Evidence of the Flood?," Biblical Archaeologist, 5, No. 4 (December, 1942), pp. 55-62.

Bryson, Reid A. And Padoch, Christine, "On the Climates of History," in Robert I. Rotberg and Theodore K. Rabb, eds., Climate and History. Princeton, New Jersey: Princeton University Press, 1981, pp. 3-17.

Clube, Victor and Napier, Bill, The Cosmic Serpent. New York: Universe Books, 1982.

Courville, Donovan A., The Exodus Problem and Its Ramifications. Loma Linda, California: Challenge Books, 1971.

Grant, Michael, The Twelve Caesars. New York: Charles Scribner's Sons, 1975.

Kramer, Samuel Noah, The Sumerians. Chicago: University of Chicago Press, 1963.

Neugebauer, Otto, The Exact Sciences In Antiquity. Providence, Rhode Island: Brown University Press, 2nd edition, 1975.

Oppenheim, A. Leo, Ancient Mesopotamia. Chicago: University of Chicago Press, 1964.

Stiebing, William H. Jr., Ancient Astronauts, Cosmic Collisions, and Other Popular Theories About Man's Past. Buffalo, New York: Prometheus Books, 1984.

Stiebing, William H. Jr., "Should the Exodus and the Israelite Settlement be Redated?," Biblical Archaeology Review, 11, No. 4 (July/August, 1985), pp. 58-69.