

# The Historical Accuracy Of Biblical Chronology

**Evidence in support of the Biblical time frames for the Creation, the Genesis Flood, and the beginnings of human civilization in ancient Egypt and Mesopotamia.**

**by Stephen Nordholm**

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# **THE HISTORICAL ACCURACY OF BIBLICAL CHRONOLOGY**

## **INTRODUCTION**

Many attacks in recent years have been leveled at the Scriptures by modernistic critics of God's Word in the area of the chronological accuracy of the Bible. These attacks deal especially with the Egyptian and Mesopotamian chronological systems and their resulting discrepancies with the Biblical record.

Because the chronology of Egypt is not definite and can be stretched to fit their preconceptions, most critics have used it as a base of attack against the Word of God. Usually the beginnings of recorded Egyptian history are placed 500-600 years earlier than the Bible indicates they should have been. The First Dynasty of Egypt (beginning with Menes) is usually placed by most historians at about 3000 B.C. Yet, according to the Biblical record it could not have been earlier than about 2500 B.C. (the time of the flood), since all previous archaeological records would have been destroyed prior to this time in the flood. Actually, there was probably a gap of 100-200 years between the flood and the beginnings of recorded Egyptian history.

In contrast, the Assyrian records place the beginnings of history in Mesopotamia at about 2400 B.C. which squares well with the Biblical record. Most Assyriologists accept this approximate time period for the beginnings of recorded history in that area. Since the Bible indicates that history begins in the Mesopotamian valley (see Nimrod, Gen. 10), Egyptian history must have begun just shortly after Mesopotamia (about 2300 B.C.), and not vice versa.

With this in view, it will be the primary purpose of this book to demonstrate the accuracy of the Biblical account. I will endeavor to show that, where the Bible and history are in conflict, the Bible is by far the more reliable source.

A second purpose of this book will be to explain that the scientific clues which we have today better support the young earth of the Biblical record than they do an earth of some 4.5 billion or more years in age.

A third purpose will be to establish, within these pages, that man has emerged upon the annals of history in relatively recent times. According to the Bible account man is a little under 6,000 years in age rather than the million or more years proposed by the evolutionist.

A fourth purpose will be to establish that modern archaeology, no matter how sophisticated, can only transport us back in time to somewhere around the year 2500 B.C. The Flood had to

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destroy, by its very nature and magnitude, all archaeological evidence before that awesome event.

From the time of Moses until today the Bible has stood the test of time. Many people of all walks of life have arisen from time to time with their hammers of skeptical argument to smash the Word of God. Each of these skeptics in turn has either been converted to the truth they once denied or died in unbelief. The Bible lives on from generation to generation as a secure ship upon the turbulent sea of history.

Those who are wise enough to obtain passage upon this ship of hope are brought safely to the Haven of Rest at life's end. Those outside this ship perish in the frigid waters of skepticism and unbelief. Like the anvil that wears out the many hammers that beat upon it, so the Word of God has withstood, from Moses until today, every hammer that has attempted to break its foundation in the history of man.

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## **CHAPTER ONE**

### **Man's Knowledge of Past Events**

#### **1 - Perspectives on the Early History of Man**

Man was created in the image and likeness of God. As such man was endowed by his creator with an intelligent and creative mind. With the fall, however, man lost much of the light and revelation from God which had previously and constantly dwelt within his soul and spirit and illumined his mind. As a result man has increasingly turned to his own intellectual powers in an attempt to unravel the mysteries of human existence.

In the pre-flood world of the Bible men lived to a very great age. Adam died being 930 years old. Methusaleh was born when Adam was 687 years old and died in the year of the great world-wide flood of Genesis. Shem was born 100 years before the death of Methusaleh and the great flood and lived to see the birth of Isaac sometime around 2066 B.C. Isaac died only 10 years before Jacob and the sons of Israel entered Egypt in 1876 B.C. In only four generations from Adam the whole history of mankind could be conveyed by word of mouth from the beginning of man upon the earth to the beginning of Israel's sojourn in Egypt. The past held no real mysteries for mankind for the first 2,000 years of his existence upon planet earth.

There were plentiful eye witnesses to man's historical record. Nevertheless, so many men turned from God that in spite of the abundantly available testimony to God's hand in creation and His dealings in the lives of men, God was compelled to mar the face of the earth and to destroy mankind from off of it by a cataclysmic flood. This occurred only 1,656 years after Adam.

God gave man a fresh start in Noah and his sons. Yet in only three generations from Noah (Ham, Cush and Nimrod) a mighty hunter before the Lord arose upon the earth. His name was Nimrod. The beginning of Nimrod's kingdom was in Babylon, Erech and Akkadia. From Babylon Nimrod expanded into Assyria and founded Nineveh.<sup>1</sup>

The pagan religion introduced by Nimrod into Babylon and Assyria was far removed from the simplicity and purity of worship to Noah's God, the true creator of the universe and mankind. As they are known from the annals of archaeology today, Babylon's and Assyria's cultural, political, ethical, and religious systems were far removed from the precepts and teachings of Adam's and Noah's God. Man began to rely more and more upon his natural and sometimes carnal reasoning powers. In his unwillingness to walk with God, men's minds became increasingly darkened as they turned from the worship of the true God to venerate and worship idols of their own fabrication. These idols included the sun, the moon, the stars, the planets, human bodies with animal heads, hawks, eagles, ravens, bulls, cows, the sky, the land and gods with mythological histories of exaggerated length to suit man's intellectual denial of the one true God. Thus, in roughly one hundred years after the flood the bulk of mankind found themselves at Babel building a tower to reach to heaven and an edifice to support their intellectual fabrications of history and the divine.

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From Babel on man has increasingly lost his knowledge of the past. As nation has risen against nation and one kingdom has risen against another, only in turn to fall in time to a power greater than itself, so man has, with each new fall of an empire, lost another chapter in his own historical knowledge. The savagery of war, the impartiality of the sword, and the wasteful cruelty of an entire city engulfed by the torch has each in its own way increasingly obscured man's understanding of his own divine roots and unique place in God's plan for the Earth.

## **2 - Recent Archaeological Knowledge of the Ancient Near East**

As recently as 1850 (only 136 years ago) nothing was known about the history of the ancient Near East except what could be learned from extant Greek and Latin writers. Of the many monuments, inscriptions and tablets of ancient Mesopotamia, Egypt, Persia, Palestine, Syria, Asia Minor and Arabia, up until 1850 the scripts and languages of these artifacts remained as a mysterious silent witness to the past history of man. Archaeological surface exploration and excavation were only in their beginning stages. What the classical Romans and Greeks knew about the history of the ancients was, for the most part, erroneous, fragmented, vague, often mixed with mythology, and full of great blank periods of time. In fact, the history of the ancient Orient was so distorted by the Latins and the Greeks as to be almost unrecognizable by us today as the true history of the ancient Near Eastern civilizations. From a few hundred years after the flood, as evidenced by the tower of Babel, until the early 1900's, when archaeology could truly be termed a science, man's knowledge of the past and of his own origins, with the exception of the Hebrew Bible, dealt mainly in the realm of fabrication, fiction and mythology.<sup>2</sup>

Most of what is known today of the ancient Near East did not break the silence of the past until the early to middle part of our own twentieth century. The twentieth century has literally been inundated by a volume and wealth of information from the past unparalleled in the history of mankind. From the early excavations of Flinders Petrie, who excavated the pyramids of Gizeh in Egypt (1881-1882) and led in most of the excavations at Memphis (1907-1909) and ancient Gaza (1927, 1930-1934), to the excavations of John Garstang at Jericho (1907-1909, 1930-1936), of William F. Albright in Palestine and Syria (1922-1934) and of Leonard Woolley at Ur (1922-1934), to name only a few, the secrets of the archaeological scripts of the past were at last readable and understandable.<sup>3</sup> Systematic, scientific and archaeological methods and procedures added richly to the accuracy of the current history that can be reconstructed from ancient times.

One of the most exciting finds of very recent times has come to light from the archaeological excavations of the Royal Archives of Tell Mardikh (1964-1975), more commonly known as Ebla in Northern Syria. Here 15,000 ancient tablets were found, many of them written in a previously unknown West Semitic language related to Hebrew. These tablets reveal a lost third-millennium B.C. Syrian empire as large as that of Sargon the Great of Akkad in Mesopotamia. The knowledge gained from this royal library at Ebla seriously challenges the primacy of Mesopotamia in ancient Near Eastern history.<sup>4</sup> The insights extracted from Ebla,

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and from numerous similar recent and modern excavations, has literally transformed and revolutionized our present day understanding of the ancient past.

### 3 - The Philosophic Nature of Historic Geology and Paleontology

Up until our own century, however, men relied heavily upon their own intellectual reasoning powers to figure out, as best they could from insufficient evidence, the history of the mystery of their unique existence upon planet earth. In an unwillingness to acknowledge the truth of the Bible and to walk with God many have, even in our day of enlightenment, fabricated imaginative, speculative and alternate theories of man's existence, origin and history upon our planet.

Even in Charles Darwin's day (1809-1882) many branches of scientific endeavor, including archaeology, biology and geology, were only in their infancy. During his famous voyage on the HMS Beagle (1831-1837) Darwin proposed his theory of the evolutionary origin of the species. This theory had as its foundation the uniformitarianism doctrine of Charles Lyell's *Principles of Geology*. Uniformitarianism proposes that natural laws apply uniformly throughout time.<sup>5</sup> Therefore sudden, unique events such as the divine creation of the universe and man by the command of God, and the destruction of mankind, with the exception of Noah and his family, by the universal flood, as described in the book of Genesis, become impossible within the structure of the uniformitarianism philosophy of natural history. Therefore the geology of the earth no longer represents the sudden aftermath of a cataclysmic event upon this planet, but rather the slow accumulation of material and sediment over hundreds of thousands and even millions or billions of years. It is theorized that man was not created as a unique being by God, but rather evolved over many thousands or millions of years from lower life forms.

It is an issue of great importance to note that after so many years since the time of Darwin, his proposed theory of evolution is still just that, a theory and not a proven fact. Of even greater importance is the observation that Lyell's principals of historic geology are more properly categorized in the realm of natural philosophy than in the realm of science or empirical fact. The reason for this distinction is the simple fact that events of the past cannot be put on replay for a modern laboratory test to verify the validity of the underlying principals of a theory concerning past events. Physical geology, on the other hand, is truly a science because it studies presently visible real earth models and events. Physical geology directly studies processes which are presently observable in the laboratory of nature. Historical geology, in contrast, studies ancient events which cannot be reproduced. Stuart E. Nevins summarizes the character of natural geology well when he says:

*“Earth history is not presently seen. For these reasons the historical geologist relies on indirect evidence to understand past events. He can never see the operation of past processes, but only clues to their action preserved in the rocks. Often massive amounts of speculation must be considered by the historical geologist before an adequate theory can be proposed. His conclusions must necessarily incorporate assumptions which relate past events to those presently seen. The methods used do not rest on scientific principles. Historical geology cannot be strictly called a science because it does not deal with events*

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*which are presently visible and susceptible to experimental study.”<sup>6</sup>*

This philosophical character of natural geology has a large impact on the sub-field of natural geology known as paleontology or the study of fossil organisms. Paleontology studies the fossil record of biologic history so often referred to by Charles Darwin. Paleontology, like natural geology, is also more strictly a natural philosophy of past events drawn from geologic clues embedded in the earth's crust than it is a science which can be verified by repeated experimentation and observation. The whole foundation of evolutionary thought today, therefore, rests upon a philosophical theory to explain the seemingly mysterious origin of mankind and life upon planet earth.

Evolution has, at its roots, a desire to do away with divine intervention and to explain the past in light of present processes which are observable today. Today the evolutionist has concluded, based on his philosophical naturalistic interpretation of the past, that intelligent man, as we know him today, emerged from his long evolutionary ancestral line hundreds of thousands or even millions of years ago. There is no proof of this. It is only a speculative theory based on certain underlying, often philosophical, assumptions.

#### **4 - Historic Dates, Radiocarbon Dating Methods and the Genesis Flood**

There are some who would say that radiocarbon and other current dating methods of paleontology have established as fact the huge ages attached to the homo-sapiens species upon this planet. The truth is that even these dating methods rest upon philosophical assumptions. If the underlying assumptions are altered, the dates produced by the radiocarbon (Carbon-14) and other dating methods will vary drastically. Readings of millions of years can be reduced to a few thousand years simply by changing the philosophical assumptions underlying the dating method. This statement sounds radical, but it is all too true. W.F. Libby, who won the Nobel Prize for his work on C-14 dating, has compared C-14 dates with generally accepted dates for ancient Egypt and for the tree ring dates of the same. In an article on the accuracy of radiocarbon dates Dr. Libby discusses the assumptions involved in the constancy of C-14 in the biosphere:

*“The radiocarbon content of the biosphere depends on three supposedly independent geophysical quantities:*

*1) The average cosmic ray intensity over a period of 8,000 years (the average life of radiocarbon) as measured in our solar system but outside the earth's magnetic field;*

*2) The magnitude (but not the orientation, because at the relatively rapid mixing over the earth's surface) of the magnetic field in the vicinity of the earth, averaged over the same period and;*

*3) The degree of mixing of the oceans during the same period. The question of the accuracy of radiocarbon dates, therefore, is of interest to geophysicists in general, as well as archaeologists, geologists, and historians who use the dates.”<sup>7</sup>*

In his article Dr. Libby summarizes with a discussion of his reasons in favor of a constant cosmic ray flux and in the probable uniformity in ocean mixing. He then admits, *“The question*

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*of the constancy of the magnetic field near the earth and its effect on the rate of production of Carbon-14 is almost completely open.*” The magnetic field, “...has probably remained constant to within the indicated limits of ten to twenty per-cent over the past 4,000 or 5,000 years...”<sup>8</sup> Past 4,000 to 5,000 years ago (2000 to 3000 B.C.), even with the equilibrium model, radiocarbon dates become unreliable. Dr. Libby further points out that C-14 and historical dates agree quite well back to about 4,000 to 5,000 years ago (2,000 to 3,000 B.C.). Beyond that time an increasing degree of uncertainty and error is introduced. The degree of uncertainty increases rapidly with ages past 5,000 years ago. While discussing plots of historical dates Dr. Libby states,

*“These plots (i.e. historical dates vs. the uncertainty in the dates) of the data suggest that the Egyptian historical dates beyond 4,000 years ago may be somewhat too old, perhaps five centuries too old at 5,000 years ago, with decrease in the error to 0 at 4,000 years ago. In this connection it is noteworthy that the earliest astronomical fix is at 4,000 years ago, that all older dates have errors, and that these errors are more or less cumulative with time before 4,000 years ago.”*<sup>9</sup>

If the mixing of the oceans has a bearing on the reliability of radiocarbon dates then a global event like the universal flood of cataclysmic proportions as described in the book of Genesis would demand major alterations in the underlying philosophy and principles involved in radiocarbon dating past 4,500 years ago (2500 B.C.). It is of great significance to indicate, at this point, that the Genesis flood of the Bible, according to the Biblical chronology, occurred sometime around 2500 B.C, or about 4,500 years ago. A flood of the proportions described in Genesis would certainly alter the assumptions upon which C-14 dating is based, and would have, as well, totally destroyed all pre-flood archaeological sites.

## **5 - The Impact of the Genesis Flood on Archaeology**

In order to draw meaningful data from an archaeological site it must be undisturbed by cataclysmic events over time and have its sediments deposited in orderly strata with the ruins of earlier cities of the same archaeological site laid down successively beneath it and the ruins of later cities deposited successively on top of it. This way the various strata of an archaeological site or tell can be dated relative to strata of more certain age. Rain over several hundreds or thousands of years can do extensive damage to an archaeological tell. This damage is usually irreversible.

A global flood of the proportions described in the book of Genesis would have totally rearranged the entire strata of the earth, probably down to bedrock in most regions. For this reason no archaeological evidence of past civilizations could have survived the flood with the exception of isolated artifacts from pre-flood times. These artifacts, however, could be separated by hundreds or thousands of miles from their original site and deposited in the earth in a random manner widely separated from other related relics of the pre-flood past. According to the Biblical record, then, archaeology, as we know it today, has to and should begin about 4,500 years ago, or at about 2500 B.C.

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## 6 - Egyptian and Mesopotamian Chronology and the Bible

Since the time of Darwin until today many attacks have been aimed at the chronological model of mankind's history as recorded in the Bible. A major target has been the alleged discrepancies between the Biblical record and the chronological systems of ancient Egypt and Mesopotamia. Upon careful study of the facts, however, these discrepancies vanish and the accuracy of the chronological model presented in the Bible becomes the better record of the past history of the earth.

In this light, the generally accepted dates for the dawn of recorded history in Egypt, as we understand it today, are perhaps 500-600 years too old. There is increasingly strong evidence to support this hypothesis. There are some very severe problems in reconstructing the early history of Egypt. One of these problems is that most events in Egypt are dated to the year of the reign of a certain Pharaoh. Thus, to reconstruct the Egyptian history, each dynasty must be ordered in proper succession. This task is very difficult since there are very few bench marks along the way to check the accuracy of the reconstructed historical model. To compound this problem is the fact that during certain parts of Egypt's history there were two and sometimes three different Pharaohs each reigning as a contemporary of the other or others.

Many early Egyptologists arranged the historical model of Egypt with these contemporary dynasties listed as successive reigns. In this way exaggerated dates have been assigned to the beginnings of recorded history in the Nile valley of Egypt. For example, the First Dynasty of Egypt (beginning with Menes) is usually placed, by most Egyptologists, at about 3000 B.C. Yet, according to the Bible account the first Egyptian dynasty could not have predated the flood which occurred around 2500 B.C. Actually, since after the flood the earth was populated by only Noah and his family, it may have taken 100 to 200 years before civilization finally began in Egypt.

In contrast, the Assyrian archaeological records place the beginnings of history in Mesopotamia at about 2400 B.C, which squares well with the chronological model of the Bible. Most Assyriologists accept this approximate time period for the beginnings of recorded history in Mesopotamia. There are a few notable exceptions of this general rule, and those who attempt to push Mesopotamian history back in time are left without a leg to stand on when confronted with evidence to the contrary. Unlike Egyptian chronology, the chronology of Mesopotamia, and Assyria in particular, is fixed and orderly with many absolute astronomical fixes and well recorded historical records in between. In fact, the estimated error factor at 1700 B.C, in Assyrian chronology, is only fifty to seventy-five years.

It should be further noted that since the Bible indicates that history begins in the Mesopotamian valley (*see Nimrod, Gen 10*), Egyptian history, after the flood, must have begun just shortly after Mesopotamia, and not the other way around as some historians have proposed. Millar Burrows of Yale observes:

*“Archaeology has in many cases refuted the views of modern critics. It has shown in a number of instances that these views rest on false assumptions and unreal, artificial*

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*schemes of historical development (AS 1938, p. 182). This is a real contribution, and not to be minimized.”<sup>10</sup>*

In agreement with Burrows, William F. Albright, the noted archaeologist, states:

*“The excessive skepticism shown toward the Bible by important historical schools of the eighteenth and nineteenth centuries, certain phases of which still appear periodically, has been progressively discredited. Discovery has established the accuracy of innumerable details, and has brought increased recognition to the value of the Bible as a source of history.”<sup>11</sup>*

In contrast, many men when guided by their own human reasoning have a tendency to want to eliminate the divine and the supernatural from human experience. In so doing, the last source that these men would want to consult, for historic or scientific insight, is the Bible. This tendency is all too common in our present humanistic society and has hindered greatly our proper understanding of past events.

## **7 - The Bible: An Archaeological Find of Present Relevance**

Today there is more archaeological evidence to support the accuracy, integrity, and historicity of the Bible than any other ancient manuscript ever written. The numbers of ancient texts supporting and confirming the Bible, along with the many archaeological verifications of Bible history, are astronomical when compared to any other ancient manuscript. The Bible is an archaeological manuscript of great importance and readily available in the United States, and in most of the world, to anyone who would desire to read it. With an archaeological find and witness to past events of such great reliability and antiquity as the Bible within such easy reach of any who would wish to read it, it is difficult to understand why the Bible is so seldom consulted by so many individuals. The Bible is not only the most accurate guide we possess to past events, but it also contains the answers to many of the most perplexing questions known to man. Wise is the man who regularly reads the Word of God and reflects and acts upon its teachings.

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## CHAPTER TWO

### Evidence In Support Of A Young Earth

#### 1 - The Debate Between Naturalism and Special Creation

Central to the debate between special creation and naturalism is the disagreement over the amount of time the earth has been in existence. This debate also affects the dates for the beginning of recorded history and the accuracy and reliability of the Bible as a trustworthy chronicle of the history of man. In contrast to the Bible record, naturalism requires, by its very nature, tremendously large amounts of time for its processes of gradual change to logically begin to explain how complex life forms and their supporting environment could have come about without divine intervention. The Bible, on the other hand, if taken for what it actually says without rationalistic alterations, indicates that the Earth is of a relatively young geologic age. The Bible further indicates that the Earth and man are the product of a unique and special creation of God occurring probably not more than 6,000 years ago. The underlying philosophy behind special creation is that if God created the Earth and the universe, then no vast amounts of time are needed to account for the apparent antiquity of the universe. It could have been created already functioning with the resulting appearance of age.

If one assumes that the universe arose spontaneously from nothing, then vast amounts of time are needed to account for its present appearance. If creation is assumed, then the universe could have been created all at once, in its present form, with the appearance of vast age only occurring to the naturalists.

The main issue to consider in this discussion is that science can only offer clues to support an underlying premise, hypothesis or philosophy about the past history of man, the earth or the universe. The past history of man and the universe fall in the realm of philosophy. The scientific 'proofs' of the age of the earth today alter drastically if the underlying assumptions of those 'proofs' are altered. In this way science can prove either a young earth or an earth of great age depending on whether the underlying philosophy of the scientific 'proof' assumes naturalism or special creation.

The underlying foundation of present historical geology does not rest in science or scientific principles, nor in the history of the Bible, but on naturalistic assumption. The scientifically unsubstantiated foundation of historical geology is admitted by the noted Harvard professor of geology, William M. David as he writes,

*"The very foundation of our science is only an inference; for the whole of it rests on the improvable assumptions that, all through the inferred lapse of time which the inferred performance of inferred geological processes involves, they have been going on in a manner consistent with the laws of nature as we know them now. We seldom realize the magnitude of that assumption. A philosopher of the would-be absolute school once said to me, in effect: 'You geologists have an easy way of solving difficult questions: you*

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*account for the structures of the earth's crust by assuming that time and processes have been going on for millions and millions of years in the past as they go on today; but how do you know that time did not begin only a few hundred thousand years ago after the earth had been suddenly created in imitation of what it would have been if it had been slowly constructed in the manner that you assume?' The answer is as easy as the question: 'We do not know; we merely make a pragmatic choice between the concept of such an imitative creation which seems to us absurd, and the long and orderly evolution which seems to us reasonable.' ”<sup>1</sup>*

As William M. Davis has stated, the assumption of naturalism is an enormous one. There is no real proof for this assumption. To some naturalism or uniformitarianism is more logical and to others creation is more logical. The issue really must be ultimately settled outside the realm of science. Since the Bible is the only true comprehensive source book we have of great antiquity, and if it is truly inspired by the Creator of the universe (*as the Bible claims to be*), then the historical data contained within its pages is by far more trustworthy than all the intellectual speculations and conjectures of highly 'educated' men.

If one should apply a true scientific approach to this subject he would have to adopt an open mind to all evidence presented. It is not possible in the pages of this single book to address all of the issues involved in this question. To do so adequately would involve many volumes of material. Since vast amounts of information have been given to the reader concerning scientific proofs of the age of the earth and man, I would like to concentrate on a few evidences from the recorded annals of scientific research which indicate a relatively young earth.

Since this idea is revolutionary to many readers I would like to make just two points before I proceed. One, questions concerning the age of the earth and man, events which cannot be presently observed and verified, involve philosophic assumptions no matter how scientific the method. And two, the scientific method demands that a truly open mind be given in the consideration of all evidence. Any theory, to stand the test of truth, must explain all available data or, of necessity, be altered to fit the facts.

There exists today increasingly strong scientific clues or evidences that the earth is of relatively young origin. By young I mean 10,000 years or less in age. In the following pages I will present only a few significant findings from the growing wealth of available scientific data to answer the age old question of: "*How old is the Earth?*"

## **2- Background on Radioactive Clocks**

It is claimed today that radioactive clocking techniques support vast amounts of time for the age of the earth. Most radioactive clocking techniques assume as their starting time 'zero' the origin of our solar system. These techniques assume that this was very long ago. The radioactive clocking technique is then used to determine exactly how old the earth really is. Of course, the resultant age will be very old since it is assumed that an almost infinite amount of time is available to start the clock at the exact beginning of the decay cycle.

All radioactive dating is based on the fact that a certain number of naturally occurring

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elements are radioactive. The atoms which compose these elements decompose in time into new elements and give off certain radiations and decay products in the process. Scientific study has shown that the rate of decay follows an exponential law. In a certain amount of time one half of a sample will have decayed, regardless of the starting amount. This is called the *half life*. One way to measure the passage of time would be to measure the present amount of a radioactive element and compare it to the original amount when the decay process started. If we could figure the rate of decay and know the original amount of radioactive material to start with, and measure how much of that material is present now, then it would be possible to calculate the amount of elapsed time from the start of the decay process.

A second way to date a sample using radioactive decay clocks would be to measure the accumulation of decay products. As a material decays it continues to produce decay products.. If we should measure the amount of decay products available, and know the half-life values, and the rate at which they accumulate, we then can measure the amount of elapsed time. It is also necessary to know the amount of decay products available when the clock was started. It is not sufficient, as many scientists do today, to just assume that *zero* amount of decay material was present when the clock started since a virtually infinite amount of time is available.

If, when the earth was created, there were both the radioactive element present, as well as its decay products in a certain material to be dated, then the age of that material would be much younger than if unlimited time is assumed. We do not know how much decay material was present when the radioactive clock of the earth began. Most scientists today assume unlimited time and then proceed. But this is only an assumption on their part. All radioactive earth clocks must begin with a certain set of assumptions as to the starting point (*time zero*) of those clocks.

The amount of beginning decay products must be assumed when it is not known, and for very great ages this value can only be theorized. There are certain limitations, however, on the amount of time available for a radioactive clock to operate, as is pointed out by Hurley:

*“The measurement of time by study of the continuous breakdown of radioactive elements has had great impact on science and philosophy. We have learned that the naturally occurring radioactive elements are constantly decreasing in abundance, and this phenomenon forces us to a new realization. It demands a creation of those elements, and, therefore, of all elements, at some definite time in the not-too-distant past.”*<sup>2</sup>

Hurley is attempting to point out here that elements cannot have been around forever or else there would not be significant amounts of decaying elements around today. Hurley's main point is that elements have to have a definite starting point in time or else there would be no decaying elements left in the earth to measure.

### 3 - Pleochroic Halos

Pleochroic Halos are minute circular discolorations in sections of rock crystals. These Halos are produced by pockets of radioactivity within the crystal. These microscopic pleochroic halos, which occur in crystal igneous rock the whole world over provide the only means for studying the radioactive transformation of elements in the earth. Robert V. Gentry, who has done

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extensive study into the subject of pleochroic halos, concludes one of his articles with the following words:

*“Further, by virtue of the very short half-life (of radioactivity associated with halos), the radioactivity and formation of the rocks must be almost instantaneous. Incredible? Perhaps. I have been wondering about this for some time, and have often asked myself, is it conceivable that one of the oldest cosmological theories known to man is correct after all. Could the earth have been created by fiat? The usual halos, therefore, apparently do constitute evidence of primordial extinct short half-life radioactivity, and hence have direct bearing not only on cosmologic theory but also on the presently accepted geologic time scales derived primarily from radioactive transformation rates. Geologically speaking, it is usually assumed that all igneous rock of the earth's crust is of volcanic origin, but if the fiat creation hypothesis is correct, then the rock systems in which the variant short half-life halos are found would constitute the earth's primordial matter formed in situ.”<sup>3</sup>*

The point Gentry is really trying to convey is that the traditional time clocks used for dating the age of the earth and the usual theories for the formation of the earth are perhaps in serious error.

Gentry has seen these pleochroic halos in igneous rocks from Canada, Ireland, Sweden, Norway, Germany, Japan and the United States. The halos occur all over the earth.

The halos themselves are radiation damaged regions surrounding minute radioactive pockets that sometimes contain uranium and thorium. If the halos were three dimensional then several colored, spherical and concentric shells would be seen surrounding that pocket. The discolorations would be produced by alpha particle emissions from the radioactive pocket. The emitted alpha particles alter the minerals crystalline structure, resulting in rings of distinct color changes in the rock around each radioactive pocket. Each radioactive element leaves its own distinctive footprint or discoloration in the rock. Quite a few of these elements decay into other elements that are stable and non-radioactive, such as lead. When all radiation has ceased these elements are said to be extinct.

Gentry found, as he continued his research, that polonium isotopes, which have very short half-lives, were found in the same rock as uranium and thorium, which have extremely long half-lives. The existence of these short half-life polonium isotopes cannot be accounted for by any current theory on the origin of the earth. The half-life of Po-210 is 138 days, of Po-218 the half-life is only 3 minutes, and the half-life of Po-214 is only 164 microseconds. Gentry comments on this finding by saying:

*“According to one theory of the planet's origin, the earth cooled down from a hot gaseous mass and gradually solidified over a period of hundreds of millions of years. If this were so, polonium halos could not possibly have formed because all the polonium would have decayed soon after it was synthesized and would have been extinct when the crystal rocks formed.”<sup>4</sup>*

Gentry has determined that the polonium he has found producing halos was not a daughter

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product of the ordinary uranium and thorium elemental halos. Uranium and thorium are often used by scientists in radioactive time clocks. He has also found on these same rocks giant halos much larger than thorium and dwarf halos much smaller than would be expected. This would indicate alpha radioactivity completely unrelated to the usual uranium and thorium daughter products.

The significance of the extremely short half-life polonium halos existing in the same crystalline rock structure as the much longer half-life uranium and thorium halos would indicate that these rocks, which the geologists consider to be primordial, were formed almost instantaneously. The time involved had to have been perhaps only a fraction of one second or else these extremely short half-life elements could not have left their distinctive halo in the rock. If the rock were molten, the halo would not have survived. Thus, the earth did not exist as a molten mass of rock slowly cooling, but was formed all at once in an instant of time. These halos offer strong evidence to support a special creation of the earth in an instant of time. It is just such an origin of the earth which is described in the Book of Genesis. God spoke the Earth and all things that exist into being by His divine Word. Pleochroic halos bear witness to an instantaneous creation of the earth.

Through additional study of the halos of uranium and thorium, Gentry discovered that the radioactive decay rates of these elements had probably changed considerably during geologic time.<sup>5</sup> This creates a great difficulty, and throws a large degree of doubt upon the validity of current radioactive dating techniques. Gentry has experimentally determined for us, from evidence embedded in the rocks over all parts of the earth, that the earth was created in an instant. Secondly, he has shown that there was a beginning in time for these rocks and that a start date for the Uranium-Lead half-life decay process must be determined. No longer should an almost unlimited abundance of time be assumed in these dating techniques. Thirdly, Gentry has yielded strong evidence that the rate of decay (*the clock rate*) has varied considerably in geologic time. This indicates that the major underlying assumptions used in geologic radioactive time clock dating techniques are in error. If one would assume the parameters given in the Bible, then perhaps, radioactive time clock dates would be brought into conformity with the chronological model of the Bible. Gentry has given us strong evidence in this direction.

#### 4 - Radiocarbon Equilibrium

There is strong evidence to support the allegation that today the rate of formation and the rate of decay of Carbon-14 is not at equilibrium. Melvin A. Cook expounds upon this phenomenon:

*“Current data on the neutron source strength of C-14 via the reaction N-14 (n,p) C-14, and the rate of decay of radiocarbon show that C-14 may not be in steady state in the atmosphere. Instead, the ratio  $I_o$  (now)/ $I_{max}$  for the actual intensity of radiation to the steady state or maximum intensity in the biosphere appears to be less than 0.78. On the conventional assumption that the neutron source strength is constant in time, a basic postulate of the radiocarbon dating method, this result leads to an 'age' of 12,500 years or less for the atmosphere itself.”<sup>6</sup>*

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Thus, an upward maximum limit is set for the age of our atmosphere at 12,500 years or less from an exact application of Libby's method and data for Carbon-14 dating. This age is drastically less than the 4.5 billion years or more that is often set for the age of the earth today. The maximum age of 12,500 years, set by an exact application of Libby's method, is not an exact number, but when compared to the usual date assigned to the age of the earth, this new maximum age of 12,500 years or less is in the same relative ballpark as the Biblical date set for creation. The Bible date is somewhere around 6,000 years ago.

One final point that needs to be made concerning the ratio of actual intensity of radiation of C-14 today to the steady state or equilibrium value is that, if the earth is truly 4.5 billion years or more old, as is often maintained today, then this ratio would have reached equilibrium just short of 4.5 billion years or more ago. The fact that this ratio is not at equilibrium, but is rather a value of 0.78 instead, according to scientific measurements today, gives strong support to the young earth postulate of the Bible.

It is for this same reason that Cook sets the maximum age of the atmosphere and therefore of life on this planet, if not the planet itself, at a maximum age of 12,500 years or less. Cook comments on the ramifications of this data:

*“On the other hand a very interesting implication of this study is that, not only are the sedimentary rocks relatively young, but also, therefore, are their occluded fossils. This implication, based on what the author considers to be hard facts, has an important bearing on the prehistory of life. The problem here is of real and important concern. Such a serious implication should not be ignored by biological and earth scientists.”*<sup>7</sup>

## 5 - Helium Dating

Another method used in assigning a maximum value to the age of the earth is called Helium dating. This method is based on the amount of accumulated decay products. The heavier elements which are radioactive (*all elements with an atomic number greater than 83*) decay and eventually become one of the stable isotopes of the element lead, mass is lost in the form of alpha particles which ultimately become helium atoms. Helium gas, then, is a principle decay product of the heavier radioactive elements. From these facts it is possible to calculate an upper limit for the age of the earth. Donald E. Chittick comments on Helium decay products:

*“As an example, the relative abundances of the elements thorium and helium would seem to indicate that an assumed figure of the order of  $10^{10}$  years (ten billion) for the age of the earth is very much too great. If this figure were correct, about one half-life would have elapsed for thorium 232 decay. This means that the present amount of thorium on earth is one-half the original amount. In other words, the present amount of thorium is equal to the amount which has decayed. In decaying, however, thorium 232 eventually becomes a stable isotope, lead 208 while producing six helium atoms. Hence, since on this assumption the present amount of thorium is equal to the amount which has decayed, helium ought to be about six times as abundant as thorium, even assuming no other elements than thorium are radioactive (which is not the case) and assuming no helium*

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*was present to start with (which is very unlikely considering the high relative abundance of helium in the cosmos). This is not the case as helium on earth is quite rare. The proper amount of helium for ages assumed to be of the order of billions of years is simply not present either in the rocks or in the atmosphere assuming it to have escaped from the rocks somehow.”<sup>8</sup>*

Thus, the ratios of helium to thorium today indicate a relatively young earth. The naturalist in an attempt to explain away this phenomenon usually postulates that the extra helium concentrations needed for an old earth have simply escaped from the rocks and the atmosphere. This loss has never been measured, it is only assumed. Taking the facts at face value yield a relatively young age to the earth.

Melvin Cook after considering all the possible variables in the helium clock concludes:

*“If one ignores a possible external source of helium, assumes that its only present source is natural radioactive decay of U and Th, (which is not the case) and that the rate of exudation of helium from the earth approximately balances that rate of decay of U and Th he therefore concludes that an upper limit for the age of our atmosphere is about  $4 \times 10^5$  y. If, on the other hand, one accepts Hurley's estimate of  $10^{-3}$ /cc/cm<sup>2</sup>/y for the rate of exudation, the age of the atmosphere becomes only  $1.2 \times 10^4$  years which is in remarkable agreement with the non-equilibrium radiocarbon method for dating the atmosphere.”<sup>9</sup>*

## 6 - Final Thoughts on a Young Earth

There is a continuous flood of misinformation being constantly aimed at the general public which claims scientific ‘proof’ for vastly exaggerated ages for man, the earth and the universe. What is usually not told is that these vast ages are not known for sure. They are merely assumed by most scientists who consider the idea of the creation of the earth in recent time illogical.

Evidence, which supports a young earth theory and which ably brings into question the underlying foundation stones of uniformitarianism and naturalistic geology, is usually either ignored or explained away, without really considering the facts, by many scientists today. The reasons for this indifference to contrary data by many is two fold. One, it is hard to admit that a whole world-wide scientific establishment has been wrong. And two, these men would philosophically prefer to explain God away so that they do not have to deal with Him. There is a definite preconceived bias and prejudice favoring an old age, uniformitarian, evolutionary earth model and rejecting any theory, proof or fact which would substantiate the relatively young earth of the Bible account.

Gentry and Cook have very ably, in scientific journals and books, presented their evidence in support of a young earth to the scientific community for years. Thus far their work has not been refuted nor the questions they bring up answered. Instead, their work has been largely ignored. This is unfortunate. On the basis of the data in this chapter it can be confidently said that there is evidence in the rocks of the earth and its atmosphere that the earth was formed almost instantaneously and that the earth is of a relatively young age geologically speaking.

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In fact, based on the evidence in this chapter, an age for man and the earth at only 6,000 years ago, as the Bible indicates, is entirely within the realms of scientific possibility. The young age of the earth has drastic effects not only on the geologic and biologic time scales, but also on archaeology, historical chronology, and the origin of man and civilization. A young age of the earth would render as false all current prehistory speculations about the rise of man and human civilization upon the earth. This is significant.

The final result of the considerations of this chapter is that the Bible account of the time frame of the creation of the earth and the beginning of man are correct after all without the need to harmonize the Genesis account with humanistic, naturalistic science. I would like to remind the reader, at this point, that all scientific considerations concerning the age of the universe, the earth, man or fossils involve a number of starting assumptions which vary according to one's philosophy. I personally believe the clues of science better support a young earth model than they do a long age uniformitarianism model. The record of the Bible is supported by scientific evidence. Uniformitarianism, in my opinion and in the opinion of many others, fails miserably to explain many scientific facts which have come to light in both the recent past and today. Therefore, let us assign to the Bible its proper place and role in the chronicle of the history of man and of the earth.

## **CHAPTER TWO - NOTES**

1. William M. Davis, "The Value of Outrageous Hypothesis", Science, Vol. 63, pp. 465-466, (1926).
  2. Patrick M. Hurley, How Old Is the Earth?, p. 12, (1959).
  3. Robert V. Gentry, "Cosmology and Earth's Invisible Realm", Medical Opinion and Review, Vol. 3, No. 10, pp. 64-79, (October 1967).
  4. Ibid.
  5. Ibid.
  6. Melvin A. Cook, Prehistory and Earth Models, pp. 1-2, (1966).
  7. Ibid., p. xiv.
  8. Donald E. Chittick, "Dating the Earth and Fossils", A Symposium on Creation, Vol II, pp. 69-70, (1970).
  9. Melvin A. Cook, op. cit., p. 14.
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## **CHAPTER Three**

### **Biological Life Forms: Evolved or Created**

#### **1 - The Debate Between Special Creation and Evolution**

At the very center of the debate between a specially created young earth and a uniformitarian earth of great age stands the more central underlying debate between evolution and special creation. Evolution postulates that all living things, including man, came into being through a long chain of natural changes from lifeless matter and with no supernatural intervention involved. Central to the proper outgrowth of this theory is the need for the assumption of vast amounts of time in order for this theory to have a 'chance' to explain the existence of all things. In the last chapter we discussed some scientific data which lends considerable doubt to this assumption of great age in favor of a very young earth. The evolutionist cannot consider this evidence for if he should accept the scientific young age indicators of the earth he would then have to admit as impossible his long cherished belief in evolutionary development. The only logical alternative to evolution is the Special Creation Theory and its resultant young earth.

Whether the earth is of great geologic age or whether it is very young in geologic terms has a great impact on our considerations of the chronological structures of the Biblical record, and of our concepts of human prehistory and the origins of civilization. Therefore, I desire to devote the remainder of this chapter to a discussion of some evidences which favor a special creation by showing, from recent findings in the field of molecular biology, that the chance of life developing spontaneously has a chance of occurring that is so remote it might as well be zero. This would be true no matter how great a length of time you allowed for the desired complex chain of events needed for evolution to transpire.

#### **2 - Natural Selection**

To begin our study I would like to examine the mechanism by which evolution proposes that natural changes occur. That mechanism is natural selection. For natural selection to work there must be a chain of varieties to choose from, some of which must offer improvements. These varieties must be present for natural selection cannot select what is not there to begin with. These selected variations in a species must lead to improvements in the species. These improvements in the species must ultimately lead to the development of a completely new, more highly ordered and complex, yet distinct species. Without these conditions there is no evolution.

There are two prominent current ideas as to the vehicles needed to transport the variation of the species into the realm of logical possibility. These two vehicles are one, mutations, and two, modern Lamarckism.

Mutations are depended upon by most American evolutionists, though at present there is a growing shift toward 'simple change' or 'micro-evolution', as the vehicle of variation. Mutations

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are chance alterations in the DNA (*Deoxyribonucleic Acid*) code that are inheritable. Mutations are always caused by injury or copying errors in the DNA replication process. The new variations upon which the theory of evolution depend come then primarily by accident or mistake. In addition, most mutations are harmful producing weakness, deformity, mental retardation, club-footedness, inclinations to hernia and other negative changes. Some mutations involve a change back to former better conditions. In most cases a mutation kills the organism in which it occurs. This is a serious problem to the evolutionary theory.

Modern Lamarckism, the second vehicle, is mainly believed in today by French and Russian scientists. Lamarck, a French scientist, believed that animals can pass off to their descendants the characteristics they have acquired through adaptation to their environment. The problem with this theory is that we know today that acquired characteristics are not inheritable.

Lack of evidence, then, of any large useful mutations force most evolutionists to take refuge in micro-evolution. Micro-evolution theorizes that changes occur in organisms in minute degree to be followed later by other minute changes which eventually results in a new plant or animal species. Such changes must eventually be spread throughout a gene pool. Furthermore, these changes must be geographically isolated from the unchanged group so that the new characteristic will not be cancelled or diluted. Such a process, of a succession of minute changes in an organism to bring about a long chain of variations from primitive molecules all the way up to the magnificently complex structure of man, demands excessively long periods of time for its process to logically hope to produce the needed variations.

There is a problem with this theory of micro-evolution even if one accepts the generous geologic time scale. Without this long time scale the theory of evolution would be hopelessly impossible. That is why so much effort is put forth today to somehow defend the great geologic antiquity of the earth. The problem with micro-evolution is that while an organism would be waiting for a specific random mutation or variation to help forward the transition to a new organism, there is no way to hold all the other characteristics of the organism steady. James F. Coppedge comments further on this issue:

*“Charles Darwin, in later editions of The Origin of Species corrected a mistaken idea contained in the original version about the operation of natural selection. With his customary frankness, he confessed that until reading an article in the North British Review in 1867, 'I did not appreciate how rarely single variations, whether slight or strongly marked, could be perpetuated.' Because only a small percentage of the organisms of each generation survive, Darwin applied this fact also to an individual with a positive variation, stating, 'The chances would be strongly against its survival.' Suppose, however, that such an organism did happen to survive, and that half its young received the variation. Darwin showed that the probability of each particular offspring's survival would be quite small and 'this chance would go on decreasing in the succeeding generations. The justice of these remarks cannot, I think, be disputed.' This, of course, was a serious blow to evolution.”*<sup>1</sup>

Since most mutations are lethal or harmful, the laws of chance rule out upward evolution.

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### 3 - Left Handed Molecules

Is evolution possible at all? The following discussion on left handed molecules should help us in deciding this issue. A curious phenomenon occurring in nature is that all living matter is made up of left handed protein molecules only. In nature that same protein can be either left handed or right handed, it is simply a matter of which side of the molecule certain other atoms are attached. In living matter, however, these molecules are all left handed.

Proteins are a major class of complex molecules of which all living things are made. The smallest protein has approximately one thousand atoms and the largest close to one million. Even these giant molecules are unbelievably small from our viewpoint. Each is made up of long slender fibers which are folded into a globular shape which differs for each protein. These fibers are 500 times thinner than what the best optical microscope can see.

Proteins are simply long chains of smaller molecules called amino acids. There are twenty different amino acids commonly used in proteins. There are from 100 to 50,000 amino acids in each protein. The average number of amino acids in the smallest known living organism is four hundred, at the very least.

There are many thousands of different types of proteins such as digestive enzymes, structural molecules, hormones and hemoglobin in the blood. All this complexity of structure comes from only twenty amino acids and the particular order of arrangement on the individual molecular chain.

Amino acids are made of four different atoms: carbon, hydrogen, nitrogen and oxygen. Two of these acids have a sulfur atom each. All amino acids are identical in their main section or "backbone". That 'backbone' consists of one nitrogen and two carbon atoms. The center of these three is called the alpha atom. To the alpha atom is attached the side group of atoms containing anywhere from one to eighteen atoms. The sole difference between each amino acid is that each has a different side group. Which side of the atom this side group is attached determines if it is a right or left handed molecule. Each is a mirror image of the other. In inorganic matter it usually doesn't matter, except in rare instances, whether the molecule is right or left handed.

The left handed molecules of living matter are a mystery to science today and they present a serious difficulty for explanation to those who believe that life originated from non-living matter by natural processes. How was it possible that all living matter adopted left handed molecules exclusively? A. I. Oparin, a Russian biochemist who has pioneered the attempts to explain the origin of life through natural chemical processes, comments on this curious feature of living organisms:

*"The probability of the formation of one antipode or the other is therefore the same. As the law of averages applies to chemical reactions that appearance of an excess of one antipode is very improbable, and, in fact, we never encounter it under the conditions of non-living nature and in laboratory synthesis...In living organisms, on the contrary, the amino acids of which naturally occurring proteins are made always have the left handed configuration...This ability of protoplasm selectively to synthesize and accumulate one*

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*antipode alone is called the asymmetry of living material. It is a characteristic feature of all organisms, without exception, but is absent from inanimate nature. Pasteur pointed out this fact as follows: 'This great character is, perhaps, the only sharp dividing line which we can draw at present between the chemistry of dead and living nature.'* ”<sup>2</sup>

James F. Coppedge has calculated the odds of even one simple protein of only four hundred amino acids forming even once, out of all the amino acid that have ever existed in all the evolutionary history of the earth, to be one chance in one hundred billion, trillion, trillion, trillion, trillion, trillion years, or one chance in  $10^{71}$ . The odds written out would be one chance in 100,000.

By comparison the number of inches across the known universe is only  $10^{28}$  inches.<sup>3</sup> The odds of even one left handed protein molecule of four hundred amino acids (*the simplest possible protein*) occurring even once in all of evolutionary time is so astronomically low that, for all practical purposes, the odds might as well be zero. To say this in another way, for even the simplest life protein to have arisen spontaneously composed only of left handed molecules is mathematically impossible.

The above calculation considers only one factor, left handed molecules. If we included the odds of the individual molecular arrangements of the atoms in the various amino acids involved in the protein and their exact placement on a chain of four hundred amino acids, the calculated probability of occurrence would be drastically lower. Then, if we calculated the odds of a carbon and a nitrogen and a hydrogen and an oxygen and a sulfur atom forming by chance our odds would defy our ability to comprehend the impossibility of the mathematical ratio.

Now, in addition, let us suppose we were to calculate the probability of a neutron and a proton and an electron forming by themselves by chance. What would happen to our ratio now? It was already impossible. And then, after we had arrived at our simplest of life proteins, composed of only four hundred amino acids, suppose we were to calculate the odds of this protein by chance evolving into all living life forms known today with their incredibly complex structures and varieties. And finally, let us figure the odds of man having arisen by chance. Absolutely incredulous isn't it. It seems much more logical to postulate that an all wise God with great Intelligence and skill designed and created all things as they are seen by us today.

Fortunately for us, James Coppedge has done some additional calculations on the probability of amino acids arranging themselves by chance to form a protein molecule. Then he further calculated the probability of the required 239 protein molecules needed for the smallest theoretical life to form by chance. He gives large concessions so that his mathematical odds are extremely conservative. He writes:

*"The probability of a protein molecule resulting from a chance arrangement of amino acids is 1 in  $10^{287}$ . A single protein molecule would not be expected to happen by chance more often than once in  $10^{262}$  years on the average, and the probability that one protein might occur by random action during the entire history of the earth is less than 1 in  $10^{252}$ . For a minimum set of the required 239 protein molecules for the smallest*

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*theoretical life, the probability is 1 in  $10^{119879}$ . It would take  $10^{119841}$  years on the average to get a set of such proteins, That is  $10^{119831}$  times the assumed age of the earth and is a figure with 119,831 zeros and enough to fill sixty pages of a (paperback) book.”<sup>4</sup>*

The implication of these statistics is that for the first simple organism of the smallest theoretical life to have arisen by chance is an absolute impossibility. Without the first theoretical life nothing else could have evolved from it. The probability of an organism as complex as man forming by chance variations over a much shorter span of geologic time is unthinkable and immeasurably impossible, no matter how much time would be involved. The generous time usually allowed for this process is manifestly much too short. According to probability theory, events whose probability is small never occur. Thus, by these calculations, it can be stated that evolution could never have taken place. The implications of this realization are staggering.

#### 4 - The DNA Molecule

The greatest discovery in the history of biology was that of the structure of the DNA (*deoxyribonucleic acid*) molecule. Like protein, DNA is a long slender thread in its primary structure. In fact a DNA molecule is usually hundreds of times longer than the cell of which it is a part. This requires it to be doubled up and coiled or twisted around so it can fit into the cell. A multiple cell plant or animal will have much more DNA per cell since more coded information is needed. The human cell DNA is divided into forty-six chromosomes. The total length of the DNA in one cell is about six feet for human beings. This six feet of DNA is in every tiny cell in our body. It is estimated that the total DNA content in your body would span the solar system.<sup>5</sup> John C. Kendrew speaks of the most golden of all molecules in this way:

*“In terms of an analogy, (human DNA is like) a very large encyclopedia of forty-six volumes, 20,000 pages each. Every cell in the human body is provided with the whole encyclopedia.”<sup>6</sup>*

The main job of the DNA molecule is to give instructions for synthesizing proteins. The code of life contained within the DNA molecule is divided into sections or ‘*paragraphs*’ called genes. A single gene usually contains the code for a single protein chain. The gene contains exact instructions on how that specific protein chain is to be synthesized. The average gene in the smallest theoretical living thing would have over 1,200 letters or nucleotide pairs. The smallest known cell has 600 genes. A set of human chromosomes making up the human DNA life code have over two million genes.

DNA, as mentioned earlier, in a human cell consists of six feet of narrow double helix slender strands of material all tangled up within a tiny cell. For this cell to replicate itself, two sides of the helix must separate, untangle themselves, and form a new cell with an entire duplicate of the DNA molecule. Without this molecule no life exists. *“This duplication is so accurate that it would correspond to a rate of error of less than one letter in an entire set of the Encyclopaedia Britannica.”<sup>7</sup>* This process of the replication of DNA molecules is going on each time a new cell is formed. The precision of this process defies our ability to comprehend.

Another amazing fact is that the DNA code appears to be universal. The same language is

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used in the genes of every creature on earth, whether virus, pine tree, elephant, or man.<sup>8</sup> Who wrote this language? The encoded instructions in every cell in the human body would more than fill the pages of the Encyclopaedia Britannica. Who wrote the encyclopaedia of life contained within every cell of the human body? Can chance account for the origin of even a single encyclopedia, even if the time to do so were infinite? Does it not take intelligence to write an encyclopaedia? These are serious questions the evolutionist must answer.

Biologist Gary E. Parker uses the following apt analogy:

*“None of the parts of an airplane can fly by itself. Only the whole airplane can fly. An airplane, it seems, is a bunch of non-flying parts organized to fly...None of the molecular parts of a living cell can live by itself. Only the whole cell can live. A living cell, it seems, is a bunch of non-living molecules organized to live. Organization, not substance, seems to make the difference between life and non-life.”<sup>9</sup>*

The organization required for life is complex. A living cell will not live unless all of its complex parts are ordered properly. And the orchestrator of this structure is the DNA molecule. But the DNA molecule cannot operate without the rest of the parts of the cell. Each part is interdependent. For a living cell to live it would have to evolve by chance all at once and fully formed. The probability of this ever occurring is absurd.

James Coppedge has calculated for us the possibility of just one gene forming from all the atoms of the universe. He writes:

*“With all the concessions given, one could expect a usable gene in  $10^{147}$  years, from the tremendously rapid efforts of all the nucleotide sets of all the atoms in the universe.”<sup>10</sup>*

Keep in mind that the smallest known cell has 600 genes, yet it would take, with large conservative concessions,  $10^{147}$  years for chance to produce just one gene. This number is so astronomically large that its probability of occurring is for all practical purposes zero. To produce 600 genes by chance all at once with all the other elements necessary for a living cell would be out of the realm of possibility. Then consider that the human DNA molecule contains over two million genes with encoded information that would fill forty-six large encyclopaedia volumes. If it takes  $10^{147}$  years, with large concessions, to produce just one gene by random arrangements, how could two million genes be explained as occurring by chance? The answer is that no believable explanation exists today to account for the complex structure of the human DNA molecule.

## 5 - Final Thoughts on Molecular Biology

On a molecular level, the complexities of life are so infinitely complex that the possibility of a chance occurrence of even one single protein being formed, in all of geologic time, is virtually zero. Putting this finding together with the evidence which supports a young age for the earth of almost instantaneous formation, then one is forced to admit that the idea of a special creation by God, as described in the Bible narrative, is an attractive alternative to the theory of evolution.

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Evolution demands excessively long periods of time for its doctrine of chance to hope to explain the origin of life and man. This thirst for time has caused the past history of mankind and this planet to have been distorted, and God to have been deprived of the appreciation due Him for His marvelous handiwork in creation. Because the earth is assumed to have existed for some 4.5 billion or more years, and man to have arisen from his evolutionary chain some one million or more years ago, there is a great tendency in all fields of archaeology, ancient history, naturalistic geology and paleontology to push the ages of man and the earth back. This exaggerated extension of man's early history and his origins has brought the Bible into apparent conflict with the naturalists and ancient historians of today.

If men would honestly examine all the facts, and not make assumptions about things they know little about and have no way of testing, then there would be no conflict between historical chronology and Biblical chronology. One of the largest areas of conflict, of course, is over the date of creation and of man. This book, in brief, has examined some strong scientific clues which point to the distinct possibility of a young earth within the same age bracket as the Bible would place it. If the creation date is fixed then the rest of Bible chronology should match the findings of the archaeologist.

With very ancient history, however, there is a tendency to push its dates back in time because many of the present dating schemes have a certain factor of error. This error factor, with very ancient history, can amount to as much as 500 to 1,000 years or more for certain civilizations. Yet, it is possible to reconcile all of these extended dates with the Bible chronology if one is careful with his interpretation of the actual facts of each case. In the following chapters you will see how easily mistaken extended dates are arrived at for early civilizations, and that it is entirely possible to reconcile these dates with the chronicle of Scripture.

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## CHAPTER FOUR

### The Chronology of Egypt

#### 1 - Manetho's Contribution

Egyptian chronology is almost entirely based upon the work of one man. In fact, if it were not for his writings, all attempts to establish an absolute Egyptian chronology would have been abandoned long ago. The Egyptians did not keep a continuous running chronology of dated events, but rather dated everything to the year of the Pharaoh then on the throne. Thus, to establish a chronology for Egypt is, understandably, a difficult task.

The man on whom we rely most for the order of succession of the Egyptian dynasties is the Egyptian priest of Heliopolis named Manetho (c. 300-250 B.C.). Under the reign of Ptolemy II Philadelphus (285-246 B.C.). Manetho wrote a chronicle of Egypt in Greek. His history includes thirty dynasties of Egypt from Menes (Mena) to the conquest of Egypt by Alexander (332 B.C.). His work has enabled scholars to determine the relative order of Pharaohs in Egypt. Thus, Manetho's history is the *'backbone'* of our present chronology around which the archaeological discoveries in Egypt are grouped.

Nevertheless, a source of prevailing uncertainty is that some of Manetho's dynasties are contemporaneous with each other and not successive. At least one, but most scholars say between six and eight, of Manetho's dynasties were contemporary with each other. This causes great variance in the chronology of Egypt.

Another source of uncertainty in Manetho's history is that we do not possess his original work. We know of it only through quotations in:

- 1) Chronographai by Julius Africanus (221 A.D.),
- 2) Chronicon by Eusebius of Caesarea (265-340 A.D.), and
- 3) Chronography by Georgious Synellus (a monk of the eighth century A.D.).

The number of years assigned to each king, and the length of various dynasties, differ considerably in all three of these works. Sometimes the variation in the length of a single dynasty amounts to as much as 300 years. Egyptologists choose the longer or shorter period according to their fancy. There is no sure way to reconcile these dates. The parts of Manetho's history preserved in Eusebius' works differ from those in Africanus' works in almost every one of the thirty dynasties. One version presents a list of 561 kings who reign 5,524 years whereas another lists 361 kings who reign 4,480 or 4,780 years. Thus, it appears that any attempt to contradict the definite chronological statements of the Hebrew text with Egyptian dates is simply preposterous.

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A further source of embarrassment in Manetho's history is its apparent mythological character. Manetho lists:

- 1) the reign of the gods (13,900 years),
- 2) the reign of the heroes (1,255 years),
- 3) the reign of kings (1,817 years),
- 4) the reign of thirty Memphite kings (1,790 years),
- 5) the reign of ten Thinite kings (350 years),
- 6) the reign of Manes and the heroes (5,813 years), and
- 7) thirty dynasties of kings (approximately 5,000 years).

The total time period covered is 29,925 years. Historians today only use the last 30 dynasties of Manetho's history, and include Manes, making 31 dynasties and excluding the remainder of his work as purely mythological. Yet, how accurate Manetho's last thirty dynasties are is still a question up for debate. For example, the Turin Papyrus gives a list of kings in the 19th Dynasty of Egypt. Where Manetho's dates can be checked with the dates of the Turin Papyrus, Manetho's dates are never once in agreement.

## **2 - Other Sources for Egyptian Chronology**

In addition to Manetho's history, but of secondary importance in determining chronology in Egypt, are The Palermo Stone, the king list of Karnak, the king list of Abydos, the king list of Shakkarah, the Turin papyrus and the Sothic Cycle.

The Palermo Stone was inscribed in the middle of the 5th Dynasty in Egypt. The original stone gives a list of kings from long before Menes to the middle of the 5th Dynasty covering between 295-445 years (*estimates vary widely*). Today only a fragment remains.

The king list of Karnak was set up by Thothmes III of the 18th Dynasty. It contains only selections from the lists of predecessors.

The king list of Abydos was inscribed by Seti I and Rameses II of the 19th Dynasty, and contains 76 names. Like the king list of Karnak, the Abydos Tablet contains only selections from the lists of predecessors and does not record an exact succession of kings.

The king list of Shakkarah, inscribed by Ramses II, also contains only a list of selections from predecessors of the author of the list. The Shakkarah Tablet yields 50 names.

The Turin Papyrus, compiled during the 19th Dynasty, would be of value except for its unfortunate history. The king of Sardinia purchased the papyrus from the French government. When it arrived in Turin the papyrus had broken into small bits in the box in which it had been shipped. In 1826 an Egyptologist joined the pieces, but since the science of Egyptology was in its infancy at that time, he joined many pieces that did not belong together. Only occasionally does this document yield any chronological data. For instance, one fragment of this papyrus says

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that 955 years elapsed from the beginning of the first dynasty until the 8th Dynasty. Originally The Turin Papyrus contained the names of over 300 kings and the length of their reigns.

### 3 - The Sothic Cycle

In addition to these finds, what has been lauded as one of the greatest aids in fixing Egyptian chronology is the Sothic cycle. According to this cycle the Egyptian civil year originally began when the rapid rising of the Nile coincided with the first day in which the dog star Sirius (*called by them Sothis, the brightest star in Canis Major*) could be seen on the eastern horizon just before the rising of the sun (*about July 19th or 20th on the Julian calendar*). Since the Egyptian calendar contained 365 days and made no provision for leap year, every four years their year began a day too soon. In 1,460 years ( $365 \times 4$ ) their New Year's Day would make a complete circuit of the year. This 1,460 year cycle is referred to as the Sothic cycle. The Sothic cycle is of importance since a few Egyptian documents mention the day of the year in which the rapid rise of the Nile coincided with the appearance of Sothis on the eastern horizon, just before the rising of the sun. By noting how many days off the day mentioned is from the first day of the year, that particular reference can be fixed to a single year in a 1,460 year period.

To fix the Sothic cycle historians use a reference taken from Censorinus in his De Die Natali (238 A.D.) in which he states that the New Year's Day of the Egyptian civil calendar, in which Sirius rose heliacally, coincided at some time between 139-144 A.D. (*most scholars accept 139 A.D.*). If the new cycle began in 140 A.D., the beginning of the previous cycle would be 1320 B.C. (*some say 1322, others 1314*). The cycle before that would have been 2780 B.C. (*some say 2782, others 2770*). Since the flood occurred sometime around 2500 B.C., a problem is created for us. It seems unusual that the Egyptians would not begin their calendar at the beginning of a cycle, which they would have had to do if their empire began sometime around 2400-2300 B.C. (*the cycle began in 2780 B.C.*) It is possible, however, that the Egyptians did not adopt their calendar until about 1320 B.C. It might also be possible that Censorinus' reference is incorrect, in which case the whole Sothic cycle becomes of limited value in fixing an absolute date.

Also, it seems highly improbable that the Egyptians never once corrected their civil calendar. If the Sothic cycle really existed in Egypt, then their year should begin only once every 1460 years at the correct time. It is hard to believe they would have put up with such a system. Yet it does appear that the Egyptians allowed great divergence in their civil calendar. For instance, in the Eber's Medical Papyrus New Year's Day in the year recorded in that paper was 308 days off of where it was originally intended to be positioned.

Furthermore, if the Egyptians, in their long history, corrected their civil calendar even once, then the whole Sothic cycle from that time back was altered. This, of course, would again render the Sothic cycle of limited value in establishing an absolute chronology, unless we knew when the correction was made and what the correction was. Thus, it is really an assumption based on very slim evidence that the Egyptians even had a continuous Sothic cycle.

Including the record of Censorinus, there are really only seven Egyptian documents giving Sothic dates. Only three of these are of any real assistance since only three can be tied in any

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way to a king of Egypt. These three documents are the Eber's Medical Papyrus, the Elephantine's Sothic date, and the Illahum Papyrus. The first of these documents, the Eber's Medical Papyrus, shows that in the 10th year (*some say his 9th year*) of Amenophis I of the 18th Dynasty the divergence in the year increased 308 days. This must be 1,232 years from the beginning of the cycle or about 1548 B.C. (*some say 1550, others 1539*). Secondly, the Elephantine's Sothic date, which is dated to Tuthmosis III, is of lesser importance since it does not mention the year of his reign of 54 years. The Sothic date is 1463 B.C. Finally, the Illahum Papyrus contains the earliest date in Egyptian history for which there is a record of the heliacal rising of Sirius on a certain day of the civil calendar. That date is 1872 B.C, in the year of an unnamed king who, based on other vague evidence, is believed by some scholars to be Sesostris III of the 12th Dynasty.

Also, Egyptian history occasionally mentions a new moon on a certain day in the civil calendar of a certain king, but such observations are of little value in determining chronology since they tie a date down to a lunar cycle of only about 25 years. Furthermore, if the observance is off by even one day the cycle is greatly affected. The lunar cycles are therefore of little positive value in determining Egyptian chronology.

#### **4 - Conclusion on Egyptian Chronology**

It is clear from the preceding information that the generally accepted chronology of Egypt is based upon very uncertain evidence. Furthermore, very little is really known concerning the chronology of the earlier Egyptian dynasties. Lacking any definite information to work with, Egyptologists take the patchwork of evidence which they can scrape together from Manetho, from the inscriptions, from a few Sothic dates, and from synchronisms with other more definite chronologies (*such as those of Assyria and Babylon*), and construct a chronology for Egypt of improved reliability. This generally accepted Egyptian chronology is then printed in textbooks and passed on to the general public as relatively reliable. Egyptologists pretend to be so certain of this chronology that even when radiocarbon dates differ widely from their generally accepted pattern they flatly state that it is the radiocarbon dates which are in error rather than their chronology. If it often very hard for a man to admit that he may be wrong.

For example, a reed taken from the tombs at Mastaba, belonging to Pharaoh Hor Aha of the First Dynasty in Egypt, carries a historical date of approximately 3075 B.C. It is interesting to note that the actual radiocarbon date on this particular reed is 2480 B.C. plus or minus 65 years. This radiocarbon date squares well with the Biblical record since the recorded history of Egypt could not have begun until after the Biblical Flood of about 2500 B.C. The Biblical Flood was so catastrophic in magnitude that no historical records could have survived prior to its occurrence. Since it took at least a little time for a group of Ham's descendants to migrate down into Egypt, the historical date of 3075 B.C. would be approximately 600-700 years too old for the beginnings of civilization in that area. (*Note: The generally accepted date for Menes, the first king of Egypt, is 3090 B.C.*) To help reconcile the radiocarbon dates with historical chronology Suess (1966) published his calibration curve for radiocarbon dates. The calibration curve correction is based upon tree-ring dating. The results of the Suess curve have been highly questioned by many scientists in recent years. Scientists also disagree on the validity of tree-ring

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dating. Nevertheless, using the Suess correction curve on the reed mentioned above from the First Dynasty in Egypt (*historical date = 3075 years*) the actual radiocarbon date of 2480 B.C. plus or minus 65 years becomes 2970 B.C plus or minus 65 years instead. The '*corrected*' date better fits the generally accepted historical date but does not square well at all with the Old Testament Scriptures. Today, when radiocarbon dates are quoted for archaeological purposes it is usually the Suess approximation that is published rather than the true radiocarbon test date. This is because the actual test dates are considered too low.

In contrast, the Bible is of far greater reliability, even along textual and archaeological lines, than any of the sources mentioned above. It is amazing that man will reject the only truly inspired textbook of the history of mankind in preference for data and evidence which cannot be conclusively proven. When man begins to claim that the Biblical record is wrong on the basis of such unreliable evidence as that upon which the chronology of Egypt is built, it is time for the Word of God to speak. There is more evidence that the Word of God is true archaeologically and historically than any other book ever written or archaeological find ever discovered in history.

Foremost archaeologists today tell us there is no reason why we should doubt the historical accuracy of God's Word. It has been vindicated too many times. Its accuracy has been verified by too many sources for it to be untrue. With this view, how much longer will men ignore the clear and positive statements of Scripture? To the objective mind, man's attempt to contradict the definite chronological statements of the Hebrew text with unverifiable Egyptian dates is unreasonable. Furthermore, some historians would like to carry pre-dynastic Egypt back to about 5000 B.C, but there is no solid evidence to substantiate such an early date. These early dates are based upon evolutionary concepts and indefinite histories alone. The Word of God is seldom consulted.

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## CHAPTER FIVE

### The Chronology of Babylon

#### 1 - Ptolemy's Canon

In the middle of the second century A.D. Claudius Ptolemy, a Graeco-Egyptian geographer and astronomer living in Alexandria, wrote a canon giving the succession of Babylonian and Persian monarchs. Ptolemy's Canon gives the exact length of each monarch's reign from 747 B.C. when Nabonassar mounted the throne until 331 B.C. when the last Persian king was dethroned by Alexander. It is unfortunate for us that Nabonassar (*as Berossos reports*) destroyed all records before him (747 B.C.) so that all must date from him. Thus, Ptolemy had no access to records prior to that time.

The accuracy of the Canon of Ptolemy, fortunately, has been abundantly established by Ptolemy's mention in The Almagest of numerous solar, lunar, and planetary positions (including eclipses) all dated to specific years in the reigns of various kings mentioned in his canon. In every case astronomers have confirmed this data exactly. Ptolemy's canon is further confirmed by numerous cuneiform texts which contain more than 1,000 pieces of day-to-day astronomical observations of the moon, Mercury, Venus, Mars, Jupiter and Saturn from around 650-100 B.C. Further confirmation of this canon also comes to us through dated Babylonian economic and administrative texts which average about one every few days.

Of further help to historians is *Theon's Commentary* and updated version of Ptolemy's *Handy Tables* (*the Handy Tables are part of Ptolemy's canon*). *Theon's Commentary* (sometimes called *Theon's Handy Tables*) was written in the fourth century A.D. *Theon's Commentary of Ptolemy's Canon* begins with Nabonassar (747 B.C.), includes the Achaemenid kings of the Persian empire (beginning 539 B.C.), lists the conquest of Persia by Alexander the Great (331 B.C.), and records Alexander's immediate successors. From there, *Theon's Tables* shift the place of rule from Babylon to Egypt and continue with the Ptolemaic kings followed by the Roman emperors. In the tables, the numbers giving the length of each king's reign have been protected from corruption by the inclusion of an accompanying number giving the span of time which has elapsed since the Nabonassar Era. This document is in close accord with the statements of Scripture and has been confirmed over and over again by Babylonian and Assyrian inscriptions.

#### 2 - Berossos, the Priest of Marduk

In addition to *Ptolemy's canon*, Berossos, an educated Chaldean Priest of Marduk at Babylon, wrote three volumes on Babylonian-Chaldean history in Greek (c. 260 B.C.). Writing during the reign of Antiochus (281-161 B.C.), he derived his information from the oldest temple archives at Babylon. Being a contemporary with Manetho, the two priests appear to have been rivals in proclaiming the greatness and antiquity of their respective lands. Thus, each priest had an ulterior motive to push the origin of his individual land back as far as possible. Berossos'

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original writings are not preserved, but fragments of his works are quoted by Josephus and Eusebius of Caesarea.

As with Manetho, the mythical character of Berossos' writings is apparent. He begins his account with ten kings from Alorus (*the first man*), to Xisuthrus (*the Babylonian Noah who came through the Flood*). These ten kings reigned a total of 432,000 years. (*It is interesting to note here that the Bible records ten patriarchs beginning with Adam and continuing down through Noah.*) Continuing his chronology, Berossos next lists 86 kings from Xisuthrus through the Median conquest covering 33,080 years. Next are listed eight Median kings (224 years), then eleven more kings (48 years), after that 49 Chaldean kings (458 years), then nine Arabian kings (245 years) and finally 45 more kings down to Pul (526 years). The grand total is 466,581 years, a number based on figures which are obviously exaggerated.

### 3. - Other Material for Babylonian Chronology

For the long interval between the fall of the last Sumerian dynasty (c. 2000 B.C.) and 747 B.C. there are two substantial gaps in the chronological history of Babylon. The first gap is between 1600-1400 B.C. and the second gap is between c. 943-747 B.C. During these gaps the names and orders of most of the kings are known, but seldom the length of their reigns. Through synchronisms with the fixed Assyrian chronology (*to be covered later*) the period between 1400-943 B.C. can be fixed to within a maximum error of only six years.

The second gap between approximately 1600-1400 B.C. is more difficult to fix. Through observations of the planet Venus made during the reign of King Ammutsaduqa, less than 50 years before the end of the so-called First Dynasty of Babylon, there are left only three possibilities for the end of that particular dynasty. The most likely possibilities are 1651, 1595 and 1587 B.C. The evidence is uncertain as to which of these three choices should be made but most historians prefer the 1595 B.C. date. Prior to this time there is a relative Sumerian chronology of some 500 years in duration extending from the 3rd Dynasty of Ur to the end of the First Dynasty of Babylon (*i.e., on the basis of the chronology adopted here, c. 2113-1595 B.C.*). (*Note: Hammurabi, c. 1728-1686 B.C., belongs to the First Dynasty of Babylon. Some say he was a contemporary with Abraham, but this cannot be since the Bible chronology places Abraham at c. 2166 B.C.*)

During the period between c. 2113-1595 B.C. the Babylonians gave each year an individual name, usually taken from an important event that had transpired the year before. The lists of these year names (*called year lists*) constitute as reliable a source in Babylonian chronology as do the eponym lists in Assyrian chronology. The early Babylonians dated their history not by the year in the reign of a certain king, but rather by these year names. From these year lists the Babylonians made king lists. Several of these king lists survive today. One gives the 3rd Dynasty of Ur and the Dynasty of Isin, another gives the Dynasty of Larsa. The 3rd Dynasty of Ur and the Dynasty of Isin also appear in the Sumerian king list. This king list not only records various kings and the places of their reign, but it also gives the length of each individual reign. The list also includes an earlier section of epic texts and local traditions concerning the heroes of ancient

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antiquity. Thus, the more ancient the history, the less reliable is this text. The list also records the Flood and eight kings who ruled a total of 241,200 years before the Flood swept over the earth. After the Flood 78 kings are then named as rulers of various dynasties in Kish, Uruk, Ur, Awan, Hamazi, Adab, Mari and Akshak.

#### **4 - Conclusion of Babylonian Chronology**

Prior to 2113 B.C. very little is really known of Babylonian-Sumerian chronology. What is fixed agrees well with the Hebrew Scriptures. There is no real conflict between fixed Babylonian chronology and the Bible. On the other hand, Babylonian history prior to the Third Dynasty of Ur is pushed back, by some historians, to anywhere between 5000-3700 B.C. The intervening time interval would include the Obeidian, Warka, Jamdet Nasr, and early dynastic periods, as well as the empire of Accad under Sargon I (c. 2360-2180 B.C.) which included Babylonia.

I might add that the chronology of this early period (before c. 2113 B.C.) is highly indefinite. Upon the basis of evidence unearthed thus far, this early history could just as easily have fit within the period between c. 2500-2113 B.C. as it would fit within a more extended chronology. If one would reject God's Word and embrace the evolutionary philosophies of man's beginnings, the tendency would be to extend all ancient dates as far back as is conceivably possible. This is what many historians have done.

On the other hand, if the Bible is taken into account, and the Biblical Flood of 2500 B.C. is believed to have been as catastrophic as the Bible indicates, then one could easily squeeze the present evidence for this indefinite period within the time limits set by the Word of God. On the basis of the Biblical record you would not expect to find evidence of civilization prior to 2500 B.C. since the violent flood that occurred around that time would have destroyed all archaeological remains from before that time.

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## **CHAPTER SIX**

### **The Chronology of Assyria**

#### **1 - The Assyrian Eponym Lists**

Of even more importance to us in establishing a fixed chronology for Mesopotamia than the Babylonian year lists are the Assyrian Eponym lists. An eponym (*sometimes called limmu*) was an important official (*sometimes the king himself*) after whom the year was named. Also included with the mention of the eponym was usually some important political or military event which had transpired during that year. These lists were kept for administrative purposes by the Assyrian kings. Today, eponym lists have been constructed by Assyriologists from the first regal year of Tiglath-Pileasar I in 1115 B.C. to about 650 B.C. An eponym list is a reliable chronological source since the omission of a name entails an error of only one year. For the most part these eponym lists can be associated with absolute chronology because some of the Assyrian kings ruled Babylon as well as Assyria and as a result they appear in the well dated royal list of Theon mentioned earlier.

The Eponym lists are further reduced to absolute chronology by the mention of a morning eclipse of the sun in which the path of totality seems to have just missed Nineveh. The date of this observation at Nineveh is given in the eponym list as occurring during the month Sivan (May/June) in the year named after Bur-Sagale, which is the tenth year of the reign of Ashur-Dan III (772-755 B.C.). This observation has been astronomically computed to have been an eclipse on June 15, 763 B.C. Since a total eclipse, on the average, will only recur in a given locality once every three or four centuries, this solar eclipse date yields a substantially reliable reference point from which to fix the Assyrian eponym lists.

A second solar eclipse, whose record has survived, took place in the reign of Esar-Haddon (681-668 B.C.). The date of this eclipse is calculated at May 27, 669 B.C. The eclipse was partial. Although a partial eclipse at the same phase position will recur in the same place only once every fifty-four years, such fixed dates as this one act as valuable checks to Nineveh's total eclipse of 763 B.C.

#### **2 - The Khorsabad King List**

Of further help in fixing Assyrian chronology is the king list found in the palace of Sargon III (721-705 B.C.) at Khorsabad. This list gives a complete succession of Assyrian kings from the beginning of the empire in the early second millennium B.C. (c. 1700 B.C.) down to 745 B.C. This list is extremely valuable since it has been almost completely preserved. The first king mentioned in this list is Shamshi-Adad I who is given the approximate date of 1726-1694 B.C. with a maximum error factor of 50-75 years. This chronology is relative down to the 33rd king. From this point on not only the names, but also the lengths of each king's reign are given. The data of this list is in perfect agreement with the eponym lists. For the period prior to 1700 B.C.

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this list is deficient. Assyrian chronology before this date is still very uncertain.

Nevertheless, the Khorsabad king list does enable scholars to move back into the so-called Amarna period, in the mid-fourteenth century B.C. From this time valuable bits of international correspondence between Pharaoh Amenhotep IV of Egypt at Amarna, and the kings of Assyria, Babylon and Anatolia are preserved. Several of these letters to Amenhotep IV were written by the Assyrian king Ashur-Ubalit I (c. 1362-1327 B.C.).

Of further help in placing the early history of the Khorsabad king list is a piece of information which has come from the international correspondence recovered from the excavations of Mari. This correspondence reveals that Shamshi-Adad I of Assyria (*known from his own royal inscriptions as well as the king list*) was a contemporary with Hammurabi, (c. 1728-1686 B.C.), of the First Dynasty of Babylon. Shamshi-Adad I is the first king mentioned in the Khorsabad king list. This synchronism is valuable in placing Shamshi-Adad I in his proper time period in Assyrian chronology.

### **3 - Conclusion on Assyrian Chronology**

Assyrian chronology is well established up until 1115 B.C. Prior to this time there is a relative chronology with a maximum error factor of only 50-75 years which extends back to sometime around 1700 B.C. Before 1700 B.C. very little is really known about Assyrian chronology.

Some historians extend Assyrian prehistory back to about 3000 B.C. but there is no solid evidence to justify such an early date. Based on '*prehistoric pottery*' found at such Assyrian cities as Asshur, Nineveh and Calah, others would like to date Assyrian pre-history back to even as early as 5000 B.C. As before, there is little evidence to support such an early date.

Again, there is no reason why Assyrian history cannot fit well within the limits set by the Biblical record of 2500-2300 B.C. for the beginnings of the empire. In fact, the first real empire-builder in Assyria that we have record of was Sargon of Akkad (c. 2360-2304 B.C.) who founded the city of Akkad and built up Nineveh and ruled over all of Mesopotamia. Some have speculated, including scholars of great note, that this man may well have been the Biblical Nimrod mentioned in Genesis 10.

Our history for this early period in Assyria is so incomplete that it is really hard to say for sure. One problem with this view is that Sargon of Akkad is often said to be of Semitic origin whereas Nimrod was a descendant of Ham. On the other hand, for example, although the city of Asshur is sometimes said to date from 3000 B.C. (as is said about a number of other early Assyrian cities), the earliest literary reference to that city comes from a cuneiform tablet from Nuzi dated in the Old Akkadian period (c. 2350 B.C.). If recorded history in Assyria only begins around 2350 B.C. then perhaps it is also a possibility that Sargon of Akkad is of Hamitic origin and is indeed the Nimrod spoken of in the Scriptures. But we cannot say for sure.

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Concerning Assyrian prehistory, all prehistoric dates can easily be reduced to the historic period if other evidence should demand that this be done. Furthermore, if historians and archaeologists would accept the Bible as God's inspired Word, instead of the evolutionary ideologies that so many men openly embrace today, then men would be forced to square their findings with the Scriptures instead of adopting an unproven evolutionary hypothesis of uniformitarianism and of the extreme antiquity of mankind.

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## **CHAPTER SEVEN**

### **The Chronology Of The Hebrew Scriptures**

Although the Bible was not intended by God to be a chronological source book for mankind, but rather a spiritual guidebook, it is nevertheless interesting to note that the chronological scheme presented in the Scriptures, although in places sketchy, is far more accurate and reliable than the chronological schemes of either Egypt or Mesopotamia. Few would dare push the recorded history of Egypt past about 3000 B.C. And few would give a date earlier than 2400 B.C. for the beginnings of recorded history in Mesopotamia. Yet, in the Scriptures we possess a remarkably accurate chronological record which extends back to a little before 4000 B.C.

The fix point for Biblical chronology is found in I Kings 6:1 where it states that the fourth year of Solomon's reign was 480 years after the Exodus from Egypt. If the fourth year of Solomon can be fixed to an absolute chronology then the date of the Exodus can also be fixed.

It is fortunate for us that Solomon's fourth year can be reduced to an absolute chronology. To help us do this the Monolith inscription found at Kurkh describes the military activities of the Assyrian King Shalmaneser III in his sixth year. The annals of the sixth year include the Battle of Qarqar (Karkar) in which Shalmaneser III fought against a formidable Syrian coalition of twelve kings. Although the battle is not mentioned in the Scriptures, King Ahab is listed as one of the allied leaders who opposed Shalmaneser III. The battle was not decisive, even though Shalmaneser III claimed victory. From the Assyrian eponym and king lists it is possible to fix Shalmaneser III's reign at 859-824 B.C. Shalmaneser III's sixth year, and the year of this battle, would then be 853 B.C. It was only shortly after this time that Ahab died in battle at Ramoth-Gilead (853 B.C.). If between the division of Solomon's kingdom and 853 B.C. the reigns of the kings of Judah were recorded in terms of the ascension year system, and those of the kings of Israel on the non-ascension year system, then the intervening period was 78 years in length which gives 931 or 930 B.C. for the division of the kingdom. Since Solomon reigned for 40 years then the year of his ascension must have been 970 or 969 B.C. and his fourth year 967 or 966 B.C.

If we adopt 966 B.C. as the fourth year of Solomon's reign, then from I Kings 6:1 we arrive at a date of 1466 B.C. for the Exodus. Moving from here we know from Exodus 12:40-41 that the sons of Israel sojourned in Egypt for 430 years. This would give us a date of 1876 B.C. for the time when Jacob and his sons moved down into Egypt to live. From Jacob on back to Adam, the life-span of each patriarch (see chart: Chronology of the Patriarchs) is given in exact succession along with the patriarch's age when the next generation was born. The accuracy of this record is seldom surpassed by any other ancient annal. In fact, for the period which it covers, this record is unsurpassed.

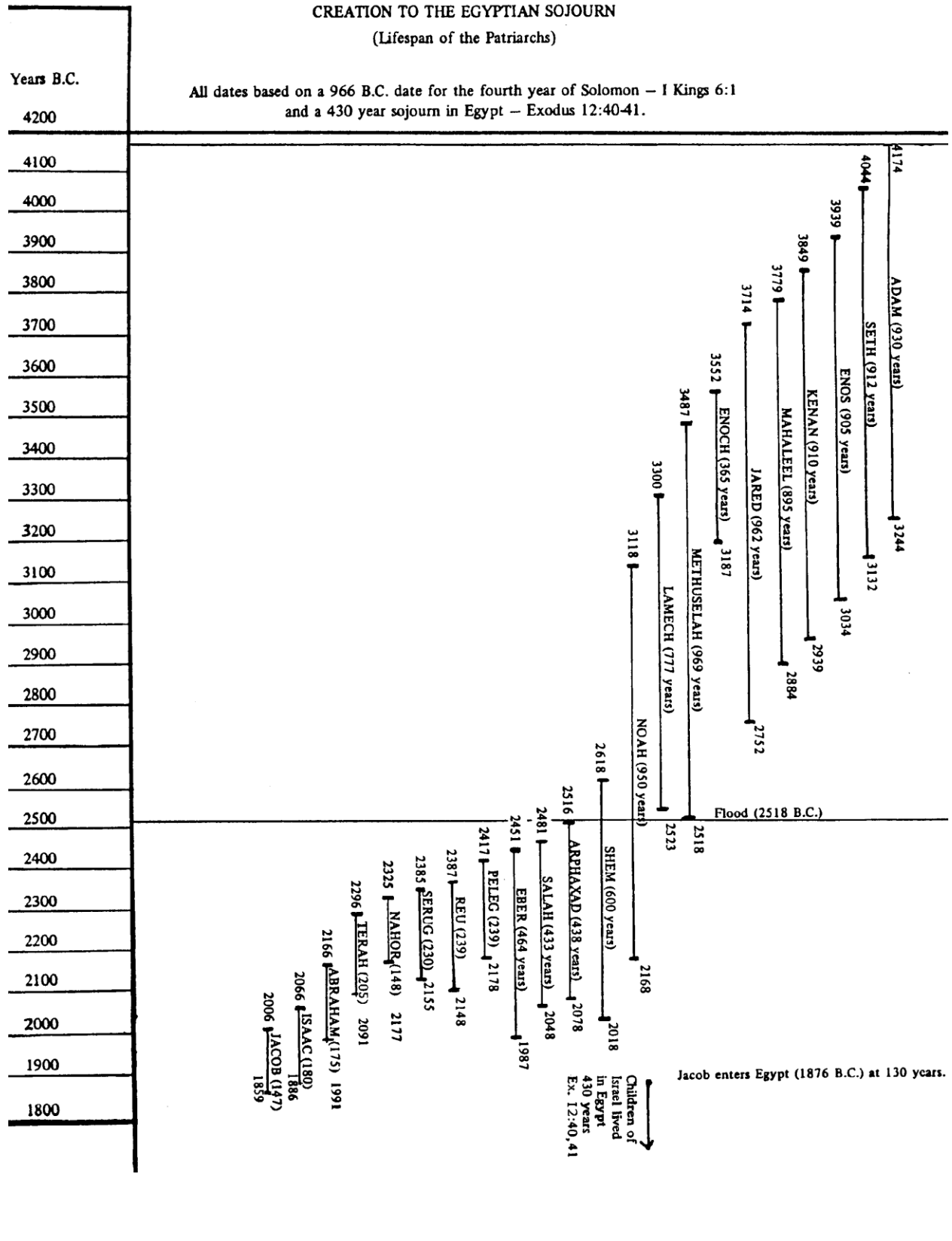
The only question regarding this Biblical list occurs with the addition of the name Cainan to the list of patriarchs in Luke 3:36, but this name is probably an interpolation into the text in Luke

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since it does not appear in chapter eleven of Genesis. From the Biblical record, and the adoption of 966 B.C. as the fourth year of Solomon's reign, we arrive at the date of c. 4174 B.C. for the creation of Adam. From this same chronology the Biblical Flood occurred at c. 2518 B.C.

From the seven thousand year/seven day theory for the completion of God's plan for mankind it would appear that Adam's date is about 170 years too early. It should be kept in mind, however, that many calendar systems of the past have been inaccurate, but such inaccuracies could hardly account for 170 years. I offer no solutions here. I did not try to fit this date into a preconceived pattern. Adam's creation date just happens to work out to be 4174 B.C. if 966 B.C. is used as a focal point. Scholars do not feel that this focal date could be more than ten or twelve years in error. With this in mind, in contrast to the other chronological schemes we have considered, the Bible's definite chronological statements appear refreshingly accurate.

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## CHRONOLOGY OF THE PATRIARCHS

*All dates based on a 966 B.C. date for the 4th year of Solomon - I Kings 6:1, and a 430 year sojourn in Egypt. - Ex. 12:40-41.*

<b>Patriarch</b>	<b>Date of Birth (B.C.)</b>	<b>Scripture Reference</b>	<b>Age when Next Gen. Born</b>	<b>Life Span</b>
ADAM	4174	Gen. 5:3-5	130	930
SETH	4044	Gen. 5:6-8	105	912
ENOS	3939	Gen. 5:9-11	90	905
KENAN	3849	Gen. 5:12-14	70	910
MAHALEEL	3779	Gen. 5:15-17	65	895
JARED	3714	Gen. 5:18-20	162	962
ENOCH	3552	Gen. 5:21-24	65	365
METHUSALEH	3487	Gen. 5:25-27	187	969
LAMECH	3300	Gen. 5:28-31	182	777
NOAH	3118	Gen. 5:32 -Gen. 7:6,11 -Gen. 9:29	500 - Shem	950
SHEM	2618 - Shem 2518 - Flood	Gen. 11:10-11	100	600
ARPHAXAD	2516	Gen. 11:12-13	35 (2 yr. after flood)	438
CAINAN	?	Lk. 3:36	?	?
SALAH	2481	Gen. 11:14-15	30	433
EBER	2451	Gen. 11:16-17	34	464
PELEG	2417	Gen. 11:18-19	30	239
REU	2387	Gen. 11:20-21	32	239
SERUG	2355	Gen. 11:22-23	30	230
NAHOR	2325	Gen. 11:24-25	29	148
TERAH	2296	Gen. 11:26-32; -Gen 12:4 -Acts 7:4	70? 130	205
ABRAHAM <sup>1</sup>	2166	Gen. 21:5; Gen. 25:7	100	175
ISAAC	2066	Gen. 25:20; Gen. 35:28-29	60	180
JACOB	2006	Gen. 47:9, 28		147
	1876 (Jacob enters Egypt)		130 (when Jacob enters Egypt)	
JOSEPH	?	Gen. 50:26	?	110

<sup>1</sup> *Abraham probably was not the firstborn*

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## **CHAPTER EIGHT**

### **The Biblical Flood And Archaeology**

Before concluding, I feel it necessary to say a little bit about the Biblical Flood. A number of references have been made in this book concerning the fact that our records of history recovered through archaeology cannot be older than the Flood (2500 B.C.). The reasons for this statement are several.

The first reason is that the Bible indicates that the Flood was a cataclysmic event in which the fountains of the deep were opened (which may have included volcanic activity) and that the windows of heaven poured down rain for forty days and forty nights. The waters covering the earth rose until the water level exceeded the highest mountain peaks by fifteen cubits. Such a flood would have to be world-wide, as the Bible indicates. These waters covered the earth for about 370 days. That is a little over a year.

Today, in short periods of time, a heavy rain can cause tremendous damage, removing much topsoil (sometimes down to bedrock). This action can bury cities and portions of cities in mud, and move large boulders great distances. With the Flood these actions would have been a thousand times magnified. In addition, the runoff of the waters would eventually meet in converging torrents. These whirlpools, in combination with the volcanic activity also involved at this time, probably created tidal waves of tremendous force and power sweeping over the face of the earth. Today, whole cities have been destroyed by tidal waves. Imagine what took place during the Flood. The whole landscape of the earth was rearranged. Large quantities of sediment were carried in the raging seas and deposited, layer upon layer, as the flood subsided. Intermixed with the sedimentation would have been lava flows throughout the earth.

Buried in the strata of the Earth today are tell-tale signs of the Flood's force and fury. Animal graveyards are preserved throughout the earth in stone. The bones in these graveyards are jumbled and often broken. These animals did not meet a tranquil death. Marine life is found preserved in the fossil record throughout the earth, including all of the highest mountain peaks. Cities, men, animals, and sea life of all kinds were buried and destroyed in this flood. Whole fossilized tree trunks are found buried hundreds of feet below the surface of the earth. In addition, the rich supply of coal and oil reservoirs throughout the world attest to the abundance of vegetation buried in this great deluge. To dispose of these excess flood waters God caused the ocean floors to sink down, and the mountain peaks to rise up. Can you imagine what havoc that would have brought to the earth?

Could anything have remained intact for the archaeologist to dig up today after such a storm? I think not. Archaeologists might dig up something in the earth from before the Flood, but unless it was written upon and dated he would not know it for sure. Certainly, he would not find such articles buried in orderly stratified layers of human occupation.

The second reason I feel that major archaeological findings today cannot precede the Flood

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(around 2500 B.C.) is that unless articles are laid down in orderly stratified layers which contain dateable materials and readable written records, it is almost impossible for archaeologists to tell anything about the period of history he has just unearthed. Therefore, I maintain that the archaeologist should bring his findings into agreement with the Word of God. The Bible is an archaeological sourcebook of at least as great a value as anything that man has recovered from the archives of ancient peoples.

I feel it also necessary to mention that during his excavation at Ur, Leonard Wooley found in the strata of that city a layer of clean earth eight feet thick. Wooley fancied that this, perhaps, pointed to the Flood in Genesis, which led other archaeologists to seek similar evidence elsewhere in Mesopotamia. In several other Mesopotamian sites, including Ur, a layer of clean earth was found, but at none of these sites did the layer cover the entire city. In fact, in none of these cities did the dates of the respective layers of clean fill coincide with each other in time. No two layers were even in the same century. What Wooley found at Ur, and others found in other localities in Mesopotamia, was not evidence of the Flood at all, but rather evidence that the Euphrates River, which often changes its course, had buried portions of these respective cities under its waters for a time. The Biblical Flood did more than lay down eight feet of clean strata. Such a flood as Wooley speaks of would have to be tranquil and local and not anything like the cataclysmic flood described in the Bible.

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## **CHAPTER NINE**

### **Final Thoughts On Biblical Chronology**

It is often a difficulty in the back of the minds of some individuals that the early chronologies for Egypt and Mesopotamia do not seem to line up with the Biblical reckoning. To confuse the issue, historians often present chronological schemes as if they were established fact without any degree of uncertainty associated with them whatsoever. This is simply not the case. When all the facts are out, it is clear that there exists much uncertainty regarding the early chronologies of many ancient empires. In contrast to these uncertainties the Bible, although not a chronological sourcebook, presents some definite chronological information which can beneficially help the historian and archaeologist fill in their uncertain chronologies more completely. In fact, I feel that if the historian would do this, the evidence he does have would fit together much more easily than they do using his current methods.

On the basis of the information presented so far, it can be clearly seen that where the Bible and history are in conflict, the Bible is by far the more reliable source. Where a conflict does exist it only proves history wrong and not the Bible. God's Word is true. His Word is an anchor to the soul. His Word is life-giving. Men would do well to take more earnest heed to what is contained within the pages of the Bible. To those who have openly and honestly done so the result has been the salvation of their souls.

Another major difficulty in reconciling the Biblical Chronology with the generally accepted geologic timetable has been the often bitter controversy over the age of the earth. Embedded deeply within this controversy lurks an even more fundamental issue of the conflict between two opposing camps of vastly differing viewpoints and philosophies. These two differing viewpoints are creationism and evolution. The two differing philosophies are fundamental Christianity and secular humanism.

Since the scientific study of clues which yield insight into past events always, by its very nature, begins with philosophic assumptions as beginning premises, the nature of the philosophy underlying these assumptions will greatly color and influence the conclusions drawn. The effect of the philosophy underlying a scientific investigation is an issue seldom considered by scientific laymen. Since secular humanism denies God and the supernatural and embraces evolutionary concepts concerning the origins and future of man, the natural impact of this philosophy on scientific study would be to down play the supernatural and cataclysmic explanations of geologic and biologic observation, and to trumpet the case in favor of uniformitarianism, evolution and vastly extended timetables. The effect of this philosophy upon scientific endeavor is obvious.

Fundamental Christianity, on the other hand, believes in God, believes that he created the heavens, the earth, all life and man in relatively recent geologic time. This fundamental philosophy of life also encompasses the belief that God has in times past and does today intervene supernaturally in the past events of historic geology and in the present affairs of men.

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Two notable examples of supernatural intervention by God, of course, are one, the creation and two, the Biblical Flood of Genesis. This fundamental philosophy, when applied to scientific study, has an obvious influence upon the conclusions drawn especially concerning past geologic and human history.

When the allegation is raised that science and the Bible are in conflict the issues involved are seldom scientific, but rather supposed evidences subject to interpretation. It is my firm belief, after much study and thought, that the Biblical account of creation, the flood, the history of man, and historical chronology is by far the most accurate record of these events the world possesses. This conclusion has been proven over and over again in the archaeological digs of the last century. In addition, new evidence in the field of molecular biology is increasingly leaving the evolutionist without a sanctuary into which to retreat from the miraculous intricacies and mysteries of molecular life. If this were not enough, new scientific evidence is surfacing which supports a very young geologic earth. The young earth evidence, if adopted, would shatter any hopes of the evolutionary theory to continue to survive. The only logical alternative is creation.

When science or archaeology are in conflict with the Bible, it does not prove that the Bible is in error. On the contrary, when science or archaeology contradict the Bible it proves only one thing. And that one thing is that those areas of science or archaeology which conflict with the Biblical record are in error.

The Bible represents the most reliable and accurate witness we have to the past history of man and the earth. The archaeologist and scientist would greatly advance their respective disciplines if they took more earnest heed to the pages of Scripture. Most, if not all, scientific clues to the past history of man and the mysteries of life in the present are more easily explained from a Biblical viewpoint than from an evolutionary one.

One example of this comes to us from historical geology. The geologic structures of the earth are more easily explained by the universal Flood of Genesis than they are by uniformitarian, naturalistic geology. There are major problems with uniformitarian interpretations of geology. These problems do not exist with flood geology. A very good book on the flood and its scientific implications is The Genesis Flood co-authored by John C. Witcomb, Jr. and Henry M. Morris. I highly recommend this book to anyone with questions in their minds about this subject.

In conclusion, it is seen again that as the proverbial anvil wears out the hammers that beat upon it, so the Word of God has stood the test of time. However, the most accurate chronicle the world has ever known, and the most widely published book of all time, is by many one of the least read volumes in their library. Yet, the Bible sits upon that old library shelf as a faithful witness awaiting the day when the treasures of wisdom and knowledge contained within its pages might be imparted to a new discoverer of timeless truth. The Bible is the Word of God.

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