

A Calm Appraisal of

The Genesis Flood

A Thesis

Presented to

the Faculty of the Department of
Semitics and Old Testament
Dallas Theological Seminary

In Partial Fulfillment

of the Requirements for the Degree

Master of Theology

by

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May 1968

Accepted by the Faculty of the Dallas Theological
Seminary and Graduate School of Theology in partial ful-
fillment of the requirements for the degree Master of
Theology.

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CHAPTER I

INTRODUCTION

In 1961 the Presbyterian and Reformed Publishing Company issued what has become one of the most passionately discussed apologetic works in evangelicalism: *The Genesis Flood*.¹ No serious student of the Old Testament can afford to be unaware of the vital issues involved.

The controversial book is a joint product of Dr. John C. Whitcomb, Jr., Professor of Old Testament at Grace Theological Seminary and Dr. Henry M. Morris, Professor of Hydraulic Engineering and Chairman of the Department of Civil Engineering at the Virginia Polytechnic Institute. With numerous quotes from 31 out of the 66 books of Scripture plus citations from the works of well over 600 authors in apologetics, Old Testament study and the major sciences, Whitcomb and Morris build their case in the most debated apologetic area of the Old Testament. They center on the tension between modern scientific cosmology, especially historical geology, and the so-called “prehistory” of the first eleven chapters of Genesis, especially the Flood

¹ John C. Whitcomb, Jr., and Henry M. Morris, *The Genesis Flood* (Philadelphia: The Presbyterian and Reformed Publishing Co., 1961).

narrative.

The Problem

Obviously any work taking a firm stand on such a subject can be expected to raise some debate, but *The Genesis Flood* has been noted, to paraphrase one leading evangelical scientist, either to exhilarate or to infuriate its readers.¹ Indeed as one scans the nearly fifty book reviews he rapidly discovers a strong polarity of response. Considering the relatively large number of copies sold (approximately 27,000 as of December 1967)² as an indicator of readership interest there seems to be a sizable conflict over the problem within evangelicalism.

Infuriated critics declare themselves privately, if not in print, in language like this writer found from one of his correspondents:

¹ Walter R. Hearn, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Journal of the American Scientific Affiliation*, XVI, No. 1 (March, 1964), p. 27. Dr. Hearn is Associate Professor in the Department of Biochemistry and Biophysics, Iowa State University.

² Letter from Mr. Charles H. Craig, Director, Presbyterian and Reformed Publishing Company, December, 1967. Mr. Craig who, incidentally, majored in geology at Princeton, notes "a big upswing in 'creationist' circles today. Our books in this area are our bestsellers year in and year out."

The book by Whitcomb and Morris ... is not worth your attention intellectually. I consider Morris to be the most dangerous of the extreme Fundamentalist “scientific” apologists. ... If, in order to remain a Christian, I had to adopt the blinders Morris wears on his mind, I would abandon my faith. I am surprised that you can take the book seriously, having received a reasonably critical scientific education.

I can’t recommend anyone who would evaluate the book seriously because I don’t know *anyone* who is scientifically trained, doing research, who *takes* it seriously. (Emphasis his.)¹

Others writing in journals are a little more restrained:

It could lead to the unfortunate result of retarding the development of true Christian scholarship in the younger generation. ... It will be more unfortunate if the book is accepted uncritically by Bible scholars and teachers.²

Conversely exhilarated supporters can say: “A new era of faith in the truth of the Word and the Works of God, past and to come, may result from a full and fair study of *The Genesis Flood*, for which we are most grateful.”³

¹ Letter from an evangelical faculty member of one of the nation’s leading scientific institutions, January 25, 1967. Name withheld by this writer to maintain integrity of correspondence.

² Wayne U. Ault, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Journal of the American Scientific Affiliation*, XVI, No. 1 (March, 1964) p. 31. Dr. Ault is a geochemist with Isotopes, Incorporated.

³ A. G. Tinley, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *The Evolution Protest Movement Quarterly* (October, 1962), p. 3. This publication represents an English fundamentalist group.

Another supporter and active scientist has written:

As one who “evolved” from a cocksure evolutionist in forty years by learning from widespread experience with many fields of science how very much we do not know, and who has seen pat conclusions which were used to disprove some interpretations of the Bible repudiated by succeeding new scientific conclusions, I am most grateful for the many facts presented in this book.¹

Obviously in such an environment clear thinking is difficult for both sides. Intelligent, committed Christians are sharply divided on an issue located in the very heart of the Bible-science controversy with the non-Christian world. A calm appraisal of the work is needed and with over five years of controversy available for study such an appraisal may be possible.

The Purpose of This Study

This study proposes to evaluate the main theses of *The Genesis Flood* (hereinafter referred to as “*TGF*”) in the context of the past several centuries of Flood debate within scientific and Old Testament circles. It proposes to answer these questions: Have the authors added new elements to the historic controversy? Have the authors adequately proved their theses? Of what value are the criticisms of

¹ Report of John T. Grebe, Director of Nuclear and Basic Research, The Dow Chemical Company, Midland, Michigan, quoted in advertising literature of The Presbyterian and Reformed Publishing Company.

their work? What are the basic issues facing evangelicals now?

The Method of This Study

The authors' position can be stated by the four theses given below.¹ Each of these theses will be evaluated individually in subsequent chapters.

1. The Old Testament teaches nothing but a geographically universal flood. This thesis is developed in chapters I, II and III of *TGF* with clear chapter-end summaries on pages 33–35, 54 and 86–88.
2. This geographically universal flood must have occurred between 7000 B. C. and 4000 B. C. The authors discuss the chronology in Appendix II, pages 474–89.
3. Contemporary historical geology within the present uniformitarian framework² neither can account for some significant geological facts nor can satisfactorily be harmonized with the Biblical account of the flood. This

¹ These are somewhat arbitrarily defined but this writer feels these four give the *intended emphasis* of *TGF* sufficiently well and both authors concur. Letters from John C. Whitcomb, Jr., May 6, 1967 and Henry M. Morris, May 7, 1967. For a more expanded list see Donald C. Boardman, Review of *The Genesis Flood*, by John C. Whitcomb, Jr., and Henry M. Morris, *Christianity Today*, V, No. 24 (September 11, 1961), p. 1055.

² For the meaning of “uniformitarianism” see discussion in next chapter.

occurs in chapters IV and V.

4. A scheme of historical geology can be constructed within an exegetically derived framework that correlates better than present uniformitarian schemes not only with Scripture but also with the available scientific data, viz., “Flood Geology.” Such a scheme is described in chapters VI and VII. The authors’ faith that Scripture can provide real guidance in more accurately interpreting scientific data relating to past history has been expressed many times inside and outside of *TGF*.¹

The evaluation of these theses will be preceded by a chapter outlining the course of the Flood debate within scientific and Old Testament studies from the late seventeenth century to the present. Consideration of *TGF* in this general historical perspective hopefully will yield not only a calm appraisal but a useful one.

¹ Two clear examples are: Henry M. Morris, “The Bible *Is* a Textbook of Science,” *Bibliotheca Sacra*, CXXI, No. 484 (October–December, 1964.), pp. 341–50; and John C. Whitcomb, Jr., *The Origin of the Solar System* (Philadelphia: The Presbyterian and Reformed Publishing Company, 1964).

CHAPTER II

THE PAST THREE CENTURIES OF FLOOD DEBATE

The first eleven chapters of Genesis have clashed theologically with non-Biblical cosmologies since the day they were written. But in the eyes of many what their formidable pagan competitors failed to do over the millennia, modern science has decisively accomplished in the short time since Francis Bacon (1561–1626). Scientific reconstruction of origins and primal history, first by geology alone, then by geology and biology together, set up the modern tension with traditional exegesis of these early accounts in Scripture. This chapter outlines the past three centuries of debate by tracing how the Noahic Flood *as the central event of primal history* fared between the so-called historical sciences on the one hand and Biblical exegetical readjustments on the other.

The Uniformitarian Controversy

Distinctive nature of the historical sciences

No one can evaluate the impact of the historical sciences which have reconstructed primal histories without understanding the doctrine of *uniformitarianism*. It is

imperative for one to realize that when either geology or biology (by far the most frequently involved fields) enter the past they must utilize a special methodology to get to the non-reproducible past events. An extra tool must be added to the usual scientific methodology. Once this is done they are “modified” sciences to some degree. This study labels them as historical sciences in contrast to the remaining *non*-historical sciences. What is added is the principle of uniformitarianism or what Hooykaas, Professor of the History of Science at the Free University, Amsterdam, calls “the principle of uniformity”:

It is understandable that disciplines which have so much a character of their own, being neither historiography in the current sense, nor experimental observational-mathematical sciences of nature, but something intermediate between them, have automatically developed their own method. They have made “the principle of uniformity” the bridge that enables our imagination to go from the present to the past, to visualize with some confidence what no human eye has seen.¹

Hooykaas has done a great service in clarifying the two underlying issues which give one more feeling for what uniformitarianism is: (1) logical function of uniformity; and (2) the character of uniformity.

Logical function of uniformity.—Uniformity, as used

¹ R. Hooykaas, *Natural Law and Divine Miracle* (Leiden: E. J. Brill, 1959), pp. vii, viii. See Appendix A for critical reviews of Hooykaas’ work.

by the historical sciences, is a *methodological principle*, not a *law of nature*. The historical scientist tries to interpret evidence of past events by analogy with present processes. He “wishes to reduce apparent cases of non-conformity in the past as much as possible to uniformity with the present.”¹ Since it is an innate quality of scientific explanation to reduce and simplify causes and to avoid fanciful or unwieldy theories in order to arrive at a coordinated picture of reality,² uniformity ought to be adopted as much as possible. Trying to use catastrophes unobserved and unknown today only complicates theories and makes verification nearly impossible. Yet one must ever be careful lest this methodological principle become confused with some inherent property of nature. Uniformity controls the interpretation of data relating to past events, which lie beyond the domain of scientific observation and experimentation.

Character of Uniformity.—Having said that uniformity acts as a control in historical reconstruction one is

¹ Hooykaas, *Natural Law and Divine Miracle*, p. 38.

² For three hundred years the heliocentric idea was accepted only on the basis that it simplified description of observed planetary motion. See Gordon H. Clark, *Thales To Dewey* (Cambridge, The Riverside Press, 1957), pp. 305–07.

still left without an idea of *what* is uniform. A famous example will show how difficult it really is to specify what is uniform. How does one explain the evidence for massive ice sheets existing over certain continental areas in the past? Existing heat budgets in the atmosphere and oceans do not seem to be building any such ice accumulations presently. Either the present observed processes are controlled by a larger scale oscillation-type process, which modifies them to bring about glacial and interglacial conditions or some other processes, unknown and not at all involved today with the system, were active in the past glacial epochs. The first alternative is more uniformitarian than the second. The first accounts for apparent non-conformity between present and past heat budgets by hypothesizing the existence of a very slow change in present processes, itself a process working now but undetectable by scientific measurements over a short time. The second requires the existence of an unknown foreign process brought in to produce the effect. In practice historical science takes a position between the two, but as close to the first as possible. It tries to account for the evidence by modifying present processes as little as possible. One recent proposal ends with this remark:

The theories of the origin of the Pleistocene glacial

climate and of the glacial and interglacial states proposed here are in complete harmony with the doctrine of uniformitarianism. No external influences or catastrophes are required to initiate and maintain these conditions.¹

Another recent proposal concerning this problem contained the statement: “A theory that relies on unprovable, unobservable or unpredictable conditions, when well-known or more simple ones will suffice, cannot be widely accepted.”²

Yet these two papers, themselves, had to include uplift of whole continents and wandering of the earth’s poles to initiate glacial development, processes that are not strictly uniformitarian though they seem to approximate it if they are stretched over long enough time.

Such cases underscore Hooykaas’ remark:

The analogical reasoning which is always behind uniformitarianism turns out once more to be an empty form, which, under the pressure of facts and theories, may be filled up with widely different contents. It only proposes that *there is some kind of uniformity*, not of *what kind* this uniformity is³. (Emphasis his.)

¹ Maurice Ewing and William L. Donn, “A Theory of Ice Ages,” *Science*, CXXIII, No. 3207 (June 15, 1956), p. 1066.

² W. L. Stokes, “Another Look at the Ice Age,” *Science*, CXXII, No. 3174 (October 28, 1955), p. 815.

³ Hooykaas, p. 161. In saying this Hooykaas is not thereby totally rejecting uniformity.

The character of uniformity, then, is left unspecified in practice.

The historical sciences are to be distinguished from non-historical sciences by their use of uniformitarianism. This is an undefined, general methodological bias which selects interpretations of maximum uniformity with present processes. One might add that this is a normal, easily understandable tendency for science when it confronts situations lying beyond the normal range of observation.

A three-sided controversy

As this undefined, general methodological principle rose in popularity throughout the past three centuries, there also arose considerable debate as to the place of the Noahic Flood in primal history. One can divide the men involved into three camps. Each camp has employed different methodology to get at past events containing differing blends of uniformitarianism. Chart One labels the three groups as: (1) Flood Geologists; (2) Uniformitarians; and (3) Catastrophists.

The Flood Geologists.—The smallest camp, numerically and influentially, consists of men who fully accept the traditional exegesis of Genesis.¹ This means: Genesis 1:1

¹ That this is the traditional exegesis will be defended in a later section of this chapter.

is the real beginning of all of creation; there is no gap in the narrative allowing for vast amounts of time; the days in Genesis 1:3–2:4 are literally twenty-four hour days; there are few, if any, gaps in the genealogies of Genesis 5 and 11; and the Flood is geographically universal. One must be clear, of course, that they see this picture as real history and not a mythological teaching aid. Having accepted both the traditional exegesis and historicity of Genesis they are now in possession of “on-the-spot” observations of events back in the primal history they wish to reconstruct. Since direct, accurate observations generally outweigh extrapolations in science, the traditional exegesis must control uniformity in their methodology.

The Flood Geologists emphasize two geologically important items: fiat, *ex-nihilo*, sudden creation and a unique, nearly total discontinuity wrought by the Flood. Unless geological strata and other features date from the fiat creation they must have been caused by *rapidly* working catastrophes during the short period since creation. The exegetical control, reporting only one great catastrophe, requires the Noahic Flood to be a large enough event to account for most of the geological features. Exactly what is uniform varies with the particular geologist.

The Uniformitarians.—By far the largest of the

three, this camp contains the great majority of professional geologists. Being confident of *non-*historical scientific understanding of present processes they believe firmly in the reliability of the historical extrapolation backwards into the past by uniformitarianism. Ancient reports of catastrophes and cosmogenic ideas antedate the present scientific age when processes present to the observer can be understood in detail. Therefore these reports are not accurate but are only crude observations embellished over the centuries with imaginative and superstitious details. Thus Uniformitarians as historical scientists refuse to modify their methodology because of either ancient literature or data which does not yet fit into their framework. While some today permit varying degrees of minor, local catastrophism, major global geological changes of the past still occurred at a snail's pace so that "most apparent catastrophes in the history of the earth can be explained by normal processes ..."¹

Whether or not the idea of vast spans of time in primal history logically precedes, parallels or follows uniformitarianism this group was responsible for what Haber has

12. ¹ M. G. Ruten, *The Geological Aspects of Life on Earth* (Amsterdam: Elsevier Publishing Co., 1962), p.

called the “time revolution,”¹ that is, the overthrow of the traditional, short Mosaic chronology. Since the earth is very old, geological processes do not have to speed up to accomplish their work within the allotted time. The Noahic Flood becomes a minor, local catastrophe or, if considered to be larger in extent, a relatively tranquil event. Uniformity is maximized.

The Catastrophists.—The third group, though accepting the time revolution, have felt compelled to see periodic catastrophes throughout primal history. There have been periods in history when either *different* processes or rapidly *speeded* up processes worked on a *global* scale. Historically they have been influenced by the Genesis Flood narrative, fossil and stratigraphic evidences or, more recently, by folkloristic material. They believe that the data demand a loosening up of uniformity in the methodology of reconstruction. They have difficulty in seeing how present processes even if embedded in a gradually changing cycle of some sort can account for certain data. Since uniformity does not strongly control their interpretations and since there is no other control (such as the Flood Geologists’

¹ Francis C. Haber, *The Age of the World: Moses to Darwin* (Baltimore: The Johns Hopkins Press, 1959), pp. 1–3.

exegesis) Catastrophists posit widely varying schemes. The Noahic Flood is just one, though probably the best attested, of a whole series of catastrophes.

Thus the uniformitarian controversy concerns seriously discrepant perspectives of history. There is a struggle going on between the historical sciences' peculiar methodological bias toward maximum uniformity and some evidences apparently calling for catastrophic explanations. Referring to Chart One again, one can observe a pairing of two camps against the third. Both Uniformitarians and Catastrophists hold to vast eras of time against Flood Geologists. Both Uniformitarians and Flood Geologists have restrictive controls on their interpretations unlike Catastrophists. Catastrophists and Flood Geologists doubt the explanatory capability of uniformitarianism.

The Uniformitarian Controversy Illustrated

To obtain a better understanding of how this controversy has gone on throughout the past several centuries, this section outlines in very brief fashion the main issues and leaders. Chart Two presents more of the men with the dates of their major publications, but the discussion must be restricted to a few central points. There are numerous

sources available if more detail is required.¹

The Flood Geologists

Historically the Flood Geologists were the founding fathers of modern geology but for the past two centuries they have generally not come from the ranks of professional geologists. Allen has noted that they were early Protestants eager to defend the Scripture from medieval skeptics by the newly popular scientific method.² Steno (1631–1687) and Woodward (1667–1727) championed a universal deluge as responsible for major geological features. Positively they proved that fossils were not “in situ” productions as was claimed by medieval Aristotelians,³ but were the actual organic remains of a catastrophe. Negatively they were unable to uphold in a convincing fashion their proposed physical mechanisms in the face of later criticism.⁴

A vivid example was that of English clergyman and naturalist Thomas Burnet (1635?–1715). He worked out his famous *Sacred History of the Earth* (1681) with three ages based on II Peter 3: Creation to Deluge (Antediluvian Age);

¹ A brief list may be found in Appendix A.

² Allen, pp. 66–112.

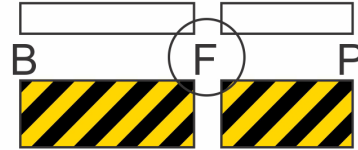
³ Haber, p. 51; Rupke, pp. 17–18; Greene, pp. 48–49.

⁴ Allen, pp. 109–111.

FLOOD GEOLOGISTS

Methodology: traditional exegesis; then uniformity.

Time: human and earth history both measured in thousands of years.



UNIFORMITARIANS

Methodology: maximum uniformity.

Time: human history measured in millions of years; earth history, in billions.



CATASTROPHISTS

Methodology: assorted evidences; then uniformity.

Time: human history measured in millions of years; earth history, in billions.



KEY: B = creation
C = catastrophes
F = Flood
P = present
? = time and/or character in doubt



Chart One.—Schematic comparison of the three groups in the Uniformitarian controversy with special attention to the place of the Flood in their reconstructions. *Time is not in scale.*

	FLOOD GEOLOGISTS	CATASTROPHISTS	UNIFORMITARIANS
1650	1669–Steno 1681–Burnet (early) 1689–Ray 1695–Woodward	1691–Burnet (later) 1695–Whiston	
1700			
1750			1748–de Maillet 1749–de Buffon 1785–Hutton
1800		1789–Deluc 1812–Cuvier	
	1820–Rodd 1826–Bugg 1837–Fairholm	1823–Buckland (early)	1830–Lyell 1836–Buckland (later) 1839–Smith 1840–Agassiz
1850		1845–Murchison	
		1890–Howorth 1892–Prestwich	All professional geological circles
1900		1906–Wright	
	1923–Price		1930s–radioactive dating
1950	1948–Clark 1961–Morris	1950–Velikovsky 1965–Patton	1946–radiocarbon dating

Chart Two.—Some representative names with dates of their most relevant work for each of the three positions in the uniformitarian controversy.

Deluge to Conflagration (Present Age); and Conflagration to Eternity (Millennium).¹ However he made two concessions which eventually undermined his position. First, he stated that the Bible dealt only with the history of this planet and not of the heavens. Second, he insisted these three great discontinuities were the effect of secondary causes which could be analyzed by science. Critics attacked him by saying that secondary causes, the normal processes known today, could never have brought about this planet in six literal days. Finally in 1691 (*Archaeologia Philosophicae*) he made the days into ages and “treated the Mosaic account of history as allegory and abandoned the Biblical age of the world as inadequate.”²

Following only a very thin line of succession came Flood Geology’s most famous exponent, George McCready Price. Price, a Seventh-day Adventist, published during the Fundamentalist-Modernist controversy of the 1920s. What Price lacked in formal training he made up in extensive field work and prolific writing.³ Ramm cited two articles by a

¹ Haber, pp. 71-83. Greene, p. 40-43.

² Haber, p. 83.

³ Price’s own account of his education is summarized by J. Laurence Kulp, “Deluge Geology,” *Journal of the American Scientific Affiliation*, II, (January, 1950), pp. 1, 2.

University of Kentucky geologist scorning Price's lack of formal training.¹ Yet in one of the articles this geologist went on to acknowledge Price's "wide familiarity with geological literature" and marveled at "the character of mind of the man who can go so into the literature of the subject and still continue to hold such preposterous opinions."² Price wrote three geological text books and vast numbers of articles and pamphlets until he died in 1963. Fundamentalists looking for scientific evidences to discredit evolution absorbed Price's writings in huge quantities because Flood Geology offered a ready answer for the evolutionists' fossil evidence. Thus today the term, "Flood Geology," is nearly always synonymous with Price and the Fundamentalist users of his material.³ However, it must be noted that whereas Fundamentalism used his material against evolution it did not always comprehend or agree with the essential features of Flood Geology—the short earth history

¹ Ramm, p. 181, n 12.

² Arthur M. Miller, "The New Catastrophism and Its Defender," *Science*, LV, No. 1435 (June 30, 1922), p. 702.

³ See any history of fundamentalism or the article by Miller above and his other report, "Kentucky and the Theory of Evolution," *Science*, LV, No. 1416 (February 17, 1922), p. 179.

with one great discontinuity.¹

The Uniformitarians

By the second half of the eighteenth century two trends became evident in scientific circles. One trend was to reassert the old pagan idea of an eternal or near eternal universe and the other trend was an increasing use of uniformity in historical reconstructions. One hundred years before (1644) Descartes had taught gradual evolution of the earth from prior existing material.² Now de Maillet and de Buffon were erecting the first uniformitarian schemes. De Buffon even dated the age of the earth from its emergence out of pre-existing chaos of Cartesian cosmology as 75,000 years.³ The days of Genesis were allegorized and the Flood made local.⁴

Eventually the strictest uniformitarian of all came on the scene—Charles Lyell. Everything was gradual. Nevertheless, there was never a strong assault on the Biblical age

¹ Some examples of Fundamentalists who accepted a longer earth history by various exegetical adjustments are Harry Rimmer, *Modern Science and the Prologue to Genesis* (Minneapolis: Research Science Bureau, 1937), pp. 4, 10, 27, 28; and C. I. Scofield (ed.), *The Scofield Reference Bible* (New York: Oxford University Press, 1917), pp. 3, 4.

² Haber, pp. 65-68.

³ *Ibid.*, pp. 117, 118.

⁴ *Ibid.*, pp. 124, 131. Greene, pp. 54-59.

of man by these men. They confined their schemes to earth history alone. Not until after Darwin was the Biblical age of man surrendered.¹

As Chart Two shows, Uniformitarians from Lyell onward completely won the field. They convinced the world because they were able to assemble the existing data within their framework of uniformity. Even so, they still had no really absolute method of dating relative ages of rock sequences could be ascertained but fixing these to an absolute chronology awaited radioactive dating. After World War II techniques were perfected whereby promising theories of the 1930s could fairly precisely be applied. Rocks containing radioactive elements (e.g., some igneous rocks) could be dated and then other non-radioactive materials could be dated relative to these. Once again uniformitarianism was rewarded with confirmation of long age spans.²

¹ Fossilized remains of man were not discovered until the Engis skulls (1833) and the Abbeville flints (1846). Frank W. Cousins, *Fossil Man* (London: A. E. Norris & Sons, Ltd., 1966), p. 13.

² See discussion in: Frederick E. Zeuner, *Dating the Past* (4th ed. rev.; London: Methuen and Co., Ltd., 1958), pp. 307-36; and H. Faul, *Nuclear Geology* (New York: John Wiley & Sons, Inc., 1954), pp. 1-6.

The Catastrophists

It was shown above that Burnet turned from strict Flood Geology when he accepted the need for long ages in primal history. His position has been paralleled by others who have firmly held to a universal Flood, responsible for some geological features, but who saw the need for additional catastrophes. Jean Andre deLuc (1727–1817) and Georges Cuvier (1769–1832) both felt the earth underwent periodic upheavals in the antediluvian period. Since the Flood all has been uniform.

These men held the field until Lyell. In the 1820s, before Lyell and the Uniformitarians triumphed:

a division was made between antediluvian and post-diluvian times, supernatural forces prevailing in the former and only natural forces in the latter. By confining Biblical chronology to man's history alone, they claimed a measure of freedom in the antediluvian period to fill out segments of geochronology on the basis of observed evidence, but the approach was piecemeal and without any over-all estimate of the age of the earth. ...¹

More recently the Catastrophists have been joined by the controversial Immanuel Velikovsky. Velikovsky, coming without any theological commitment to the authority of Scripture argues that folkloristic material, particularly religious documents with astral motifs, whether in the Bible

¹ Haber, p. 214.

or not, are actually records of past catastrophes the human race has experienced. To date he has only offered the later portion of his historical reconstruction. This dates from about the fifteenth century, B. C., and includes simultaneous history of the solar system.¹ Concerning the earlier times and the days of the flood, he has said that the Flood “was global and more than that: not Earth alone was involved.”² Details of the Flood and other portions of earlier history are subjects of a promised book.³

An evangelical geographer, highly influenced by Velikovsky, has just published his reconstruction of earth history adapted to Biblical data in *The Biblical Flood and*

¹ Velikovsky’s historical reconstruction is given in *Ages In Chaos* (Garden City: Doubleday and Co., 1952); his astronomical reconstruction in *Worlds In Collision* (Garden City: Doubleday and Co., 1950); and his geological discussion in *Earth In Upheaval* (Garden City: Doubleday and Co., 1955).

² Letter from Velikovsky, July 24, 1967.

³ “On the Biblical Deluge I intended (see *Worlds In Collision*) and still intend to write a book in which, on the basis of ancient literary material I shall describe the event and its agent.” Letter cited above.

the Ice Epoch.¹ The author is another example of how Catastrophists are sharply distinct from Flood Geologists with whom they are often confused. Flood Geologists have more confidence in the capability of Scriptural exegesis to yield a relatively detailed basic framework within which to work than Catastrophists. A group of Bob Jones University professors sympathetic with *TGF* have sharply criticized Patton's "naturalistic or mechanical explanations," "lack of *authoritative* documentation," technical errors and rejection of "the six-solar-day creation of Genesis 1."² This group of men, then, unlike the other two, have more widely divergent hypotheses and utilize quite different methodologies.

¹ Donald W. Patton, *The Biblical Flood and the Ice Epoch* (Seattle: The Pacific Meridian Publishing Co., 1966). The work is critically reviewed by a physical chemist, Alvin O. Ramsley in Review of *The Biblical Flood and the Ice Epoch*, by Donald W. Patton, *Journal of the American Scientific Affiliation*, XIX, No. 4 (December, 1967), pp. 122–23.

² Joseph Henson, *et al.*, Review of *The Biblical Flood and the Ice Epoch*, by Donald W. Patton, Bob Jones University, 1967. (Private reproduction and distribution.)

The Exegetical Response

As the uniformitarian controversy developed responding interpreters produced all of the basic exegetical schemes used today. One can best observe this response by tracing the fate of major details of the traditional interpretation throughout the period of controversy.

Traditional exegesis

Although it can be debated whether there ever was a “standard” interpretation of Genesis 1–11, church history from the Patristic era through the Reformation shows there was a broad tradition which can be specified by the five points mentioned above.

Initial creation.—Genesis 1:1 has generally been understood as referring to *ex nihilo* creation with only very few exceptions.¹

No gap.—Most commentators saw no great gap of history between Genesis 1:1 and 1:2.² However there was an

¹ A. Cohen notes that within Jewish circles two medieval rabbis (Rashi [1040–1105] and Ibn Ezra [1092–?]) did dispute the independency of 1:1. See *The Soncino Chumash* (Surrey: The Soncino Press, 1947), p. 1.

² E. g., John Calvin, *Commentaries on the First Book of Moses* trans. John King (Grand Rapids, Wm. B. Eerdmans Publishing Co., 1948), pp. 69–70; Martin Luther, *A Commentary on the First Five Chapters of the Book of Genesis* trans. Henry Cole (Edinburgh: T. & T. Clark, 1858), p. 27.

early trend among some (e.g., Origen,¹ Augustine²) to distinguish between the initial act of complete creation in Genesis 1:1 and the subsequent “reworking” of the days following. This trend grew throughout the medieval period climaxing in Milton’s *Paradise Lost*.³ It should be noted that this “gap” idea was maintained on grammatical and/or theological grounds *before* the acute harmonization problem with historical science ever appeared.

Literal days.—Calvin⁴ and Luther⁵ considered the days as literal. However, there was a lingering tradition of allegorical interpretation from Augustine.⁶

Short, complete chronology.—One of the strongest points of the traditional interpretive tendency was

¹ Origen, *De Principiis*, Book II, Chap. 4.

² Augustine, *The City of God*, XI, 6. For discussion of his distinction see Bernard Ramm, *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1955), pp. 114–15.

³ Milton, *Paradise Lost*, VII, 131–242. For further discussion and historical background on the “gap theory” see Ramm, pp. 195–6; Curtis C. Mitchell, “A Biblical and Theological Study of the Gap Theory,” (unpublished B. D. thesis, Talbot Theological Seminary, 1962), pp. 10–15.

⁴ Calvin, p. 78.

⁵ Luther, pp. 24–25.

⁶ Augustine, XI, 6. Luther notes the “continual disputations, in the schools and in churches, concerning the evening and morning knowledge, which Augustine was the cause of being introduced,” p. 25.

insistence upon the completeness, and therefore the shortness, of the genealogies of Genesis 5 and 11. Church Fathers used these chapters to compute the age of both earth and mankind in their polemics against pagan ideas of vast antiquity.¹ Oxford bishop Ussher was only one of a long line of Church chronologists dating from at least the time of Theophilus of Antioch (115–181).²

Geographically universal Flood.—That interpreters saw the Flood as geographically universal can be seen in how they used the Flood in their polemics against partial flood ideas of the Greeks and in their interpretations of fossils at high altitudes in inland areas. Theophilus,³ Lactantius,⁴ Augustine,⁵ all attack Plato’s claim for a geographically local flood at low altitudes only. Tertullian states: “There was a time when the [earth’s] whole orb, withal, underwent mutation, overrun by all waters. To this

¹ For listing of early Church chronologists, see Appendix A.

² Alexander Roberts and James Donaldson (ed.), *The Ante-Nicene Fathers* (Buffalo: The Christian Literature Publishing Co., 1885), II, 87.

³ Theophilus of Antioch, *Theophilus to Autolycus*, II, 18, 19 in Roberts and Donaldson, II, 119.

⁴ Lactantius, *The Divine Institutes*, VII, 14 in Roberts and Donaldson, VII, 211–12.

⁵ Augustine, XV, 27.

day marine corichs and tritons' horns sojourn as foreigners on mountains eager to prove to Plato that even the heights have undulated.”¹ Luther shrewdly used the Flood to explain why the geographical description of antediluvian Eden (Gen. 2:10–14) did not correspond to known geography in the present post-diluvian world.² The only exceptions among interpreters were a few rabbis in some Jewish circles.³

This tradition received a severe jolt in the eighteenth century when old pagan ideas of a vast antiquity of both earth and man, attacked by the Church Fathers, were suddenly reinforced by Cartesian cosmology and the newly developing historical sciences. Exegetes were, at first, mainly concerned with finding room in Genesis for a long *earth* history. This early response can be dated roughly as from 1700 until 1850. After 1850 a later response occurred which tried to deal with a long *human* history. Archeology had shown evidences of civilization before 4000

¹ Tertullian, *On the Pallium*, II.

² Luther, p. 135. Calvin did not believe the Flood to be so severe, p. 119.

³ An early Talmudic tradition is given in connection with Gen. 8:22 by Paul Isaac Hersheon, *Genesis With A Talmudic Commentary*, trans. W. Walkenberg (London: Samuel Bagster & Sons, 1883), p. 210; Cohen, p. 41 shows persistence of this idea in Rabbi Nachmaindes (1194–c1270).

B.C. and, more import exegetically, had discovered ancient mythological “creation” and “flood” stories similar in some respects to Genesis.¹ Darwinian evolution had smoothed out the concept of successive creations and/or catastrophes into a continuous line of development. The Uniformitarians now dominated both geology and biology so that historical science offered little hope for finding any direct harmonization between Genesis and its primal history. Chart Three compared with Chart Two reveals the marked change in exegetical response after the 1850s when uniformitarianism triumphed. There is far more tendency alter 1850 to take Genesis 1 either traditionally and declare it wrong, or figuratively and declare it never meant to give a detailed picture.

In both periods harmonization of the Flood was made *after* the basic harmonization with Genesis 1 was established. Chapter Three of this study will show how *TGF* radically changes this entire trend of harmonization.

Early response (1700–1850)

At first Genesis exegetes tried to modify either

¹ The major report was given by their discoverer, George Smith, in *The Chaldean Account of Genesis* (New York: Schribner, Armstrong & Co., 1876).

the second or third elements of the traditional interpretation by dissolving the literalness of the days or by putting in the gap.

From day to age.—As shown above both Burnet and de Buffon invoked the allegorical trend which saw Creation Week as not a literally 144-hour creation period. As soon as this was done, however, logic forced a reappraisal of the fifth traditional element—the geographically universal Flood. Catastrophists Buckland (early, 1823) and Cuvier (1812) did try to maintain the traditional Flood dimensions as they brought in allegorical days to correspond to previous distinct epochs in primal history. But to Uniformitarians, a geologically significant worldwide Flood was out of the question once geological formations were seen as taking vast periods of time to form. Uniformitarians beginning with de Buffon held either to a universal, but calm, Flood¹ or, as de Buffon later decided, a local Flood.² All mankind was destroyed but only by a local Flood. Since the advent of Uniformitarians scholars trying to harmonize Scripture with historical science have always wound up maintaining a local Flood (with a few: “tranquil” Floodists).

Use of the “gap”.—Harmonists saw two faults with

¹ Haber, p. 114.

² *Ibid.*, p. 131.

the day-age readjustment. Biblically it seemed to strain the author's apparent intention to speak of literal days and geologically it did not correspond well with life in the stratigraphical sequence. Therefore in 1804 the Scottish clergyman Thomas Chalmers brought in the previously existing "gap theory" to solve the dilemma.¹ Thus instead of modifying the third element, literal days, some interpreters sought to make use of the possibility of a gap between Genesis 1:1 and 1:2. No sooner had the allegorical days been restored to literalness and the troublesome geological column been pushed before Genesis 1:2, than exegetes discovered they were worse off than with the day-age readjustment. With the fifth traditional element, the Flood, in the same jeopardy it was before, exegetes now needed another major cataclysm to correspond with Genesis 1:2. The problem of harmonization was doubled.

One could say that no satisfactory harmony of Genesis 1 and 2 with historical science ever came out of this early response. Nevertheless, the schemes for analyzing Genesis 6–8 in the light of the geological record have remained unchanged to the present. *Either* one has to make use of flood geology or catastrophism to keep a geographically universal Flood *or* one has to make the Flood local in

¹ *Ibid.*, pp. 201–3; Ramm, p. 196.

submission to uniformitarianism.

Later response (1850–present)

When it came to the problem of finding a long *human* history in Genesis besides a long *earth* history, an additional traditional element was threatened—the short, complete chronology. With four out of five elements under serious assault the response took a new shift. Strict correspondence between historical science and Scripture was replaced by two views: (1) mild concordism; and (2) non-concordism.

Mild concordism.—Those who saw the necessity of preserving verbal inerrancy maintained that there had to be *some* correspondence or concord between the Bible and historical science. Some saw only the idea of progression from lower to higher forms as sufficient concord with the order of Genesis 1 (e.g., theistic evolutionists). Those who felt bound by the literalness of the days developed what Kline has called “figurative chronological framework” in which the Creation Week is either a literary device which *presents* the revelation (Kline) or actual days of *reception* of the revelation.¹ Primal history does not

¹ See Ramm’s discussion, pp. 218–29; and Meredith G. Kline, Review of *The Christian View of Science and Scripture* by Bernard Ramm, *Westminster* Theological Journal* XVIII (November, 1955), pp. 49–55. NB: the original thesis contains the incorrect spelling ‘Westminister.’ This will not be repeated in subsequent references. Also, throughout this work, the word ‘genealogy’ and its morphological variants were spelled as ‘geneology’ (etc.).

correspond with the traditional interpretation because the literary form has been misunderstood. Since all of these harmonies were built on uniformitarianism the Flood must be local.¹ Recently Ramm and La Sor have gone on to say that the Scriptures themselves are teaching a local Flood, not only in a geographical sense but in an anthropological sense.²

Non-concordism.—Those who did not wish to preserve some form of verbal inerrancy threw out any idea of concord. Going back to the traditional interpretation they claim it correctly represents the intent of the author(s) and is merely another example of the ancient near eastern corpus of cosmological literature.³ Today the mainstream Old

¹ Most concordists still took the Flood as anthropologically universal although geographically local. See G. F. Wright, “Deluge,” *International Standard Bible Encyclopedia*, II, 824.

² Ramm, pp. 238–40; William S. LaSor, “Was the Flood Universal?,” *Eternity* XI, No. 12 (December, 1960), pp. 11–13.

³ For an early example see M. Kalish, *A Historical and Critical Commentary on the Old Testament* (London: Longman, Brown, Green and Roberts, 1858), p. 140; and for a later example see S. R. Driver, *The Book of Genesis* (London: Methuen and Co., 1904), pp. lxiii–lxiv.

Testament scholarship is non-concordist in nature. Nevertheless parallels between the Flood account; and similar accounts around the world is usually taken as an indication that there is some historical basis for an actual flooding somewhere.¹

Summary

How has the Noahic Flood fared as the central event of primal history between the advance of the historical sciences and the readjustments of exegesis? It has declined in magnitude from the great discontinuity in earth and human history to a mere local disaster. As the historical sciences employed uniformitarianism over greater amounts of geological and biological data it became increasingly difficult to harmonize their product with Scripture. Once the field was conceded to the Uniformitarians a geographically universal Flood became impossible. Those who have continued to believe in a geographically universal, earth-transforming Flood have been Flood Geologists and Catastrophists. The main issue, it seems, is between the

¹ George Ernest Wright summarizes the feelings of many by claiming historicity in order to explain presence of the Flood in so many legends and myths around the world. *Biblical Archaeology* (Philadelphia: The Westminster Press, 1957) p. 119.

uniformitarian principle of interpretation together with associated concepts of vast ages, and the capability of exegetical technique to understand what Genesis 1–11, particularly the Flood narrative, is saying.

The following four chapters will evaluate the four theses of *TGF*. A great amount of time will be spent on the first thesis of geographical universality because of what has been found in this chapter.

Commentator	Date	Creation	Flood
Luther	1544	T, a	GA, a
Calvin	1564	T, a	GA, a
Burnet	1681	T, a	GA, a
Burnet	1691	TF?, -a	?
Chalmers	1804	R, a	GA, a
Buckland	1823	D, a	GA, a
Buckland	1836	R, a?	GA, a
Kalish	1858	T, -a	GA, -a
Lewis (Lange)	1864	TF, -a	GA, a
Keil	1866	T, a	GA, a
Murphy	1868	R, a	LA, a
Wellhausen	1878	T, -a	GA, -a
Dods	1888	TF, -a	LA, a
Dillman	1897	T, -a	LP, a
Delitzsch	1899	D, a	LA, a
Gunkel	1901	T, -a	GA, -a
Driver	1903	T, -a	GA, -a
Skinner	1910	T, -a	GA, -a
Leupold	1942	T, a	GA, a
Richardson	1953	T, -a	GA, -a
Ramm	1955	TF, -a	LP, a
Kline	1955	TF, -a	?
Von Rad	1956	T, -a	GA, -a

Chart Three: caption on next page.

Chart Three.—Some representatives of the different exegetical responses to the historical sciences with dates of their most pertinent work. Capital letters refer to what they claim the Scriptures teach; small letters to what they believe actually happened. T=traditional view of Gen. 1; TF=Genesis 1 meant to be figurative; R=Gap theory; D=day-age theory; G=geographically universal Flood; L=local Flood; A=anthropologically universal Flood; P=partial Flood with respect to mankind; a=actually happened this way; –a=did not actually happen this way; ?=no data available to the writer.

CHAPTER III

THE FIRST THESIS: GEOGRAPHICAL UNIVERSALITY

Consideration of the past three centuries of Flood debate should convince any Old Testament exegete of the tremendous implications of a geographically universal Flood. As interpreters responded to the increasing pressure from the historical sciences, the Flood was relegated to smaller and smaller dimensions. Thus the tendency has been first to formulate a harmony between reconstructions of historical science and Genesis 1 and then, after the broad outlines have been established, put the Flood into the harmonization scheme wherever it best fitted. But *TGF* returns to the Flood Geologists' insistence that the Bible presents this catastrophe as of such great magnitude that it must be taken into account in the very first stages of harmonization. The authors' first thesis is the foundation of their position. If the Scriptures truly teach a geographically universal Flood, very severe restrictions arise in trying to correlate Genesis and present historical science.

In the face of these grave implications the authors present this thesis with this sharp remark:

No problem, be it scientific or philosophical, can be

of sufficient magnitude to offset the combined force of these seven Biblical arguments for a geographically universal flood in the days of Noah.¹

Their prime challenge to evangelicals is that the Bible cannot be made to teach anything less than such a Flood. This chapter will test the strength of their thesis on two bases: hermeneutical principles and physical implications.

Hermeneutical Principles

Since *TGF* stands or falls with exegesis by its own admission², to evaluate its claim fairly the following dis-cussion deals with three hermeneutical principles: (1) language details; (2) general purpose; and (3) New Testament controls.

Language details

First detail.—The first detail of the Flood account cited in *TGF* is Gen. 7:19–20 :

וַיִּכָּסּוּ כָּל־הַהָרִים הַגְּבוּהִים אֲשֶׁר־תַּחַת כָּל־הַשָּׁמַיִם:
חֹמֶשׁ עֶשְׂרֵה אַמָּה מִלְּמַעְלָה גָּבְרוּ הַמַּיִם וַיִּכָּסּוּ הָהָרִים:

(“... all the highest mountains under all the heavens were covered; the waters prevailed over fifteen cubits so that the mountains were covered.”) Instead of arguing for universality directly from כָּל, a term usually requiring definition from context, the authors argue for great *depth* first and then, from this, the horizontal dimensions are

¹ *TGF*, p. 35.

² *Ibid.*, p. xx. NB: the Hebrew of Gen 7:19–20 has been slightly reformatted from the original thesis to include the full Hebrew text and to place each verse on its own separate line. The original thesis ‘look’ is as follows:

First detail.—The first detail of the Flood account cited in *TGF* is Gen. 7:19-20: כָּל־הַהָרִים הַגְּבוּהִים אֲשֶׁר תַּחַת כָּל־הַשָּׁמַיִם וַיִּכָּסּוּ חֹמֶשׁ עֶשְׂרֵה אַמָּה מִלְּמַעְלָה גָּבְרוּ הַמַּיִם וַיִּכָּסּוּ הָהָרִים ("... all the highest mountains under all the heavens

deduced.¹

The question becomes one of finding the minimum height of הָהָרִים הַגְּבוּהִים. Two items figure in this problem: the landing site of the Ark (Gen. 8:4); and the meaning of תַּחַת כָּל־הַשָּׁמַיִם. On both counts the authors are a bit too hasty and therefore are not as convincing as they could have been.

First there is the possibility that the minimum height of הָהָרִים הַגְּבוּהִים can be estimated from the altitude of the landing site. Where is this site? Gen. 8:4 suggests it was atop some mountain in the *region* of Ararat. Because of Isa. 37:38 (=II Kings 19:37), Jer. 51:27 and other historical data lexicons describe the word, Ararat, as referring to the rugged mountain country north of the Mesopotamian Valley. There are several traditions locating the grounding site atop different mountains but *always* within this Persian-Caucasus range.² Chart Four clearly shows that even if the site itself should be of low altitude, the term, “*highest* mountains under all the heavens,” would encompass territory including some peaks in excess of, say, 6000 M.S.L. (above mean sea level). With a Flood of even this depth extending over a year it is hard

¹ *Ibid.*; pp. 1, 2. See also, pp. 55–62 for discussion of universal terms.

² See Appendix B for a discussion of these sites.

to see anything but a global inundation.

The second term, תַּחַת כָּל־הַשָּׁמַיִם, should be specified in more detail. How large an area does this include? Does it refer to the entire global surface, a more restricted *conceptual* horizon or, as some now want it, an extremely localized *visual* horizon? This term occurs seven times outside of the Flood narrative: Deut. 2:25; 4:19; Job 28:24; 37:3; 41:3 (4:11 in the English); Dan. 7:27, 9:12. Except for Deut. 2:25 and Dan. 9:12, the term can safely be said to encompass an area far in excess of mere visual horizon. Careful exegesis will show that even these two exceptions include terrain beyond the visual limit. Exod. 23:20–33 implies that Deut. 2:25 included an area of at least 500 miles minimum width. Dan. 9:12 [תַּחַת כָּל־הַשָּׁמַיִם] occurs in a context where the expression הַשָּׁמַיִם מִתַּחַת is usually employed as a formula to show the entire earth's surface as God's created stage for the drama of human history (cf. Gen. 1:7; 6:17; Exod. 17:24; Deut. 4:39; 9:14; Josh. 2:11; I Kings 8:23). That the term כָּל־הַשָּׁמַיִם, then, refers to mere visual horizon is a claim enjoying zero lexical support.

Lest some think adequate geographical restriction can be brought in by speaking of *conceptual* horizon it need only be recalled that the ancients were well aware of life

at thousands of miles distant.¹ It would be difficult, indeed, to think of any inhabitant of the Mesopotamian Valley who was not aware of mountains towering over two miles high less than 300 miles from his abode (again see Chart Four). By sound exegesis תַּחַת כָּל-הַשָּׁמַיִם refers, at the very minimum, to such a large section of the Middle East that *some* mountains will be contained in the area that rise thousands of feet above sea level.²

The minimum altitude, therefore, of הַהָרִים הַגְּבוּהִים, must be the thousands of feet. Thus Gen. 7:19–20 unequivocally teaches a Flood depth of, at the very least, several thousand feet. This very crucial *TGF* claim is thoroughly supported by normal exegesis.

Second detail.—After investigating Gen. 7:19–20 the authors deal with the Flood duration. The issue can be described by the simple relation:

$$\text{Rate of subsidence of waters} = \frac{\text{Maximum depth of waters}}{\text{Duration of subsidence}}$$

Since Scripture clearly specifies how long it took for the

¹ See R. Laird Harris, “The Bible and Cosmology,” *Bulletin of the Evangelical Theological Society*, V, No. 1 (March, 1962), 12. Consider also the geographical knowledge implicit in Gen. 10.

² See discussion of Gleason L. Archer, Jr., *A Survey of Old Testament Introduction* (Chicago: Moody Press, 1964), p. 194.

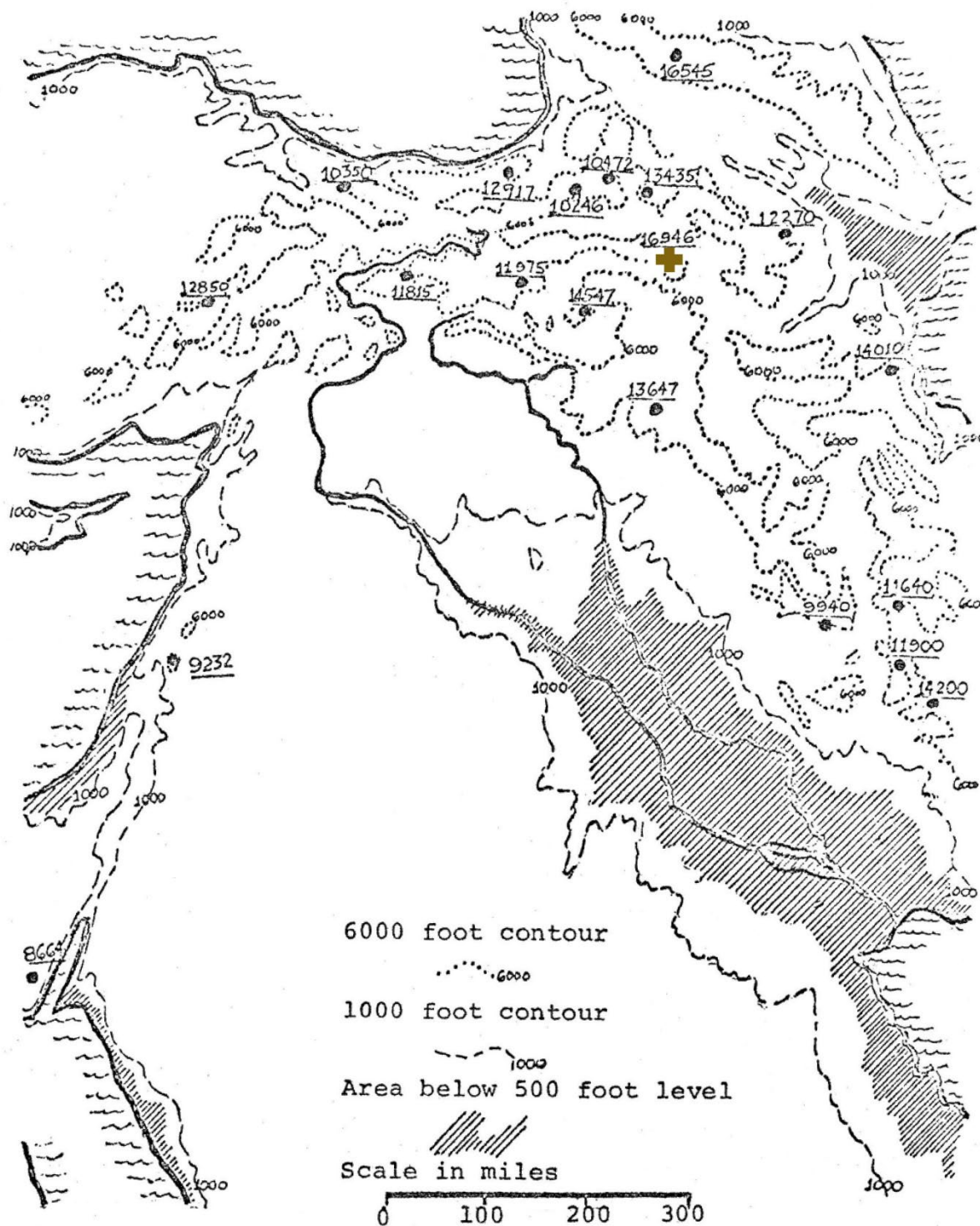


Chart Four.—Map showing Middle East with land elevations. Heights of mountains underlined. Mt. Ararat marked by [brown] cross. Restricted areas submerged by a 500 foot Flood cross hatched.

[NB: Natasha Hiebert (Millar College of the Bible, Winnipeg, MB Canada) verified the location of Mt. Ararat on this map]

waters to drain off (221 days inferred from Gen. 8:3, 4, 14), “duration of subsidence” is known. Therefore, if the text indicates a great rate of subsidence, a great maximum depth is also indicated.

The crucial reference is Gen. 8:5. There are 74 days from the time the Ark grounds (Gen. 8:4) until mountain tops are observed (Gen. 8:5) during which time the waters are continually draining off.¹ It takes 147 more days for the waters to drain from this level to “normal” levels. If one assumes the subsidence of rate is fairly uniform from Gen. 8:3 until 8:14 on the basis of הָלֹךְ וְשׁוֹב, and this only an assumption, all this observation would indicate is that the height on which the Ark grounded (from which it takes 221 days for drainage) is one and one half times the height of the lowest mountain top seen in Gen. 8:5 (from which it takes 147 days for drainage). It is

¹ The expression הָלֹךְ וְשׁוֹב (“going and returning”) has been used oftentimes to justify great tidal waves but the infinite absolute, הָלֹךְ, is employed in a figurative sense of movement in time and hence continuation. A better translation would be: “the waters withdrew in an uninterrupted fashion.” A. E. Cowley (ed.), *Gesenius’ Hebrew Grammar* (Oxford: At the Clarendon Press, 1910), p. 343; Bruce K. Waltke (ed.), *Joüon’s Hebrew Grammar* (Dallas Theological Seminary, 1967), p. 77, 78. (Mimeographed.) NB: here and elsewhere, the name Joüon occurs without the dieresis (*tréma*). This omission (more or less) seems to have been done simply due to technological limitations at the time on all parties involved. I am grateful to my student and friend, Joël Benoit Lacroix, for his assistance here, as well as Denis O. Lamoureux and the “Nerdy Biblical Language Majors” forum on Facebook (2024).

interesting to note in passing that at 16,946 feet traditional Mt. Ararat is surrounded by peaks the lowest of which is slightly over 10,000 feet. (See Chart Four.) Thus Mt. Ararat is about 1.7 times this height comparing favorably with the 1.5 figure derived from Scripture.

This second detail, however, can only act as a supporting argument to the first. By itself, it proves nothing directly about the depth. The remark on page 6 of *TGF* that “the Flood waters must have subsided hundreds of feet in order for *various mountain peaks of different altitudes* to be seen by then” (emphasis theirs) would not carry weight with proponents of a local Mesopotamian Flood unless the heights of the mountains were clearly established first.

Third detail.—A third detail of the text is handled defensively by *TGF* authors because for centuries it has been a star witness for a local Flood. It is the matter of the olive leaf in Gen. 8:11. The authors rightly note that this is a *fresh* olive leaf (page 104) and cite a professional horticulturist to show that such a sprout could have grown up on moist ground within the four and a half months between Gen. 8:4 and 8:11.¹ But the issue is whether this could also have happened with a *local* Flood,

¹ *TGF*, pp. 104–6.

besides the universal tranquil Flood in their discussion. Their answer on page 106 that the dove could not find such a sprout any time before this seems valid against any local Flood concept. Tanner's idea that "the bird found it on an unharmed tree growing on adjacent hills, perhaps 100 miles or more miles away"¹ would fit the fresh olive leaf observation but not the reasoning of Noah in 8:11b.

From the treatment of these three details it appears that Gen. 7:19, 20 is the strongest support for *TGF* thesis of geographical universality. The other arguments are not as compelling when considered in light of usual objections to universality. Unfortunately, there has been no interaction with any of these arguments by *TGF* critics. One reviewer simply glossed over them with the puzzling statement: "we simply cannot describe the character of degree or extent of this physical event; the Bible does not tell us."²

General purpose

The second hermeneutical principle concerns the

¹ William F. Tanner, "Geology and the Great Flood," *Journal of the American Scientific Affiliation*, XIII, No. 4 (December, 1961), 119.

² Arthur Kuschke, *Review of The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Westminster Theological Journal*, XXIV (November, 1961), 220.

purpose of the Flood. Was it to destroy all life—both man and animals? Or was it to destroy just mankind alone? Or was it to destroy only a portion of man? These three possibilities will be discussed under the topics: (1) the Ark; (2) extent of antediluvian man; and (3) the Noahic Covenant.

The Ark.—If the Flood was to destroy all animals as well as all men it would have had to extend over so much land surface of varying altitude, even with minimum animal dispersion, that its depth would imply geographical universality. *TGF* uses the size and the necessity of the Ark to prove that the Flood was designed to destroy all such animal life and so, by the above reasoning, was geographically universal.¹

However to deduce universality of animal destruction from the Ark requires some logical steps. The Ark must be primarily for the salvation of its inhabitants. It must be able to hold each “kind” of animal including many more than just those domesticated ones needed by man. Then the inclusion of these non-domesticated “unnecessary” animals implies that they could not have been saved by migration to another area. This in turn implies that such areas either

¹ *TGF*, pp. 10–14. Even careful exegetes like E. J. Young fail to see this necessary deduction. *An Introduction to the Old Testament* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1949), p. 60.

were to be inundated or were so far away as to be out of the ecological zone of these animals. If this latter option were true the Flood would again have to be of such horizontal magnitude that its depth would imply geographical universality.

That the Ark was primarily for the salvation of its inhabitants seems clear from לְהַחְיֶה (‘‘to keep alive’’), a *Hiphil* infinitive of purpose in Gen. 6:19; 7:3. That the Ark was able to hold two of each kind of animal is carefully shown in *TGF* on pages 10, 11, 66–69. The really large size of the Ark must be felt psychologically (see Chart Five). Boman has noted that dimensions and details of construction were very prominent in Hebrew thinking.

When we observe and study a thing we involuntarily make for ourselves an image of it somewhat analogous to a photograph. ... The Israelites, on the other hand, had no interest in the ‘photographic’ appearance of things or persons. In the culture of the Old Testament we do not find a single description of an ‘objective’ photographic appearance. ... When an Israelite sees an edifice, his consciousness is at once concerned with the idea of how it was erected. ... What interests the Israelite, therefore, is how the Ark was built and made. He talks of this the whole time, and the appearance is not directly alluded to by a single word.¹

Either these dimensions, so important to Hebrew mentality, are wholesale fabrication of the hypothetical ‘‘priestly’’

¹ Thorleif Boman, *Hebrew Thought Compared with Greek* (Philadelphia: The Westminster Press, 1960), pp. 74, 75.

writer or they are literally accurate. Since only eight humans were aboard and at the *most* only seven of each animal was taken, such an immense structure would have hardly been filled by domesticated animals alone. With respect to מין (“kind”) *TGF* follows biologists Marsh and Klotz who have held for years that one cannot equate מין and “specie”.¹ The study of Payne could have been cited which proved מין is closer to the modern “order” than “specie”.² Another supporting exegetical detail discussed in *TGF* is the usage of בְּהֵמָה (“beasts”), רֶמֶשׁ (“creeping things”), and עוֹף (“fowls”) in Gen. 6:20; 7:2, 3, 14, 21, 23, which are the same words used in Gen. 1:20–25 to indicate the entire air-breathing part of the animal kingdom.³

The argument from Ark size and need is a most impressive evidence for the planned destruction of all life—men and animals. Critics have ignored, this vital matter.

Extent of antediluvian man.—If the implications of the Noahic Covenant discussed below are by-passed and

¹ Frank L. March, *Evolution, Creation and Science* (Washington: Review and Herald Publishing Association, 1947), pp. 178–80; John W. Klotz, *Genes, Genesis and Evolution* (Saint Louis: Concordia Publishing House, 1955), pp. 72–80.

² J. Barton Payne, “The Concept of ‘Kinds’ in Scripture,” *Journal of the American Scientific Affiliation*, X, No. 2, (June, 1958), 17–20.

³ *TGF*, pp. 12, 13.

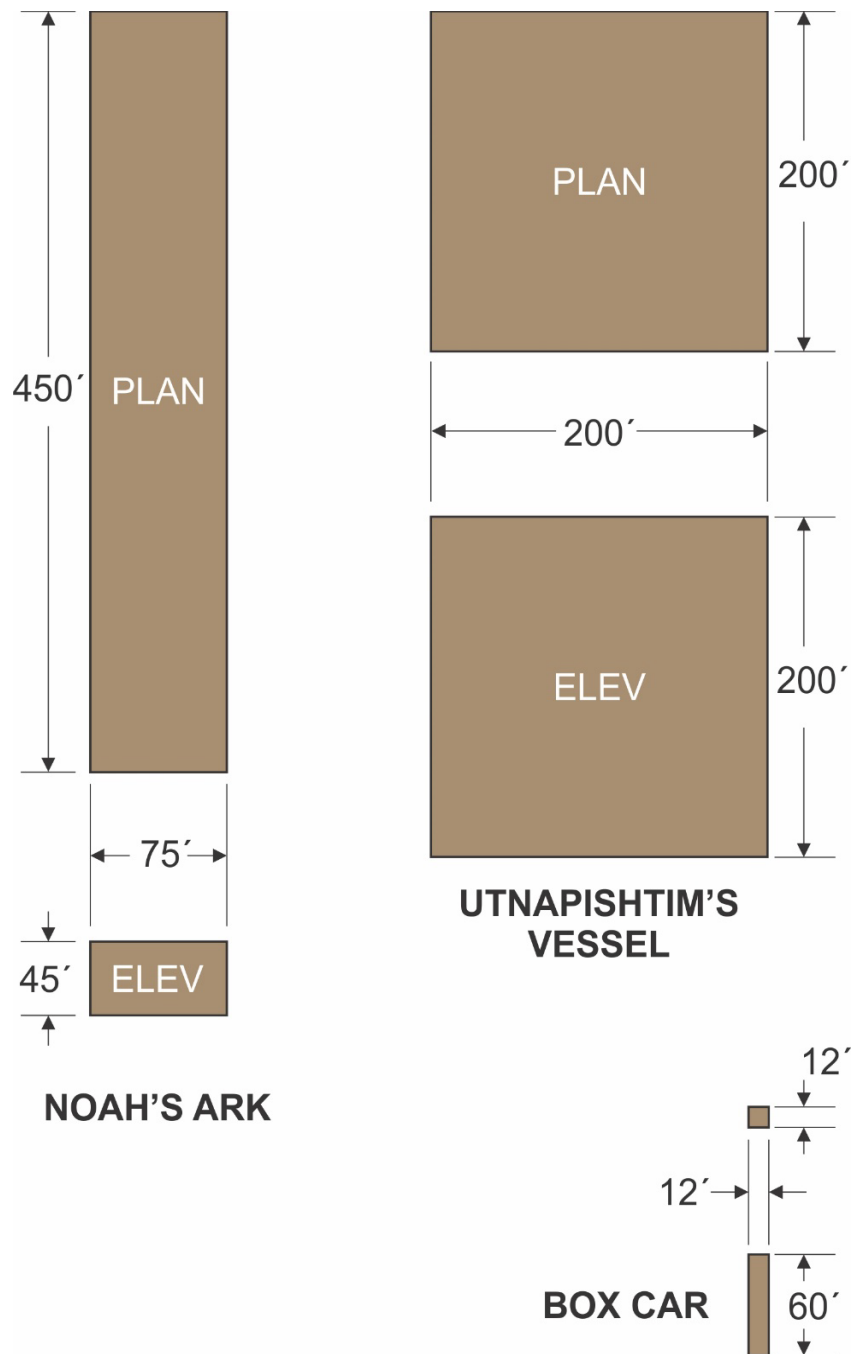


Chart Five.—A dimensional comparison of: (1) Noah's Ark (based upon Gen. 6:15 and the equivalent, one cubit=18 inches); (2) Utnapishtim's vessel (based on *Epic of Gilgamesh*, XI, 30, 57, 58 and the equivalent, one cubit=20 inches (Babylonian cubit)); and (3) a standard railroad box car.

the Ark argument above rejected, the possibility arises of a Flood intended for the destruction of the human race alone. Conceivably some disaster could have contracted the human race down to a few small settlements liable to local Flood inundation. Presumably all evacuation routes would have had to have been closed off.

TGF devotes considerable space to answering this possibility (pages 16–33) based upon hypothetical population and growth rates as supporting evidence to Gen. 6:1, 11, 12.¹ Of this argument Harris has said:

The calculation of the antediluvian population on page 26 is questionable. It is based on pure assumption and can prove nothing ... The conclusion is reasonable that men were widely spread before the Flood, but the population growth may have been greatly inhibited by disaster, disease or violence.²

Nevertheless, man would not have needed to spread very far before *some* would have occupied high ground and thus requiring a Flood of considerable depth and, logically, great global extent. This less vulnerable rephrasing would save a valuable part of *TGF* argument.

The Noahic Covenant.—The relationship between God and the Flood survivors described in Gen. 8:21–9:17 is clearly universal in application. Skinner, in fact, sees

¹ *TGF*, pp. 23–33.

² R. Laird Harris, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Grace Journal*, II, No. 3 (Fall, 1961), 37.

this whole section as a supplement to the Genesis 1 cosmogony.¹ Is this Covenant evidence against only partial destruction of mankind? LaSor thinks not because to him the whole scope of Genesis 1–11 is very much restricted to only a portion of the human race:

The Flood is a judgment centered upon the godly line. It then follows that the Flood needed to be only as extensive as the Sethite line. The survivors of the Flood, following Genesis 10, would then be the peoples of the Near East and the Mediterranean world. . . . The simple truth is that we cannot find either the Negro or the Mongoloid people in the Table of Nations. . . . It would seem, therefore, that they are simply not in view in the Flood story.

Another factor to consider is that Adam, not Noah, is the federal head of the race. . .²

TGF has adequate rebuttals on pages 22, 23, 44–46. Although the general impression of the language of the Noahic Covenant is universal enough, taken, by itself this argument is not nearly as compelling as the two cited above.

A topic needing further study in connection with mankind's total destruction is the recurrence of the "*Nephilim*" after the Flood (see Num. 13:33 where the sons of Anak were "of the *Nephilim*") and how this is related to the phrase וְגַם אַחֲרֵי־כֵן ("and also after this") in Gen. 6:4.

¹ John Skinner, *A Critical and Exegetical Commentary on Genesis* (ICC) (Edinburgh, T & T Clark Publishing Co., Ltd., 1910), pp. 168–73.

² William S. LaSor, "Was the Flood Universal?" *Eternity*, XI, No. 12 (December, 1960), 13.

Of these three considerations—the Ark, the extent of antediluvian man and the Noahic Covenant—the size of the Ark stands as most impressive and unanswerable. The Scriptural setting for the general purpose of the Flood, then, implies a Flood of such magnitude that its geographical universality is an obvious inference.

New Testament controls

After exploring the language details and the general purpose of the Flood this study concludes discussion of hermeneutics with the third item: New Testament controls. Seven times¹ NT authors mention Noah and/or the Flood. Yet in spite of Ramm's endorsement of the analogy of faith principle, that Scripture interprets Scripture,² he himself quickly passes by all of these saying: "An examination of the New Testament references to the Flood are not conclusive, one way or the other, but permit either a local or universal flood interpretation."³ Ramm is not alone. In all his study this writer *found no reference to any of these verses*

¹ Matt. 24:37, 38; Luke 3:36; 17:26; Heb. 11:7; I Pet. 3:20; II Pet. 2:5; 3:5, 6.

² Bernard Ramm, *Protestant Biblical Interpretation* (Boston: W. A. Wilde Company, 1956), pp. 125–26.

³ Bernard Ramm: *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1955), p. 249.

by any critic of *TGF*. In view of the fact that *TGF* authors frequently cite these to support their position and since it was shown above in Chapter Two that as far back as 1681 Burnet had used II Pet. 3 as the basic framework for his *Sacred History*, it is extremely surprising that no critic has discussed any of the NT passages.

On fifteen different pages *TGF* authors utilize II Pet. 3 (Their most complete discussion is on pages 14–16 plus footnote on pages 16 and 17.). There are two objections one might raise against this citation. First he could claim that κόσμος of II Pet. 3:6 refers only to a small portion of mankind which was destroyed by the Flood. However, the contrast in II Pet. 3: 5, 7 between οὐρανοὶ ἦσαν ἑκπαλαι καὶ γῆ (“the heavens *were of old* and the earth”) and οἱ δὲ νῦν οὐρανοὶ καὶ ἡ γῆ (“the heavens and the earth which *are now*”) seems to prevent such a supposition. κόσμος is here used to include heavens, earth and their inhabitants. Another possible objection would be to see this passage as referring to a catastrophe in Gen. 1:2 as do Bartoli,¹ Baxter² and Wuest.³ Two details militate against this

¹ Giorgio Bartoli, *The Biblical Story of Creation*, (Philadelphia: The Sunday School Times Co., 1926), pp. 71–72.

² J. Sidlow Baxter, *Explore the Book* (London: Marshall, Morgan, and Scott, Ltd., 1951), I, 42.

³ Kenneth S. Wuest, *In These Last Days* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1954), p. 67.

interpretation: (1) In II Pet. 3:6 Peter uses κατακλυσθεις the aorist passive participle from whose stem comes the noun form, κατακλυσμὸν, used back in II Pet. 2:5 where it clearly refers to Noah; and (2) κατακλυσμὸν is used thirteen out of sixteen times in the LXX to translate מַבּוּל the word for the Flood.

It is incredible that critics have never dealt with this passage. Certainly with such a crucial exegetical issue as the geographical universality of the Flood all efforts must be made to search out other Scripture for hermeneutical guidelines and controls. II Pet. 3 as well as Christ's use of the Flood appear to be one of the strongest exegetical evidences for the *TGF* position.

In summary, careful study of the hermeneutical principles employed in *TGF* shows that the Bible is, at the very least, teaching a Flood of such depth and destructive capability that geographical universality is a legitimate deduction. In some instances, *TGF* was not thorough enough in its presentation and in others, notably the extent of ante-diluvian man, too much time was spent proportionally when a less involved argument would have served the purpose. The three strongest arguments were: (1) great depth indicated by Gen. 7:19, 20; (2) great planned destructiveness indicated by the size of the Ark; and (3) exegetical

confirmation from II Pet. 3.

Physical Implications

Beyond direct hermeneutical principles lies another group of evidences used by *TGF*. The text makes certain statements which seem to infer physical changes in man's environment. This section deals with four items, two mentioned in *TGF* and two not discussed.

Upheaval during the Flood

The authors note that both the “fountains of the deep” and the “windows of heaven” are said to have been in operation for 150 days.

Fountains of the deep.—*TGF* identifies תְּהוֹם (“deep”) as the “oceanic depths and underground reservoirs of the antediluvian world.”¹ Harris questions the phrase, “underground reservoirs” because he wishes to avoid any semblance to the subterranean ocean of Babylonian cosmology.² The phrase is difficult since it never occurs elsewhere. However one can approach it from four directions by studying usages of תְּהוֹם (“deep”), מְצִינֹת (“fountains”), בָּקָע (“break open”), and סָכַר (“close up”)—terms used in Gen. 7:11; 8:2.

¹ *TGF*, pp. 9, 242.

² *Review*, 37.

תְּהוֹם seems to have the primary idea of depth referring to *what* usually was deep. It is used therefore of lakes and seas with deep bottoms relative to the land surface (seas in Ps. 33:7; Mediterranean in Jonah 2:5; Red Sea in Exod. 15:5; Isa. 51:10; 63:13). It is also used of underground water (Gen. 49:25; Deut. 8:7; 33:13; Ps. 78:15; Ezek. 31:4).

מַעְיָן refers to more than just a “fountain”. It seems also to include flowing water (Pss. 74:15; 104:10; Prov. 5:16; Isa. 41:18; Joel 4:18).

פָּקַע in this connection occurs with two usages. It can refer to the dividing of the Red Sea (Exod. 14:16, 21; Ps. 78:13; Isa. 63:12) or it can refer to the ground being broken open to let out water (Jud. 15:19; Prov. 3:20 (?); Pss. 74:15; 78:15; Isa. 35:6; 48:21). Of especial interest is that the other two times this verb occurs in the same form as in Gen. 7:11 it is the latter usage (Prov. 3:20; Isa. 35:6).

סָכַר only occurs several times and either refers to shutting one’s mouth (note usage Ps. 63:12) or to enclosing Egyptian society with dictatorial control (Isa. 19:4).

Putting all four words together in their context it seems to show that the phrase “fountains of the deep”

refers to subterranean water breaking forth through the land surfaces as well as through the ocean bottoms. In what sense is תְּהוֹם to be taken? If it refers only to surface bodies (lakes, seas, etc.) its occurrence with בָּקַע would suggest a division like the parting of the Red Sea. It would seem better suited contextually to take it as in Isa. 35:6 (“waters breaking out of the ground”)—the same kind of action but on an immensely larger scale. סָכַר, in this case, seems to fit better.

Windows of heaven.—The other term, אֶרְבַּת הַשָּׁמַיִם is also rare. It is used in Isa. 24:18 for God’s special end-time wrath and in Malachi for an unusual blessing. In II Kings 7:2, 19 it appears as facetious hyperbole. These other references mildly suggest that the rain causing the Flood was not normal.

Of the two terms “fountains of the deep” is more impressive in an obvious way. Interestingly a persistent feature in many Flood legends testifies to burning hot water welling up through great cracks in the ground.¹ Apparently there was, then, great upheaval throughout the Flood period.

¹ Paul Isaac Herson, *Genesis: With a Talmudic Commentary*, trans. M. Wolkenberg (London: Samuel Bagston and Sons, 1883), p. 208. See also many stories in James George Frazer, *Folk-Lore in the Old Testament* (London: Macmillan and Co., 1919), I, 104–361.

Apparent changes in the atmosphere

An old argument rephrased in *TGF* is that the ante-diluvian atmosphere substantially differed from the present system.¹

Upper canopy.—Existence of a great high altitude water vapor canopy has been suggested for years² usually as the basis of the remark, “waters *above* (מַעַל) the firmament” in Gen. 1:7. However occurrence of this exact phrase in Psalm 148:8 suggests that it may possibly refer to normal atmospheric water vapor. מַעַל can mean “from off of”³ and would then be a phenomenal label for water vapor “from off of” the dome of the sky.

No rain.—Gen. 2:5, 6 suggests that the hydrological need of antediluvian plant life was met by טָל (“mist”) rather than rainfall. Stable, humid conditions might have prevailed near the ground rather than the present more vigorous, more vertically distributed hydrologic cycle.⁴ If

¹ *TGF*, pp. 215, 241.

² See Ramm, *Christian View*, pp. 234–35 and note 78, p. 234.

³ E.g., Gen. 38:14; 41:42; I Kings 20:41.

⁴ The word, טָל, in Gen. 2:6 is debated. E. A. Speisor [sic] has presented five compelling reasons from Akkadian sources for taking the word as denoting water breaking through the ground surface. “ED in the Story of Creation,” *Bulletin of the American Schools of Oriental Research*, No. 140 (December, 1955), 9–11.

Gen. 9:13, 14 refers to the first occurrence of the rainbow, this hypothesis would be supported. Complete rainbows can only form when there are water droplets of a diameter greater than 0.30 millimeters distributed in the atmosphere.¹ Such droplets are nearer the size of falling rain than suspended cloud droplets.² Thus the optical rainbow phenomenon is intimately tied up with the hydrologic rainfall phenomenon. If there are no droplets large enough to fall as rain, there will be none of the optical effects we call a rainbow. Gen. 2:5, 6 and Gen. 9:13, 14, therefore, present data from which it is possible to deduce two phenomena that are independently physically related.

Climate change.—The mention of seasons for the first time in Gen. 8:22 could mean that they began after the Flood. If so another independent yet physically related phenomena can be deduced from the text. Lack of seasons would suggest a very slight pole-equator temperature difference. This would also be the most likely effect of an upper vapor canopy and certainly would be a prerequisite

¹ Red fades out for droplets below this diameter. See John C. Johnson, *Physical Meteorology* (New York: John Wiley & Sons, Inc., 1954), p. 184.

² Shower rain has been observed to range from 0.50 to 4.00 mm. in diameter. *Ibid.*, p. 220.

for a no-rain type of circulation.¹

Thus Scripture, while making no definitive statement, provides several isolated texts which, when compared physically, make the idea of a global atmospheric change possible.

Decree of stability

The third item mentioned in *TGF* involves a frequently quoted Scripture reference. Four times in *TGF* Ps. 104:6–9 is cited as a parallel to the Noahic Covenant and to indicate postdiluvial orogenic activity.² The question here is whether or not the assurance of stability in the physical environment promised in Gen. 8:21–22; 9:11–17 is the same subject as mentioned in Ps. 104:5–9 and parallel passages. If it is, there are some radical exegetical conclusions about the place of the Flood in primal history. If it is not then the Flood was a discontinuity in an otherwise stable regime.

Ps. 104:6–9 is paralleled by Job 38:8–11 and clauses

¹ With no temperature differences air masses would be of similar densities and therefore air movements leading to precipitation would be minimal. These qualities have been discussed by a professional meteorologist, A. James Wagner in “Some Geophysical Aspects of Noah’s Flood,” (Unpublished private research paper, Department of Meteorology, Massachusetts Institute of Technology, 1961), pp. 6, 7.

² *TGF*, pp. 77, 122, 267, 269.

found in Jer. 5:22; Prov. 3:20; 8:22–31. These passages have always been taken as referring to the creation-work of the second day (Gen. 1:9, 10). To claim Ps. 104:6-9 refers to the Flood necessitates a change in all of the other passages because they are all related conceptually.

Ps. 104:6–9.—After describing God with a series of participles (vs. 1–4) the Psalmist denotes a series of actions with the perfect (v4 יָסַד, (“laid the foundation”), v5 כִּסָּתוֹ (“coverd it”), v7 יָסַדָּהּ (“founded”), and v9 שָׁם (“set”) apparently denoting the related acts of *founding* the earth, *covering* it by the deep and *setting up the bounds* of the waters. What immediately follows is a description which most commentators have seen as continuing the seven days work. Verse 8a, used often in *TGF*, is the most grammatically ambiguous verse of the passage. Perowne gives a good discussion which boils down to saying that either the waters are going down or the hills are going up and the grammar is totally ambiguous.¹

Job 38:4–11.—This passage speaks of the founding of the earth (יָסַד) and then (*waw consecutive* construction) the shutting up of the sea in close context with a decree (פֶּקֶד) put upon the sea to confine it. Proverbs 8:22–31

¹ J. J. Steward Perowne, *The Book of Psalms* (London: George Bell and Sons, 1874), II, 238.

is similar.

Two choices are possible. Either this decree (חֹק) is part of the Noahic Covenant (בְּרִית) or not. If it is identical to Gen. 8, 9 this would mean that the whole “creation complex” of ideas refer to the entire Gen. 1–9 period and not just the seven days. Looking back from this time in history God made various things (earth, sea, heavens) but some did not reach their present form until postdiluvial times. But this option runs into Gen. 2:1–3 and the doctrine of a finished creation.

If the second option is chosen the Flood either is local and the great “tehom” does not cover over the entire planet (which contradicts the evidence cited above) or the Flood is universal but the only one of its kind. This is an exegetical problem requiring further study but it can be said that *TGF* did not handle Ps. 104 well from the standpoint of Bible interpretation. For the present it seems safe to say that Psalm 104 refers to creation, not the Flood. The Noahic covenant is a promise to men (בְּרִית); the decree of Ps. 104 and Job 38 was set when there were no men (Job 38:4). It certainly seems the two are different. The first is clear in content and meaning. This writer is not yet so sure what is the content and meaning of the Ps. 104, Job 38 decree. Thus the physical implications of

Ps. 104:6-9 are questionable.

Longevity decline

The apparent change in human longevity after the Flood (see next chapter), however, offers clear support for a global change in man's physical environment. Something must have happened to man's diet (major alteration in plant and animal kingdoms), to the air he breathes¹ or to possible background radiations in order to radically lower man's longevity.

At least three items, upheaval during the Flood, changes in the atmosphere, and changes in man's environment bespeak a global catastrophe which would be expected to accompany a geographically universal Flood. Only when these textual details are studied does the real magnitude of the catastrophe dawn on the student. Genesis is deceptive in this respect because it is so highly elliptical. The curse mentioned so briefly in Gen. 3:14–19 is developed in Rom. 5:12–14; 8:19–22 and Rev. 22:3 with far more implications. The ministry and teaching of the antediluvian patriarchs are never mentioned in Gen. 4 and 5. Yet Jude 1:14–15 gives a mass of information about what they knew and how

¹ Patton has an intriguing theory of ozone change. Donald W. Patton, *The Biblical Flood and the Ice Epoch* (Seattle: Pacific Meridian Publishing Co., 1966), pp. 214–20.

they lived. The Fall of Satan and his demons is never mentioned in Genesis yet we know it happened. In this light, then, a student would be well advised to milk every textual detail for all its worth. Nevertheless these physical implications are not definitive and do not, in themselves, prove the universality of the Flood. They are useful only as supporting arguments.

Summary

The highly crucial first thesis of *TGF* has been confirmed. Normal exegetical procedure yields a geographical universal Flood from the text. The strongest arguments were: (1) Great depth implies universality by hydrodynamic equilibrium; (2) Great Ark size indicates a complete cross section of living beings were to be saved, strongly implying global destruction; and (3) Apostolic interpretation in II Pet. 3:5–7 confirms this exegesis.

In addition the first thesis is supported by the physical implications drawn from the text. Since the Genesis account is so abbreviated, these are more important than they would be otherwise. Given the style of Genesis, one would not expect any more than these few indications of massive changes.

Some of *TGF* arguments were only mildly supportive

and in the case of Ps. 104, appeared to have exposed an exegetical problem meriting further study.

Since the Scriptures teach a geographically universal Flood and no critic has met the arguments proving this thesis, the authors are correct in saying that present historical science cannot be harmonized with Scripture. The basic conflict, which centers on this thesis, remains in spite of all attempts to diminish the Flood to less controversial dimensions.

CHAPTER IV

THE SECOND THESIS:

RECENT OCCURRENCE

By now it should be appreciated that the main crisis between the historical sciences and the Genesis record is reached at the point of asserting a geographically universal, year-long, catastrophic Flood. The dating of this critical event is a further problem but after the confrontation over universality has been passed chronology is a secondary issue. As noted previously, *TGF* proposed solution (Flood Geology) so radically alters existing schemes of reconstruction by the historical sciences, in order to permit a universal Flood, that chronological problems based upon uniformitarian datings (e.g., stratigraphy, radiocarbon, etc.) are irrelevant considerations. The only dating systems that survive *TGF* sweeping reorganization are actual human records.

In the last analysis, the only really reliable recorder of time is man himself. In any kind of natural process that might be used to determine past time, there is always the possibility that the rates may have changed as well as uncertainty regarding its initial condition ...

And it is, therefore, highly significant that no truly verified archeological datings antedate the time of about 3000 B. C. ... Larger dates are of course frequently ascribed to various localities and cultures, but they are always based on radiocarbon

or other geological methods rather than written human records. . . .¹

Therefore to appraise logically their second thesis, that a geographically universal Flood must have occurred between 7000 B. C. and 4000 B. C., the following discussion deals with evidence from only human records. There will be three parts to the examination: (1) the authors' arguments for gaps in the genealogies of Genesis 11; (2) their argument for a limit of about 7000 B. C. as a *terminus a quo*; and (3) the argument from analysis of the longevity decline in Genesis 11.

Arguments for Genealogical Gaps

If the genealogical list of Genesis 11 is complete then it is a simple matter to date the Flood. Traditionally the Flood has, indeed, been so dated but during the “later response” period mentioned above in Chapter Two when a lengthy human history was required, the “mild concordists” looked for gaps in the chronologies. Green of Princeton published a paper in 1890 that has been the fountainhead for a stream of controversy throughout this century.² He claimed that gaps did exist and it could be proved so

¹ *TGF*, p. 393.

² William Henry Green, “Primeval Chronology,” *Bibliotheca Sacra*, XLVII, No. 186 (April, 1890), 285–303.

exegetically. Many of his arguments appear in the first part of *TGF* Appendix II where the authors attack the idea of a strict-chronology interpretation of Genesis 11.¹ The critique of these arguments by a recent defender of the strict-chronology interpretation, H. David Clark,² gives an opportunity to test the strength of the eight arguments listed in *TGF*.

Numbers of years not totaled

Since Moses never totaled up the sum of years from Adam to the Flood to Abraham his purpose could not have been to give a chronology. So claim the authors. Clark has an able reply:

These same authors (not referring to *TGF* in particular) would not hesitate to deduce the age of Terah at the birth of Abraham when it is not explicitly given in Scripture. All the deductions which could be made within its pages. ... Of all the arguments put forth by those who hold to gaps within the fifth and eleventh chapters of Genesis, this is perhaps the most fallacious.³

One might add that it is especially fallacious for authors who in the same book are contending that one can deduce facts from Scripture which are outside of the main purpose

¹ *TGF*, pp. 474–83.

² H. David Clark, “The Genealogies of Genesis Five and Eleven” David Seminary, (unpublished Th. D. dissertation, Dallas Theological Seminary, 1967).

³ *Ibid.*, pp. 130–31.

for writing.

Cainan not in Massoretic text

The name, “Cainan” appears between “Shelah” and “Arphaxad” in the Septuagint text of Gen. 11 and in Luke 3:36. Clark’s rejoinder against this implication that Gen. 11 is incomplete, points to the *consistency* of omission by the MT in Gen. 10:24; I Chron. 1:18, 24 and the *inconsistency* of insertion by the LXX which omits the name in I Chron. 1:24. “It would be very hard to explain why the name was dropped from the Massoretic text,” Clark notes.¹ Furthermore, although manuscript evidence for the Cainan reading in Luke 3:36 is overwhelming, Codex D, which usually conflates, does not have the reading. Since the discussion is both an old and unproductive one Clark states: “It must be concluded that the concept of gaps in Genesis five and eleven cannot be erected on such a shaky foundation.”²

Another criticism of the *TGF* presentation is the authors’ statement: “The Septuagint *does* give us the full list of *names* as they appeared in the original Hebrew text ...” (Emphasis theirs).³ If this is so, which cannot satisfactorily be proved, they have not shown that Moses

¹ *Ibid.*, p. 95. But the LXX is in bad shape at this location so it: is not a fair criticism of the LXX.

² *Ibid.*, p. 97.

³ *TGF*, p. 475. NB: in the original thesis, the word ‘theirs’ was written with an apostrophe here and elsewhere. One also notes that the word Nephilim throughout this thesis was also spelled as niphilim.

intended the genealogies for something else than strict chronology. All they have done is point to a routine textual problem that exists for one name out of the ten. Comparison with the rest of the list shows that a Flood date would not be affected by more than 50 years either way. This argument is not really determinative.

Genesis 5 and 11 are symmetrical

Noting a complete symmetry between Gen. 5 and 11 the authors suggest that it may be an artificial literary device, as most definitely occurs in Matt. 1. But as their last sentence suggests (page 476) this is only a indeterminable possibility for without another source-list how can the symmetry be chalked up to natural or artificial causes? Again, the argument appears weak.

Surplus of information given

There are so many purposes evident in the genealogies “that have nothing to do with the actual length of the overall period, it is unnecessary to press them into a rigid chronological system.”¹ However the issue is whether they *can* be so pressed. This observation does not answer to the issue.

Post-diluvian patriarchs living with Abram

¹ *Ibid.*, p. 477.

If there are no gaps in the genealogies, the authors argue, all the post-diluvian patriarchs were still living in Abram's day and the statement in Josh. 24:2, 14, 15 "implies they had all fallen into idolatry by then. This conclusion is surely wrong."¹ Clark does not think it is surely wrong. They very well could have continued the downward trend seen in Noah (Gen. 9:20–21).²

Babel judgment far before Abram

The sixth argument for gaps in the genealogy in *TGF* is that the Babel judgment must have preceded Abram by a very long time in order to account for such a diversity of cultures and established cities.³ Clark accuses such argumentation as being self-contradictory because, the very same people refuse to accept similar "impressions" about the strict chronology of the lists yet here argue on the basis of subjective impressions themselves.⁴

Fortunately some objectivity can be put into the discussion by population statistics. As Morris has shown⁵ the

¹ *Ibid.*, p. 478.

² Clark, pp. 143, 4, 9. Cf. *Book of Jubilees*, chapters 8–10 where just such a thing is proposed concerning the fathers.

³ *TGF*, pp. 478–79.

⁴ Clark, p. 139.

⁵ Henry M. Morris, "World Population and Bible Chronology," *Creation Research Society Quarterly*, III, No. 3 (October, 1966), 7.

population of any given generation stemming from an original pair, if none have died, is:

$$\frac{2(c^{n+1} - 1)}{(c - 1)}$$

where “c” is the number of boys or girls in each offspring (total children would be “2c”) and “n” is the number of the generation. If one starts with Shem, by strict chronology Abram was the ninth generation removed. Thus n = 9. Many writers have guessed at a value for “c”¹ but it would seem most logical to take the average number of boys mentioned in Gen. 10 per family. This comes out to approximately 5.8. Since n = 9 and c = 5.8 the generation of Abraham would have over 53 million people.² This assumes none have died, which is what a strict chronologist would accept as a general rule (see previous argument above).³ By contrast in Peleg’s generation, when the Babel judgment apparently occurred, there would have only been slightly under 20,000

¹ Keil takes c=4 in C. F. Keil and F. Delitzsch, *Biblical Commentary on the Old Testament: The Pentateuch* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1959), I, 178.

² This computation is run from any one of the three sons of Noah and then multiplied by three.

³ Why this accumulates so fast is not just because of a geometrical progression but because of the longevity. Until the longevity declines substantially, so many past generations are present at any given time that the total number of people becomes very large.

people. These figures compare reasonably with recent population levels in the Middle East: Iraq (7.0 million), Syria (5.4 million), Israel (2.5 million), Jordan (1.8 million) and Egypt (28.9 million).¹ Therefore on a strictly *numerical* basis a gap is not required to account for vast population. The great question is whether or not there was time for the cities to be established and cultural boundaries to be set up.

This argument should have been approached with the same objectivity which characterized the *TGF* treatment of the antediluvian population issue. For here, unlike that period, the value of “c” can be reasonably well estimated. Still, the authors have pointed to a definite interpretive problem that merits further attention.

Messianic Links not firstborn sons

To grasp the issues involved here it is best to note the formula repeated for each patriarch in Gen. 11:

And A lived x years and begat B .

And A lived after he begat B , y years.

That “ $x + y$ ” gives the total life span of A seems obvious from Gen. 5, where a third part is added:

And all the days of A were $x + y$ years.

¹ All these figures are from the period 1950–1965.

The question is, who is *B*? The next two arguments in *TGF* concern this question.

The authors state: “*not one* of the Messianic ancestors in Genesis, whose family background is known in any detail ... was a firstborn son.”¹ Thus they wish to show that instead of *B* being born to *A* after “*x*” years it was the first born son. *B* followed later but the time of his birth falls at an undetermined time between “*x*” and “*x* + *y*”. They refer to the Terah-Abram link in Gen. 11:26, 32; 12:4 and Acts 7:4, the Noah-Shem link and the Shem-Arphaxad link where the chosen seed, *B*, is not born after “*x*” years but the first born son, brother of *B* is born. Clark counters this by showing that the first two examples occur in the same corresponding end positions in Gen. 5 and 11 and do *not* have the same formula but a different one:² “*A* lived *x* years and begat *B*, *C*, *D*.” *B*, *C*, and *D* are not given in chronological order (Sec Gen. 5:32; 10:1).

A convincing counter-example by Clark is Gen. 5:3–5. Here Adam, the father, is said to have begotten Seth after “*x*” years. Obviously “*x*” does not refer to the birth of his first son, Cain, but to the birth of the Messianic seed, Seth. This example is very important because it *does* have the characteristic formula and stands at the head of

¹ *TGF*, p. 480.

² Clark, p. 110.

the genealogical lists. It appears, then, that the Messianic Seed and not the first born son is born after “x” years.

The term “begat”

Whereas the previous argument sought to show that instead of *B* being born after “x” years it was the firstborn son, this argument seeks to show that it was an ancestor of *B*. The authors present very convincing evidence from Matthew and Numbers to show that יָלַד does not mean begetting an immediate son, but can mean begetting the ancestor of the name given. Clark’s reply is that בְּרָאָה when used in the *Hiphil* stem always refers to a direct father-son link. When more remote links are meant either the *Qal* or *Niphal* stems occur.¹ Nevertheless this begs the question somewhat since many of the *Hiphil* occurrences are in the very lists under question. Furthermore the LXX translation of Gen. 5 and 11 has the same structure (forms, vocabulary) as Matt. 1 where there are ancestral links.

An argument raised in *TGF* not answered by Clark concerns the expression, “in his days the earth was divided” (כִּי בְרָאָה Gen. 10:25) used of Peleg. Since כִּי בְרָאָה everywhere else refers to a time period characterized by the

¹ *Ibid.*, pp. 99–102.

reign or dominance of one person, one does wonder why this is used of Peleg when by strict chronology all the previous patriarchs were living. Perhaps an answer might be that they had all grown corrupt by this time and Peleg was the only one in God's will at this time. This problem plus that of the sudden drop in ages (see below) convinces this writer with the authors: "At least in *this* section of Genesis 11 we have warrant for assuming that the term "begat" is to be understood in the ancestral sense."¹

Archeological record

Though not one of their eight explicit arguments for gaps, the pressure of the archeological records (written lists, etc.) is felt by the authors on page 474. Kitchen agrees:

The (strict chronological Flood date of ca. 2300 B. C.) ... is excluded by the Mesopotamian evidence, because it would fall some 300 or 400 years *after* the period of Gilgamesh of Uruk for whom (in both Epic and Sumerian King List) the Flood was already an event of the distant past.²

Thus, by the authors' own allowable criteria, the testimony of actual human records dictates a Flood date before 2300–2500 B. C.

However it would be wrong to see the existing

¹ *TGF*, p. 482.

² K. A. Kitchen, *Ancient Orient and Old Testament* (Chicago: Inter-Varsity Press, 1966), p. 36.

chronologies for Ancient Near Eastern civilization as absolutely infallible. Velikovsky's recent challenge to the existing scheme, if ever proved, would lower Egypt chronology, to say nothing of other synchronized chronologies, by 600 years.¹ The detailed correspondence between Papyrus Ipuwer and conditions in Exodus 7–12, pointed out by Velikovsky, were so convincing to Garstang that he admitted a common origin.² Velikovsky argued that since philologically Papyrus Ipuwer was Middle Kingdom, yet historically it described the Hyksos invasion, it must have been written at the very beginning of the Hyksos invasion which closely *followed* destruction of the Middle Kingdom by the events described in Exodus 7–12. When challenged by Pfeiffer to prove his hypothesis on archeological art material and pottery Velikovsky claims to have done so but has not yet published this crucial part of his work.³ All this, of course, does not disprove existing chronologies but it does teach one to avoid relying *totally* on such material.⁴

¹ Immanuel Velikovsky, *Ages In Chaos* (Garden City: Doubleday and Company, 1952), pp. xxi–xxiv. For an example of how vigorously Velikovsky's proposals have been rejected in this area see W. F. Albright, Review of *Ages In Chaos* by Immanuel Velikovsky, *The New York Herald-Tribune* (Book Review Section), April 20, 1952, p. 6.

² Velikovsky, p. xiii.

³ *Ibid.*, p. xiii.

⁴ In Chapter Six below it will be found that comparisons with present Egyptian chronology by Carbon 14 dating yields errors which *may* indicate that they are over-inflated.

Of the arguments in *TGF*, then, pointing to gaps in the genealogical lists the archeological records problem seems the most compelling. Either the writer made a mistake, existing archeological chronologies are off by hundreds of years or there are gaps somewhere in the lists. With respect to the lists, *per se*, the argument concerning Peleg and the argument concerning conditions in the land at the time of Abram's immigration most strongly suggest gaps. The other arguments are only supportive, not determinative. It would seem, therefore, that there are problems in dating the Flood by the genealogies but that these problems may be due to a gap probably at the Peleg link in the list.

Arguments for the *Terminus A Quo*

Having shown that there may be gaps in the record *TGF* authors next argue for a limitation on these gaps. Four arguments follow which involve this issue.

Analogy of Biblical chronology

The authors chided Kuschke when he criticized their insistence upon outer limits: "He has apparently not read the arguments of Appendix II which show why Genesis 11 cannot be stretched beyond certain limits."¹ At the center of

¹ Arthur Kuschke, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Westminster Theological Journal*, XXIV (November, 1961), pp. 218–23. Reprinted in *Journal of the American Scientific Affiliation*, XVI, No. 2 (June, 1964), pp. 218–23. Authors reply, *Journal of the American Scientific Affiliation*, XVI, No. 3 (September, 1964), p. 30.

the controversy was the analogy of Biblical chronology” argument since Kuschke had quoted from the Princeton tradition which, since Green’s paper, had held that analogy with Scripture permitted unlimited stretching.

The question is: what is the usual frequency and duration of gaps in other genealogical listings? The duration of the other gaps is certainly not in the order of thousands of years as pointed out in *TGF*. Another feature, which they do not point out, is that gaps are an exception to the rule. In Matthew 1 only two have been suggested (Matt. 1:8, 11) out of fourteen giving a low frequency of occurrence. Neither of these parameters would suggest unlimited stretching.

In the end one principle remains. How analogous are the Gen. 5 and 11 genealogies with others? To a certain degree Clark had to argue above that they are not sufficiently analogous to transfer the gap-characteristic of the others over to Gen. 5 and 11. This is a two-edged sword because Green and Warfield argued that they are not sufficiently analogous to transfer the limitations of the others

over to Gen. 5 and 11¹. The difference is that Clark had exegetical evidences whereas the Green–Warfield hypothesis had none.

It seems then, that the *TGF* argument is reasonable exegetically and that if unlimited stretching is really the correct view, a precedent has been set which casts serious doubt on the definitive nature of exegesis.

The short Flood-Babel period

Another argument in *TGF* concerns Gen. 11 particularly.

That God’s judgment upon Babel took place not more than a millennium after the Flood is suggested by the fact that the world’s population was still confined to one comparatively small area of the earth at that time.²

This argument is thoroughly supported by the mathematics of population increase. Even if all the generations from Noah to Eber by Peleg’s time had died off the longevity figure given for Peleg shows that man’s lifespan was still over 200 years (Gen. 11:18, 19).³ Since a new generation

¹ Warfield’s controversial article following Green has been republished in *Biblical and Theological Studies*, ed. Samuel G. Craig (Philadelphia: The Presbyterian and Reformed Publishing Company, 1952), pp. 238–61.

² *TGF*, p. 486.

³ Gen. 11 longevity figures are taken as representative of mankind’s longevity for reasons explained later in this chapter.

consistently appears in Gen. 11 every 31 years on the average, this means that *over* six generations were present at the Babel judgment. The greater the gap(s) before Peleg the larger these six generations became because they are removed from the original Shem-Ham-Japheth generation that much farther. It will be remembered that generation size grows in geometric proportion to its distance from the original generation. Therefore, the period between the Flood and Babel must be kept as short as possible to keep the world's population confined to a comparatively small area if the Babel judgment requires this.

Patriarchs and the Old Stone Age

The third *TGF* argument, strongly dependent upon the second, is that the possible locations for any gaps in Gen. 11 has now been limited to the Reu-Serug-Nahor period.¹ This period coming after Babel must be diverse in language and culture. Comparison with the usual uniformitarian anthropological historical reconstructions, shows that there are definite limitations on how far back such diversification occurs. Such “high culture” must be relatively recent and thus prohibits unlimited stretching backward in time.

The basic issue in question is: how primitive can the Scripture's picture of pre-Abram life be made? A very

¹ *TGF*, p. 487.

similar situation exists for Gen. 4, 5 (note 4:17–22) over which there has been much discussion within evangelical scientific circles. A Christian anthropologist, James O. Buswell III has insisted for years that the Scriptures allow unlimited stretching (following the Green–Warfield hypothesis), but when confronted with the issue of “high culture” recently, went on to insist, not only upon unlimited stretching, but upon “a radical reinterpretation” of Gen. 4, 5.¹ Gen. 4 must be “primitivized” down to conform to present anthropological reconstructions. To refute the *TGF* position on Gen. 11 a similar radical reinterpretation must be made. This path of radical reinterpretation begins first with the Green–Warfield unlimited gap idea and now continues with successive modifications at every point where Genesis seems at odds with modern historical science.

Obviously such a technique dissolves legitimate exegetical procedures and leaves one with a heuristic interpretation always subject to change with the latest view of

¹ “A radical re-interpretation of these passages would not involve a fraction of the doctrinal jeopardy consequent upon a discontinuity in the unity of the human race which is demanded ... by placing Adam ... with human populations living long before.” James O. Buswell III, Letter to the Editor, *Journal of the American Scientific Affiliation*, XIX, No. 2 (June, 1967), 62. See March 1966 and December 1966 for the antecedents of this exchange.

historical science. As with the analogy of biblical chronology” argument it must be said that if there is such a thing as definitive exegesis *TFG* position is vindicated.

Babylonian Flood traditions

Wright originally argued for a recent Flood based on Babylonian parallels.¹ Ramm repeated it² and it appears in *TGF*.³ Buswell, in reviewing Ramm’s book, indicated that the argument has not always been clearly presented:

It is not clear from Ramm’s discussion nor from Wright’s just what the Genesis and Babylonian parallels have to do with the flood’s being necessarily later than 10,000 B. C. Certainly it occurred before the writing of the tablets and of Genesis, but there seems to be no reason why, from Ramm’s data, it could not have been earlier than the dispersal of mankind to America.⁴

The argument is based upon the observation that writing did not begin until the fourth millennium B. C. If the Flood account occurs in Babylonian and pre-Babylonian Sumerian literature and the Flood was millennia before this time, how could it have been orally transmitted over the vast time

¹ G. F. Wright, “The Deluge of Noah,” *International Standard Bible Encyclopedia*, ed. James Orr, II, 821–26.

² Bernard Ramm, *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1955), pp. 238–40, 248–49.

³ *TGF*, pp. 40–42; 49–51; 488.

⁴ James O. Buswell, III; *Review of The Christian View of Science and Scripture* by Bernard Ramm, *The Journal of the A. S. A.* VII, No. 4 (December, 1955), 5.

period?

The chief weakness in this argument is that no one knows how the Biblical traditions were handed down accurately.¹ Until the path of Biblical tradition has been historically traced it is whole conjecture to speculate on how the Sumerians could or could not have gotten their account.

A further complication in this argument appears when one realizes that it is a matter of an entire complex of historical records, including antediluvian longevity, postdiluvian decline, and a suspiciously “tailored” Flood narrative.² Lambert has stated:

The very considerable importance of this material is the proof that it offers that the whole framework of the Hebrew tradition in Gen. i–xi and not just the episode of the flood, has its counterpart in Sumerio–Babylonian legend.³

The Babylonian Flood occurs as an event in the Sumerian King List which scholars now believe is a fairly reliable

¹ The problem has caused Catholic scholars to drop the idea of a “primitive tradition.” See Roderick, A. F. MacKenzie, S. J. “Before Abraham was ... *Catholic Biblical Quarterly* XV, (1953), pp. 131–40.

² It will be shown below how the ages of the Sumerians ·kings involved on either side of the Flood look artificial. It also seems that the Babylonian Flood has been scaled down (only six days} to dimensions more like a river flood.

³ W.G. Lambert, “New Light on the Babylonian Flood,” *Journal of Semitic Studies*, V, No. 2 (April, 1960), p. 116.

list of real Sumerian rulers.¹ Mallowan has shown, by correlating the kings involved, that the Babylonian Flood was a local Flood about 2900 B. C. affecting only one or two of the Sumerian city states (Kish and Shuruppak).² In other words there are parallels between the Sumerian records and the Bible which extend far beyond just the Flood itself. If these are pressed without careful study one winds up with a local Flood set in a real historical framework, yet with strange features like immense depth (the Mt. Nisir grounding site at 9000 feet)³ and catastrophic changes in longevity (see next section).

In view of the largely unknown meaning of much of the Babylonian Flood narratives and their recessional history⁴ it seems unwise to treat them more specially than other Flood legends when using them to “prove” a recent date for the Flood of the Bible.

The best controls, therefore, brought forward in *TGF*

¹ Kitchen, p. 40.

² M. E. L. Mallowan, “Noah’s Flood Reconsidered,” *Iraq* XXVI (1964), p. 81.

³ Alexander Heidel, *The Gilgamesh Epic and Old Testament Parallels* (Chicago: The University of Chicago Press, 1946), p. 250.

⁴ See article above by Lambert and also his article, “A New Look at the Babylon Background of Genesis,” *Journal of Theological Studies*, XVI (October, 1965), pp. 285–300.

to limit the gaps are: analogy with the scriptural pattern of chronological gaps and the “high” level of culture seen in Gen. 11. If the Babel narrative implies a confined human population a third argument is useful based upon population growth of unusually long-lived generations. The Babylonian argument should be reserved for a time when more is understood about those accounts.

Analysis of Longevity Decline

Repeatedly throughout this and the previous chapter the topic of longevity has come into the discussion. In Chapter Three it was used to suggest an effect of the Flood that demands a catastrophic explanation. In this chapter it played a major role in deciding how many gaps are tolerable in Gen. 11. Although the authors of *TGF* never followed up on their observations regarding longevity¹ recent authors have pointed to a strange characteristic in the longevity decline that may carry very strong apologetic potential.² This section will contrast the Hebrew and Babylonian data to expose the issue and then report the analysis made by a student of Prof. Whitcomb.³

¹ *TGF*, pp. 399–405.

² Donald W. Patton, *The Biblical Flood and the Ice Epoch* (Seattle: Pacific Meridian Publishing Co.), 1966, p. 216.

³ James R. Overman, “The Date of the Genesis Flood” (unpublished paper in Pentateuch Course, Grace Theological Seminary, 1965).

Hebrew versus Babylonian data

Since the Babylonian-Sumerian corpus of Flood material forms one complex parallel to Gen. 1–11, it can serve as a comparative tool in studying longevity. The relative authenticity of the Scriptural records quickly emerges when this is done.

Chart Six gives the fantastically long reigns of Sumerian antediluvian kings from the four available sources. Finkelstein has recently concluded from these that Sumerian scribes possessed two separate traditions—an antediluvian name sequence and antediluvian length-of-reign figures.¹ The numbers, all multiples of 60, were variously assigned to different kings. One immediately suspects the scribes of constructing artificial numbering schemes. Gen. 5, by contrast, has numbers given to the nearest integers and has no complete scheme of multiples.² It must be a more realistic (or more sophisticated) tabulation.

¹ J. J. Finkelstein, “The Antediluvian Kings: A University of California Tablet,” *Journal of Cuneiform Studies*, XVII (1963), p. 51.

² David E. Y. Sarna has found a prevalence of multiples of 5 in the MT of Gen. 5 but not with every number. “A Computer Analysis of Chronologies in Genesis,” *Proceedings A. C. M. National Meeting*, 1967, pp. 301–309.

Text WB 444			Text WB 62	
Alulim	28,800		Alulim	67,200
Alalgar	36,000		Alalgar	72,000
Enmenluanna	43,200		... Kidunna	72,000
Enmenluanna	28,800		... gimma	21,600
Dumuzl	36,000		Dumuzl	28,800
Ensipazianna	28,800		Enmenluanna	21,600
Enmendurankl	21,000		Ensipazianna	36,000
Ubartutu	18,600		Enmenduranna	72,000
			Suruppak	28,800
			Ziusudra	36,000
Total: Kings—8 Years—241,200			Total: Kings—10 Years—456,000	
Text UCBC 9-1819			Berosos	
Alulim	36,000?		Aloros	36,000
Alalgar	10,800		Alaparos	10,800
Ammeluanna	36,000		Ameton	46,800
Ensipazianna	43,200		Amenon	43,200
Dumuzl	36,000		Megalasos	64,800
Enmedorankl	6,000		Daonos	36,000
Ubartutu	?		Amempsino	36,000
Zusudra?	10,000		Xisuthros	64,800
Total: Kings—8 (?) Years—186,000			Total: Kings—10 Years—432,000	

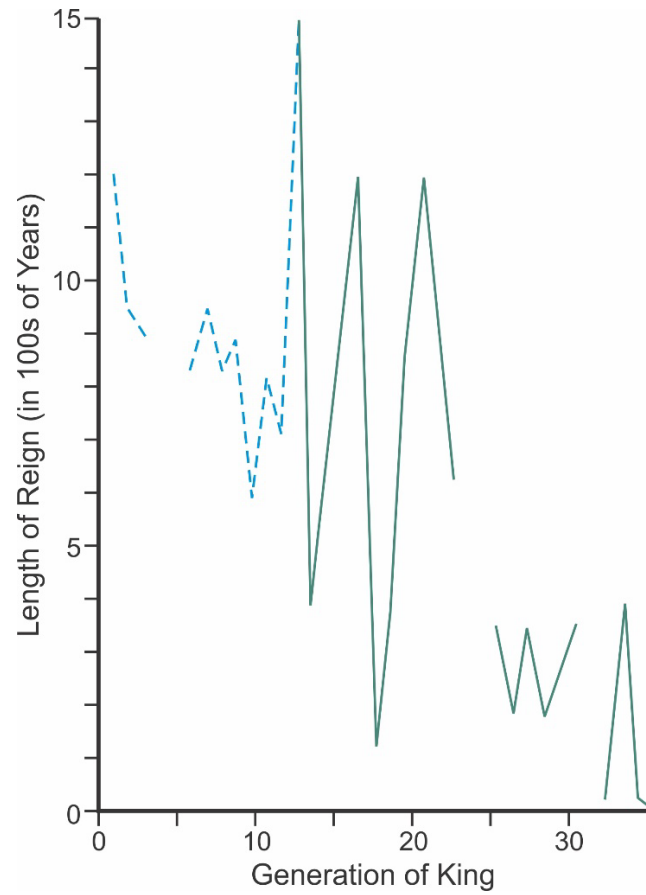
Chart Six.—Comparison of four sources of the Sumerian antediluvian King Lists. [From J. J. Finkelstein.]

Similar results occur when post-diluvian data are compared. Graph One presents the length-of-reign figures of post-diluvian Sumerian Kings at Kish. Jacobsen compiled this Kish listing from the long, conflated Sumerian King List.¹ Although the numbers are length-of-reign figures and not age, two comparisons with Gen. 11 are valid. First, the greatest post-diluvian reigns (1200–1500 years) are over twenty times shorter than the antediluvian figures in Chart Six. Whereas Gen. 5 and 11 maintain continuity in longevity through the Flood crisis (see Graph Two) the Sumerian material features an abrupt discontinuity. Secondly there is a sudden decline in Sumerian King reigns from “legendary” values to “historical” values at the thirty-fifth generation,² or about the time of Sargon of Agade (2600 B. C. by Jacobsen, 1939; 2400 B. C. by Mallowan, 1964). Scripture, however, blends the longevity decline all the way to the time of David (ca. 1000 B. C., see Graph Three).

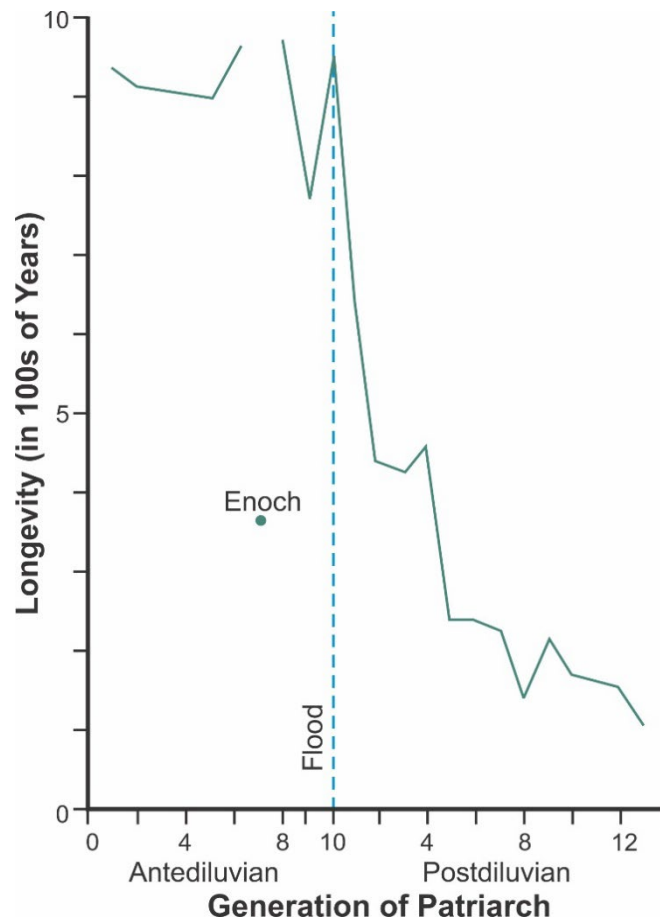
The realistically continuous nature of the Hebrew record in comparison with the disjointed Sumerian accounts suggests that the Biblical account is either a more sophisticated scheme or an authentic record.

¹ Thorkild Jacobsen, *The Sumerian King List* (Chicago: The University of Chicago Press, 1939), pp. 158–64.

² Jakobsen [sic] calls it “clear and definite,” p. 153.



Graph One.—Length of reign of post-diluvian Sumerian kings according to the Sumerian King List for Kish (Jacobsen’s reconstruction). First dozen kings may not really be successive generations. Gaps indicate missing data or divisions between the Sumerian King List Kish Sections.



Graph Two.—Longevity of antediluvian and post-diluvian patriarchs according to the Massoretic text of Genesis 5 and 11. No gaps are assumed for this graph and the record is extended to include Abraham, Isaac, Jacob, and Joseph, making 13 post-diluvian generations.

Graphical analysis of the longevity decline

At about the same time Patton noticed that the material described a very meaningful curve,¹ mathematically, a student of Prof. Whitcomb, James Overman, not only noticed the nature of this curve but used it to date the Flood.² A brief resume follows.

Plotting the date of Graph Two on a scale of time, instead of generation number,³ and temporarily assuming that there were no gaps in the genealogies, Overman established the points given in Graph Three for the age of each person in the Bible (for which age was given) when that person died. A line of “best fit” was sketched tentatively through the data to see what kind of curves might be described. Although before the Flood only a straight line was indicated after the Flood, longevity declined in such a way that the line of best fit gradually approached 70 years (cf. Ps. 90:10).⁴

¹ Patton, p. 216.

² Overman, p. 25.

³ This is done to relate longevity to time for the final procedure.

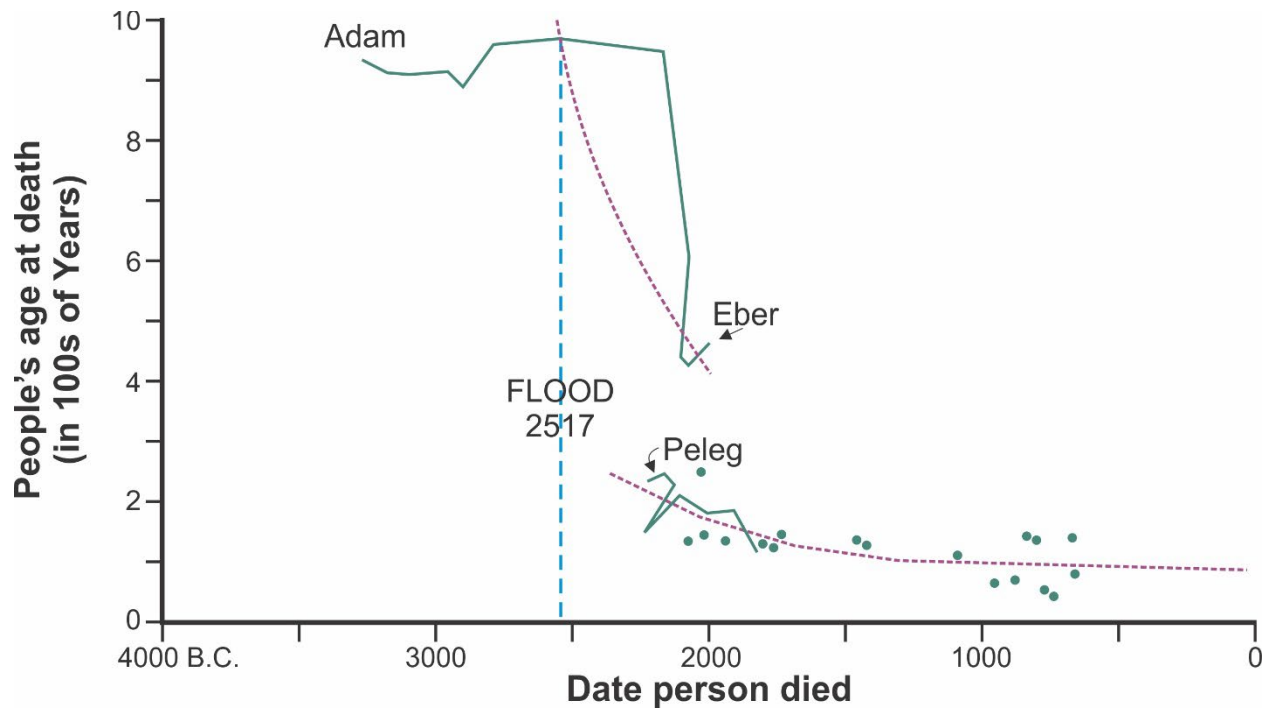
⁴ Overman shows that these figures are not unique to the chosen line but characterize the age. He shows a parallel decline in Ishmael, Esau, Laban, and Deborah, etc., people outside of the chosen line. p. 13.

Since this looked suspiciously like an exponential curve Overman used standard techniques to test whether such a curve really fit the data objectively. Such technique involves replotting the data on graph paper with one side having a logarithmic scale. Any exponential curve will show up as a straight line on this kind of graph. Graph Four was his result. The two lines have been fitted by objective mathematical technique and indicate there are two equations that describe post-diluvian longevity decline. One equation starts at the Flood and is good until the time of Eber. The other equation starts at Peleg and continues until the present.¹

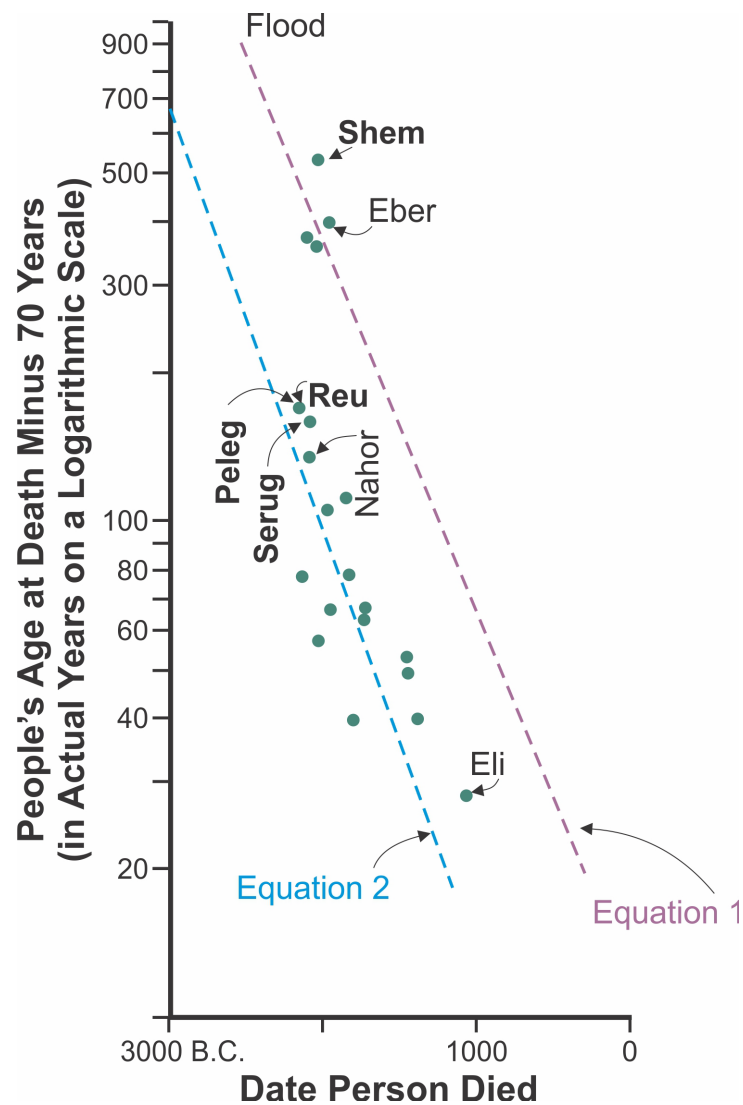
Because there was a gap between Peleg and Eber, Overman then built up a composite equation that would be valid for both time periods—before Eber and after Peleg.² He computed the standard deviation for this equation to give an objective estimate on its accuracy for any given point. The result was that it was accurate within 283 years

¹ The actual equations were:
Equation 1; (Flood–Eber): $\text{Time} = 1340 [\log (\text{age}-70)] - 1412$
Equation 2; (Peleg–present): $\text{Time} = 1200 [\log (\text{age}-70)] - 414$
Time and age are in years.

² This equation was:
 $\text{Time} = 1340 [\log (\text{age}-70)] - 712.$



Graph Three.—Longevity (age-at-death) of antediluvian patriarchs and post-diluvian persons whose age-at-death is given in Scripture plotted against the year of their death. Death dates are computed assuming no gaps in Genesis 5 and 11 and by taking usual encyclopedia dates for the later people. Dashed lines are approximate curves of “best fit” sketched by eye. (After Overman)



Graph Four.—Data of Graph Three replotted on a logarithmic scale to derive objectively the curves of “best fit.” Age-at-death reduced by 70 years. Dashed lines indicate two exponential equations fitting the post-diluvian data either side of the Eber–Peleg “break.” Overman did not include data for Shem, Peleg, Reu, and Serug.

for 68% of possible data and within 566 years for 95% of possible data. Since he could relate time to longevity by this equation he could compute the time of the Flood knowing what the value of longevity was at the Flood period. The date was found to be: 3217 B. C. Therefore the equation is 95% certain that the Flood occurred at 3217 ± 566 B. C.

Overman concludes: "The fact that the decline in longevity can be described by such an equation seems to indicate that God wrought this decline by secondary causes."¹

Interpretation of longevity decline

It must be noted at the outset that there is always a chance that a set of dots will organize itself into a defined form. But the *particular form* that the Gen. 11 material has is the very significant exponential decay curve which occurs in many physical systems when one goes from one state of equilibrium to another. It looks very much like Overman's observations and work reveal a hitherto fore unappreciated detail in the Genesis record. Certainly nothing approaches this in the Sumerian data. The post-diluvian longevity decline is probably a real, literal reflection, therefore, of a massive change in man's physiology. Conceivably scribes might have produced these numbers by

¹ Overman, p. 29.

exponential functions known in their time¹ but the data of Graph Four are not *exactly* exponential. They *scatter* about such a function thereby attesting to naturalness rather than artificiality.²

In dating the Flood Overman had to make some interpretive decisions in order to construct his composite equation. Nevertheless, if the postdiluvian longevity decline is real, his date probably would not be off by more than half a millennium. The one possible disrupting factor to all of this is that that so-called “break” between Eber and Peleg could have been a sudden fast-working effect by God on the genetic tissues of Peleg and contemporary men which was then propagated to succeeding generations. In this unlikely instance the date for the Flood would revert to that of strict chronology. If there are further gaps in Gen. 11 they must be located near Abram where the curve declines very slowly. Otherwise, they would show up as conspicuously as the Eber-Peleg break.

Of the five arguments involving a recent *terminus*

¹ Exponential functions were used in the Old Babylonian period for computation of compound interest. O. Neugebauer, *The Exact Sciences in Antiquity* (2nd ed.; Providence: Brown University Press, 1957), p. 34.

² One might challenge that Sarna's idea of a highly sophisticated factoring scheme would have produced this pattern. However, no such scheme has been demonstrated.

a quo, then, only the analysis of longevity decline (not given in *TGF*) offers a relatively defined limit. The analogy of Biblical chronology and the “high culture” of the post-diluvian patriarchs certainly offer strong support for a recent but unspecified limit. The other two arguments, a short Flood-Babel period and the parallel Babylonian accounts, involve more indirect (and therefore less reliable) reasoning.

Summary

The second *TGF* thesis, that the Flood occurred between 7000 B.C. and 4000 B.C., seems substantiated by this investigation.

The possibility of gaps in the genealogies was most strongly suggested by archeological records before 2300–2500 B. C., the textual remark in Gen. 10:25 concerning the Peleg link and stabilized culture in Palestine at the time of Abram’s immigration.

Arguments for the *terminus a quo* were less definitive. The analogy of biblical chronology seemed most reasonable exegetically but did not set up a specific limit. Analysis of longevity decline seemed to provide a more defined limitation than any argument offered in *TGF*.

The second *TGF* thesis rests on a less direct exegetical basis than the first thesis. The argumentation uses

more deduction and inference. Nevertheless if the first thesis is true, the matter of exact dating is of secondary importance in conflict of Scripture with present historical science.

CHAPTER V

THE THIRD THESIS: PRESENT HISTORICAL GEOLOGY UNSATISFACTORY

After establishing, exegetically, the first two theses, geographical universality and recent occurrence, the authors present their most antagonizing thesis:

The Biblical doctrine of the Flood cannot be harmonized with the uniformitarian theories of geology . . . It is the conviction of the writers, at least, that a true historical geology will never be formulated until the Genesis Flood, as a universal aqueous catastrophe, is granted its rightful and vital place in the thinking of Christian men of science.¹ (Emphasis theirs)

The following discussion of the two aspects involved—Biblical text and scientific data—must be preceded by a short critical clarification of what the authors really are saying.

Clarification of the Thesis

The surprising thing about this thesis and the violent reaction to it is that it really only explicitly says what has been implicit from the moment that the first thesis was proved.

Apparently some evangelicals need such a dogmatic statement to discover the implications of *definitive* exegesis in Gen. 6–9. Only then does the wide divergence between the Flood account and present historical science

¹ *TGF*, pp. 114–15.

become clear.

Reaction to *TGF*

Interestingly enough Price said the same thing, essentially, back in the 1920s and was shrugged off by Christians of scientific training as a “newly inspired amateur.”¹ Yet apparently with *TGF* it is not a matter to shrug off; feelings run higher. LaSor wrote:

This is an exceedingly difficult book for me to review for while I find in it much with which I am in entire agreement, I strongly oppose the methodology and the dogmatism in which it is presented. ... The authors begin with the conviction that the Bible teaches a planet wide flood. This conviction is immediately transferred into a dogma from which no “*Bible believer*” is permitted to differ. Thereafter in the book, the question is assumed to be closed. ... If this book would have been written as a hypothesis ... and omitting the bombast ... it would have been a good book. ... But as it stands, I fear it will drive some young people further from their Bible, it will serve to divide Christians even more into two camps ...”² (Emphasis supplied)

Dr. Hearne, the book review editor of the *Journal of the American Scientific Affiliation* at the time of the controversy, sarcastically remarked:

There can be little doubt that the polemic style of the

¹ See remarks by H. O. Weller during the discussion on a paper by Price, “Geology and Its Relation to Scripture Revelation,” *Journal of the Transactions of the Victoria Institute*, LVI (1924), 121.

² William S. LaSor, Review of *The Genesis Flood*, by John C. Whitcomb, Jr., and Henry M. Morris, *Eternity*, XII, No. 8 (August, 1961), 43.

book ... is such to evoke extreme reaction ... Those who dwell inside the house of geological science have been in the process of remodeling it continuously ever since it was built. Now Henry Morris and John Whitcomb have come along insisting in the name of the Master Architect that the whole thing is on a shaky foundation and must be bulldozed to the ground. Detailed plans for the fine new edifice which should be built in its place, they claim, were found by them in the pages of the family Bible.¹

One of the reviews which Hearn so introduced noted: “The authors of *The Genesis Flood* make the enormous assumption that belief in uniformitarianism is an incompatible alternative to *belief in the Biblical record*.”² (Emphasis supplied)

The reaction was centered over the “either-or” proposition of faith or uniformitarianism.

It was expressed in *TGF* originally like this:

Either the Biblical record of the Flood is false and must be rejected or else the system of historical geology which has seemed to discredit it is wrong and must be changed. The latter alternative would seem to be the only one which a Biblically and scientifically instructed Christian could honestly take.³

¹ Walter R. Hearn, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Journal of the American Scientific Affiliation*, XVI, No. 1 (March, 1964), 27, 28.

² Wayne U. Ault, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Journal of the American Scientific Affiliation*, XVI, No. 1 (March, 1964), 29.

³ *TGF*, p. 118.

Roberts complained:

The person who is just as committed to the inerrancy of scripture [sic] but who disagrees with the Morris–Whitcomb system thus brands himself as both Biblically and scientifically uninstructed.¹

Clarification

It must be admitted that the wording of *TGF* statement, taken alone, conveys unreasonable dogmatism. However it is not an isolated statement. It is the end product of four chapters of argumentation which preceded it. Critics have jumped into the middle of a line of reasoning to pull out this declaration. The place to criticize is the first section where the exegesis was done, not when the results are applied to scientific study.

The principle of deduction from Scripture into experience certainly cannot be criticized. All would agree to it in the realm of ethics. All should agree to it in the matter of history (for the Flood really is more of a historical problem, than a scientific one basically).

Thus the remaining issue is one of the definitiveness of exegesis in Gen. 6–9. If exegesis is definite and sets up certain minimum requirements, these requirements

¹ Frank H. Roberts, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Journal of the American Scientific Affiliation*, XVI, No. 1 (March, 1964), 28.

should be believed regardless of how one presently interprets “God’s work.”¹ If the exegesis is not so definite, then it is wrong to insist upon so restricting choices of explanations and descriptions of reality.

The two previous chapters of this study tested and confirmed that *TGF* exegesis was sound. Now the third thesis, a deduction from this exegesis, will be appraised in both its Biblical and scientific implications.

Biblical Implications

TGF claim is that no harmony with contemporary historical geology can be constructed that will meet the minimum standards found in Scripture. Three recent harmonies, one by an evangelical theologian (Ramm, 1955), one by a leading Mesopotamian archeologist (Mallowan, 1964) and one by an evangelical geologist (Tanner, 1961) will be evaluated on six items shown above as legitimate exegetical minimums:

¹ John C. Whitcomb, Jr., one of the authors, has recently struck out at this tendency to equate authority of the Word and the Work in *The Origin of the Solar System* (Philadelphia: The Presbyterian and Reformed Publishing Company, 1964). For another view by one who accepts this *in principle* but is willing to postpone a final conclusion on details see G. Douglas Young, “The Relevance of Scientific Thought to Scriptural Interpretation” *Journal of the American Scientific Affiliation*, XIII, No. 3 (September, 1961), 74–76.

- (1) depth over an extended time period (Gen. 7:19, 20);
- (2) Ark size and purpose;
- (3) integration with II Pet. 3:5–7;
- (4) extended rain and surface disruption;
- (5) integration with longevity decline; and
- (6) recent occurrence.

Ramm's harmonization

In 1955 Ramm proposed that there was a local Flood in a “natural saucer” following Jamison.¹ Why Ramm, who insists upon respecting uniformitarianism, proposed this kind of mechanism is not clear because it is not compatible with uniformitarian views of Mesopotamian geologic history.²

Gen. 7:19, 20.—Taking an exegetically allowable restriction on תַּחַת כָּל־הַשָּׁמַיִם (“under all the heavens”) Ramm was conscious enough of the need for depth to cover *some* mountains that he proposed local sinking of the land area to tremendous levels. In this way he hoped to satisfy this requirement without having the water flood the globe for equilibrium. He also was conscious of the grounding site being in mountainous territory although it is not clear

¹ Bernard Ramm, *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans, 1955), pp. 238–39.

² Uniformitarian history sees no such event anywhere near 4000 B. C. See G. M. Lees and N. L. Falcon, “The Geographical History of the Mesopotamian Plains,” *Geographical Journal*, CXVIII (March, 1952), 24–39.

how grounding on the Ararat range avoids the necessity of water depths of 10,000 feet or more.¹

Ark size.—He accepts the Bible’s dimensions but does not relate this to animal volume.² Only animals of “that region (were) preserved for the good of man.”³ He never notices that such an Ark would be left practically empty since only two of each animal was taken aboard.

II Pet. 3:5–7.—He never deals with Peter’s commentary.

Extensive rain, disruption.—Ramm accepts extensive rain and disruption⁴ apparently equating “fountains of the deep” with ocean waters.

Longevity decline.—He does not integrate longevity decline with his Flood proposal.

Recent occurrence.—He writes that the Flood must have taken place “sometime prior to 4000 B. C.”⁵ and probably fairly recent.

¹ “The waters carried the Ark up to the Ararat range.” Ramm, p. 238.

² *Ibid.*, p. 229–30.

³ *Ibid.*, p. 230.

⁴ *Ibid.*, p. 238.

⁵ *Ibid.*, p. 238.

Ramm's proposal fits four of the criteria but is not related to II Pet. 3 or longevity. Furthermore it actually is a catastrophic (non-uniformitarian) proposal.

Mallowan's harmonization

The well-known Mesopotamian archeologist, M. E. L. Mallowan, builds on solid geological and archeological data to explain the Biblical and Babylonian flood traditions. He believes severe rain and flooding along the Euphrates was the agent.¹

Gen. 7:19, 20.—He denies the tradition placing the grounding site to the north in the Persian-Caucasus range (Mt. Nisir): “This identity is as incredible as that of the Old Testament ... for it implies that the Ark would have drifted against the rushing tide of Flood waters.”² Since Mallowan is proposing an alluvial model he must account for *downstream* motion. The grounding site, therefore, he sees as the southeastern “Jebel Sanan, which rises to about 500 meters, the highest elevation in Babylon ...”³ The Flood only affected two cities and its deposition he identified as less than 0.4cm!⁴ He must not be implying that the

¹ M. E. L. Mallowan, “Noah's Flood Reconsidered,” *Iraq*, XXVI (1964), 62–82.

² *Ibid.*, 65.

³ *Ibid.*, 65.

⁴ *Ibid.*, 78–79.

Ark behind the traditional account literally grounded on Jebel Sanan because a Flood of over a quarter mile depth would affect more than two cities on the level Mesopotamian plain.

Ark size.—He believes the Ark dimensions are exaggerated.¹

II Peter 3:5–7.—Peter’s passage is far beyond the range of his discussion and is not handled.

Extensive rain, disruption.—Since the Babylonian tradition has the Flood lasting only six or seven days he posits rain, storm and river flooding over the period, but no year-long operation.

Longevity.—He believes the long Sumerian King reigns figures are “magical”, unreal, scribal designations.²

Recent occurrences.—Mallowan’s paper is an argument for a Flood date of 2900 B. C.

Mallowan’s proposal fits only one of the criteria but does point out several problems which harmonists must face. The Flood had to occur somewhere where drainage would not have washed the Ark out to sea for more than 150 days. Furthermore even a Mesopotamian Flood would have had to have been over 1500 feet deep if Gen. 7:19, 20 is true for Jebel Sanan. No uniformitarian geologist is going to

¹ *Ibid.*, 65.

² *Ibid.*, 69.

posit a 1500-foot drop in the Mesopotamian plain within the time of civilized man or even earlier, especially when a corresponding 1500-foot rise seems necessary only six months later.

Tanner's harmonization

In 1961 an evangelical associate professor of geology at Florida State proposed that the Flood was “a disastrous river flood coupled with a rise and advance of storm-driven water and an extended torrential downpour of rain.”¹ This, he claims, meets “minimum Biblical requirements.”

Gen. 7:19, 20.—The depth was 15–20 feet and did not affect lands over 100 miles away.² Obviously not even the lesser 300–400 foot mounds along the Euphrates would have been covered to say nothing of the 22 foot draft of the Ark being overcome.

Ark size.—He does not mention Ark size.

II Pet. 3:5–7.—He does not mention Peter's commentary.

Extensive rain, disturbance.—He posits extensive

¹ William F. Tanner, “Geology and the Great Flood,” *Journal of the American Scientific Affiliation*, XIII, No. 4 (December, 1961), 119.

² *Ibid.*, 119.

rain and flooding but his paper leaves one with the impression that it did not last for an extended period of time.

Longevity decline.—He does not mention the decline in longevity.

Recent occurrence.—Tanner suggests a date between 6000 and 4000 B. C.

Later he wrote that this was the best geology could do.¹ If so, it certainly substantiates *TGF* claim that uniformitarian geology cannot be harmonized with Scripture. It should be clear that the most satisfactory proposal of the three (Ramm's) departed considerably from uniformitarianism. If harmony is to occur even more of a departure is necessary.

Scientific Inadequacy of Historical Geology

When *TGF* was reviewed by the periodical of the American Geological Institute it was described in these terms:

The conflict between the advocates of uniformitarianism and of the literal interpretation of a Biblically based system of creationism and catastrophism is presented by two authors who prefer to look at the unexplained gaps in geological knowledge rather than the masses of

¹ William F. Tanner, "Chronology of the Ice Ages," *Journal of the American Scientific Affiliation*, XVII, No. 4 (December, 1965), 115: Dr. Tanner called his proposal "the best which the geologist can produce in an effort to match, the Noachian deluge."

interrelated facts which have been assembled.¹

In a nutshell this expresses the general reaction to *TGF* in professional geological circles. That the authors are correct in saying there are numerous unexplained geological phenomena is true. That *TGF* authors' have thereby convinced geologists a radical reworking of the present structure is needed is false. Ramm gave voice to the same sentiment when discussing Price:

We have our choice of taking the 80% as established and going to work on the 20%, or of taking the 20% as normative and trying to solve the 80%. ... If by analogy Price's principle [of taking the 20%] were followed *in other sciences* it is obvious that chaos would result.² (Emphasis his)

But Ramm, as well as others who think this way, miss two points. First, *historical* geology (as differentiated from other areas of geology) is not one of the "other sciences" as shown above in Chapter Two but as a historical science always uses the interpretive principle of uniformity. Secondly, if exegesis is as determinative tool as usually considered, it is a question involving, in addition to the 80–20 ratio of explained data, a 0–100 ratio of exegetical concord. The only option is in such a case to look at the

¹ Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Geotimes*, VI, No. 5 (January–February 1962), 38.

² Ramm, p. 182.

20%.

A survey of some basic geological principles together with several areas cited in *TGF* as inadequately explained by uniformitarian geology now follows.

Basic geological principles

Uniformitarianism.—In the example of glaciation theory discussed above in Chapter Two the unspecified nature of uniformity was noted. It is important that uniformity never be said to require *all* things exactly as they now are. Roberts claims the authors have done this when:

The fact of the matter is that geologists hold that the laws of physics and chemistry remain unchanged with time but that the rates at geomorphologic processes have varied and do vary widely.¹

The disagreement here is one over *synchronism* of catastrophic action. Granting catastrophism occurred, first in one locale, then in another and another, Uniformitarians insist that this does not violate uniformity.² What they object to is that the catastrophism occurred *simultaneously* over all the global surface. Such is the claim of Catastrophists and Flood Geologists.

Two geologists indicated to this writer that geology

¹ Roberts, p. 28.

² M. G. Rutten, *The Geological Aspects of Life on Earth* (Amsterdam: Elsevier Publishing Co., 1962), p.

today is becoming less rigid on limiting catastrophic action although this relaxation still seems limited to local catastrophes. An example of new evidences forcing such relaxation is the birth of Surtsey, an island of 1.86 square kilometer area off the southwest coast of Iceland between November 14, 1963 and August 25, 1964.¹ Out of the submarine portion of the Mid-Atlantic ridge erupted masses of molten rock on the morning of November 14th which continued for several months. By November 28th birds were landing on the new island and by the following June insects, birds, seeds, microbes and seals were all present on the island. The observation of an Icelandic geologist who had watched the whole process registers the new awareness of catastrophism by professional geologists:

[Geologists] find it hard to believe that this is an island whose age is still measured in months, not years. An Icelandic geologist who has studied geology and geomorphology at foreign universities is later taught by experience in his own homeland that the time scale he had been trained to attach to geological developments is misleading when assessments are made of the forces—constructive and destructive—which have moulded and are still moulding the face of Iceland. What elsewhere may take thousands of years may be accomplished here in one century. All the same he is amazed whenever he comes to Surtsey, because the same development may take a few weeks or even a few days here.

¹ A summary report including 46 photographs is given in Sigurdur Porarinnsson, *Surtsey* (Iceland: Almenna Bokafelelagid, 1964).

On Surtsey only a few months have sufficed for a landscape to be created which is so varied and mature that it is almost beyond belief.¹

Nevertheless this is only *local* catastrophism, not global.

Sedimentation.—Krumbein and Sloss describe the process of formation of sedimentary rocks in three phases.² First the material is removed from previously existing rock by physical and chemical processes. Secondly this material is transported, usually by water, in suspension or mixture (if it is the large particle type) or in solution (if it is soluble). Thirdly the material is deposited and lithified into sedimentary rock with which much geologic study is concerned.

Composition of the rocks sheds light on source areas; textures and structures reflect the dynamics of transportation and deposition; and associated fossils permit age determination of beds and reconstruction of sedimentary environments.³

Superposition.—Obviously if a formation of rock is undisturbed the topmost layers (strata) were the last to be laid down. Chart Seven illustrates the idea of successive deposition and later intrusion of igneous rock into previously laid sediments.

¹ *Ibid.*, pp. 52–53.

² W. C. Krumbein and L. L. Sloss, *Stratigraphy and Sedimentation* (San Francisco: W. H. Freeman and Co., 1961), pp. 190–233.

³ *Ibid.*, p. 190.

Dating.—Clearly the relative ages of a local undisturbed rock mass can be ascertained by superposition. Fossils are used primarily in *correlating* a given stratum in one area with a given stratum in another,¹ much like pottery is used in archeology. Rock composition is used in a similar way. By these methods, a vast global network of correlated strata has been developed.

Until radioactive and radiocarbon dating came along, absolute dating had to be estimated from comparative rates of evolution of fossils or sedimentation rates. The interesting thing is that the earlier pre-atomic methods agree in general proportion and order of magnitude with the atomic methods.²

Chart Eight presents the main successive layers built up from correlating layers in different parts of the world. This so called “geological column” never occurs in its entirety at any one location but fairly well represents the *order* of layers when they are found.

¹ William Lee Stokes, *Essentials of Earth History* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960, pp. 99–102.

² Frederick E. Zeuner, *Dating the Past* (4th ed.; London: Methuen & Co., Ltd., 1958), p. 310.

Phenomena unsatisfactorily explained

TGF presents many examples challenging the usage of these principles. Five of these will now be discussed.

Problem of incised meanders.—Since one of the *TGF* authors is a specialist in hydraulic engineering, Prof. Morris, it would be natural to expect illustrations in his own field of study. On pages 153–54 he discusses the phenomena of rivers in deep canyons, which at the same time possess a meandering course like rivers in great flat areas. The associated pictures (Figures 6 and 7 in *TGF*) depict the problem.

The question is whether such a formation as the Grand Canyon, for example, is the result of ages of erosion or whether a catastrophe operating over a short time brought it about.¹ Since experiments have proven that such rivers only meander when their banks are extremely soft it seems that either the whole canyon cracked open in the general shape of the meander or tremendous volumes of water poured through the canyon when the banks were *soft*. If the latter is true, all the super-positioned layers, including the lowest, were recently and rapidly laid down. This example significantly challenges the principle of uniformitarianism.

¹ This is a prize illustration of a long-operating process in many geology textbooks, e.g., Stokes, p. 111.

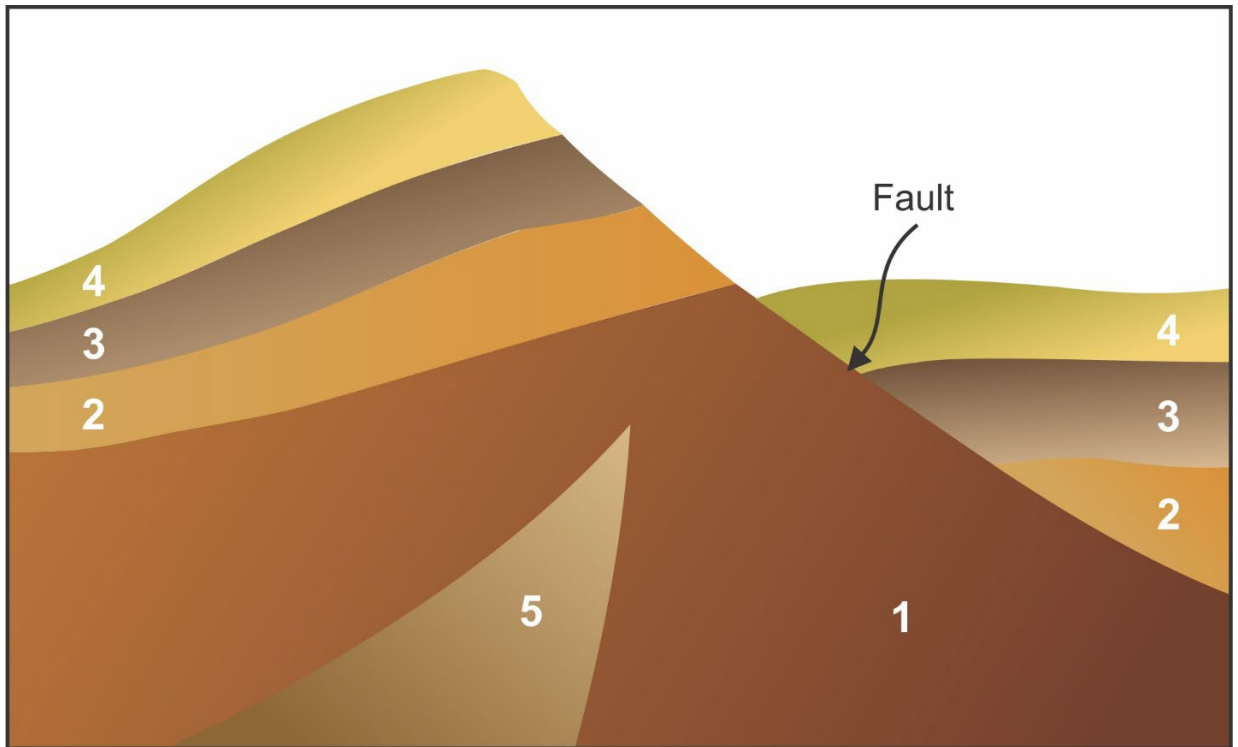


Chart Seven.—Illustration of superposition principle in geology. Successive deposition indicated by numbers. Rock mass 5 is an igneous intrusion from below after the crust to the left rose up producing the fault.

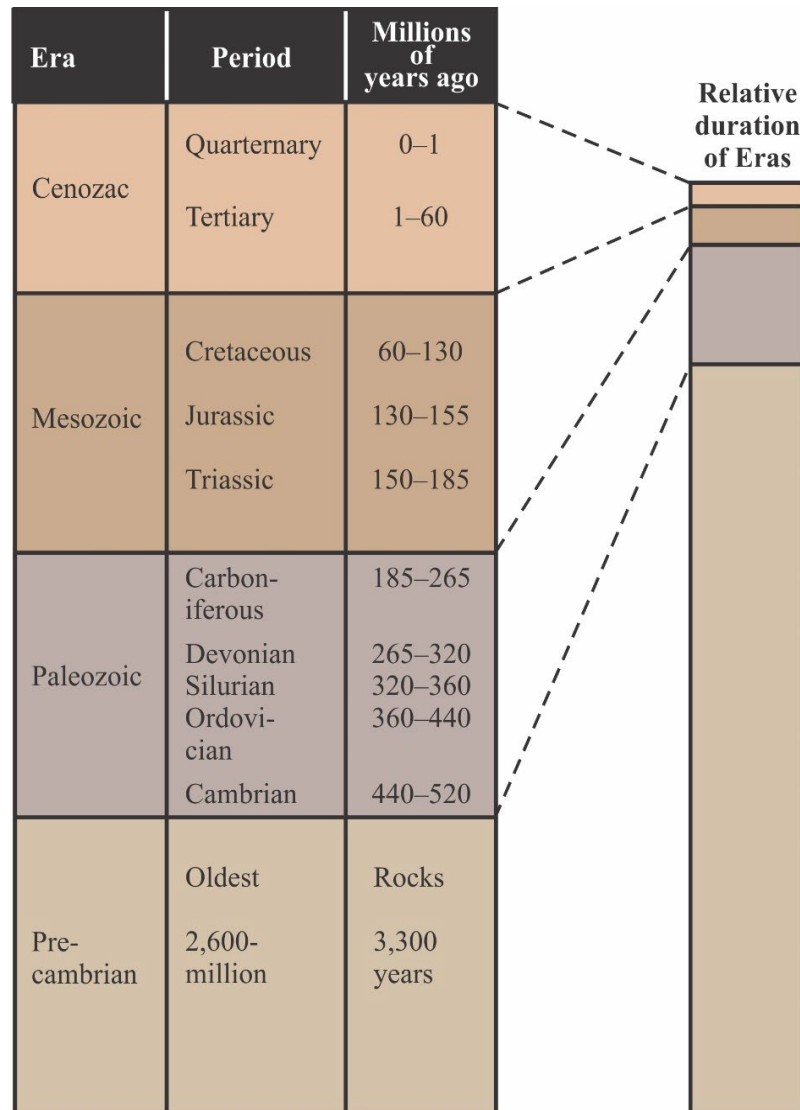


Chart Eight.—The “geologic column” with eras and periods shown. (Adapted from Stokes, *Essentials*, p. 120). Relative duration of each era by mainline geology on right.

Problem of the frozen mammoths.—Perhaps the most famous example of all is the frozen mammoth phenomena of the Arctic. Popularized first by Howorth as irrefutable proof against uniformitarianism¹, the masses entombed bodies of animals lying in a present arctic climate utterly different from the temperate one present when they lived, certainly tell of a catastrophic temperature drop and great alteration of environment. Something, the authors claim, must have done this destructive work rapidly.² A meteorologist has computed that winds of several hundred miles per hour would have resulted from such a temperature fall.³ These are simple facts yet one looks for reasonable explanations in vain.⁴ Again uniformitarianism must be relaxed to explain this data.

¹ Henry H. Howorth, *The Mammoth and the Flood* (London: Simpson, Low, Marston, Seale and Rivington, 1887). The subtitle was: “An Attempt to Confront the Theory of Uniformity with the Facts of Geology.” See Chart Two.

² *TGF*, pp. 289–91.

³ A. James Wagner, “Some Geophysical Aspects of Noah’s Flood,” (Unpublished private research paper, Department of Meteorology, Massachusetts Institute of Technology, 1961), p. 6.

⁴ Note Patton’s discussion: *The Biblical Flood and the Ice Epoch* (Seattle: Pacific Meridian Publishing Co., 1966), pp. 20, 21, 104–11.

Problem of overthrusts.—A very controversial evidence, used by Price earlier, is the widespread group of supposedly older rocks overlying younger rocks putting the principles of superposition and dating at odds. Geologists resolve the problem by claiming that the dating is correct and that superposition is invalid because the older rocks somehow have been thrust up and over the younger rocks below. *TGF* presents the engineering problems involved and a field report indicating, in at least one instance, that the interface between the upper (old) and lower (new) layers shows no signs of the massive slippage required.¹

If slippage did not occur then this is a most serious violation of dating assumptions. *TGF* authors apparently lean toward this view and some other Flood Geologists are now preparing a field test in the Empire Range near Tucson, Arizona, to see if it does occur in these instances.²

Mainline geology however believes that the slippage can be explained by the Hubbert-Rubey theory of fluid

¹ *TGF*, pp. 180–200. Note Dr. Lammert's report pp. 189–91 and Figures 17, 18, 19. [This footnote could not be identified in the original document.]

² Proposal outlined in George Howe, "Announcement of Research Committee Appointment and Research Proposal Requiring Funds," *Creation Research Society Quarterly*, IV, No. 3, (December, 1967), 87–88.

pressure¹ which has been experimentally confirmed for *local* situations.² *TGF* objections about maintaining such great water pressure over hundreds of miles for millions of years as the rocks slowly inched along seem formidable. Some Catastrophists, unlike *TGF* authors, are willing to accept the slippage but posit catastrophically rapid movement.³ Slippage or no slippage, this example also seems to force relaxation of uniformitarian dogma.

Problem of quick-buried fossils.—Another problem worth mentioning is the phenomena of quick burial necessary to produce certain fossil effects. As the authors indicate, rock beds frequently contain footprints, raindrop splashes and other markings which, because of their transient nature, must have been buried quickly.⁴

Dramatic and convincing examples of catastrophic

¹ M. King Hubbert and W. W. Rubey, "Role of Fluid Pressure in Mechanics of Overthrust Faulting," *Bulletin of Geological Society of America*, XX (February, 1959), 115–66. *TGF* discussion, pp. 196–98.

² James D. Byerlee, "Frictional Characteristics of Granite under High Confining Pressure," *Journal of Geophysical Research*, LXXII, No. 14 (July 15, 1967), 3647.

³ See Immanuel Velikovsky, *Earth in Upheaval* (Garden City: Doubleday and Co., 1955), p. 71; and Melvin A. Cook, *Prehistory and Earth Models* (London: Max Parrish, 1966), pp. 262–63.

⁴ *TGF*, pp. 166–69.

deposition are available. Rupke, a Dutch geologist, has pointed to the sensational phenomenon of fossil trees, some as much as 15–20 feet long imbedded through many strata and some *upside down*.¹ Certainly here very rapid deposition of strata, one after another, is indicated. But these evidences are not treated in geological discussions on deposition:

A paper on polystrata fossils appears to be a ‘black swan’ in geological literature. Antecedent to this synopsis a systematic discussion of the relevant phenomena was never published.²

TGF contains many more such examples but one can summarize their appraisal by saying that when investigation is made of each one it is difficult to get an idea of how frequently they occur relative to “normal” conditions because of lack of discussion in the standard geology texts. The inquirer is left to wonder on his own about their relative merit. Another example of this problem is seen when the giant human-like footprints on pages 174,5 are investigated. Nowhere is there a discussion in geological literature known to this writer except in Howorth’s work (a Catastrophist) where he mentions enormous human skeletons dug up all

¹ He includes some graphic photographs in his paper. N. A. Rupke, “Prolegomena to a Study of Cataclysmal Sedimentation,” *Creation Research Society 1966 Annual*, pp. 16–37.

² *Ibid.*, p. 25.

over Europe in past centuries.¹ One is left with the impression that uniformitarian geology is ignoring these examples and, in so doing, making it difficult to say whether it should be considered inadequate by these instances or not.

Problem of entropy.—One final problem, which *TGF* has newly introduced into the historic controversy is the issue of the apparent conflict between evolution and the Second Law of Thermodynamics.² Although not directly connected to geology, evolution has provided the basic framework for paleontological dating by fossils. If evolution could not have occurred, the fossil sequence in the rocks do not indicate millions of years' development but must be explained differently. This seriously collapses the time "required" between the deposition of succeeding strata.

The Second Law concerns the continual increase of quantity called entropy which is "a mathematical measure of the disorganization of a system."³ This disorganization must, on the average, increase (though at an unspecified rate) within what is defined as a "closed system."⁴

¹ Howorth, pp. 16–27.

² *TGF*, pp. 222–27.

³ Whitrow, G. J., "Entropy," *The Encyclopedia of Philosophy*, ed. Paul Edwards, II, (1967), 526.

⁴ A "closed system" encompasses an area in which processes are isolated from other areas as far as interchange of entropy is concerned.

The problem appears when it is observed that evolution seems to call for a continual increase in organization (or decrease in disorganization). Biologists are presently trying to solve the dilemma by expanding the definition of “closed system” to include the solar system and even regions beyond.¹ In so doing they hope to avoid contradicting the thoroughly confirmed Second Law and yet still allow for a local decrease in entropy (increase in organization and complexity) “during finite periods of time and within restricted areas of the system as a whole.”² Evolutionary entropy decrease on earth must, then, have been accompanied *over the millions of years* by a tremendous increase of entropy somewhere else in the solar system. So far biologists have not been able to point to where and how this disorganization occurred.

Excessive complexity of living systems and their interaction with the environment prevents quantitative, or even accurate qualitative, formulation of the problem. Therefore evaluation of its exact significance in this controversy is now impossible. Nevertheless *TGF* can correctly claim that evolutionary progressively developing complexity

¹ Harold F. Blum, *Time's Arrow and Evolution* (Princeton: Princeton University Press, 1951), p. 201.

² *Ibid.*, 206.

and entropic continually increasing randomness cannot both be universal laws.¹ The only way to defend against this would be to say that the universe is a highly improbable, but possible, fluctuation in an overall average trend. But as one authority recently noted:

The idea that the whole observable universe, and not merely our galaxy, should therefore be regarded as a gigantic fluctuation in a system which is normally in a state of equilibrium is difficult to accept.²

No *TGF* critic has replied to this challenge against a crucial part of geologic dating methodology.

Each of these five problem areas involving basic geological principles cited in *TGF* prove that historical geology presently faces some serious difficulties. However due to the Uniformitarians' view of Scriptural accounts³ and their success in organizing so much of the existing data within their framework⁴ they are unlikely to be bothered.

Summary

Biblical and scientific appraisal of the third *TGF* thesis yields two basic conclusions:

First, there seems no way to harmonize preset historical geology with the result of normal exegesis.

¹ *TGF*, p. 226.

² Whitrow, 528.

³ *Supra*, p. 14.

⁴ *Supra*, p. 27.

Liberals saw this over fifty years ago.¹ *TGF* makes a significant restatement of this conclusion in the present stage of the Flood controversy. Harmonies tested above confirmed that this is no simple “assumption” as critics have called it. Their strong objection to this thesis is without real value unless they deal with first two theses exegetically.²

Secondly the evidences brought forward in *TGF* to prove the inadequacy of present uniformitarian geology force relaxation of uniformitarian dogma only on certain points. Committed Uniformitarians simply view the material as yet-to-be-explained data. While the evidences do expose possible entrance points for non-uniformitarian explanations, they must be shown to be *simultaneous* catastrophes across the entire globe. Otherwise, as local catastrophes, they can readily be absorbed into the existing framework. Evaluation of such evidences proved difficult because present geology texts devote little discussion to them.

¹ See discussion in S. R. Driver, *The Book of Genesis* (London: Methuen and Co., 1904), pp. lxiii-lxiv.

² Morris informed this writer: “We advocate a worldwide and physically significant flood not because of science but because God’s Word teaches it. Our entire argument, we feel, devolves upon Scriptural exegesis, and this is exactly the point which critics seems always to ignore.” Letter, May 7, 1967.

CHAPTER VI

THE FOURTH THESIS: A POSSIBLE NEW GEOLOGY

The final thesis of *TGF* grows naturally from the previous three. It is the only resolution of the tension between the exegetical result and the break-down of all previous harmonization attempts. The authors believe that working out from Biblical deductions a geology can be formulated which will ultimately explain more phenomena than present day uniformitarianism.

At several points in the book the authors warn their readers that the specific content of their scientific proposals is tentative only. Their aim was “to develop, if possible, a new scheme of historical geology,”¹ but the *means* were clearly stated:

There is an immense amount of data available that must be restudied and re-evaluated, enough to require attention of many experts for a very long period of time. Considering the dual limitations imposed on the present writers by their lack of broad training in this field and by the lack of available space in this volume, all that is hoped for at present is to develop and present a plausible preliminary outline study which will stimulate others to further study along the same lines.²

Again: “Although there may be considerable latitude of opinion about details, the Biblical record *does* provide a basic

¹ *TGF*, p. 119.

² *Ibid.*, p. 120.

outline of earth history, within which all the scientific data ought to be interpreted.”¹ Further on in the same discussion:

It is certainly recognized that not all questions have been answered or all problems resolved. A complete reorientation of all the enormous accumulations of pertinent data and interpretations would take several large volumes at least, and would require the intensive efforts of a great number of specialists trained in the various areas of geology and geophysics. But the Biblical framework can at least point the way for such studies, and it provides the basic key with which all such problems *can* ultimately be resolved.²

Few reviewers noted this tentative nature of *TGF* scientific proposals.³

The fourth thesis, then, attempts to sell Christians on the idea of beginning a radical re-evaluation of the masses of scientific data presently accumulated in the historical sciences. Since it does not profess to offer a sure solution it must be evaluated from the standpoint of its persuasiveness and its success in convincing evangelical Christians. This chapter traces these qualities through four areas: (1) exegetical basis of flood geology; (2)

¹ *Ibid.*, p. 327.

² *Ibid.*, p. 332.

³ Examples of the some half-dozen instances are: Wilbert H. Rusch, Sr., Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Moody Monthly*, LXI, No. 12 (August, 1961), 29; and Edwin Y. Monsma, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Torch and Trumpet*, XI, No. 5 (October, 1961), 23–24.

sedimentation processes of flood geology; (3) geochronological explanations of flood geology; and (4) dynamics of the scientific community in the reception of flood geology.

Exegetical Basis of Flood Geology

Up to this point in contending for a recent, geographically universal Flood, *TGF* has directed its assault against only the Uniformitarians. With this fourth thesis *TGF* now diverges from its catastrophic allies by insisting that the only viable framework for a solution of the exegetical tension with historical science lies in the realm of Flood geology.¹ The authors seem to have two reasons for so narrowing down what to them are acceptable solutions. On one hand they feel catastrophism failed historically because it was an internally inconsistent compromise² and on the other hand, it does not fit their exegesis of Gen. 1–3.³ Unfortunately *TGF* exegetical treatment of Gen. 1–3 is thinly scattered throughout the book unlike the well-organized presentation of Gen. 6–8. Thus to evaluate the exegetical

¹ For differences between Flood Geologists and Catastrophists refer to Chapter Two above, especially pp. 12, 13, 18, 24.

² *TGF*, pp. 92–94; especially Note 2, p. 94.

³ Examine their discussion of Creation Week, p. 228f, and the Edenic Curse, pp. 454–73.

background of Flood geology one must summarize and integrate the authors arguments independently as in the following solutions.

Genesis 1

As noted in Chapter Two above, Flood Geologists maintain the traditional interpretation of Gen. 1–11 which means, insofar as Genesis 1 is concerned, they uphold three elements: (1) Gen. 1:1 is an absolute beginning; (2) no gap occurs between Gen. 1:1 and 1:2; and (3) the days of Creation Week are literal. Did *TGF* adequately discuss these elements?

Gen. 1:1.—Although it has been mostly confined to liberal circles there has been a great amount of discussion recently as to whether Gen. 1:1 was really intended to teach *creatio ex nihilo* based upon parallel ancient near eastern creation literature.¹ Three years before *TGF* Unger introduced the idea to evangelical circles.²

¹ For a recent summary of this feeling see Harry M. Orlinsky, “The New Jewish Version of the Torah,” *Journal of Biblical Literature*, LXXXII (1963), 252–53, and William R. Lane, “The Initiation of Creation” *Vetus Testamentum*, XIII (1963), 63–65. Compare rebuttal by Edward J. Young, *Studies in Genesis One* (Philadelphia: The Presbyterian and Reformed Publishing Co., 1964), pp. 2–9.

² M. F. Unger, “Rethinking the Genesis Account of Creation,” *Bibliotheca Sacra*, CXV, No. 457 (January–March, 1958), 27–35. NB: Matthew Hamilton invaluablely assisted the editors in helping do their final work here.

Nowhere in *TGF* is this problem discussed.¹

No gap.—As shown above², the gap theory antedated the Scientific Revolution on purely exegetical and theological grounds. Although *TGF* correctly confined discussion only as to its use as a harmonistic tool,³ there was no integration with the discussions of Creation Week or the Edenic curse. Since many Christians still persist in using it apologetically, this lack was a crucial omission.⁴

Literal days.—Previously⁵ it was seen that there has been an increasing stream of evangelical Old Testament scholarship accepting literal days in Genesis 1 while also

¹ Recently one *TGF* supporter, an Old Testament scholar, did engage the problem very adequately. Robert L. Reymond, “Does Genesis 1:1–3 Teach a Creation Out of Nothing?” *Creation Research Society Quarterly*, IV, No. 2 (September, 1967), 75–80/

² *Supra*, p. 28.

³ *TGF*, p. 93. Also note *Supra*, pp. 32–33. Whether there was a gap, exegetically, is beyond the scope of this discussion.

⁴ Patton, a Catastrophist, made later some attempt to support his position with the gap. Donald Wesley Patton, *The Biblical Flood and the Ice Epoch* (Seattle: Pacific Meridian Press, 1966), pp. 210; 300–05. Whitcomb, also later, did address use of the gap as a harmonistic device. John C. Whitcomb, Jr., “The Ruin-Reconstruction Theory of Genesis 1:2,” *Creation Research Society Quarterly*, II, No. 1 (May, 1965), 3–6.

⁵ *Supra*, pp. 34–35.

accepting current historical science through the device of literary form. Earlier positions of Lewis and Kurtz¹ in the beginning of the “later response” period² have reemerged through Wiseman³ (days=days of God’s speaking), Ramm⁴ (days=days of revelation) and Kline⁵ (days=“Figurative chronological form, sabbatic in pattern, in which the data of the creation process are arranged”). F. F. Bruce, speaking of Wiseman’s view, particularly, said:

There is considerable archeological support for this interpretation, which (if it were established) would by-pass much well meant effort devoted to relating the days of creation to the geological record and to deciding whether these days should be taken in a literal or figurative sense.⁶

¹ Taylor Lewis, *Six Days of Creation* (Schenectady: G. Y. Van Debogert, 1855); for both Lewis and Kurtz (1857) see Bernard Ramm, *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1955); pp. 215, 222.

² *Supra*, pp. 30–31.

³ P. J. Wiseman, *Creation Revealed in Six Days* (London: Marshall, Morgan & Scott, Ltd., 1948), p. 76.

⁴ Ramm, p. 229.

⁵ Meredith G. Kline, Review of *The Christian View of Science and Scripture* by Bernard Ramm, *Westminster Theological Journal*, XVII (November, 1955), 49–55.

⁶ F. F. Bruce, Review of *Creation Revealed in Six Days*, by P. J. Wiseman, *The Evangelical Quarterly*, XX, (October 15, 1948), 302.

Here again a very current exegetical debate was by-passed in *TGF*.¹

Thus it may be concluded that *TGF* treatment of Genesis 1 interpretation problems was quite weak.

Edenic curse

Of far more direct importance to harmonistic problems is the question of when death entered the animal and plant kingdoms since most of the earth's outer crust is composed of sedimentary rock in which are found numerous fossils. Obviously all these rock layers must post-date this point. *TGF* identifies this point with the Edenic curse of Gen. 3:14–19 by means of three arguments involving man, animals and plants.²

Man.—That the curse is the entrance point of death into humanity is obvious. However, since human fossils only occupy the top layers of the geologic column,³ this says

¹ On page 228 there is one remark about accepting the days “literally, as real days” but no discussion aimed at this point.

² *TGF*, pp. 454–73.

³ Man supposedly evolved after the Quaternary period (cf. Chart Eight) was well along, yet fossils have been found of *modern man* in Tertiary strata. Since this is millions of years too early for evolutionary theory, such finds are labelled as hoaxes. For details see Frank W. Cousins, *Fossil Man* (Einsworth, Hants, England: A. E. Norris & Sons, Ltd., 1966), pp. 47–51. Cf. also *TGF*, pp. 175–76.

nothing directly about over 90% of the sedimentary layers.

Animals.—The arguments concerning animals are far more relevant to flood geology since animal fossils occupy almost all the strata. At issue is whether death within the animal kingdom is an inherent, normal property of their existence or not.

TGF argument from Rom. 8:19–22 and Ps. 8:6–8 is most compelling. It is hard to see συστενάζει (“groaneth”) and συνωδίνει (“travaieth”) in Rom. 8:22 as compatible with טוב (“good”) in Gen. 1:31, especially in the light of the these in Romans 8 of sin-produced suffering (with implied physical death). One could reply, however, from I Cor. 15:45–49 that in contrasting the present “natural” world with the future “spiritual” one Paul identified death (“corruption”) as an inherent property of this world in verse 50. Yet the context in I Cor. 15 specifically deals with man in whom it is clear that death began with the curse. Rev. 22:3 also seems to suggest the curse is of fundamental far-reaching physical importance.”

Dispensational premillennialists can point to a Scriptural precedent for vast changes throughout the entire animal kingdom in Isa. 11:6–9, 65:25. Ramm has tried to refute this sort of exegesis but offers no compelling reasons

against it.¹

Plants.—One problem is the death of plants before the curse (they were eaten—Gen. 1:29, 30). *TGF* argues for structural changes but avoids the issue of plant death.²

TGF identification of the entrance of death into the animal kingdom is a justifiable deduction persuasively presented.

Genesis 2:1–3

Repeatedly *TGF* authors insist that Gen. 2:1–3 denotes a total discontinuity in natural processes between Creation Week and the present world.³ Although by itself this does not argue against a shorter time period in Genesis 1, it does argue against extrapolation of present processes back into the period.

The only *exegetical* attempt to challenge the all-inclusiveness of this interpretation of Gen. 2:1–3 known to

¹ Ramm, p. 199. Note remark *TGF*, p. 463.

² In this age of artificial creation of “life” might it not be wise to check whether the lack of use of בָּרָא (“create”) in Gen. 1:11, 12 compared with its use in Gen. 1:21, 27 for animals and man shows that God radically distinguishes between unconscious “life” (plants) and conscious life?

³ E. G. *TGF*, p. 223.

this writer has been by Kline.¹ Kline argues from Gen. 2:5–6 that plants needed water and did not appear before water was supplied to cause them to grow. He concludes that since this proves some secondary processes were instrumental during creation, identical to today's processes, the work in Genesis 1 could have been accomplished by known processes today. The discontinuity is not one of process but of stage in God's development of history.

However it seems more suitable contextually to see the water of Gen. 2:6 given to sustain the plants *after* their creation just as the parallel requirement, man, was given to till the ground (Gen. 2:5b; 15) *after* their creation. Furthermore Kline still faces the problem of where the seeds came from which germinated in the newly moist soil.

Gen. 2:1–3, then, at least requires one to think how processes in Genesis 1 differed from the present regime. Few harmonies accord it due significance.

Examination of the exegetical basis of Flood geology as presented in *TGF* revealed crucial weaknesses. The presentation was not integrated as in the case of the Flood

¹ Meredith G. Kline, "Because It Had Not Yet Rained," *Westminster Theological Journal*, XX, No. 2 (May, 1958), 146–57.

narrative. Several current exegetical controversies including the very important literal days debate were ignored. Critics could rightly claim, in this area at least, that the traditional interpretation is only one among many other valid ones.¹ The one strong feature was application of Rom. 8:19–22 to the fossil record.

Sedimentation Processes of Flood Geology

Chart Nine must be studied along with Chart One to realize the differences between flood “geology and catastrophism. Flood geology has to explain the great bulk of the geologic column as deposition during the Flood. The entire antediluvian crust must have been cataclysmically pulverized and washed into the stratiform position recognizable today.² Further, minor, post-diluvian catastrophes, if they

¹ As the remark, “one weakness of the book is that the authors do not recognize that there might be some other interpretations to the scripture [sic] passages they use other than their own.” Ralph L. Smith, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Southwestern Journal of Theology*, IV, No. 2 (April, 1962), 124.

² Such tremendous work all done by the Flood within a year made Harris balk at this point in an otherwise favorable review. R. Laird Harris, Review of *The Genesis Flood* by John C. Whitcomb, Jr., and Henry M. Morris, *Grace Journal*, II, No. 3 (Fall, 1961), 38.

occurred, altered upper layers of the column. Since *TGF* is essentially a modern restatement of a centuries old position¹ one should be able to measure how well it answers traditional criticisms of flood geology, nearly all of which concern sedimentation processes.

Past criticism

In 1950 Dr. J. Lawrence Kulp, a well-known geochronologist with the Lamont Observatory of Columbia University and evangelical Christian, wrote the most complete critique of Flood Geology available.² He accuses Flood Geology of failing to explain sedimentation processes necessary to maintain its position, viz., the *generation* and *deposition* of sediment.

Generation of sediment.—Speaking of both the physical processes of erosion, cracking, etc., and the chemical processes of oxidation, solution, etc., he wrote: “Whether the material is derived from chemical decomposition or mechanical abrasion, the process is extremely slow.”³ Not only is such a process slow, but the amount of material worn off is small.

¹ *Supra*, pp. 12–13; 17–22.

² J. Lawrence Kulp, “Deluge Geology,” *Journal of the American Scientific Affiliation*, II, (January, 1950), 1–15.

³ *Ibid.*, 5.

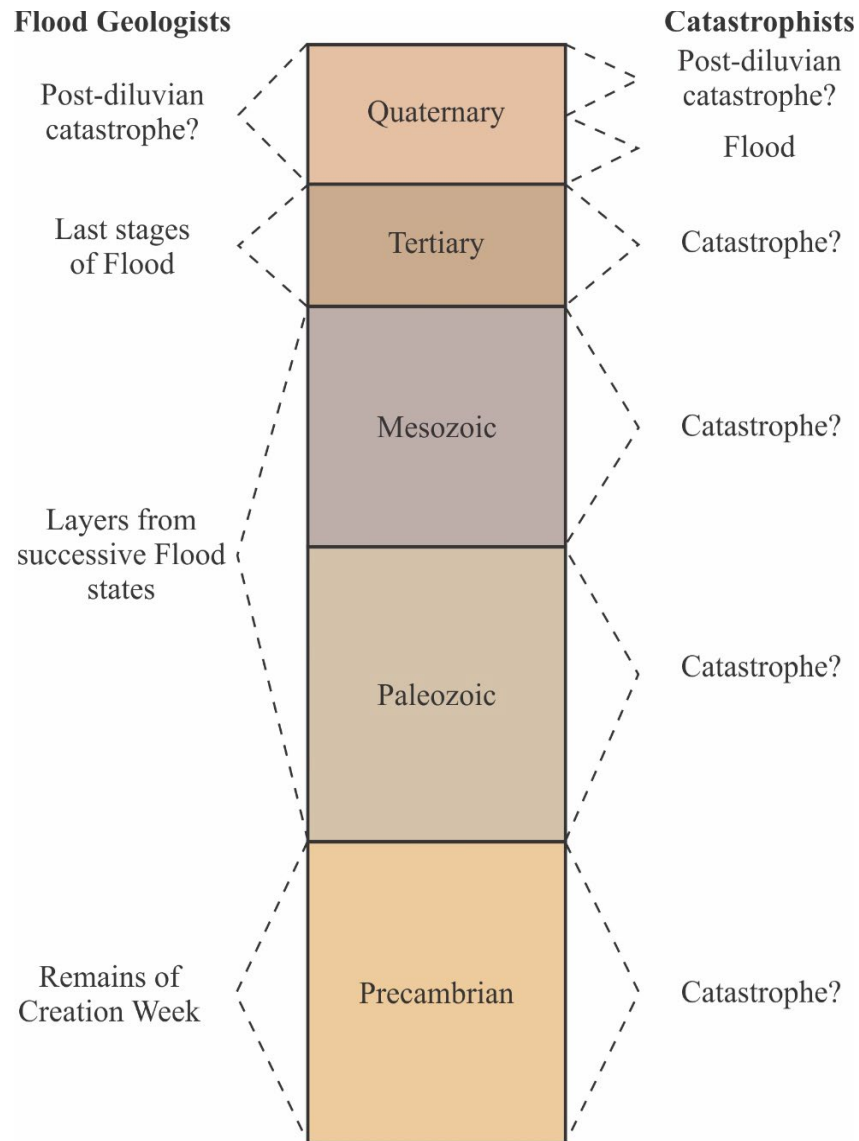


Chart Nine.—Approximate comparisons of explanations for geologic column by Flood Geologists and Catastrophists. Catastrophists have varied so immensely from Buckland to Patton so no defined scheme can be given.

A simple calculation will show that were all of the soil and loose rock in the U.S.A. bulldozed into a basin of [a great: depression in the floor of the northern portion of the Gulf of Mexico now filled in with deposited sediments] it would hardly be full. But this basin is only one of dozens throughout geologic time and this represents only the time from the Cretaceous to the present.¹

Tidal waves, such as Price's suggestion,² have not been observed to do this much work and break up solid rock. Thus Flood Geology must have mechanisms able to dislodge sedimentary material *physically and chemically* from the source location millions of times more rapidly than present processes. It must also, in addition to being rapid, be strong enough to generate millions and millions of cubic miles of sedimentary material from the antediluvian earth's surface.

Deposition of sediment.—According to present understanding, most sedimentary rock has been deposited in shallow water:

The sedimentary rocks of the earth's crust were not produced by such deep water sedimentation as posited by Flood Geology but rather along continental shelves and in great inland areas such as the present Gulf of Mexico and Hudson's Bay.³

After this deposition has occurred it must be lithified under pressure:

¹ *Ibid.*, 6.

² George McCready Price, *The New Geology* (Mountain View, Calif.: Pacific Press Pub. Assn., 1923).

³ Kulp, 4.

Loose sediment must have at least a mile of additional sediment piled on top of it to lithify it. A mile of water will not suffice because the rock forming process is one of squeezing out water.¹

To explain sedimentation, orthodox historical geology also must deal with these facts. Thus the continental areas are said to have been submerged for ages to build up sediment and then elevated. The top sediments, used to compress the lower ones, the “mile” spoken of by Kulp, must then have been removed by erosion. Needless to say vast time periods are demanded. How does *TGF* answer or suggest answers to these problems?

Generation of sediment

TGF appeals to the destructive effects of great moving masses of water:

It is highly probable that many of even the primeval crustal rocks were broken up, swept away ... by the tremendous hydrodynamic forces of the floodwaters, as well as by the volcanic and other phenomena accompanying them.²

In view of Kulp’s criticism a decade earlier it seems that there should have been more specific suggestions as to *quantity* and *rate* of sediment generation. Morris later suggested that great masses of water such as in the Flood would probably have altogether different, unknown

¹ *Ibid.*, 4.

² *TGF*, p. 258.

properties important for such destructive operations.¹ Another factor to consider is the possibility of an antediluvian surface structure much more vulnerable to erosion than the present global surface. If Speiser is correct about 78 (“mist”) in Gen. 2:6 referring to a “break-through” or “ground” flow² the same pattern which prevailed in the post-diluvial Mesopotamian Valley might have been antediluvian feature on a global scale. Such a surface of deep, moist, rich soil³ suddenly broken through by anomalous “fountains of the deep”⁴ might answer the need of great quantity and rate of sediment generation.

Deposition of sediment

TGF uses two previous explanations by Flood Geologists and adds. a third new variation of an old one to account for the well-ordered sedimentary strata as they appear today.

¹ Personal conversation, Dallas, Texas, November 9, 1967.

² E. A. Speiser, “ED in the Story of Creation,” *Bulletin of the American Schools for Oriental Research* No. 140 (December, 1955), 9–11.

³ Such a deduction would be internally consistent with flood geology since the vast animal and plant life (now fossilized) must have all been sustained by antediluvian soils.

⁴ *Supra*, pp. 58–60.

Ecological zonation.¹—One explanation involves the principle that certain animals and plants in a given region occupy preferred altitudes and environments so that rising Flood waters enveloped each one successively. Clark was the great exponent of this method, called “ecological zonation”:

When lower Paleozoic forms are found, they might be considered as forms that lived in the deep sea; the upper Paleozoic would represent the higher sea level or lower land level; then would come the Mesozoic with the lower and middle land levels, and then the mammals and higher plants above that.²

Clark, a biologist by profession, offers a chart showing the impressive correlation between fossil zones and ecological zones.³

Mobility differential.⁴—Animals who were able to escape would be the last to be buried so that their mobility differential would have played some role.

Hydrodynamic sorting.⁵—*TGF* suggests that even if

¹ *TGF*, p. 276, 271–73.

² Harold W. Clark, *The New Diluvialism* (Angwin, California: Science Publications, 1946), p. 73.

³ *Ibid.*, Plates 7, 8 opposite p. 74.

⁴ *TGF*, pp. 265–66, 275.

⁵ *Ibid.*, pp. 273–74.

some fossils were caught in a jumbled mass they sort out in a defined order by known, hydrodynamic principles. More recently Morris specifically cites the crucial index fossils (those used for correlation) as particularly susceptible to this principle since most are foraminifera and these are actually sorted hydrodynamically in the laboratory.¹ This is a modernization of Woodward's mechanism.²

None of these explanations of sedimentary deposition are new but restated and partially supported by recent developments, they do offer hope for future research.

Recent developments

Three recent papers tend to make flood geology somewhat more credible. One deals with the *bottom* of the geologic column (cf. Charts Eight and Nine), another deals with *upper portions* of the column and a third deals with fossils throughout the column.

Olson.—Although working with the conventional time scale Olson recently has suggested that the Cambrian-Pre-cambrian division in the geologic column was caused by a global flood. Describing the generation and deposition

¹ Henry M. Morris, "Sedimentation and the Fossil Record: A Study in Hydraulic Engineering," *Creation Research Society Quarterly*, IV, No. 3 (December, 1967), 92–93.

² *Supra*, p. 17, n. 4.

of sediments Olson reads like a Flood Geologist(!):

The erosive power and heating effect of [global] tides can account for all the phenomena associated with the Infra-Cambrian deposits. The tides would sweep across the interior and, laden with sediment and rock fragments, abrade the land surface and reduce the continents to peneplains. . . . The tidal friction would raise the ocean temperatures to unprecedented levels, bringing CO₂ out of solution to precipitate CaCO₃ [limestone]. . . . Ancient mountain systems were worn down to their roots . . . leaving a clean slate on which the record came to be written which is usually called historical geology.¹

Burdick.—Whereas Olson’s paper pointed to a flood mechanism to generate features at the bottom of the column, an Arizona geologist, Dr. Burdick, discovered features in Cretaceous Strata also suggesting a great flood.²

At the 14,000-foot level on Mt. Ararat he found lava formations extruded by past volcanic action from the mountain which gave unmistakable signs of being *under water* at the time of its extrusion.³

¹ Walter S. Olson, “Origin of the Cambrian-Precambrian Unconformity,” *American Scientist*, LIV, No. 4 (December, 1966), 461, 62, 58.

² Clifford L. Burdick, “Ararat—The Mother of Mountains,” *Creation Research Society Quarterly*, IV, No. 1 (June, 1967), 5–12.

³ *Ibid.*, 11. Burdick cites other evidences pointing to Cretaceous Strata as being laid down toward the end of the rising period of the Flood. Interestingly, no sediments earlier than Cretaceous are found in deep-sea cores. Melvin A. Cook, *Prehistory and Earth Models* (London: Max Parrish, 1966), p. 75.

Rupke.—A Dutch geologist, N. A. Rupke, has produced some remarkable evidences of fossil tree trunks up to 30 feet in length intersecting many strata at various angles—some even *upside down* in upper Paleozoic, Mesozoic and Cenozoic strata.¹

Sedimentary processes of flood geology were not developed in *TGF* and do not refute traditional criticism directed against them. However increasing evidence of great flooding and cataclysmic sedimentation breeds hope that more detailed proposals will be forthcoming. Furthermore recent advances in stratigraphy have done away with much of the supposedly global, multiple discontinuities in the geologic column often cited by Catastrophists to support their idea of many catastrophes in earth history.² Thus a more or less continuous (globally considered) geologic column with cataclysmic evidences seems to support the Flood Geologists over the Catastrophists.

¹ N. A. Rupke, "Prolegomena to a Study of Cataclysmic Sedimentation," *Creation Research Society Quarterly*, III, No. 1 (May, 1966), pp. 21–25.

² W. C. Krumbein and L. L. Sloss, *Stratigraphy and Sedimentation* (2nd ed.; San Francisco: W. H. Freeman and Company, 1963), pp. 13–19. Cf. again with Charts One and Nine.

Geochronological Explanations of Flood Geology

The most pressing need for anyone questioning the Uniformitarians today is for an explanation of why radioactive and radiocarbon dating seem to confirm their position. The treatment in *TGF* left some critical who were otherwise favorably disposed.¹ Of the many issues involved² only the problem of “apparent age” and of radiocarbon dating will be discussed here.

Apparent age

By far the most controversial specific proposal in *TGF* was the doctrine of “apparent age.”³ In principle apparent age cannot be denied as an inherent corollary of creation as seen from a mature Adam and Eve and the wine of John 2:7–10.⁴

TGF went further, however, than simply asserting

¹ Harris, 39.

² E.g., the suggestion that radioactive decay rates may have substantially changed throughout history (*TGF* pp. 346–55) may soon be confirmed by new studies on “pleochroic halos.” Robert V. Gentry, “Cosmology and Earth’s Invisible Realm,” *Medical Opinion and Review*, III, No. 10 (October, 1967), 79.

³ *TGF*, pp. 232–35; 344–46. It was apparent age that triggered the sharp response. *Supra*, p. 3.

⁴ *TGF*, p. 344.

the principle and suggesting consideration of it in specific cases. The authors tried to use it as a blanket solution for *all* radioactive geochronological methods:

The obvious question then arises as to whether the ‘apparent ages’ of the minerals so created ... would all be diverse from each other or whether they would all exhibit some consistent value. ... It is more satisfying “teleologically, and therefore more reasonable, to infer that all these primeval clocks, since they were ‘wound up; at the same time, were also set to ‘read’ the same age. Whatever this ‘setting’ was, we may call it the ‘apparent age’ of the earth, but the ‘true age’ of the earth can be known only by means of divine revelation.¹

Universal apparent age, mentioned first over a century ago,² has some severe logical implications. Leith points out that one immediate result of this thesis would make irrelevant all *TGF* discussion on technical issues in dating.³ It appears *TGF* overstated its case at this point.

Surprisingly, recent research has uncovered evidence of extremely rapid Pre-cambrian rock formation raising the

¹ *TGF*, p. 346.

² See Ramm’s discussion, pp. 192–95.

³ Thomas H. Leith, “Some Logical Problems with the Thesis of Apparent Age,” *Journal of the American Scientific Affiliation*, XVII, Nov. 4 (December, 1965), 120–21. Ensuing debate may be traced in later issues of the *Journal*, June, 1966; December, 1966; and June, 1967. Leith’s major weakness is lack of exegetical interaction giving the impression he only hastily studied *TGF*.

clear possibility that radioactive dates of such rock may actually be apparent.¹ Working with trace-marks (called “pleochroic halos”) of dead radioactive matter trapped in Pre-cambrian mica Gentry has shown that either the rock came into existence within *minutes* or radioactive matter must have been created inside the rock after it was formed. Questions begin to arise about the relation of the life of radioactive implanted material to the history of the rock matrix.

TGF, while over applying the apparent age principle, has reminded evangelicals of problems inherent in dating a Biblical creation.

Radiocarbon dating

Of more direct concern than apparent age and its implications on radioactive dating is radiocarbon dating because organic material is directly measurable only by this method. Stated very simply, radiocarbon dates depend upon

¹ Robert V. Gentry, “Cosmological Implications of Extinct Radioactivity from Pleochroic Halos,” *Creation Research Society Quarterly*, III, No. 2 (July, 1966), 17–20. Also reported “Pleochroic Halos and the Age of the Earth,” *American Journal of Physics*, XXXIII (1965), 878A; “Variant Pleochroic Halos and Extinct Radioactivity,” *Transactions American Geophysical Union*, XLVII (1966), 421.

the ratio of radiocarbon (C^{14}) to “normal” carbon (C^{12}) in a sample. Assuming the sample’s initial C^{14}/C^{12} ratio and the rate of C^{14} decay are known, comparison with sample’s present C^{14}/C^{12} ratio will yield its age.¹ Presumably at death the sample’s C^{14}/C^{12} ratio equaled the C^{14}/C^{12} ratio of its environment. Problems arise in knowing the environmental C^{14}/C^{12} ratio. Was it the same as present C^{14}/C^{12} ratio in the world? *TGF* claims antediluvian values of C^{14}/C^{12} were significantly lower.² There are now evidences that the C^{14}/C^{12} ratio has changed through history.³

Tree-ring evidences

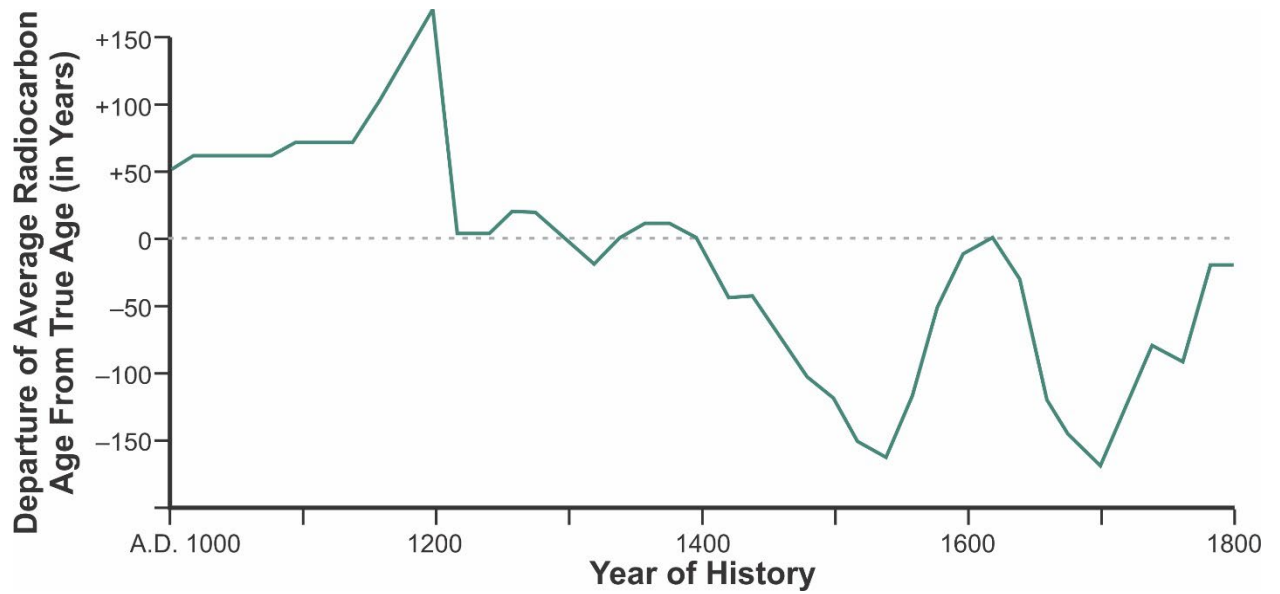
To check one clock another must be used. A convenient clock is tree ring data since by counting rings (assuming one ring=one year) time can be established and by checking C^{14} content of the rings C^{14}/C^{12} ratios may be computed. Very careful measurements by three radiocarbon laboratories on an ancient tree produced the results plotted in Graph Five.⁴

¹ For the general theory, as originally presented by its discoverers see Willard F. Libby, *Radiocarbon Dating* (2nd edition: Chicago: The University of Chicago Press, 1955).

² *TGF*, pp. 374–77.

³ Only in atmospheric C^{14}/C^{12} , the environment of plant and animals, is in view here.

⁴ E. H. Willis, H. Tauber and K. O. Munnich, “Variations in the Atmospheric Radiocarbon Concentration Over the Past 1300 Years,” *American Journal of Science Radiocarbon Supplement*, II (1960), 1.



Graph Five.—Comparison of average radiocarbon age departure from true age for past eight centuries (after Table 1, Stuiver and Suess). Positive value means radiocarbon age is too old; negative value means it is too young.

Before 1200 A. D. radiocarbon dates are too high (indicating C^{14}/C^{12} higher than present). In another similar study tree ring data was compared back to 3700 B. C. producing data seen in Graph Six.¹ Note the spectacular error in radiocarbon dates amounting to –1000 years at 3600 B. C.

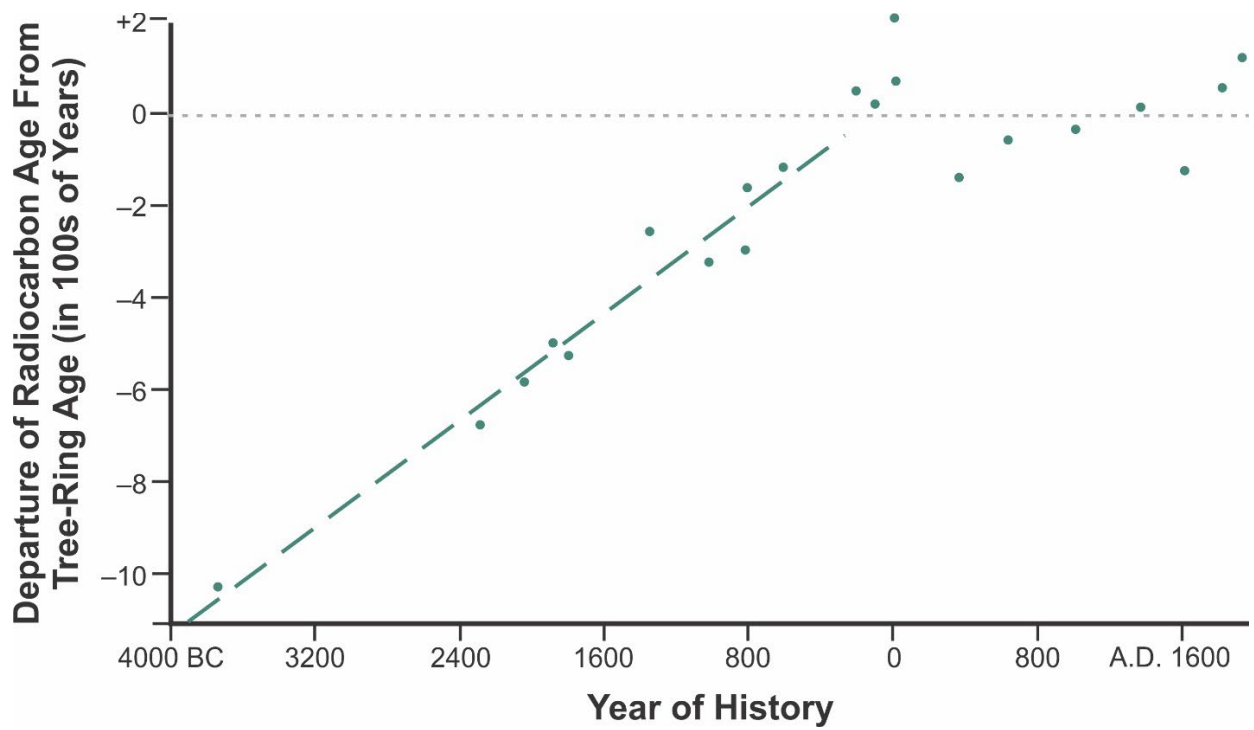
Thus either C^{14} has varied over the centuries or the tree rings are not annual occurrences.² Graph Five appears to be correlated with climatic change—the colder periods had higher C^{14} and visa-versa.³ Yet Graph Six, before 0 B. C., is correlated in exactly the reverse way. A recent explanation for this significant fluctuation in atmospheric radiocarbon is that it is caused by variation in the magnitude of the earth's magnetic field.⁴

¹ Paul E. Damon, Austin Long and Donald C. Grey, "Fluctuation of Atmospheric C^{14} During the Last Six Millennia," *Journal of Geophysical Research*. LXXI, No. 4 (February 15, 1966), 1055–63.

² If the Flood occurred in the fourth millennium as suggested above (*Supra*, p. 99) this tree ring date must be "too long," i.e., more than one ring occurred each year.

³ See discussion in H. Godwin, "Introductory Address," *World Climate from 8000 to 0 B. C.* (London: Royal Meteorological Society Symposium, April 18–19, 1966), pp. 4–5.

⁴ Kunihiro Kigoshi and Hiroich Hasegawa, "Secular Variation of Atmospheric Radiocarbon Concentration and Its Dependence on Geomagnetism," *Journal of Geophysical Research*, CLLI, No. 4 (February 15, 1966), 1065–71.



Graph Six.—Comparison of radiocarbon age departure from age of tree-ring material containing the radiocarbon (adapted from Table Two, Damon, Long, and Grey). Dashed [green] line has been sketched in by eye to point out the progressively worsening relation before ca. 200 B.C.

Clearly this shows in principle *TGF* is correct. The C^{14}/C^{12} ratio *has* changed significantly throughout recent history and so-called “constants” in dating theory are not really uniform constants at all. Unfortunately Graph Six presents precisely the opposite kind of error that flood geology would like. It shows radiocarbon ages before 0 B.C. are too *small*.¹

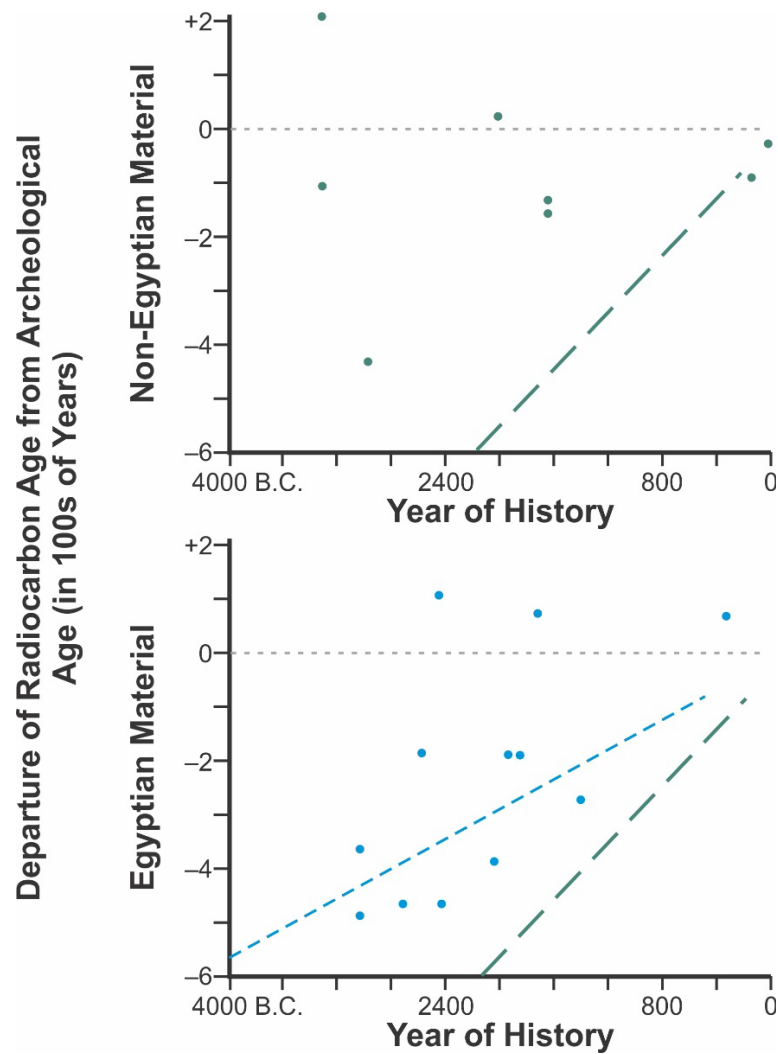
Archeological evidences

Another clock used to check radiocarbon is dated archeological material. Libby compared radiocarbon dates to Egyptian material and other non-Egyptian material in 1963.² Graph Seven has been drawn using his data. The long-dashed line has been introduced from Graph Six for comparison with tree-ring data. Two features demand comment.

First, radiocarbon ages, on the whole, agree more closely with this data than with tree-ring data. This is due either to “lag-time” (wood used in archeological

¹ Cf. Graph Six with articles by *TGF* supporters on this subject: Robert C. Wood, “The Age of Man,” *Creation Research Society Quarterly*, II, No. 4 (January, 1966), 24–27; and H. L. Armstrong, “An Attempt to Correct for the Effects of the Flood in Determining Dates by Radiocarbon,” *Creation Research Society Quarterly*, II, No. 4 (January, 1966), 28–30.

² W. F. Libby, “Accuracy of Radiocarbon Dates,” *Science*, CXL, No. 3564 (April 19, 1963), 278–80.



Graph Seven.—Comparison of radiocarbon age departure from the age of non-Egyptian material (top) and Egyptian material (bottom). (Adapted from Table 1, Libby). Long dashed line is from Graph Six. Short dashed [blue] line in bottom graph is exactly one-half the slope of the long dashed [green] line.

material considerably antedated time of sample) or the tree rings occurred more frequently than yearly intervals.

Secondly, something seems to be wrong in the archeological dating between Egyptian and non-Egyptian material. Error though there may be in radiocarbon dates one would not expect it to vary so *geographically* for the same dates.¹

Radiocarbon dating, then, has been affected by the kinds of error suggested in *TGF*. However, nothing in the present picture supports the specifics of *TGF* proposal.

Both the specific apparent age and radiocarbon dating suggestions in *TGF* do not undermine the Uniformitarians because of lack of experimental support. Nevertheless, increasing evidences coming to light do suggest that both proposals contain fruitful concepts ripe for further research and that in principle uniformitarian assumptions can be deceptive.

Dynamics of the Scientific Community

How has the Flood geology proposal of *TGF* been received in the scientific circles? *TGF* has certainly divided the evangelical camp. Within the American Scientific

¹ This is why the suggestion was made that ancient chronology cannot be considered as firmly established. *Supra*, p. 80, n. 4.

Affiliation debate has been sharp with the leaders strongly against *TGF* proposal.¹ Beginning in 1964, however, a new group was organized by *TGF* supporters called the Creation Research Society.² The nature of this split can be described from two aspects: community loyalty and theological tension.

Community loyalty

Pollard has well said that “science is much more distinctively a human community than it is a body of subject matter or a particular method.”³ Because knowledge is too vast for one man to master groups of men must share and interact for scientific progress to occur.

As with any social group the scientific community has its own “creeds” and standards. These dynamics became plain as the fierce controversy surrounding Velikovsky developed in the 1950s. Macmillan Publishing Company had

¹ This is inferred from the general tone of articles in the *Journal*. A notable exception was the executive-secretary of the A. S. A. Harold Hartzler, Review of *The Genesis Flood*, by John C. Whitcomb, Jr., and Henry M. Morris, *United Evangelical Action*, XX, No. 4 (June, 1961), 27.

² See Appendix C for comparisons between the ASA and CRS.

³ William G. Pollard, “Science as Community,” *Journal of the American Scientific Affiliation*, SV, No. 2 (June, 1963), 39.

to give up Velikovsky's best-seller, *Worlds in Collison* under the brute force of leading spokesmen of the American scientific establishment.¹ Gordon Atwater, curator of Hayden Planetarium, New York City, lost his job merely because he agreed to a program depicting Velikovsky's theory.² The scientific community, as all other social communities, does not put its highest value on freedom of speech and the right to be heard. Loyalty to the community is of prime significance.

An evangelical physicist has suggested parallels between the Velikovsky affair and *TGF* controversy.³ Perhaps the strong emotional reaction can be explained by community loyalty. *TGF* authors have attacked the product of years of hard work by colleagues of many evangelical scientists. A wedge might be driven between professional friends.

If this is so, the only viable option for believers

¹ Recounted in Ralph E. Juergens, "Minds In Chaos," *The Velikovsky Affair*, ed. Alfred de Grazia (New Hyde Park, New York: University Books, 1966), pp. 28–30.

² *Ibid.*, pp. 22–23.

³ Richard H. Bube, Review of *The Velikovsky Affair*, edited by Alfred de Grazia, *Eternity*, XVIII, No. 1 (January, 1967), 44–46.

in sympathy with *TGF* is to regroup outside in a new “heretical” community such as the Creation Research Society. Such fragmentizing has already happened in certain special areas of study.¹

Theological tension

Another aspect is the reluctance of some evangelicals to face up to definitive exegesis. This is clearly seen by the reaction to Prof. Van Der Ziel’s recent book² in which he realized that definitive exegesis could not be harmonized with present historical science. His solution was to divorce the “message” from history following Van Rad. When reviewed in the *A. S. A. Journal* it was said:

Those who are not satisfied with their present viewpoint regarding science and early Genesis may find Van Der Ziel’s presentation a reassuring live option. On the other hand, they may be greatly disturbed by the apparent sacrifices one must make in order to solve the centuries-old problem.³

¹ Pollard points to osteopathy in medicine and parapsychology in psychology, p. 43. Conservative scholarship in Old Testament Studies has operated for years completely out of mainstream Semitics studies.

² Aldert Van Der Ziel, *Genesis and Scientific Inquiry* (Minneapolis: T. S. Denison & Co., 1965).

³ Richard T. Wright, Review of *Genesis and Scientific Inquiry* by Aldert Van Der Ziel, *Journal of the American Scientific Affiliation*, XIX, No. 1 (March, 1967), 32.

Shocked with the implications of *TGF* on the one hand but reluctant to go with Van Der Ziel on the other many evangelicals live in a limbo hoping somehow that Genesis can be made to conform with historical science.

Yet continually reinterpreting Genesis into conformity with historical science has its own dangers. Discussing the A. S. A. volume on evolution¹ a famous scientific historian (non-evangelical) said:

Maintenance of what these writers call ‘verbal inspiration’ is likely to prove possible only by continual reinterpretation of the Bible. In the long run, perpetual reinterpretation may prove more subversive of the authority of Scripture than would a frank recognition of the limitations of traditional doctrines.²

Sometimes evangelicals holding the “middle” position suspect that Genesis after all cannot be interpreted anyway one wishes. Cassel, an A. S. A. leader, once reflected on how a Bible teacher will “fudge” his exegesis when he deals with Genesis 1–11.

I still wonder whether he’s given me more time because I demanded it, or because it’s really there. The same question applies to the days of Gen. 1 and to the

¹ Russell L. Mixer (ed.), *Evolution and Christian Thought Today* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1959).

² John C. Greene, *Darwin and the Modern World View* (Baton Rouge: Louisiana State University Press, 1961), p. 32.

universality of the Noahic flood.¹

TGF has taken a firm stand on the side of definitive exegesis and pressed on to the formidable implications. Evangelicals are thereby forced to face issues of community loyalty and theological tension and for this reason *TGF* stirs the emotions.

Summary

The fourth thesis of *TGF* was an attempt to sell Christians on a radical reevaluation of data in the historical sciences within a flood geology framework. That this framework rather than, say, catastrophism, should be tried was the intent of the book.

The crucial exegetical presentation has been found to be weak. Both sedimentary processes and geochronological explanations in *TGF* did not present any worked-out schemes backed up by direct data. But several suggestions were found offering enough promise in the light of recent discoveries that all those pressured by exegesis should feel encouraged to pursue matters further.

Strong reaction to *TGF* within scientific circles is understandable, but the very fact that a whole society has

¹ J. Frank Cassel, "The Origin of Man and the Bible," *Journal of the American Scientific Affiliation*, XII, No. 2 (June, 1960), 15.

been formed to research questions raised in the book attests to the fact that the fourth thesis enjoys a fair measure of success.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The most passionately discussed apologetic work in evangelicalism has been appraised in its four main theses within the historical perspective of the past three centuries of Flood debate.

Summary

First thesis

It was shown that the most crucial *TGF* thesis historically and scientifically is the assertion of a geographically universal Flood. The fundamental collision between contemporary historical science and Scripture forces a parting of the ways at this point. Normal definitive exegesis of the Flood narrative and related passages certainly supports this central claim in *TGF*. Very severe restrictions arise in trying to correlate the Genesis record and historical science.

The treatment in *TGF* was thorough and convincing although some indeterminate arguments and exegetical weaknesses were found.

Second thesis

TGF claims that this geographically universal Flood

must have occurred between 7000 B. C. and 4000 B. C.

Exegesis of the genealogical literature is more indefinite than of the Flood account but does favor a “recent” Flood occurrence. Since the first thesis logically undermines confidence in all dating systems not based upon actual human records, the sharpness of conflict between this claim of a “late” Flood and historical science is somewhat blunted. Quantitative analysis of post-diluvian longevity decline indicated a surprisingly recent Flood in the fourth millennium, B. C., even more recent than suggested in *TGF*.

Third thesis

By far the most controversial claim of *TGF* is the impossibility of harmony between Scripture and present historical science. It was shown, however, that debate intensified here only because the implications of the *first* thesis came to the surface.

This third thesis was verified by testing three recent attempts at harmony, all of which failed to meet Scriptural specifications. Evidences brought forward to discredit present day geology, while not convincing to Uniformitarians, do provide entrance points for more catastrophic explanations and further research.

Fourth thesis

TGF claims that Christians who accept normal exegesis of Scripture have no alternative but to reevaluate date of the historical sciences within a Scriptural framework. The authors restrict such a framework to the traditional interpretation of Gen. 1–11 producing a flood geology rather than looser frameworks used by Catastrophists.

The presentation of the exegetical basis of flood geology was weak. Some scientific suggestions, however, should certainly be followed up in light of recent findings.

Strength of positive response to *TGF* shown by creation of a new society testifies to at least limited success of this thesis.

Conclusions

It remains to give answers to the questions asked in the introduction.¹

New elements

Considered in a historical perspective *TGF* has added several new elements to the Flood controversy: with regard to the extent of the Flood local Flood proponents will now have to deal with the depth argument from Gen. 7:19, 20 rather than simply appealing to the ambiguity of כָּל (“all”).

¹ *Supra*, pp. 4, 5.

They will be forced to explain II Peter 3:5–7, which has consistently been neglected to date. They also must quantitatively consider the Ark size versus Gen. 6:19–7:3. Furthermore some attention must be given to the relation of longevity decline to the Flood.

Scientifically, the many unexplained evidences of catastrophes should systematically be examined. Men must now study the apparent paradox, raised very forcefully in *TGF*, between the Second Law of Thermodynamics and evolution.

A most important principle arising from *TGF* controversy is the interdependence, apologetically, between harmonies of Gen. 1–3 and Gen. 6–8.

Proof of theses

Certainly the authors have proved their first thesis and, to a lesser degree, their second thesis. Since the third was implicit in the first, it too can be considered as proved. The fourth thesis, if considered as an attempt to motivate action rather than as an accomplished fact, was also substantiated. The weakest section was the exegetical discussion of Gen. 1–3. There were other minor weaknesses throughout the work, but these cannot nullify the overall thrust of *TGF*.

Value of criticism

The most surprising and disappointing part of this study has been the complete failure on the part of *TGF* critics to refute the work at its basic foundation: exegesis of Gen. 6–8. As emotional brick bats were thrown at the authors, positive, constructive criticism never once appeared. This writer has received the definite impression that *TGF* critics have never considered Gen. 6–8 exegetically without at the same time being obsessed with present historical science. On the other hand non-concordist Old Testament scholars, who can afford to let the text speak independently of scientific requirements, have long recognized that the traditional interpretation is the intent of the author(s). So lacking was real criticism that this study had to originate much of the criticism itself.

Present issues

TGF has made it disturbingly clear that only three paths lie ahead: (1) evangelicals can uphold normal exegesis of Gen. 1–11 and, in faith that this is God's Word, conduct scientific reevaluation along the lines of flood geology or some form of catastrophism; (2) adopt a special passive heuristic interpretative stance in which Gen. 1–11 is made to conform to whatever happens to be the present

reconstruction of historical science; and (3) take the path of liberalism out of respect for exegetical limitations and become non-conformist, thereby sacrificing historicity.

TGF, it is concluded, presents the most influential case within contemporary apologetics for traditional exegesis in the face of modern historical science. It offers to evangelicals as thorough challenge to their historical thinking as *The Origin of Species* did a century ago.

APPENDIX A

HISTORICAL SOURCES

Much valuable material may be gained from study of the history of Biblical and geologist thinking about primal history. Below are some sources consulted for this study.

Biblical Thinking

Jack Finegan, *Handbook of Biblical Chronological* (Princeton: Princeton University Press, 1964), pp. 142–46. Discusses Africanus, Hippolytus, Eusebius, and other early Church Fathers.

Alexander Roberts and James Donaldson (ed.) *The Ante-Nicene Fathers* (Buffalo: The Christian Literature Publishing Co., 1885). Presents the works of Theophilus of Antioch (II, 119) and Lactantius (VII, 211–12).

Geological Thinking

Ancient and Medieval periods

Don Cameron Allen, *The Legend of Noah* (Urbana: University of Illinois Press, 1949), pp. 66–112. R. J. Forbes, *Studies in Ancient Technology* (Leiden: E. J. Brill, 1966), I, 1–103.

Later periods

Frank Dawson Adams, *The Birth and Development of the Geological Sciences* (New York: Dover Reprint, 1954, of 1938 edition).

Charles Coulston Gillispie, *Genesis and Geology* (Cambridge: Harvard University Press, 1951), pp. 41–258.

John C. Greene, *The Death of Adam* (Ames, Iowa: The Iowa State University Press, 1959), pp. 1–247.

See also works by Haber and Hooykaas cited in text.

Discussions of Flood Geologists

Harold W. Clark, *The New Deluvialism* (Angwin, California: Science Publications, 1946), pp. 1–13.

Byron C. Nelson, *The Deluge Story in Stone* (Minneapolis: Augsburg Publishing House, 1931)

See also works by Ramm and Rupke cited in text.

APPENDIX B

THE GROUNDING SITE OF THE ARK

As mentioned above¹ the actual site of the Ark's grounding is crucially related to the depth of the Flood. The following discussion presents both traditions and modern observations pertinent to this site.

Traditions

According to Skinner's concise summary there are three traditional areas believed by different people to be the site of Gen. 8:4:² (1) the Armenian province lying northeast of Lake Van (location of *the* Mt. Ararat); (2) Kurdistan southwest of Lake Van; and (3) the area north of the lower Mesopotamian Valley.

Armenian Site

This tradition stems from the reference to Isa. 37:38 and Jer. 51:27. Mt. Ararat is the highest mountain within this region.

Kurdistan Site

Further south of the previous site is the second

¹ *Supra*, p. 42.

² John Skinner, *A Critical and Exegetical Commentary on Genesis ICC* (Edinburgh: T & T Clark, 1910), p. 166. NB: the original thesis included an extra bracket after the final 'c' in *ICC* which has been removed here.

location given by the rendering אֶרֶץ in Gen. 8:4 by the Targum of Onkelos and the Syriac version. Josephus and the Koran have references to this site.

Northeast Persian Site

Heidel describes the identification of this area from references to a Mt. Nisir in the Gilgamesh Epic.¹ Mt. Nisir is identified with Pir Omar Gudrun (altitude 9000 feet, MSL).

The important thing about these traditions is that *all* of them point to sites thousands of feet in altitude.

Modern Observations

Although Josephus quotes ancient historians in his day who heard of people visiting the site and returning with pieces of wood and bitumen² [sic] the most spectacular reports come from the present century. What follows is a brief summary of these observations and an analysis.

Summary

Most modern observations come from Mt. Ararat of the Armenian location. Rehwinkel relates a 1917 sighting by

¹ Alexander Heidel, *The Gilgamesh Epic and Old Testament Parallels* (Chicago: The University of Chicago Press, 1946), p. 250.

² Josephus, *Antiquities*, I, 3.

Russian soldiers of a complete boat at the 14,000-foot level of Ararat¹ but is rightly dubious of its suspiciously detailed account and “disappearance” of the written report said to have been made.

Between 1917 and 1960 several more reports of objects found on Mt. Ararat occurred.

Quotes from private correspondence with one authority on these observations follow:

About 1930 an Australian scientist also found wood high on the mountain. About 1945 some Turkish fellows claim they saw part of the Ark on Ararat and wrote us that they would guide us to the spot, but the letter never got past the American Embassy in Ankara until last year when we saw it, but 20 years had elapsed and three of the party had died. ... A Turk reported in the Istanbul paper in 1948 having seen the prow of a ship on Ararat in early Sept. ... Mr. Navarra of France has made two or three trips to Ararat and on one trip came back with a timber from the ice cap on Ararat that he thinks may have come from the Ark.²

The Archeological Research Foundation has made several expeditions to Ararat and the vicinity with no results so far. They report date for the wood found by Mr. Navarra as about 950 A. D. but remark “the wood is saturated

¹ Alfred M. Rehwinkel, *The Flood* (St. Louis: Concordia Publishing House, 1951), pp. 77–83.

² Letter from C. L. Burdick, September 25, 1967. Dr. Burdick is a geological consultant who has been active in expeditions to Ararat by the Archeological Research Foundation.

with iron and the dating may not be accurate.¹

In 1960 a Turkish Army Mapping Service captain, Ilhan Durupinar, discovered a boat-shaped object on a mountain 20 miles south of Ararat from aerial photographs of the area.² The photograph and a report of the subsequent ground expedition to the location was reported in *Life* magazine.³ Expedition leader George Vandeman concluded: “The mission was scientifically successful. ... We identified the supposed object and ascertained to our satisfaction that it was a freak of nature and not man-made.”⁴ Burdick suggested that the symmetrically shaped formation in the mountainside was made by a lava flow that encountered a ridge-like object and flowed around both sides of it.⁵

In the summer of 1966 the same Archeological Research Foundation in cooperation with the Turkish government

¹ Letter from Marjorie Lloyd, Historian, Archeological Research Foundation, November 13, 1967.

² Press release by H. S. Thompson, Public Information Officer during the 1960 expedition by the Archeological Research Foundation, from Ankara. Copy forwarded by Colonel Erokan, Assistant Director General Turkish Mapping Service, 15 September 1967.

³ “Noah’s Ark?” *Life*, XLIX, No. 10 (September 5, 1960), 12–14.

⁴ Press release, Thompson.

⁵ Burdick, letter.

and the United States armed forces explored the whole Ararat area.¹ Briefly their findings were these:

1. The original Mt. Ararat was about 10,000 feet in height and has been subsequently domed up perhaps at one time to as high as 20,000 feet by volcanic extrusion.
2. It has been worn down to its present height (of 16,946 feet) by erosion.
3. The volcanic extrusion has continued periodically but at successively lower altitudes. Much of the lava products of the earlier period higher up the slope give evidence of having been *ejected under water*.
4. Mt. Ararat is presently covered by ice down to an altitude of 14,000 feet which melts back to a seasonal minimum in September.

It is the understanding of the present writer that future expeditions are planned for some September when the ice melts back to look for any possible remains of the Ark.

Analysis

Of course, with the fame of Ararat well known one would expect false reports.

Rehwinkle and *TGF* authors²

12. ¹ Clifford L. Burdick, "Ararat—The Mother of Mountains," *Creation Research Society 1967 Annual*, pp. 5-

² Rehwinkel, p. 87, n.1; *TGF*, p. 87, n.1.

while believing in a great Flood are not endorsing these observations. However, the Archeological Research Foundation notes that “most of the reports point to a certain area, and it should be further investigated.”¹ There would seem to be some reason to continue examination of Mt. Ararat.

It would seem incredible that a wooden ship could survive at altitudes through which the freezing level oscillates, on a mountain that is eroding and that has had strong seismic and volcanic activity in the past years. Needless to say, wood over 4,000 years in age, if found, would set off one of the biggest apologetic stirs in Church history and undoubtedly would confirm *TGF* position.

¹ Lloyd, letter.

APPENDIX C

EVANGELICAL SCIENTIFIC SOCIETIES

Most of the interaction on the Flood issue has occurred within these groups with which Christians should be familiar.

American Scientific Affiliation¹

Founding

The A. S. A. was founded in the Fall of 1941 largely through the efforts of Dr. Irwin Moon of the Moody Bible Institute.

Description

Annual meetings are held oftentimes in conjunction with other Christian groups. A quarterly *Journal* is published with papers on aspects of science and Christianity. As of November 1967 there were 120 Fellows (elected doctorates), 1,239 Members (baccalaureate degree in science) and 244 Associates.

¹ Information taken from I. A. Cowper Thwaitte, "Twenty Years with the American Scientific Affiliation," *Journal of the American Scientific Affiliation*, XIII, No. 4 (December, 1961) pp. 98–102; and letter from Hazel Fetherhuff, National Office Secretary, November 8, 1967.

Statement of faith accepted by all members:

The Holy Scriptures are the inspired word of God, the only unerring guide of faith and conduct. Jesus Christ is the Son of God and through His atonement is the one and only Mediator between God and man.

Individual views vary widely.

Creation Research Society¹

Founding

The C. R. S. was founded in 1963 by some A. S. A. members during the height of *TGF* controversy under the leadership of William J. Tinkle and Walter E. Lammerts.

Description

The Society exists solely for exchange of papers and original research in fields of creationism and the Flood. A quarterly is published containing these reports.

Statement of faith accepted by all members:

1. The Bible is the written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all the original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truths.
2. All basic types of living things, including man,

¹ Information taken from Walter E. Lammerts, "Introduction," *Creation Research Society 1964 Annual*, pp. 1, 2; and letter from Wilbert H. Rusch, Sr., Secretary-Treasurer, January 15, 1968.

were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds.

3. The great Flood described in Genesis, commonly referred to as the Noachian Flood, was an historic event worldwide in its extent and effect.
4. We are an organization of Christian men of science who accept Jesus Christ as our Lord and Savior. The account of the special creation of Adam and Eve as one man and woman and their subsequent fall into sin is the basis for our belief in the necessity of a Savior for all mankind. Therefore, salvation can come only through accepting Jesus Christ as our Savior.

As of January 1968 there were approximately 300 voting members (Masters degree in a natural science) and 500 sustaining members.

NB: Dustin Burlet assisted in certain ways with the editing of this electronic document *in toto*.

He serves as an instructor at Millar College of the Bible (Winnipeg MB Canada) and is on the executive committee of the Creation Theology Society. The Creation Theology Society seeks to develop a community of biblical scholarship that initiates and undergirds interdisciplinary creation research. According to their founding documents, “The CTS shall publish a formal peer-reviewed interdisciplinary journal that presents the proceedings from the annual conference: selected abstracts from each paper/presentation, full papers from the Themed Interdisciplinary Session, and a transcription of the panel discussion, along with any other articles and book reviews approved through the peer-review process.” As of 2025, two volumes have been printed.

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