REVISED ANCIENT BIBLICAL CHRONOLOGY (RABMEC) TIMELINE

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PREFACE

When I decided to write this book, I found I had two things to consider. One was what the book would say; and the other was what motivated me to write it. A brief account of why I chose to write this book can help make the nature of the work more understandable. For this reason, I will tackle the second consideration first.

Like most Christians, I grew up with bible stories. I came to believe in the truth of what the Bible said. As my education in science developed, I also came to believe in the truth of the scientific model of the universe and the development of the human species. However, I was troubled. There did not seem to be much physical evidence to show that the descriptive picture presented in the Bible actually matched the scientific model. For instance, Noah's flood is a well-known story, and pivotal event in biblical history; but the physical evidence is lacking. People have been looking for Noah's ark without success for over 200 years; and, there seems to be no evidence of flood debris in the Middle East around the time when the Bible says it should be, ~2300 BC. This is just one example of a lack of scientific evidence available to support the biblical account.

After much study I discovered, what I believe, shows how both the scientific picture and the biblical picture are telling the same true story. Only the audience is different. I discovered that there really is physical evidence to support biblical events. Only the traditional dates are shifted in time. In short, I found a different way to interpret the timing so that the biblical events and their dates actually match the physical scientific evidence and its dates. In other words, the Bible is more than just a collection of morality tales. It is real – and it is supported

by evidence when viewed from the right timeline. Because of this, I felt a need to share my discoveries. That is why I wrote this book.

I can now tell you what the book has to say. Following the Table of Contents, we begin our story with a philosophical discussion of the allure of ancient history.

In Chapter 1, we find my perspective on the significance of trying to understand ancient history. The chapter speculates about the relationship between history and mythology. It also considers the mythological symbolism and its relation to the human psyche. Following this interlude into the psychology of ancient historical studies, we begin to discuss the main purpose of the book.

The main purpose of this book is about dating important events that happened during the ancient past. The ancient past to which I refer includes historic events and mythological events, which I believe have a real place in history.

The historic period usually refers to times when there are written records. Some of the written records come in the form of monument inscriptions, stone tablets and papyrus records. Others come in the form of the Kings' Lists. These are lists of the kings, and the length of their reigns. These are the records considered here in this work. In general, there are several lists for each ancient culture or nation. Different political groups compiled the various lists, with which there is no BC date association. To obtain a complete list over the entire historic period, the collection of lists must be ordered with redundancies removed, and then tied to a BC date. This for the Sumerian and Babylonian line (Appendix A), the Egyptian line (Appendix B), and the Chinese line (Appendix C). (We discuss the reason for these choices later.)

Throughout this work, we compare the RABMEC dating developed here to the traditional (standard) timeline (STL) and in many cases an older timeline development of Waddell. However, scholars know that the historical record does not support the traditional biblical timeline.

To address this, David Rohl developed a New Chronology (NC). He modified the traditional dates to be more consistent with the historical record based on astronomical consideration stated in the Bible and non-biblical historical records that support the biblical events but indicate the traditional dates are misplaced in time. Appendix F compares the RABMEC with the STL and the NC. We look at the biblical timeline, and the dating of the Sumerian/Babylonian kings and the Egyptian kings.

When you talk about timing, dates, and ancient events you are talking about a timeline – an ordered sequence of events matched with a BC date. This means that the written and oral records from the past are ordered relative to one another. Then, the ordered list is assigned dates based on the known BC date of some of the most recent events. That is what this work does for a group of Eastern cultures. In Chapter 2, reevaluating the historic portion of the ancient timeline is the first step that I take in making my new timeline.

Even though we are looking to support biblical events with evidence, no culture (like the Hebrews in the Bible) grows and develops in a vacuum. Traditionally, the historic biblical period extended from the birth of Christ in ~6 BC, back to the birth of Adam in ~4004 BC. Throughout the Bible there are references to other peoples with whom the Hebrews interacted. (See Figure 1) The most notable for the purpose here were the Egyptians and the Babylonians. By looking at the records of these peoples, as well as the Bible, I was able to see a way to match the events with different BC dates than are usually used.

Figure 1. This shows a map of the mid-East area in biblical times. The Fertile Crescent region is believed to be the location of the Beginning of agriculture. The four rivers defining the Garden of Eden include the Nile (Gihon in the Bible), the Tigris, the Euphrates, and the biblical Pison which we believe is the modern day Dylon that heads from the Persian Gulf to the Zargos Mountains and modern day Iran. The brown dashed lines mark the borders of modern day Turkey, Iraq and Iran.

Section 2.1 provides the details of the biblical genealogy beginning with Adam and going to the birth of Christ.

The Egyptians were particularly important mostly for Moses and the Exodus story. The historic period for the Egyptians traditionally extends from ~30 BC with the last Egyptian pharaoh Cleopatra, back to ~3100 BC with the first Egyptian pharaoh Menes. (Menes is important to the new timeline because his date is a pivotal point between the historic period and the mythological period. His date is needed later to date the mythological period that precedes him in time.)

The Babylonians were important largely because of the Babylonian destruction of Jerusalem and the subsequent exile of the Jews. The historic period for the Babylonians extends from ~538 BC when the Persians conquered the land back to the well-known king Khammu-Rabi (also known as Hammurabi), ~1728 BC. Nebuchadnezzar II, 606 BC, is the fourth Babylonian king before the Persia conquest. He is important to the new timeline because his date is a pivotal point marking: 1) the beginning of the exile, and 2) setting the length of the exile. These two things together affect other dates of the new timeline, shifting them from their traditional dates.

The Bible describes interactions of the Israeli kings with certain the Babylonian kings and the Egyptian kings. Based on these interactions, I was able to re-date the historic portion of the timeline from the traditional times, and fix the date of Menes to 2638 BC. Figure 2 shows events on the new RABMEC timeline (identified as ATL) with their traditional date and the new timeline date indicated.

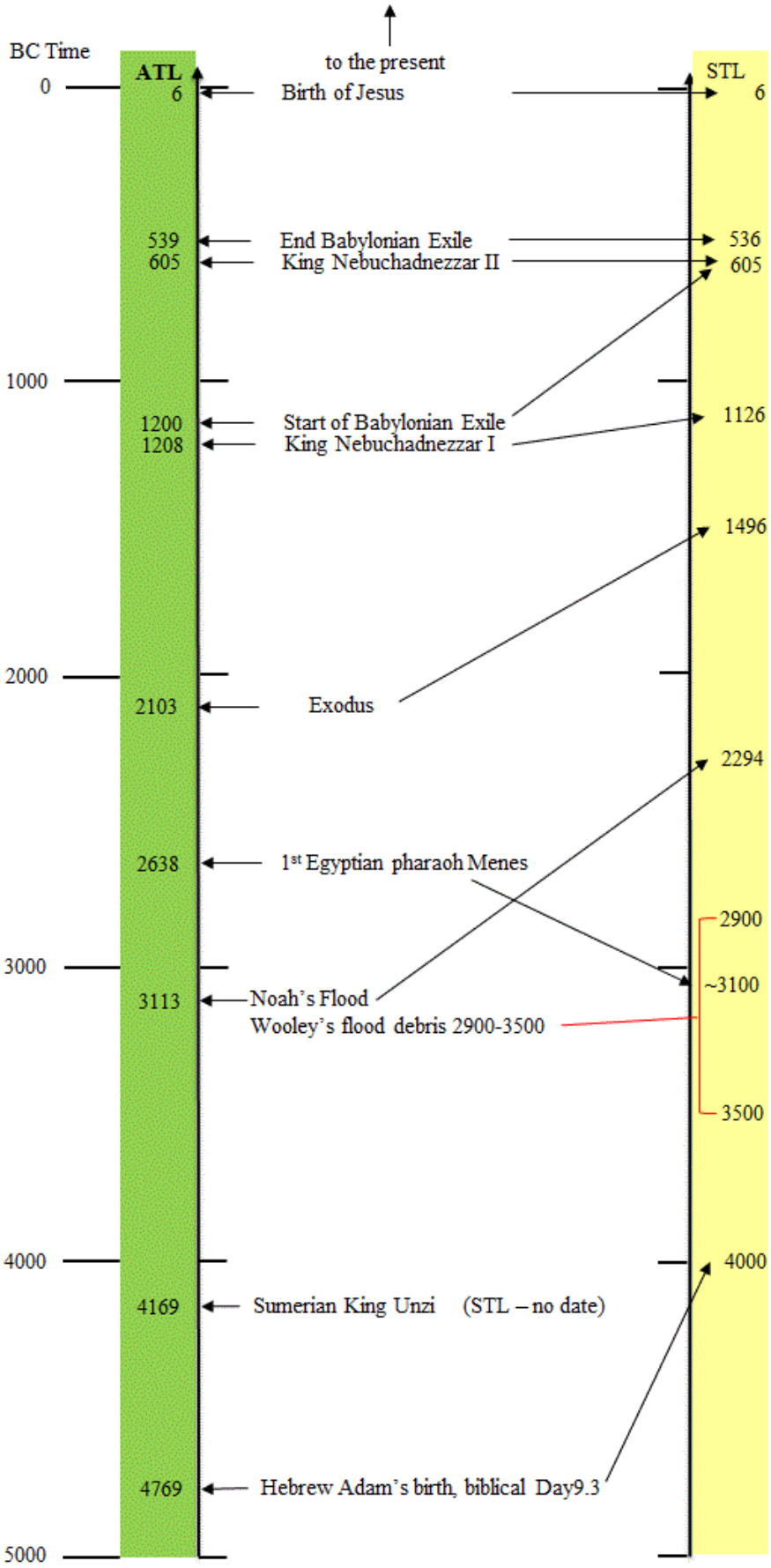

Figure 2. This shows the historical portion of the new timeline. The new timeline (ATL) years are indicated on the left, and the traditional timeline (STL) years are indicated on the right. The red arrows indicate the time of physical data that supports the Flood event. This shows how events in the ATL are shifted from the STL dates. The ATL starts the Babylonian Exile 596 years earlier than the STL. The ATL has King Nebuchadnezzar I 82 years before the STL. The ATL Exodus starts 607 years before the STL date. The ATL has the 1st Egyptian pharaoh ~462 years after the STL date. The ATL has the Flood 819 years before the STL date. The ATL has the birth of Adam 769 years earlier than the STL date.

The flood date is the most well-known event whose date we shifted. This shift is a direct result of the Babylonian exile. Traditionally, the exile begins in 606 BC when the Babylonian king Nebuchadnezzar II captured Jerusalem. The prophet Jeremiah foretold that the exile would last for 70 years. Using the genealogies in the Bible, this exile length fixes the Noah flood date at 2294 BC – but there is no evidence of a flood event in the region at that time.

The new timeline developed here uses a different definition of the exile length made by the prophet Daniel. Daniel's prophesy is more ambiguous, saying the exile would last "time, times and a half". Section 2.2 shows that the alternate definition allows the new timeline to shift the exile to begin with Nebuchadnezzar I in 1204 BC, and last for 665 years. This shifts the date of the flood to 3113 BC where there is physical evidence of a massive flood event in the Middle East. (There is more about that evidence later.)

The reevaluation of the accepted historic dates completed the historic portion of the new timeline. That is what Chapter 2 did.

After establishing the historical portion of the new timeline, we turn to the mythological times. The mythological period usually refers to times before there are written records. Knowledge of these times was passed forward in oral tradition that was later recorded when the people learned the art of writing. The traditions of interest here come in two forms. One is the mythological portion of the kings' lists. The other is the origin (creation) myths of the different cultures.

The Egyptians and the Sumerians both list mythological god-kings in the beginning of their kings' lists. However, the dating of these kings is hard because the lengths of reigns appear to be unphysical. Some last hundreds to thousands of years. In addition, it is not clear how to relate the Egyptian list to the Sumerian list to aid the dating process. In Chapter 3, we demonstrate a connection between the two cultures by showing that Egypt was part of the greater Sumerian empire. We indicate the vastness of the Sumerian empire by examining five important cultures in the broader region.

Because we are looking at the origin myths, Section 3.1 begins with a brief description of the modern concepts of cosmology, which tells the story of the development of the early universe before proceeding to the discussion of the five cultures under consideration.

The five cultures of interest include the Sumerians, the Egyptians, the Hebrews, the Hindus, and the Chinese. We see evidence that these five cultures were part of a vast empire that spread across the African and Asian continents. (See Figure 3) Further, there are hints in the mythology that lead you to believe there is a more ancient relationship than is immediately obvious. Because of this relationship, we are able to make comparisons that allowed the dating of the mythological period.

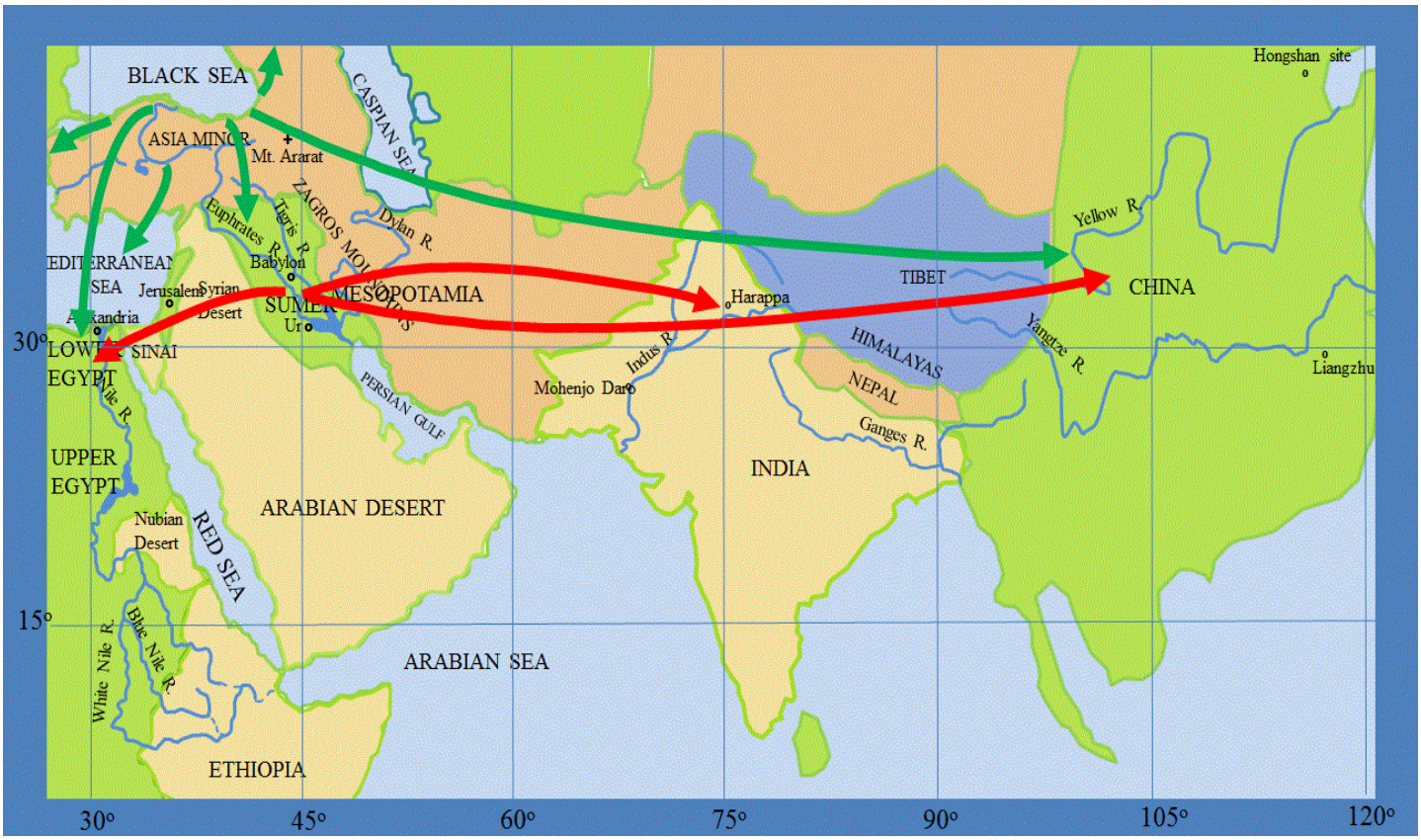

Figure 3. This shows the extent of the Sumerian Empire. We advance the hypothesis that a group referred to as the pre-Sumerians settled around the Black Sea while it was still a fresh water lake. Around 5538 BC, a passage opened between the lake and the Mediterranean Sea raising the lake level over 300 feet and making it a salt water inland sea. The pre-Sumerians moved out (following the green arrows) colonizing other areas. The leaders of these colonizes are recognized as the Egyptian and Sumerian god-kings that ruled before the Sumerian and biblical Flood (see Appendices A and B). China recognizes two of these leaders as the first legendary emperor and Dungi who brought writing to the region. Later around 2650 BC, the Sumerian King Sargon I began another wave of expansion (following the red arrows). This wave represents the Aryan invasion of India and the beginning of the dynastic period of Egyptian pharaohs.

Section 3.2 looks at each of the five peoples and their cultures to lay the foundation for the later comparisons. It talks about the ethnic background, the language, and the political connections of the people.

Historians generally agree that the Sumerians are considered to be the oldest civilization on the planet. (See Figure 4) They appear to have invented writing, which they spread to the other four cultures. With time, the writing of the others evolved away from the original Sumerian writing. The Egyptians and Chinese developed pictographic variations representing words and concepts with symbols. The Hindus and Hebrews evolved more toward an alphabet, though not the one used here. There is, however, little doubt that Sumerian was the source.

Some linguists believe that all languages can be traced back to a single common "first" language spoken by man before he dispersed out of Africa. With separation in time and distance, the language of the different groups drifted apart as the people migrated. Eventually, the individual variations in the language became different languages because they were so unrecognizable from one group to the other. One measures the distance in the relation by the amount of drift in language. Linguists consider Sumerian more like a distant cousin to the languages of the other four groups. Although linguists have not reconstructed the "first" language, they believe the Sumerian language is closer to that "first" language than the other groups, and may be an ancient common source of language.

In addition to writing and language, the Sumerians appear to be a common source of political unity. Although it is not a common view, some historians believe that the Sumerians were the masters of a great empire. One historian in the early 1900's, Austin Waddell, found evidence indicating that the first Egyptian pharaoh, Menes, was the son of the Sumerian king Sargon I. In addition, he concluded that the Hindu (Indian) king line had many kings that he identified as Sumerian kings or their sons. He noted that the same Sargon I appear to have led the great Aryan invasion into India. That invasion gave rise to the Hindu culture there. (It is likely not a coincidence that "Aryan" and "Sumerian" sound so much alike.) Another historian from the late 1800's, DeLacouperie, found evidence in the Chinese historical documents that Sargon I led an invasion from the West into China bringing the Sumerian culture to the people.

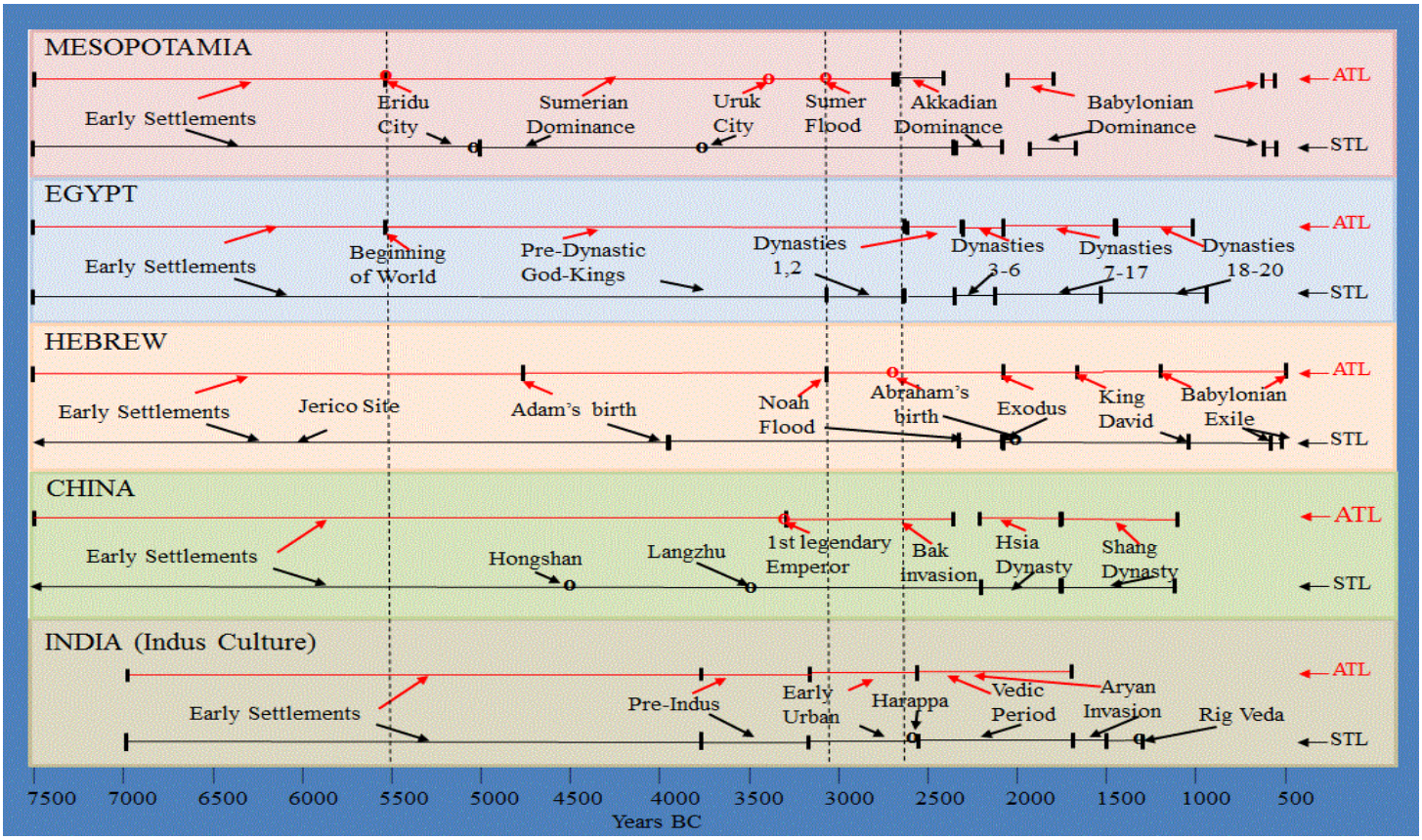

Figure 4. This shows the time of the five civilizations from their earliest appearance to the more recent ancient times. The timelines include some of the most important events, people and periods that are relevant to the development of the RABMEC. The lower horizontal black lines show the traditional timing (the STL). The upper horizontal red lines show the timing of the new RABMEC (identified here as ATL). Some of the events like the "Beginning of the World" according to the Egyptians have no identified STL date. Ancient archaeological sites like Jericho and Honhshan have only STL dates. The vertical dashed lines indicate RABMEC pivotal events (5538 BC, 3113 BC and 2681 BC from left to right). The 2681 BC date represents the rise of Sargon I and his son of Sumer/Akkad. It marks the beginning of the last great Sumerian expansion into Egypt, India (the Aryan invasion), and China (the Bak invasion).

Finally, the Bible indicates that the Hebrew patriarch, Abraham (known also as Abram), was a resident of Ur. Ur was one of the powerful capitals of Sumer. During his early years, Abraham was immersed in the Sumerian culture. Biblical scholars and mythologists generally accept that the earliest Hebrew stories, like the Noah flood, have a strong relation to the Sumerian stories.

The common heritage of writing, language and political leadership, which centers on the Sumerians, leads one to wonder if the mythological beliefs of the five cultures have more in common than the flood story.

Section 3.3 presents the origin myths and talks about their common phrases and concepts. We find several things by comparing the mythology of the five cultures. All of the cultures identified the state of the universe before the creation as a watery void. All of the cultures recognize the existence of a single creator who was identified by different names in the different mythologies, and who made the laws of nature. The creator mysteriously formed out of the void, and created by thinking or speaking the name of the object to be created. Words like "God" said" and "which came forth out of my mouth" indicate the different cultures had the same concept of the creation process.

The modern cosmological concept of the Big Bang (a powerful explosive force that marked the beginning of the universe) is evident in all of the cultures. Words like "a wind from God", "creative force ... fertile power ... the impulse" and "cosmos gave birth to the Breath" all indicate this Big Bang idea.

We find that the Sumerians, the Egyptians and the Hebrews had mythologies that were more physically oriented. They describe creation event-by-event through the creation of mankind. The Hindus and the Chinese describe some events, but the mythology is more mystical in nature. These two cultures present more of the feeling of the connection with the One (the creator) rather than the step-by-step progress of the stages or days of creation.

The collection of observations of political connection and mythological stories provided the basis for the broader picture of the people in the region that we use later. That is what Chapter 3 did.

No one culture has a complete picture of the beginning. However, by showing the similarities of the different mythologies, we see a relationship among the five groups. I used this relationship later in Chapter 5 to reconstruct one possible common source story. In Chapter 4, I postulate that each of the cultures evolved a common source like the one in different ways to produce the collection of myths presented in this section. Comparisons based on the relationship found allowed the dating of the mythological portion of the new timeline.

Section 4.1 dates the Sumerian mythological kings. The difficulty with dating these kings is their unrealistic reign lengths. However, the historian Austin Waddell showed that by comparing several different lists he was able to resolve much of the problem. He indicated that corruption of the lists led to the extreme reign lengths. He further showed the kind of changes likely made to reliable lists that led to the unbelievably long reigns on other lists. Using this same technique, I was able to go back farther in time and date the mythological portion of the Sumerian kings' lists. This section shows the details of this effort.

This section shows that there were four periods in the mythological list. Working backwards in time, the first period begins with the Sumerian Manishtushu and goes back to the flood. We begin with Manishtushu because beginning in 2638 BC (by the new timeline) he provides the connection with the Egyptian king line. Manishtushu was the son of King Sargon I of Sumer and heir to the Sumerian throne. In 2638 BC, he claimed the Egyptian throne and began to reign under the name of Menes. Fixing the date of Menes allowed me to date the Egyptian mythological king line later. The flood in 3113 BC (by the new timeline) is the same as the biblical flood. This provides a connection with the Hebrew mythology. (See Figure 5) This first period lasted 475 years.

The second mythological period begins with the flood and goes back to the first Sumerian semi-divine (or super hero) king who went by the name Unzi. This period lasted for 1056 years. This corresponds exactly to the equivalent period of the Egyptian mythological king line. We use that equivalence later to continue the Egyptian mythological period.

The third period covers the time of when Badtibira was the capital city in this mythological period that directly precedes the reign of King Unzi. This period lasted for 858 years. It corresponds to the time of the Egyptian God II dynasties.

The fourth period covers the time of when Eridu was the capital city in this mythological period that directly precedes the Badtibira period. This period lasted for 511 years. It corresponds to the time of the Egyptian God I dynasties.

Section 4.2 dates the Egyptian mythological kings. Like the Sumerians, the Egyptian mythological kings had unrealistic reign lengths. To date these kings, I employed the same technique used for the Sumerians. Like the Sumerians, there were four Egyptian periods. Working backwards in time, the first period covered the Demi-gods dynasties. The second period was the Gods III dynasty. The third period was the Gods II dynasty, and the fourth period was the Gods I dynasty.

In their respective kings' lists, the first two Egyptian periods and the first two Sumerian periods span exactly the same number of years. This allowed me to equate the two cultures during these periods and date the Demi-gods and Gods III periods. The Gods II and Gods I periods used the date of Menes and the date of the beginning of the world to determine their dates. This section shows the details of this effort.

We find several things. The Demi-gods period ends with the first historic Egyptian pharaoh Menes in 2638 BC (by the new timeline) and goes back in time to begin with the flood in 3113 BC (by the new timeline). The kings' list names only the last demi-god during this time. It spans 475 years. (See Figure 5)

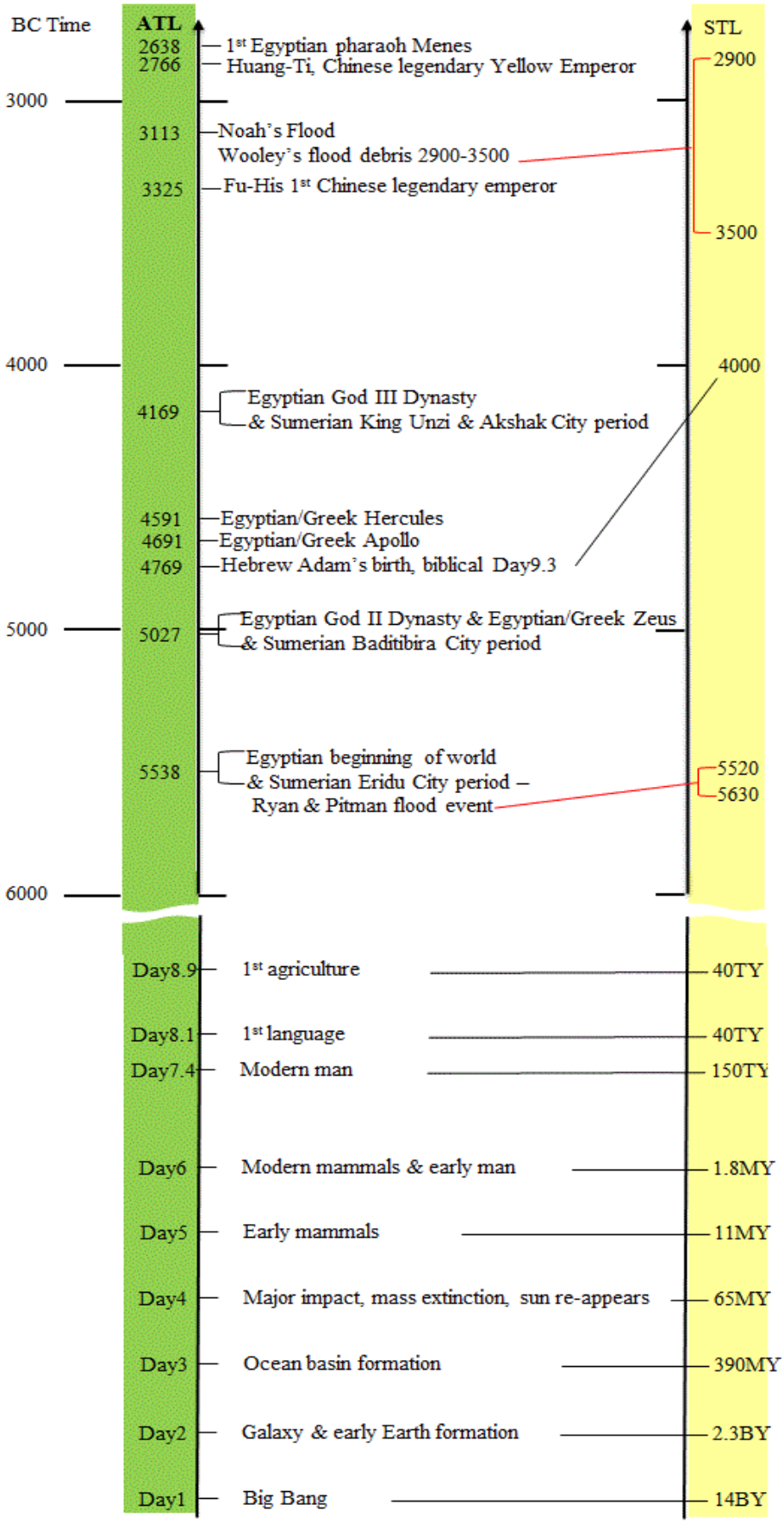

Figure 5. This shows the mythological portion of the new timeline. TH is thousands of years, MY is millions of years and BY is billions of years. The new timeline (ATL) years are indicated on the left, and the traditional timeline (STL) years are indicated on the right. The red arrows indicate the time of physical data that supports the close mythological event. The Egyptian dynasties and gods have no determined STL dates. The "Day" is the end of the biblical Day determined in Section 4.3.

Figure 5. shows events on the new RABMEC timeline (identified as ATL) with their traditional date and the new timeline date indicated.

The list of the Gods III period provides no names but spans the same number of years as the equivalent Sumerian semi-divine kings' period. This period lasted for 1056 years.

The list of the Gods II period includes familiar names we recognize most often as Greek gods and demi-gods. Those include Apollo, Zeus and Hercules. They also include the traditionally recognized Egyptian gods like Horus and Annubis. This period lasted for 858 years.

The list of the God I period contains the name of the first god-king, Hephaistos. However, according to the mythology, this god is not the creator who is known as Khepera (and sometimes Neb-er-tcher. The list also contains familiar Greek names such as Helios and Kronos, as well as the traditional Egyptian gods like Typhon, Osiris and Isis. This period spans 511 years.

We find that the total time for the four mythological periods goes from Menes in 2638 BC to the Egyptian beginning of the world in 5538 BC. This last date is important because later in Chapter 5 we see there is physical evidence of flood deposits to support that time as a cataclysmic event in the ancient past.

Section 4.3 leaves the mythological king and turns to Hebrew tradition. Here we consider the biblical days of creation. Biblical tradition says that God created the first man, Adam, about 6,000 years ago. Further, the bible says God created the universe and all it contains (including the earth and its plants and animals) in 6 days. Science says the universe is about 14 billion years old; the earth is about 4.7 billion years old; and the human species is about 2 million years old.

$$\textbf{end-of-biblical-day} = \frac{\ln\left(\frac{t_0}{\textbf{geological year}}\right)}{\ln(6)} + 1.0$$

where t_0 is the scientific estimate of the age of the universe (14 billion).

We find with this relationship that at the end of day 1 the cosmic Big Bang took place (~14 billion years ago). This was the light God created.

By the end of day 2, the stars and galaxies formed (~2.3 billion years ago). That was the waters separated from the waters.

By the end of day 3, the continents formed and vegetation began to appear (~3.9 million years ago). That was the separation of dry land and the sprouting of vegetation. Then a massive comet impact caused one of the greatest extinction in the geological past, darkening the sky for an extended time.

By the end of day 4, the sky cleared and the earth began to see new life appear (~65 million years ago). At this time the sun, moon and stars were visible for the first time to the new life. That was the creation of the heavenly bodies.

By the end of day 5, the number of new species of animals, birds and plants began to grow (~10.8 million years ago). That was the swarms of living creatures.

By the end of day 6, the large mammals developed. Evidence of the species of man (Homo Habilis and Homo Erectus) appeared (~1.8 million years ago). That was the creation of adam (the species).

Then God rested and allowed His work to develop until the individual Adam was born in 4769 BC (by the new timeline).

Finally, Section 4.4 shows the cyclic picture of the universe held by the Hindus. There is one very long cycle called a Kalpa that is 4,320,000,000 (4.32 billion) years long. The Kalpa is divided into 1000 Yugas which are 4,320,000 (4.32 million) years long each.

In this section, we see an interesting alignment of climate and catastrophe events with the Hindu cycles. We see that the global warm-cold climate cycle in the geologic record of the earth is 32 Yugas long from warm peak to warm peak. The cycle uses the last 800 million years of climate measurements.

We also see an apparent alignment of major comet impacts and species extinctions. The biblical flood in 3113 BC is the last major catastrophe that aligns with the end of the last Yuga cycle. According to the Hindus, this event takes place in the part of a Yuga cycle that is most destructive. The alignments seen here indicate that the Hindu cycles reflect the cosmic cycles of space in addition to the climate cycles of earth.

The dating of the ancient god-kings and the mythological concepts of the ancient past completed the mythological portion of the new timeline. That is what Chapter 4 did.

In Chapters 2 through four, we saw the development of a new timeline. This new timeline shifts dates from the traditional timeline dates. We also looked at the mythological traditions of the cultures whose specific events determine the new dates. In Chapter 5, we now look at the physical evidence that supports the new timeline.

In Section 5.1, we consider the common link between five cultures in language and political affiliation. We can think of this common link as the Sumerians or possibly a pre-Sumerian tribe. I speculated in Chapter 3 that these people carried language and political mastery with them as they expanded their territory.

We now go one step farther and consider the possibility they also carried a common source for the origin myths. Further, this common source myth evolved independently in each of the cultures to produce the myths that appear as different stories on casual examination. This section looks at the common phrases and ideas in the myths of the five cultures. Base on them, I reconstructed one possible form for the common original source story.

Section 5.2 returns to the discussion of the physical evidence. In this section, we consider the evidence that supports the new dating of the historic Egyptian dynasties.

Historians divided the Egyptian king line into 31 dynasties. They believe the first one began ~3100 BC. The last one ended when the Romans took control of Egypt in 30 BC. The date of the end is well documented, but the earliest date has an uncertainty of about 200 to 400 years.

Historical techniques use comparisons of kings' lists, information in monument inscriptions and dated astronomical events to determine the earliest kings' dates. In addition, radio carbon dating of plant and wood artifacts in tombs narrow the uncertainty in the kings' dates. This section shows comparisons of the new timeline kings' dates with the traditional dates.

We see that the new timeline dates of sixth through the 31st dynasty are well within the data uncertainty of the traditional dates. The new timeline dates for the oldest period (the first six dynasties) are still within date uncertainty of the traditional dates but the difference is larger. The biggest difference is for the first king. This is the most important date for the new timeline because of its use in dating the mythological period. The new

timeline date of 2638 BC says that the first dynasty was around 460 years younger than radiocarbon dates suggest. However, it agrees with other historically dated estimates.

Section 5.3 considers two catastrophic flood events to which there is reference in the mythological traditions. This section discusses the evidence for these two events.

The first is the biblical flood. Tradition places it at ~2300 BC, but there is no evidence near this date. The new timeline places it at 3113 BC. Archeological evidence in the early 1930's showed flood deposits in the region at this general time. These flood deposits are taken here as support for the new timeline date.

The second catastrophe is the Egyptian beginning of the world event. Traditional dating does not exist for this mythological event. However, the new timeline places it at 5538 BC. In 1997, two marine biologists, W. Ryan and W. Pittman, showed evidence of a massive flood event in the Black Sea region at approximately that same time. These flood deposits are taken here as support for the new timeline date of the Egyptian event.

Finally, Section 5.4 ties up the loose ends and summarizes the important findings. That is what Chapter 5 did.

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1. INTRODUCTION

This book is about time and about the fact that the farther beck you go, the less clear things become. It is like looking into a dark foggy mirror. Events in ancient history and the ordering of their occurrence are dimmed by the passage of time.

The goal of this work is to produce some clarity. This is done by developing an alternate timeline with which to view the past. This new timeline is a re-calibration of the traditionally accepted time and order of the ancient past.

Here in the introduction, we examine some ideas that are relevant to the development of the new timeline, but that are not addressed in the later chapters.

We talk about the nature of history. We provide a perspective on why looking at the ancient past seems to matter so much by looking at the intersection of science and religion. We discuss the nature of the information sources by considering the intersection of history and religion and by speculating on how some of that information is stored and accessed. Finally, we briefly indicate what each of the following chapters address.

What is the nature of history?

The study of history has always been a fascinating endeavor. It begins with the written story of Man's accomplishments (a tale of what happened when, an analysis of why events happened, and a description of how we as a species developed after the coming of writing). Prior to writing, however, there is a fine line separating history from pre-history (a time after humans became Man but before civilization as we know it was established). But, that is history as well, buried in the mist of antiquity and shrouded in mystery and mysticism.

The more recent events of the ancient world are revealed thru documents and monument inscriptions, authenticated with radio dating(1) (with its intricate calibrations), with astronomical correlations(2) (that assume cosmic uniformity and order in the recent ancient past), and with cross-culture correlations(3) (that are rife with political agendas and transcription errors of the recorders). This means that even the more recent ancient history is subject to uncertainty in absolute (BC) time, and, in many cases, in relative placement on the timeline which just adds to the confusion. The dates are reasonably well accepted for dates more recent than about 500 BC. However, prior to that, the uncertainty grows with time.

For times earlier than about 3000 BC, we have an added problem because most of the information is locked in oral tradition that was only later recorded (what we know as myth and legend). This is the very beginning. It is the time of the god-kings, dragons, floods and new world ages. It is from here we find our true roots as a species (when our consciousness and development begins); but, we appear to lack the hard scientific validation of the real events as they unfolded, at least for the oldest events.

What is the intersection of science and religion?

One looming question about these earliest events that repeatedly surfaces is one of origin. This question is expressed in numerous ways. Where did we come from? How did the universe and humanity begin? When did it all begin? What is our purpose?

For the fundamentalist who accepts the literal interpretation of the Old Testament, the answer is simple. "God", the creator, is the origin; and, the timing is spelled out in the Bible as lasting seven days. The beginning is about 4000 BC if one counts backwards through the genealogies and events from known historical time. Our purpose is to serve God.

At the other extreme, to the pure naturalist, the universe and Man evolved according to natural law commencing about 14 billion years ago and 1 million years ago, respectively. From this point-of-view, there is no need for the intervention of a supreme deity along the way whose existence as author of creation is questionable at best. The question of purpose is unaddressed.

When viewing the two extremes, the fundamentalist believer would declare the pure naturalist view as heretical because God is to be believed and nothing more. To the pure naturalist, God cannot be viewed thru a telescope or measured by a voltmeter, and so, the fundamentalist view is unsupported religious superstition and folk lore. But the answer to the question of origin need not rest with the extremes.

In this work, we take the middle ground. We consider two issues. In the first, the issue of origin becomes one of defining when physical reality, as we know it, began (setting aside the question of how for the moment). In the second, the issue is whether the myths really have an encoded description of the process of development from the beginning. The identification of the relevant events and their properly calibrated timing are the tools used to resolve these issues. The question of how, whether by divine creation on the one hand, or, quantum fluctuations leading to a Big Bang on the other, will be left to other reflections at another time.

What is the intersection of history and religion?

There is one additional question that needs to be addressed, if only in passing. Why do we care about our origin? Such a question has answers on many levels. The simple answer is idle curiosity. But, this cannot be the whole answer because too much energy has been expended over the eons without providing a truly verifiable answer to maintain such curiosity.

Since the question of origin invariably becomes entangled with (or competes with) religion, it appears obvious that the motivation for the search for our origin has some spiritual implications. This brings us to the question of whether the gods of the myths were real beings. An alternate question is whether they were just used as a tool by primitive man to try to comprehend the power of nature. This issue is addressed by assuming the gods were real, and by developing a calibrated timeline that places them in time relative to accepted historical events.

With this goal in mind, we note that there is no true alternate timeline that offers much new if it does not attempt to reconcile the oldest body of knowledge with some verifiable evidence. This record of earliest knowledge can be viewed in two ways in the extremes. One approach is to treat it as the product of human imagination and superstition (myths beyond belief as factual - a symbolic mechanism for moral and social conscience training and organization). The other extreme is to treat it as purely factual history. The middle ground seems the most likely, that is, that myths are based on fact, embellished for effect, and overlaid with social and moral training. So how can we pick out the fact from the fiction?

Carl Jung (4) claimed that within each of us is a deep memory of the\ancient past. He called them our racial (species) memories. He believed these racial memories were highly encoded images of our primordial beginning that affect our behavior without our conscious awareness. These encoded images, when connected to, produce powerful emotional responses even though the images themselves may not be recognized consciously.

This idea seems to imply that in each of us there is a window into the deep past that sees the memories, passed on from one generation to the next. These memories contain the facts as our ancestors directly observed them. We believe they are encoded in our genes, but not easily accessed or decoded by our conscious mind.

This state of affairs prevents the cross-culture reference, on a sufficiently statistically believable scale, that would make the observations useful for scientific validation of the deep past. We are thus forced to take a

different approach, that is, to try to place the mythical stories in a context of time that supports the believability of the kernel of truth within them.

What is addressed in the following chapters?

By connecting the historical past with myth and legend placed in a dated context it is then possible to extend history back to the beginning. This is what this effort will do. We develop the Revised Ancient Biblical and Mid-East Chronology (RABMEC) an alternate timeline to the traditionally accepted one. In this work, the traditional timeline is referred to as the Standard TimeLine (STL). The RABMEC has an historical part and a pre-historical part.

Section 2 re-calibrates the timeline from Adam to the birth of Christ to produce the historical part of the RABMEC. Dates after the birth of Christ are traditionally referred to as AD (anno Domini). However, the new accepted system refers to them as CE (the Current Era). The re-calibration of the timeline shows that the events on the STL, with the currently accepted BC (also known as before the current era or BCE) calibration, have a different possible calibration that can be supported by the written records. The RABMEC has the oldest events slid in time, some forward and some backward by as much as hundreds of years, from the STL convention.

Next, in Section 3, a relation among five ancient cultures is established through the cross-culture comparisons of their mythic beliefs and writings (that part of their writings that are not sufficiently well dated, primarily of the creation).

In Section 4, the legendary periods are given a BC calibrated context. We do this in several ways. One way is to extend the historical periods backward to date the Sumerian mythological kings and the Egyptian god-kings. A second way is to develop a mathematical formula to relate the Hebrew's seven days of creation with dated geologic time. The third way is to tie of the Hindu divine world cycles to geologic events. This is accomplished by examining the oral traditions and the list of kings for the cultures being considered. The effort is aided by identifying a pivotal point in the RABMEC that connects the mythological period to the historic period. This event is the new RABMEC date for the first historical Egyptian king.

Finally, Section 5 presents the fully calibrated RABMEC, combining the historical and the calibrated mythic periods. The looming question of the factual existence of the Flood compared to scientific records is addressed here. In addition, the Egyptian beginning of the world event is dated.

This work takes us back to the beginning of Man and beyond. Through it we get a glimpse of our most ancient roots that are currently obscured in the mist of myth and treated in the STL as unreal.

References for the Introduction

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3. L.A. Waddell, Makers Of Civilization In Race And History, London (1929), (Kessinger Pub. reprint)
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2. THE REVISED ANCIENT BIBLICAL AND MID-EAST (RABMEC) TIMELINE

It is the objective here to go back to the beginning and establish a calibrated timeline to the "creation of man". If one accepts the concept of creation as the beginning of awareness (as is consistent with ancient thought), we begin our timeline with the oral tradition of the earliest cultures (which was later recorded). The Sumerian (claimed to be the initiators of writing), the Egyptian, and the Hebrew (biblical) peoples are the prominent three that are intrinsically intertwined.

The discussion begins with the Hebrew tradition because it is the most complete genealogy from the beginning to the historic period (the birth of Jesus Christ). The biblical genealogies for the Hebrew patriarchs include their age at death and their ages at the time of the birth of their offspring. The Bible also includes the succession of kings and their length of reigns. Using this it is possible to determine the total number of years from the creation to the beginning of the Babylonian Exile of the Jews, but the absolute (BC) date of the beginning is unspecified.

The end of the Exile and the return to Jerusalem begins with the re-building of the Temple by Cyrus in 539 BC, so a calibrated timeline from the beginning is possible if we know the length of the Exile. However, the length of the Exile, as predicted by the prophets, Jeremiah and Daniel, has some question associated with it. It is 70 years according to Jeremiah, or, "a time, times, and a half" according to Daniel (which some interpret as 490 years).

The mytho-historical tradition described in the Bible encompasses several periods: (1) the time from Adam to the Flood and Noah; (2) the time from Noah to Abraham; (3) the time from Abraham to King David; (4) the time from King David to the Babylonian exile; and (5) the time from the exile to the birth of Jesus. Within the Bible, genealogies of the generations of the Jews provide a potential relative timeline that can connect the biblical creation with modern (AD) times only when the length of time of the Babylonian Exile is known.

Section 2.1 provides the details of the genealogies. We treat the Exile length as ambiguous to produce a relative timeline. Following the relative timeline, Section 2.2 produces a calibrated timeline. In this section, correlating the kings of Israel with the Egyptian and Babylonian kings mentioned in the Bible resolves the question of the Exile length. This allows a completely calibrated timeline back to the birth of Adam. Note that the Babylonian king line is an extension of the Sumerian king line that ruled in the same region.

2.1 The Relative Timeline Of The Biblical Jews

The story begins with the Jews because the Bible [(1)] provides the creation story in Chapter 1 of Genesis. Time is defined in "days" to organize the creation events. This story is the basis of the Judeo-Christian tradition.

Note that the ancient Hebrew word for day had more than one meaning. It referred to a 24 hour period from sunset to sunset (a standard day); but, it also referred to an unspecified period of time which could be many years in length. This definition of the word "day" has implications for the mythological portion of the new timeline and is considered later in Section 4.3.

According to the story, God created Adam on the sixth day. After that, He rested from His creation activities. He gave Adam a mate, Eve, and placed them both in the Garden of Eden to tend it and be master of the animals. Chapter 2 in Genesis describes the location of Eden.

7. And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.
8. And the Lord God planted a garden eastward in Eden; …
10. And a river went out of Eden to water the garden; and from thence it parted, and became into four heads.
11. The name of the first is Pi'-son; that is it which compasseth the whole land of Hav'-i-lah, where there is gold...
13. And the name of the second river is Gi'-hon; the same is it that compasseth the whole land of E-thi-o'-pi-a.
14. And the name of the third river is Hid'-de-kel; that is it which goeth toward the east of Assyria. And the fourth river is Eu-phra'-tes.
15. And the Lord God took the man, and put him in the garden of Eden to dress it and to keep it.

The location of Eden has long been a matter of debate. Assuming Eden refers to the area of the Fertile Crescent, where agriculture is believed to have begun, the area spans the arc of territory running northward from Egypt through Palestine and the Levant, through Anatolia to the hills between Iran and the south Caspian to enclose the river valleys of Mesopotamia.

This area is bounded on the west by the Nile (is that the Gihon), and includes the Tigress (which heads east to Assyria) and the Euphrates both of which come out of the Persian Gulf. It is interesting to note that the ancestral city of the Patriarch Abraham is Ur, located at the junction of the Tigress and Euphrates rivers.

The location of the other river is not obvious. There is another river, the Dylan, which splits from the Tigress above Babylon and heads in the direction of the Caspian Sea. Also, there is no identified junction for the Nile with the Euphrates; however it is not impossible to imagine there might have been a small tributary that split from the Euphrates and heads to the Mediterranean. The shoreline from there to the Nile could be considered one long river that encompasses Ethiopia.

2.1.1 Period 1: Adam to the Noah Flood (*Genesis 5*)

As the story continues, Adam and Eve disobey God's command and are forced to leave Eden. Time is now recorded as relative year from the creation of Adam. The Bible says little about the children of Adam and Eve. It tells of their son Cain killing their son Able. After that, Cain leaves for other parts. Their third son, Seth, is the one that continues the line of Adam through the nine generations to the birth of Noah. The genealogy in Figure 2.1 shows there are 1056 years from the creation of Adam to the birth of Noah. We obtain this by adding the ages of the fathers at the birth of their sons.

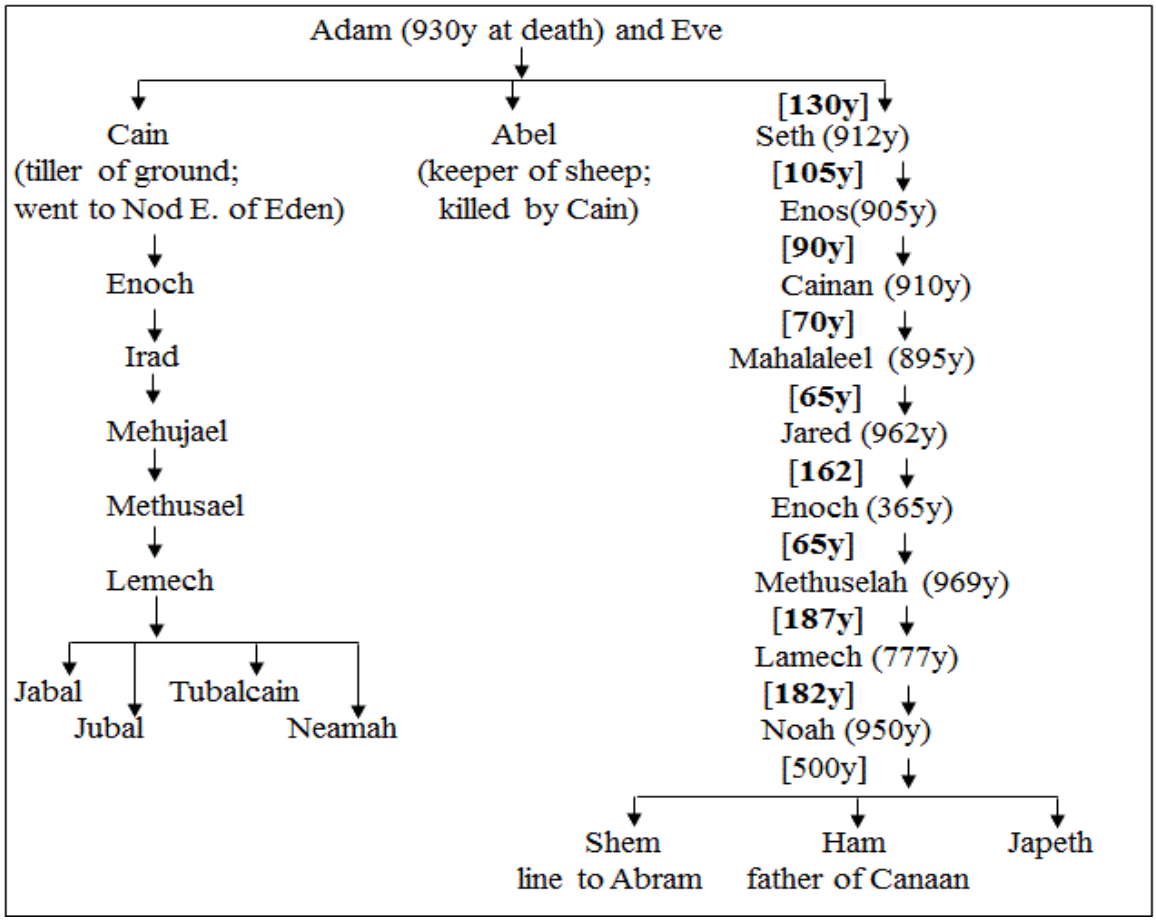

Figure 2.1 This is the genealogy of Adam to the Flood. From the birth of Adam to the birth of Noah was 1056 yrs. Noah was 600 years old at the time of the Flood. Thus from birth of Adam to the Flood was 1656 years. The bold number in brackets is the age of the father at the birth of the son. For example, Adam was 130y when Seth was born.

Based on the genealogies, from the time Adam and Eve left Eden to the coming of the Flood was 1656 years. At this point, no BC date is associated with the year of the Flood. This correlation is established later when the Exile length is determined. Table 2.1 shows the time order from Adam to the Flood in years relative to Adam's birth.

According to Genesis (Genesis 7: -8:), Noah was 600 years when the flood occurred. The water depth rose to 15 cubits (22.5 feet). It rained for 40 days confining Noah to the Ark for 1 year when it came to rest on Mt. Ararat in Turkey off the Black Sea. Most scholars recognize a connection between the biblical stories and Sumerian myths. This is particularly true of the Flood story.

The Bible notes that Abraham came from Ur, an important Sumerian city. It is not clear when the children of Adam moved to Ur, but the connection between the Hebrew line and the Sumerian line is strong. Because of this, it is important to consider the Sumerian connection as it relates to the new timeline before proceeding with the biblical genealogies.

Table 2.1. This shows the relative year (RY) of events from Adam to the Flood is in column 1 because of the Sumerian connection, the last column lists the concurrent Sumerian dynasties and the placement of the Sumerian flood event from the Kish Chronicles. The Sumerian King List in Appendix A shows the prominent Sumerian kings during the time from Adam to the Flood.

Year RY	Adam Line (age at birth of son in yrs)	Sumerian King (length of reign yrs)
0	Adam birth	
130 235 325 395 460 600	Seth birth (Adam is 130y) Enos birth (Seth is 105y) Cainan birth (Enos is 90y) Mahalaleel birth (Cainan is 70y) Jarad birth (Mahalaleel is 65y) Adam 600 begins reign as Unzi	Akshak dynasty, 6 kings (99y) King Unzi is 1st of this dynasty
622 687 699	Enoch birth (Jarad is 162y) Methuselah birth (Enoch is 65y)	Kish dynasties, 16 kings (633y)
874 930 1056	Lemech birth (Methuselah is 187y) Adam death (930y old at death) Noah birth (Lemech is 182y)	
1332		Erech dynasties, 15 kings (568y) King Meskiaggasher, son of sun god, reign ends at Flood
1556	Shem birth (Noah is 500y)	
1656	Noah Flood (Noah is 600y)	Sumerian flood

The ancient Sumerians possessed one of the earliest, if not the earliest, advanced civilizations of the human race. They possessed the earliest known writing, and they constructed detailed lists of their kings and their lengths of reign. The most famous of the lists, "The Kish Chronicle", begins with the god/kings and the fantastic number of years for their reigns, followed by reigns of more normal length with some ambiguity in arrangement and some gaps.

In 1929, the historian, L. A. Waddell[(2)] developed a hypothesis that the ancient Egyptians and Hindu/Arians, both of whom kept meticulous lists of their own kings, shared a common royal king-line with the Sumerians. Collecting data worldwide, comparing the language phonology (pronunciation of sounds) and monument inscriptions, myth and king's lists, Waddell was able to order the ambiguous groups of Sumerian kings and fill in the missing gaps. In addition, he proposes that Unzi was the first Sumerian king of the god/kings line. In the context of the Bible, Unzi and Adam were the same person.

The Sumerian kings' lists also record the event of a flood and the years from Unzi to that flood. Since the time from Adam to the biblical Flood was 1656 years, and the time from King Unzi to the Sumerian flood was also 1656 years. Using Waddell's assumption that Adam and King Unzi were the same person, this implies that the Sumerian flood and the Biblical Flood were the same event. The actual fact of the Flood, from a scientific point of view, is discussed in Chapter 5.

2.1.2 Period 2: The Noah Flood to Abraham (*Genesis 10: -11:*)

This second period between Noah's Flood and Abraham takes us thru the dispersal of the Jews throughout the Mid-East region. The children of man (Adam's line) all spoke a single language before the

dispersal began(Genesis 11:). As the survivors of the Flood, Noah and his three sons, Japheth, Ham and Shem, were the children of Adam that repopulated the region.

The Bible indicates that the line of Noah after the Flood produced the rulers in the region. The sons of Japheth became the Isles of Gentiles. The sons of Ham became the people of Canaan.

The most noted offspring of Ham was Nimrod. Nimrod was the son of Cush, who was the son of Ham. The Bible refers to the line of Nimrod as the kings (Genesis 10:8-10). It reports that Nimrod established the kingdoms of Babel, Erech, Acad and Calnehin Shinai. These are the dominant cities of Sumer. Asshur, the son of Nimrod, built Nineveh, Rehoboth, Calan and Resen. The sons of Shem became the direct line to the Hebrew nation.

Figure 2.2 shows the genealogy of the line of Noah to the birth of Abram. The figure shows that from the birth of Noah to the birth of Abram was 890 years. Since, Noah was 600 years old at the time of the Flood, from Flood to Abram's birth was 290 years.

As the story continues, Terah was commanded by God to take his son Abram, Abram's wife Sarai and Teran's grandson Lot and moved from Ur to Canaan. They only got as far as Haran where Terah died.

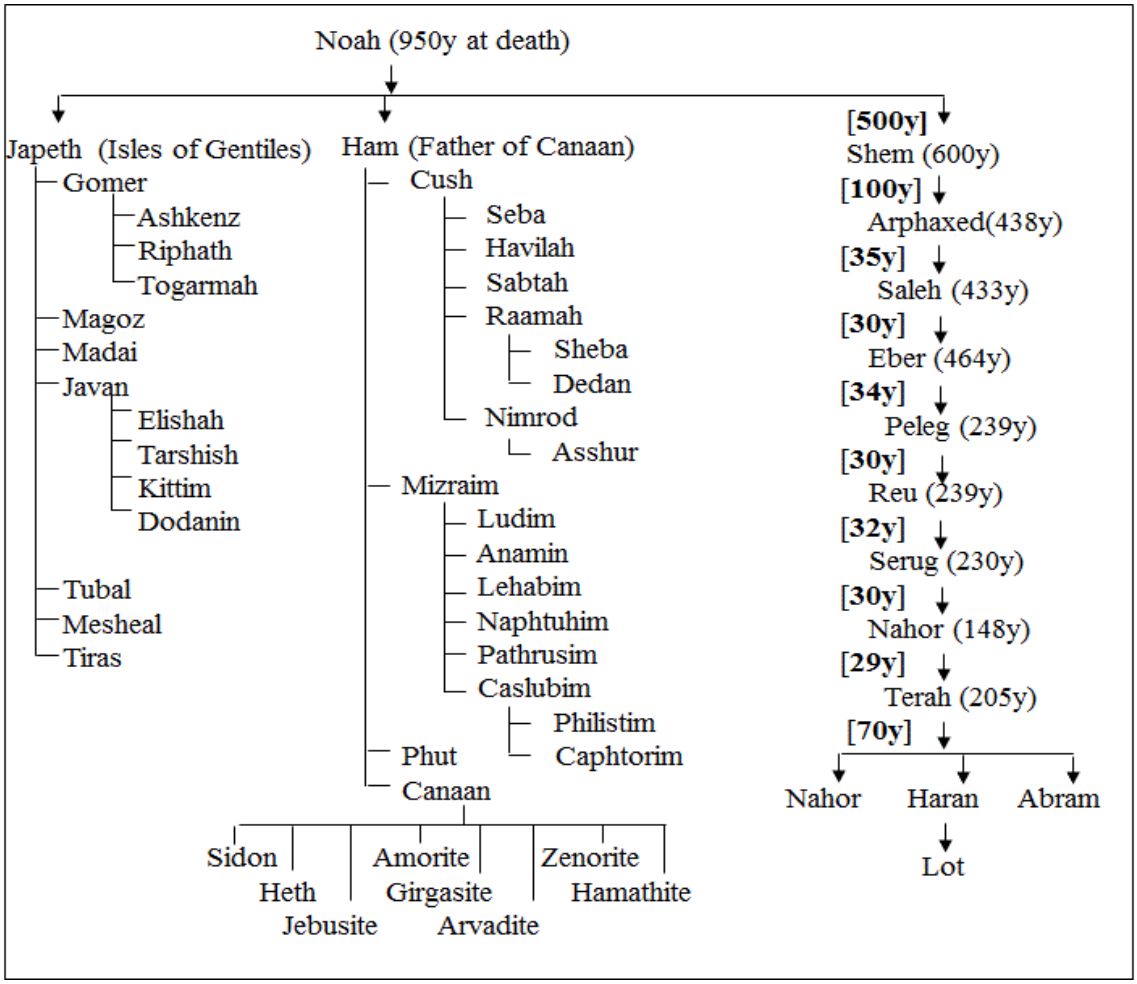

Figure 2.2 This is the genealogy of Noah to the birth of Abram. From the birth of Noah to the birth of Abram was 890 yrs. The bold number in brackets is the age of the father at the birth of the son. For example, Noah was 500y when Shem was born.

From there, God commanded Abram to take Sarai and Lot on to Canaan to his promised land (even though the Canaanites already lived there). Once there Lot and his wives and daughters took the land of Jordan; and Abram and his family took the land of Canaan (all the land between the river in Egypt and the Euphrates).

When considering the biblical genealogies, in this second period, we are again faced with the extreme ages of the line from Noah to Abram (Abraham). Just before the Flood, God set the lifetime of Man to 120 years. According to the Bible (Genesis 6:1-3) , "...The sons of God saw the daughters of men that they were fair; and they took them wives of all which they chose. And the Lord said, My spirit shall not always strive with man, for that he also is flesh; yet his days shall be an hundred and twenty years...".

Table 2.2 shows the time order from Noah's birth to Abram's birth in years relative to Adam's birth. The table shows this limiting of the lifespan of man. There is a gradual decrease in the ages at death in Noah's descendants from 960 year to 250 years by the time of Abram's father. This decrease continues further in the later periods after Abram.

There is some question among biblical scholars about the age of Terah at Noah's birth. Although most agree on 70 years, some speculate he was 130 years. In the timeline, 70 years is used.

Table 2.2. This shows the relative year (RY) of events from Noah's birth to Abram's birth is in column 1.

Year RY	**Noah Line (age at birth of son in yrs)**	**Sumerian King (length of reign yr)**
1056	Noah birth	
1556	Shem birth (Noah is 500y)	
1656	Noah Flood (Noah is 600y) Arphaxed birth (Shem is 100y)	Sumerian flood
1691	Saleh birth (Arphaxed is 35y)	
1721	Eber birth (Saleh is 30y)	
1755	Peleg birth (Eber is 34y)	
1785	Reu birth (Peleg is 30y)	
1817	Serug birth (Reu is 32y)	
1847	Nahor birth (Serug is 30y)	
1876	Terah birth (Nahor is 29y)	
1900		Ur dynasties, 13 kings (188y)
1946	Abram birth (Terah is 70y)	

2.1.3 Period 3: Abraham to King David

During the 3rd period, Abram has a son Ishmael by Sarah's Egyptian maid and a son Isaac by his wife Sarah. Out of jealousy, Sarah drives Ishmael and his mother into the desert and Ishmael's sons establish the ruling dynasties in the land between Egypt and Assyria (Genesis 16:16).

God promises Abram at 99 years (Genesis 17:2) that his son Isaac (Genesis 21:5) would establish the Hebrew line and the slavery in Egypt that would last for 400 year" (Genesis 15:13). At this time, Abram's name is changed to Abraham. Isaac's son Jacob (Genesis 25:26)(younger twin of Esau) steals the father's blessing and continues the Hebrew line by his 12 sons.

Because of jealousy, Jacob's sons sold their brother Joseph when he was 17 years old (Genesis 41:46, 45:6, 47:28, 50:22-26). Joseph was taken to Egypt as a slave where he displays a talent for interpreting dreams. His talent pleases the Pharaoh and he becomes rich, powerful and a governor in Egypt at 30.

After seven years of plenty and two of the next seven years of famine, Joseph is reunited with his brothers and Jacob who is 130 years. At the time of the reunion, Jacob brought with him his household of 72 people (Exodus 1:). Jacob dies in Egypt (Genesis 47:28), but his bones are later returned to the Promised Land at the Exodus.

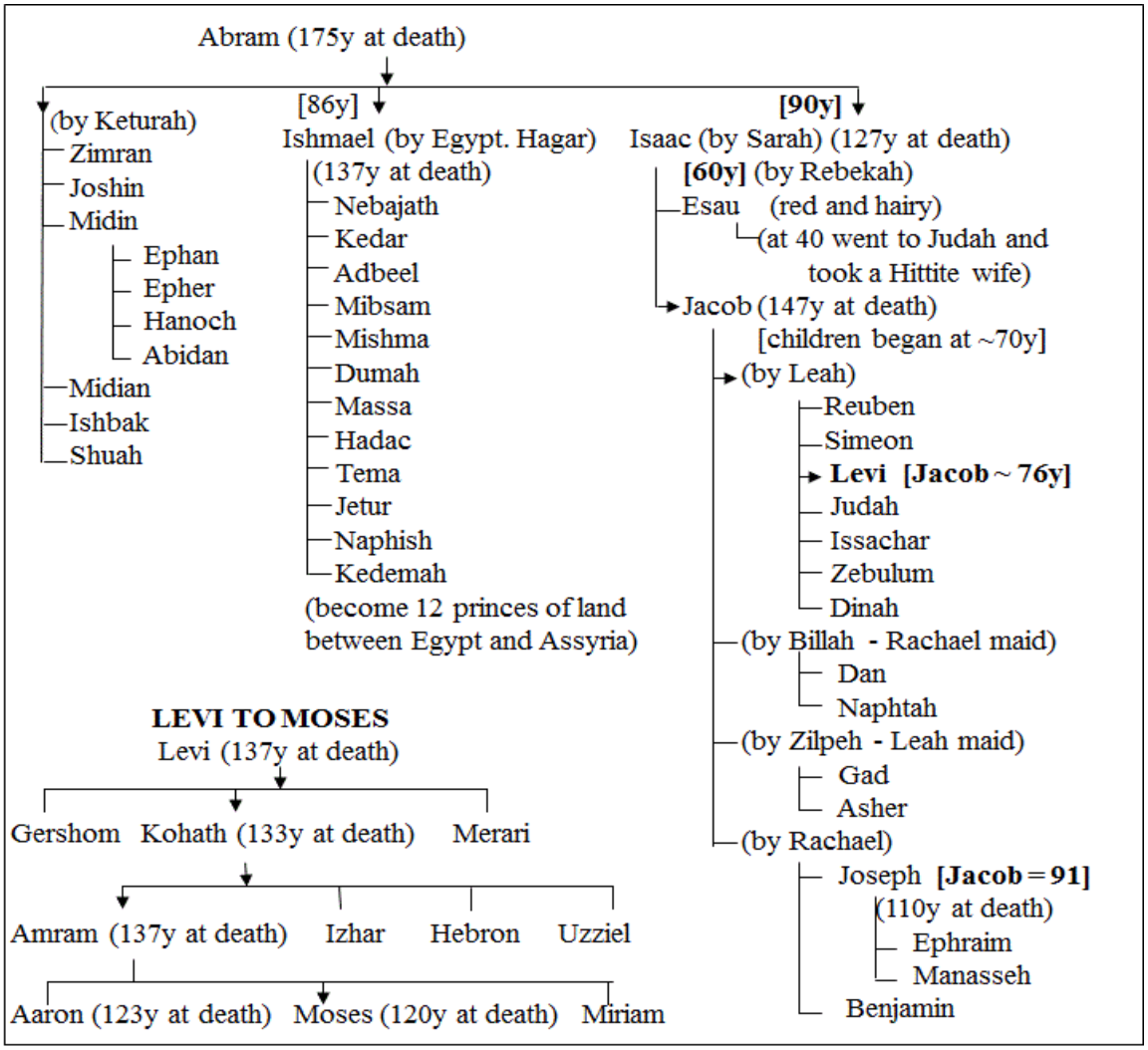

Figure 2.3 This is the genealogy of the birth of Abram to the birth of Moses. The bold number in brackets is the age of the father at the birth of the son. For example, Abram was 90y when Isaac was born. Isaac was 60y when Jacob was born.

After Joseph and all that knew him died, a new Pharaoh feels threatened by the children of Israel (Jacob's new name by God) and they are all made slaves. The time in Egypt began with Jacob's entry into Egypt and lasted until Moses led the people out to freedom. The book of Exodus says the time the children of Israel dwelt in Egypt was 430 years before they were freed (Exodus 12:40-41).

According to the Bible at the time of the Exodus, the total number of men (20 years and older) was 625,550 males (Numbers 1: - 3:). These people included the 12 tribes (descendants of the 12 sons of Jacob). The count for each tribe is: the tribe of Reuben (46500 men), for Simeon (59300 men), for Gad (45650 men), for Judah (74600 men), for Issachar (54400 men), for Zebulum (57400 men), for Joseph (40500 men), for Manasseh

(32200 men), for Benjamin (35400 men), for Dan (62700 men), for Asher (41500 men), for Naphtah (53400 men), and for Levi (22000 men).

Figure 2.3 shows the genealogies (1 Chronicles 6:1 and Exodus 6:16-20) for this period from Abram's birth to the birth of Moses. From the birth of Abram to the birth of Jacob was 150 years. The Bible implies Jacob was about 70 years old when he started having children, but his exact age at the birth of Levi is not specified. Further, the exact number of years from the birth of Levi to the birth of Moses in not specified. For this reason, the timeline requires that we work backward from King David to determine the year the Exodus began. This is because the Exodus is determined relative to when King David began the Temple.

Table 2.3. This shows the relative year (RY) of events from Abram's birth to the beginning of the reign of King David is in column 1.

Year RY	**Abram Line (ages yr)**	**Sumerian King (length of reign yr)**
1946	Abram birth (Terah is 70y)	
2046	Isaac birth (Abram is 100y)	
2088		Erech dynasties, 57 kings (637y)
2106	Jacob birth (Isaac is 60y)	
2121	Abram death (175y)	
2131		Manishtushu (=Menes, 1st king of the 1st Egypt Dyn)
2182	Levi birth (Jacob is ~76y)	
2184	Judah birth (Jacob is ~78y)	
2197	Joseph birth (Jacob is 91y)	
2214	Joseph sold (17y)	
2226	Isaac death (180y)	
2227	Joseph begins power (30y)	
2236	Joseph reunited (Jacob is 130y)	
2253	Jacob death (147y)	
2307	Joseph death (110y)	
2586	Moses birth (80y before Exodus)	
2666	Exodus (430y after reunion of Joseph and Jacob; Moses = 80, Joshua = 40)	last year of Phiops, 4th king, 6thEgypt Dyn, Memphis)
2706	Moses death (120)	
2711	crossing Jordon (Joshua = 85)	
2725		Babylonian dyn 12 kings (300y)
2736	dividing land, beginning of lead by Judges (Joshua = 110)	
2765		Khammurabi (23y)
3062	King Saul	
3102	King David begins reign	

Levi had three sons: Gershon, Kohath and Merari. Kohath had four sons, the first of which was Amram who married his father's sister Jochebed. Amram had Aaron, Moses and Miriam. Aaron died at 123y in the 40th year

after the Israelites left Egypt (Numbers 33:38-39). Moses died at 120y at the end of the 40-year wandering but before the Israelites entered the Promised Land (Deuteronomy 34:7).

After Moses died, Joshua led the people across the Jordan (Numbers 1:1, 32:11). Joshua was 40y at the beginning of the wandering (Numbers 33:38, Exodus 17:1,10), and 85y when he led the people across the Jordan (Joshua 14:10). After a 25-year battle to subdue and take possession of all the lands on the other side of the Jordan, the lands were divided among the 12 tribes as their inheritance from God and Joshua died at 110y (Joshua 24:29).

The time of the Judges begins with the death of Joshua. King Saul follows them and King David succeeds Saul. Table 2.3 shows the time order from Abram to the beginning of King David's reign in years relative to Adam's birth.

2.1.4 Period 4: King David To The Babylonian Exile

During this period, the Jews were ruled by a succession of kings, the first of which was David. (The first king of the Israelites, Saul, follows the judges in the previous time period). The beginning of the reign of David in time is keyed to two events: the Exodus and the building of the temple by Solomon.

Table 2.4. This shows the relative year (RY) of King David to the Babylonian Exile is in column 1. Section 2.2 identifies the time of the Egyptian and Babylonian kings relative to the kings of Israel.

Year RY	**David Line (length of reign yr)**	**Sumerian King (length of reign yr)**
3102	King David (40y)	
3142	Solomon (40y)	
3182	Rehoboam (17y)	
3199	Abijah (3y)	
3202	Asu (41y)	
3243	Jehoshaphat (25y)	
3268	Jehoram (8y)	
3276	Ahaziah (1y)	
3277	Athaliah (6y)	
3283	Joash (40y)	
3323	Amaziah (29y)	
3352	Azariah (52y)	
3404	Jotham (16y)	
3420	Ahaz (16y)	
3436	Hezekiah (29y)	King Bakdan of Babylon?
3465	Manasseh (55y)	
3520	Amon (2y)	
3522	Josiah (31y)	
3553	Jehoahaz (3mo)	
3553	Jehoiakim (11y)	Pharaoh-ne'-choh of Egypt?
3561		Nebuchadnezzar
3564	Jehoiachin (3mo)	Evilmerodach of Babylon?
3565	besiege of Jerusalem	4th year of reign

In the 4th year of his reign, which was 480 years after the Exodus, Solomon began the temple (1 Kings 11:42). King David reigned 40 years and was succeeded by Solomon (1 Kings 2 :11-12). So 480 - 4 - 40 = 436 years after the Exodus is the beginning of David's reign. During the period from David to the exile to Babylon, there were 21 kings in Jerusalem spanning 463 years (beginning with Rehoboam: 1 Kings 14:21, 15:2,15:9-11, 22:42; 2 Kings 8:17,8:26, 11:3, 12:1, 14:2, 15:2, 15:33, 16:2, 18:2, 21:1, 21:19. 22:1, 23:31, 23:36, 24:8-11).

An absolute timeline (calibrated BC date) is not identified here. All years are relative to the birth of Adam, but specific mention of named kings of Egypt and Babylon help in correlating relative and calibrated time. For example, the Bible reports (2 Kings 20:12) that Berodachbaladan, son of King Bakdan of Babylon heard of the illness of the Israeli King Hezekiah (3436-3465 RY). Further it says (2 Kings 23:34) that the Egyptian Pharaoh-ne'-choh made Jehoiakim king of Israel when he carried Jehoahaz to Egypt. There Nebuchadnezzar (2 Kings 24:1) made Jehoiakim his servant for 3 years some time before the revolt and siege of Jerusalem.

Table 2.4 shows the time order from the beginning of King David's reign to the Babylonian Exile in years relative to Adam's birth. The next period shows there in an ambiguity in the timeline associated with the length of the Exile. Correlating the relative time of these kings' interactions with the BC calibrated dates of the named Egyptian and Babylonian kings allows that ambiguity to be resolved later in Section 2.2.

2.1.5 Period 5: Babylonian Exile To The Birth Of Jesus

Over a period of many years, Nebuchadnezzar and his servants and allies besieged Jerusalem. Over a period of about 15 years, Jews were carried to Babylon on three occasions: during the 7-8th year of Nebuchadnezzar's reign (2 Kings 24:12-16, Jeremiah 2:28-), during the 18-19th year(2 Kings 25:8-11, Jeremiah 2:28), and again in his 23rd year(Jeremiah 2:28). The Bible says that Jehoiachin was carried to prison in Babylon (2 Kings 24:12-16) during the first of these periods.

In the 19th year of his reign, Nebuchadnezzar burned the temple (2 Kings 25:8). Later, during the first year of his reign, King Evilmerodach of Babylon released Jehoiachin from prison after 37 years (2 Kings 25:27). However, this release did not mark the end of the exile.

In the first year of his reign, Cyrus of Persia proclaimed the temple would be rebuilt and the captives returned (2 Chron. 36:22, Ezra 1:1-2, Ezra 2:1). It is not clear if all of the captives returned at this time for the temple rebuilding. However, this point is generally considered the end of the exile. The temple rebuilding was completed during the 6th year of Darius (Ezra 6:15), and the rebuilding of Jerusalem was begun in the 20th year of Artaxerxes (Nehemiah 2:1).

Table 2.5 shows the time order from the beginning of King Hezekiah of Israel to the birth of Jesus. On this table year to the beginning of the Exile are in years relative to Adam's birth. Year after the end of the Exile are calibrated BC dates.

Table 2.5. This shows the relative year (RY) of the Babylonian Exile to the birth of Jesus is in column 1.

Year BC	Year RY	Exile Line (ages yr)	Occupying King (ruling country)
	3436	King Hezekiah (29y) - 15th king on Table 2.4	Bakdan (Babylon)
	3553	King Jehoiakim (11y)	Pharaoh-ne'-choh (Egypt)
	3561		Nebuchadnezzar I (Babylon)
	3569	beginning of Exile 1st wave of exile;	

		8th year of reign	
	3580	2nd wave of exile; temple burned; 19th year of reign	
	3583	3rd wave of exile; 23rd year of reign	
	3606	Jehoiachin released from prison; after 37 yrs.; 1st year of reign	Evilmerodach
?	?	intermediate time of Exile questionable length of time to be determined by cross correlation of kings named in Bible	
539		end of Exile fall of Babylon to Persians; proclamation to rebuild temple; return of exiles; 1st year of reign	Cyrus the Great (Persian/Babylon)
526		temple building completed; 6thyear of reign	Darius I (Persian/Babylon)
445		rebuilding of Jerusalem begun; 20th year of reign	Artaxerxes I (Persian/Babylon)
168		sacrificial worship in temple abolished	Antiochus IV (Syrian)
164		Maccabeaus re-conquered Jerusalem ; Maccabean dynasty reign until the Roman conquest	
63		Roman conquest of Egypt	
6		birth of Jesus	Caesar Augustus (Roman Emperor 27 BC - 44 AD) , Herod the Great (Vassal to Rome 34 BC - 4 BC)

In determining the relative timeline, there is still the question of the length of the exile. This ambiguity marks the transition from the relative years before the exile to the calibrated years after the exile.

There appears to be some question about the total length of the exile. The Bible says (2 Chron. 36:21), "To fulfill the word of the Lord by the mouth of Jeremiah until the land had enjoyed her Sabbaths: for as long as she lay desolate she kept Sabbath, to fulfill three score and ten years" , i.e., (3x20 + 10 = 70). Jeremiah lived from before the fall of Jerusalem and thru the reign of Nebuchadnezzar. He prophesied "And the whole land shall be a desolation, and an astonishment; and these nations shall serve the king of Babylon seventy years"(Jeremiah 25:14).

However, later Daniel, in the 1st year of the reign of Darius, prophesied (Daniel 11-12:) the fall of Babylon and other foreign control over Jerusalem to come before the end of the exile. He said "... and he (*Babylon*) shall come to his end, and one shall help him"(Daniel 11:7); "... and at that time thy people shall be delivered, every one that shall be found written in the book"(Daniel 12:1); "... How long shall it be to the end ... , and sware by him that liveth forever that it shall be for a time, times, and an half ..." (Daniel 12: 6-7). Some interpretation of this put the number of years of the exile at 490 years (70 years where each day of the year is really one week long giving the number of conventional 365-day years as 70 x 7). Section 2.2 provides the final calibration and resolution of the exile length.

There is a question of the lifetime of Daniel relative to the length of the Exile. Daniel is referred to at the beginning of the Exile and again at the end indicating he lived through the entire period. With the new timeline that would give him a lifetime similar to the pre-flood patriarchs. Resolving this issue is left to later studies.

Finally, the New Testament provides the genealogy of Jesus (Fig. 2.4), and tells of His birth as: "Now when Jesus was born in Bethlehem of Judea in the days of Herod the king ..." (Matthew 2:1); "And it came to pass in those days, that there went out a decree from Caesar Augustus ..." (Luke 2:1-4). The exact date of Jesus birth is a matter of much debate, but most agree on 4-6 BC (3). The earlier year of 6 BC is used here. This gives the last year in the calibrated part of the timeline. Using all of the relative events and the "known" dated events, the next section proceeds to provide calibrated BC years for the relative events.

:1 Jesus son of David son of Abraham

:2 Abram (begat) -> Isaac -> Jacob -> Jacob -> Judas

:3 Judas -> Phares -> Esram -> Aram

:4-5 Aram ->Aminadab -> Naason -> Salmon -> Boaz -> Obed -> Jesse

:6-7 Jesse -> David -> Solomon -> Roboam -> Abia -> Asa

:8-9 Asa -> Josaphat -> Joram -> Ozias -> Joatham -> Achaz ->Ezekias

:10 Ezekias -> Manasses ->Amon -> Josias

:11 Josias -> Jechonias - at that time they were carried away to Babylon

:12-13 after they were brought to Babylon

Jechonias -> Salathel -> Zorobabel -> Abiud -> Eliakim -> Azor

:14-15 Azor -> Sadoc -> Achim -> Eliud -> Eleazar -> Matthon -> Jacob

:16 Jacob -> Joseph and Mary -> Jesus

Figure 2.4 This is the genealogy of Jesus as provided in Matthew 1:1-18. The genealogy states in verse 1 that Jesus descends from David who descends from Abram (who is also known as Abraham). From verse 2 onward it states that Abram was the father of Isaac who was the father of Jacob. By verse 16 it states that Mary and Joseph descended from Jacob (different from the Jacob in verse 2).

2.2. The Calibration Of The Ancient Timeline

To produce a calibrated (BC date) timeline, back to the earliest events, it is necessary to compare the relative years of the biblical events and the "known" dates of reign of the Egyptian and Babylonian kings named in the Bible. This process is not as simple as one might imagine.

Both the Egyptians and the Sumerian/Babylonian king lines have lists of their respective kings from near the birth of Jesus back several thousand years. The farther back in time one goes, the more uncertain the date. For example, the historic time of Persian rule in Egypt (Dynasty 31: 33 - 323 BC) is fairly well known and accepted. Even back as far as Darius (521 - 486 BC) and Cyrus the Great (539 - 529 BC) is not too contested. However, dates much earlier than this have many questions associated with them. It is the collection of these lists that we must use to connect relative biblical time to historical (calibrated, BC) date.

In ancient times, relative time is based on the year of reign of a particular king in the ordered longer list of kings. However, record keeping of the lists was not centralized or tightly controlled. Duplicate lists in the different city-states that were updated to the particular city-state's pride and advantage (as is generally agreed

happened) could be misinterpreted as being one longer master list with many more sequentially reigning kings rather than the more likely situation of some number of concurrent rulers.

Making such a longer master list has the unintended consequence of expanding the number of years of reign in the total historical context. The accurate determination of the co-regencies and the proper shrinking of the elapsed time to its more likely actual length is notoriously difficulty to do. For example, the currently accepted extent of the Egyptian line of kings[4] goes from ~33 BC, when the Romans took control over Egypt, back to the first king of the first Egyptian dynasty (Menes) at c.3100 BC (with an uncertainty of a few hundred years). This traditional time-span and event dating is referred to as the Standard TimeLine (STL) for the following discussions.

For the purpose here, the STL includes lists of both the Egyptian, as well as, the Sumerian/Babylonian king. Before proceeding with the RABMEC calibration, we begin with a description of the Egyptian kings' lists.

One of the most detailed compilations of the Egyptian kings' lists, from early times, was recorded by Manetho Selemnytus for Pharaoh Ptolemy Philadelphus in the 3rd century BC. It lists 31 dynasties. There are various surviving versions that have anywhere from 421 to 533 kings spanning 4937 to 5383 years. There is also a period that includes pre-dynastic and mythical kings that go back an additional ~25,000 years to the Egyptian beginning of the world.

Manetho's list serves as one source for what is known about the Egyptian king line [5]. Although considered valuable, the reliability of Manetho's sources faces some uncertainty. A second source comes from a list made by the Sothis priest/astronomers in Egypt. They tried to correct the kings' years of reign for astronomical events - specifically the rising of the star Sirius. The Sothis list covers the time from Menes to the end of Manetho's 26th dynasty. Assuming Manetho's 27th thru 31st dynasty lists are acceptably accurate, the Sothis version (plus Manetho's 27th -31st dynasties) gives 105 kings spanning 2357 years. This list and time span is much closer to the accepted STL span.

A complication in any list is the uncertainty in the length of reign of each king. The uncertainty in years results from the methods of recording the number of years as writing and symbol representation evolved, damage to tablets, and comparison of duplicate lists from competing city-states that in some cases have different times.

Another complication is an ambiguity in the kings' names. This ambiguity results from the fact that the kings each had several names (a given one, an official one, and additional ones indicating the divine relations of the king).

For the purpose of the timeline presented here, a sequential kings list is made based on Manetho's list, using the Sothis list to identify duplications. The RABMEC contracts the total time span by about 460 years compared to the STL, placing Menes at 2638 BC by counting backward from the most recent, "reliable" date [(Appendix B)].

The Sumerian kings' list [6, 2], extended to include their successors in the region, the Babylonian kings [7, 8], share all of the difficulties of the Egyptian lists. The new timeline uses a kings list [(Appendix A)] based on Kramer [6], Waddell [2] , Berossos [7] and Oppenheimer [8].

One of the most interesting features of the Sumerian list is the flood, which is taken as identical with the biblical Flood. Mythology scholars generally accept equating these two floods. The historian, Waddell [2], uses this "fact" to allow a direct connection between the Sumerian and Hebrew traditions. Further, Waddell proposed that Menes of the Egyptian line is identical with Manishtushu, son of Sargon I of the Sumerian line. This

allows a connection between the Sumerian and Egyptian line. Both of these assumptions are used in the new timeline.

The final refinement of the Egyptian and the Sumerian/Babylonian king list in the two appendices was achieved by cross correlating the connections between the Egyptian and Sumerian/Babylonian kings with the biblical references. These cross correlations are used to reconstruct an alternate calibrated timeline referred to as the RABMEC.

One added consideration in the correlations is the fact that each of the Egyptian kings (and to a lesser extent the Sumerian kings) had more than one name: a given name, an official king name, and several names representing their divine relationship. There is also the question of the phonology of the recorders (the ability of a group to reproduce sounds).

For example, it is well know that some oriental groups pronounce the English standard "r" as "l"; and, certain New Englanders drop the "r" and pronounce it as "ah". This difference in hearing and pronunciation - and by extension - written characterization can lead to ambiguities in the representation of one king's name by another nation, especially in the absence of a standardized dictionary. This can make absolute identification ambiguous in some significant cases that are discussed in the coming timeline reconstruction.

The final calibration of the RABMEC was achieved by addressing the following questions relating Israel's kings and events to the Egyptian and Babylonian kings. The Bible identifies several kings that interacted with the Hebrews. These include: the unnamed pharaoh at the time of the Exodus, the Babylonian King Bakdan at the time if the Israeli King Hezekiah, the Pharaoh-ne'-choh who enslaved the Israeli King Jehoiakin, the Babylonian King Evilmerodach who released King Jehoiachin, and the son of the Babylonian King Nebuchadnezzar who sacked Jerusalem.

Identifying these kings provides a BC calibrated year that can be equated with the relative year of the as yet un-calibrated new timeline. The year of each king should be found on the kings' lists in Appendices A and B. However, because of the name ambiguity problem discussed above, exactly matching those five kings with a name on the kings' list requires some consideration. The answers to the questions below provide the necessary identification of which Egyptian and Babylonian kings in the list really are the kings to which the Bible refers.

2.2.1 Who Was Pharaoh In Egypt During The Exodus?

The first Egyptian king of the first dynasty was Menes at RY 2260 (relative to the birth of Adam) (c.3100 BC by the STL). For future reference, the Sothis Book of Egyptian Kings has Menes as the first king at 2776 AM. "AM" means year of the world although the exact meaning of this term is unclear.

The Exodus occurred at RY 2666, and the time between the Exodus and Nebuchadnezzar of the Babylonian exile is (RY 2666 - RY 3596) 903 years. However, the Bible does not name the king at the time of the Exodus. It only names two treasure cities that were built by the Hebrew slaves. The treasure cities, Pithom and Ramesses were named after two pharaohs, the namesakes of the cities, but the actual names of the pharaohs are unspecified.

There is confusion among biblical scholars as to the Exodus pharaoh and date. One view has Ramesses II as Pharaoh during Exodus (19th Dynasty, c. 1213 - 1199 BC), who is directly preceded by Sethos. It is assumed he is one of the namesakes. There is no identified candidate for the second treasure city, Pithom. This pharaoh also leaves the question of Nebuchadnezzar's date ambiguous.

Another view places the Exodus much earlier. Assuming Nebuchadnezzar II, who began his reign in ~605 BC, is responsible for the Babylonian exile, the year of the Exodus as 1508 BC (605 BC + 903 yrs).

If the correct Exodus date is 1508 BC, the Exodus pharaoh would have been from the 17th (Shepherd) dynasty, and Aphophis or Bnon would have ruled. The conversion of Bnon to Pithom is easy with small shifts in pronunciation or character interpretation (Bnon-> Pnon -> Pithon -> Pithom). In comparing different versions of the kings' lists, the "on" ending on some names is also recorded as "om" for several equated kings, and vowels are often un-represented or ambiguous. This would allow Bnon to be the namesake of the treasure city Pithom, and one of the Ramesses of the Sothis Rammessid 14th dynasty directly preceding Bnon's rule to be the namesake of the other treasure city (Ramesses) in the Bible.

The proposed RABMEC, on the other hand, indicates an even earlier date for the Exodus (2103 BC) based on relative times from Adam. Phiops (4th king, 6th Dynasty, 2164 - 2103 BC) reigned sufficiently long to have been the pharaoh during the Exodus. Also, by the RABMEC, pharaohs of the 1st and 2nd Egyptian dynasties reigned (RY 2131 - 2315) during Joseph's life (RY 2197 - 2307), and from then to Phiops, 13 kings of the 3rd thru most of the 6th dynasties would have reigned - consistent with a new king that didn't know Joseph when the bondage started. Also small shifts could account for the different spelling of the pharaoh's name (Phiops -> Pihops -> Pithops -> Pithom) making Phiops the namesake of one of the treasure cities. Recall the bible does not name the pharaoh, only the two treasure cities. This leaves us with the question of the second treasure city, Ramesses, which would have been for a previous pharaoh.

According to the Sumerian/Babylonian Kings list, the Babylonian King Sargon I had a son, Manishtushu. The historian, Waddell, claims this son is the same Menes who was the first Egyptian dynastic king. If Menes is Manishtushu of Sumer, then Rimush, the preceding Sumerian king who was brother to Manishtushu and co-ruler of Egypt during their father's reign, is likely the namesake of the second treasure city. The similarity between Ri-mu-sh(es) and Ra-me-sses can hardly be a coincidence. It is possible that the treasure city of Ramesses was really built for Rimush of Sumer while he was co-ruler.

So far, both the STL (with Bnon and Ramesses for the namesakes of the two treasure cities) and, the RABMEC (with Phiops and Rimush for the namesakes of the treasure cities) seem to satisfy the stated biblical events. However, further comparisons are possible to help select between the two possibilities.

2.2.2 Who Was The King Bakdan Coincident With King Hezekiah?

King Bakdan is the second king that we consider who interacted with the kings of Israel. According to the Bible (2 Kings 20:12), Berodachbaladan, son of King Bakdan of Babylon heard that Hezekiah was sick. The bible does not specify at what time during the reign of Hezekiah the event took place. It is also not specified whether Hezekiah was still king when Berodachbaladan succeeded his father (immediately or after several intervening kings). The question considered here is whether it is possible to identify Bakdan or Berodachbaladan and locate them in time.

We can place in relative time both Hezekiah (RY 3436 - RY 3465) and Nebuchadnezzar (RY 3561) who besieged Jerusalem. We know that the interaction with Berodachbaladan took place during Hezekiah's reign but before Nebuchadnezzar's. We know Berodachbaladan's interaction could have been as early as Hezekiah's first year (125 years before Nebuchadnezzar) or as late as his last year (96 years before Nebuchadnezzar). It is necessary at this time to try to distinguish between Nebuchadnezzar I and Nebuchadnezzar II.

The STL assumes the king of the siege was Nebuchadnezzar II. The STL has Nebuchadnezzar II at 605 BC, and between 96 and 125 years earlier (701 - 730 BC) there were eight Babylonian kings. One, Marduk-apla-iddna II (722 - 710 BC), traditionally has been identified as Merodach-Baladan (Berodach - baladan) who reigned from 117 - 105 years before Nebuchadnezzar II. His immediate predecessor, Shalmaneser V (729 - 727

BC) began his reign 122 years before Nebuchadnezzar II and so would have been king during Hezekiah's reign. None of the preceding kings have a name that sounds like Bakdan (or Baladan), but given the multiple names for the kings any one of them could have been Berodachbaladan's father.

The RABMEC hypothesizes the king of the siege is Nebuchadnezzar I. Nebuchadnezzar I is the fourth king of the Isin dynasty (RY 3561). There were several kings between 96 and 125 years earlier (RY 3436 - 3465) who could have been Bakdan. One, Marduk-apla-iddina I (RY 34444 - 3456) reigned 117 - 105 years before Nebuchadnezzar I. By coincidence, his ("1st of that name") years of reign and years preceding Nebuchadnezzar I are the same as those of the "2nd of that name" relative to Nebuchadnezzar II (the pair of kings identified by the STL).

The RABMEC pair (1st of the names) satisfy the RY (counting foreword from Adam being the same as the first Sumerian king), while the STL pair ("2nd of the same names"), satisfy the RY (counting backward from the birth of Jesus) giving a disparity of ~603 years between the two pairs. Both pairs satisfy the RY from Adam. Thus, either the "1st of the name" or the "2nd of the name" could be the Berodachbaladan who interacted with Hezekiah. While still the son of the king during the reign of Hezekiah, Berodachbaladanbecame king in his own right after the death of Hezekiah - leaving the question of explaining the 603 year difference in the calibrated timeline.

2.2.3 Who Was The Pharaoh-ne'-choh Coincident With King Jehoiakin?

The Bible reports (2 Kings 23:34) that Pharaoh-ne'-choh made Jehoiakin king when he carried Jehoahaz to Egypt as his prisoner. Again this event preceded Nebuchadnezzar and the siege of Jerusalem. From the relative timeline, we know Nebuchadnezzar was at RY 3561 and Jehoiakin began his reign at RY 3553.

By the STL, Nebuchadnezzar II began his reign in 605 BC (to 562 BC), and from the Egyptian Kings List, there are three kings in the 26th dynasty that have a name that qualifies: #2 - Nekhepsos (640 - 634 BC), #3 - Nekhao I (634 - 626 BC) and #5 - Nehkao II (512 - 603 BC). So, Nehkao II appears to satisfy the timing of the event.

By the RABMEC, Nebuchadnezzar I began his reign RY 3561 (1208 - 1185 BC), and from the Egyptian Kings List, the 2nd king of the 19th dynasty, Nekhepsos, reigned from RY 3542 - 3561 (1227 - 1208 BC). The two reigns overlapped in the year RY 3561, satisfying the timing, and so Nekhepsos could well be the Pharaoh-ne'-choh.

2.2.4 Who Is King Evilmerodach Who Released King Jehoiachin?

King Evilmerodach is the third king that we consider who interacted with the kings of Israel. The Bible reports (2 Kings 25:27) that during the 1st year of his reign King Evilmerodach of Babylon released Jehoiachin from prison after 37 years. We also know that the first wave of the exile, which included Jehoiachin, occurred during the 8th year of Nebuchadnezzar's reign. So 45 after Nebuchadnezzar began his reign, Evilmerodach was king of Babylon, although, the bible does not record whether Evilmerodach was the immediate successor or a later one.

By the STL, Nebuchadnezzar II began his reign in 605 BC and 45 years later would have been 560 BC According to the Babylonian Kings List, Nebuchadnezzar II reigned 43 years (605 - 562 BC) and was immediately succeeded by Amei-Marduk (562 - 560 BC), and he was followed by Nergal-shar-usur (560 - 556 BC). It is possible that one of this second king's names was Marduk, and so a corruption of the name becomes (Nergal-(shar-usur) [Marduk] -> (N)e(r)gal Marduk -> Eval Marduk -> Evilmerodach) the king in question.

By the RABMEC, Nebuchadnezzar I (RY 3561) reigned for 23 years, and 45 years from the beginning of his reign is RY 3606. It is interesting to note that the bible describes the third wave of the exile as having occurred during the 23rd year of Nebuchadnezzar's reign (Jeremiah 2:28) and makes no further mention of him (even though by the STL assumption he would have continued to reign an additional 22 years). From the Babylonian Kings List, 45 years after Nebuchadnezzar I began his reign we have Marduk-shapik-zeri (RY 3605 - 3618). This king satisfies the event in question since it took place 45 years after Nebuchadnezzar and in the 1st year of the reign of King Evilmerodach. With a corruption of the name (Marduk-(sh)apik-(zeri) -> Marduk-apil -> Marduk-avil -> Evilmerodach), this king could be the king Evilmerodach.

2.2.5 Who Was Nebuchadnezzar's Son?

Finally, Nebuchadnezzar's Son is the fourth king that we consider who interacted with the kings of Israel. The Bible reports (Daniel 5: 1-2) that Belshazzar the king made a great feast and used the vessels which his father Nebuchadnezzar had taken from the temple.

By the STL, the second king to succeed Nebuchadnezzar II was Nergal-sharezer which is easily corrupted ((Ner)gal-sharezer -> Bal-sha(re)zer -> Belshazzar). It is interesting to note that this same king would have been identified by the name of Evilmerodachassuming all the years are not too questionable.

By the RABMEC, the situation is similar. In this case, a corruption of the third king's name ((Mar)duk-sha(pik)-zer(i) -> Dal-shazer -> Balshazer -> Belshazzar) also produces the son's name; and, as with the STL, the son is also identified with the king that released Jehoiachin assuming the years are not too questionable.

2.2.6 The Reconstructed Historical Part of the RABMEC

It is clear that comparing the named kings in the bible provides two alternatives that satisfy the requirements for either timeline. We compare both alternatives in the table. The two timelines are reconciled with "known" history only at the most recent calibrated time. The STL determines calibrated time using the relative years between events and assuming a 70-year exile, and counts backwards from known dates. The RABMEC uses relative years between events (the same for either timeline, plus or minus a few). It counts foreword assuming Adam is the Sumerian king Unzi, leaving the exile length to vary, and pegging known dates for the well-established dates. We note that times more recent than ~748 BC are considered well established from Ptolemy's Canon of Kings, but before that, dates and chronologies are not totally certain (identified in the table by the "c." preceding the date).

For the RABMEC, RY 2131 equals 2638 BC (the date of Menes from the calibrated Egyptian Kings list (Appendix B). With this benchmark, the length of the exile becomes 665 years. This is consistent with prediction of the prophet Daniel who indicated that the time to the return of all of the exiled "... shall be for a time, times, and a half ...". The RABMEC estimate exceeds the 490 year interpretation by some (70 years of weeks = 70 years x 7 days per week). However, if one assumes "a time" = 70, and "times and a half" = a week and a half (7 + 3 ½ days), then Daniels prediction could be interpreted as 70 years x 10 ½ = 735 years.

We assume the exile extended from the beginning of the first wave to the traditional calibrated time of Cyrus (i.e., giving 665 years for the RABMEC instead of the 70 years of the STL). Thus, the RABMEC has an approximately 600 years for the exile length. Note that if it took 70 additional years to return all of the exiled, the total time would be 665 + 70 = 735 years as predicted by Daniel. Further, the extra 600 years in the RABMEC places the Flood much earlier for RABMEC (3113 BC) than the STL (2294 BC). Using this information, we now do the final correlation shown in Table 2.6.

Table 2.6. This is a **c**omparison of the two timelines (the STL, and the new RABMEC) for the biblical events. Columns 1-3 show the reigning kings during the RABMEC where they differ from the kings and STL (columns 5-7) times for the given events in column 4. Note, the RY are from the birth of Adam at RY = 0.

RABMEC			**Event**	**STL**		
RY	**BC**	**Note**		**Note**	**BC**	**RY**
0	4769		Adam birth		3950	0
600	4169		Adam = Unzi 1st Sumer king			
1008	3761		start of Jewish calendar		3761	192
1656	3113		Flood		2294	1656
1946	2823		Abraham birth		2001	1949
2131	2638	Manishtushu of Sumer = Menes	Menes of Egypt	c. 3100 BC		
2307	2462		Joseph death		1640	2310
2666	2103	Phiops pharaoh	Exodus	Ramesses (II?)	1496	2454
3102	1667		King David		1060	2890
3561	1208	1st of name c. 1126 BC STL	Nebuchadnezzar	2nd of name	606	3346
3565	1204		Jerusalem besieged	beginning of Exile	606	3346
3569	1200	beginning of Exile	1st wave of exile			
3580	1189		2nd wave of exile			
3583	1186		3rd wave of exile			
3606	1163	Marduk-shapik-zeri c. 1082 BC STL	Evilmerodach release Jehoiachin after 37 yrs; 45 yrs after Nebuchadnezzar	Nergal-shar-usur(sharezer)	560	3391
4230	539	Exile ends 665 yrs from 1stwave)	Cyrus begins temple rebuilding	Exile ends 70 yrs from siege of Jerusalem)	536	3412
4243	526		Darius completes temple		526	3425
4763	6		Jesus birth		6	3945

2.3 References for Chapter 2

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3. MYTHS AND LEGENDS OF THE ANCIENT BEGINNING OF TIME

In Section 2, Waddell's [Ref. 1] comparison of the Sumerian, the Egyptian and the Hindu (Indian) king lines, combined with the Sumerian [Appendix A] and Egyptian [Appendix B] King's Lists, and the historical Hebrew writings [2], provided the point-of- departure in the development of the RABMEC, i.e., there are some differences between the RABMEC and Waddell's timeline.

Here, we take the comparisons to another level by including the non-historical writings, specifically the mythology of the beginning (the sacred writings), of those cultures, to extend the RABMEC back in time, before Adam, to the beginning. The look back is in two parts. Section 3 presents the traditions of the five cultures with respect to their view of the origin. We add the Chinese culture to the comparison to broaden the perspective even further. Later in Section 4, we present the datable part of the traditions.

It is worth noting here (in case the point was previously misinterpreted or missed all together) that the purpose of this discussion is not to perpetuate the chauvinistic debates of the religious and scientific extremists. There is no intention of demonstrating that one point-of-view is superior or "correct" compared to the other. No particular authorship of the universe (be it God or random circumstance or natural selection) is being advanced over any other.

The purpose is, however, to show that both points-of-view are substantially the same except for the degree of the detail and the audience for which they are intended. It is clear that the biblical account was intended for an "original audience" of not well-educated nomads and shepherd who lacked understanding of sophisticated mathematical modeling and any advanced scientific measurement tools - things which modern society offers to the cosmologists and geologists of today.

The intent, here, is to demonstrate that both points-of-view show that the same set of events, associated with the creation to Adam, occurred in the same order with a well-defined functional form for the time correlation between the views (specifically for the Hebrew seven days of creation). The selected "sacred writings" for each of the cultures individually does not present a complete picture; but the combination and cross comparison does show a unified picture that does not contradict the order of events presented by the modern scientific cosmology model and geologic record (though the time scale of the two, at first glance, does not appear to agree). This point being made, the discussion now proceeds. It begins with a brief overview of modern cosmological views because the sacred writings reference it later.

3.1 The Modern Cosmological View of the Universe

By the early 1900's, man had already come to realize that the medieval view that the stars were merely points of lights, fixed to a static crystalline sphere surrounding the earth, was wrong. They had come to realize the stars were suns like our own. Spiral nebula were thought to be dust clouds among the stars in our galaxy. We now recognized them as other galaxies outside of the Milky Way. In fact, the universe was no longer even seen as static, but, expanding and carrying those galaxies with it. This was the birth of modern cosmology [3].

From this new discovery of the expansion, a flurry of activity began to model the universe to shed some light on where it came from, how it was developing, and where it was going. Unfortunately, nothing could be said about why the universe expanded - only that it does so today because it did so in the past; and, nothing could be said about why the expansion began. Two views emerged as reasonable models: 1) that the early universe began in a highly dense state that suddenly began to expand (the Big Bang model); and, 2) that the density of the universe remains the same for all time (the steady state theory).

The Big Bang model resulted from the application of general relativity to the cosmology problem. By running time backward, a state is reached where all the matter in the universe converges to a single point (a singularity in the equations) of infinite density. Most cosmologists tend to agree that the universe that we call home began with a single creation event, the Big Bang - the sudden burst of energy followed by exponential growth of the volume of the fabric of space (known as the inflation) that occurred roughly 14 billion ($1.4x10^{10}$) years ago.

The beginning of time occurs with the Bang, and there is no way to consider time before that. The existence of a "void" before the Bang is mostly accepted; though the nature of the void is not really quantified (it could be described as a potential energy field, after the general relativity description). The cause of the Bang is unknown, though some refer to it as a quantum fluctuation. This is currently the Standard Model.

The burst of energy at the Bang and the expansion that followed resulted in the creation of matter (Ref. 4, chapt. 19, p.316). The Standard Models of Cosmology (Ref. 5, chapt. 9-13; Ref. 6, chapt. 9-11) and of Particle Physics (Ref. 5, chapt 6-8; Ref. 6, chapt. 6-8) combine to theorize the details of the creation process and sequence of events. The exponential growth lasted on the order of 10^{-33} seconds, after which the linear growth dominated.

At the beginning according to the picture, there was a single unified force (*the "one"*), where all matter and anti-matter was in thermal equilibrium. With the expansion of the universe came cooling. After a short time (~10^{-35} s), there was a phase transition (a "symmetry breaking" event), and the unified field split into two fields, the nuclear strong and the electroweak (*the "two"*), fixing the ration of photons to quarks. After about 10^{-11} seconds, there was a second phase transition (another "symmetry breaking" event), and the electroweak field split into the weak and the electromagnetic fields (there were now *the "three"*).

With these three fields and the cooling of the continued expansion of the universe, the thermal state permitted quarks to form bound states (protons and neutrons, ~10^{-6} seconds). By about 3 minutes after the Big Bang, fusion began producing the light atom nuclei of deuterium, helium and lithium (the beginning of *the "ten thousand things"* - the matter we see and all its properties). However, because the waters of the universe (the non-coherent motion of the created matter) were charged, no light could travel any significant distance.

By about 300,000 years after the Big Bang, the temperature of the universe dropped enough to allow the positively charged nuclei to gain their negatively charged electron clouds, thus permitting light to propagate through the universe. Most people believe that gravity was part of the original field, though theory today has not resolved adequately how to relate gravity to the other three forces - but the work continues.

One alternative to the Standard Model results from applying string theory to the cosmological problem (7). String theory is a mathematical formalism that models the fundamental particles of the universe as vibrations on one-dimensional strings in the fabric of space. This application allows for repeated expansion-contraction cycles separated by Bang-like creation events. The time between Bangs is not well defined; but, it is accepted that the last Bang event was the Big Bang 14 BYA (billion years ago).

Another alternative to the Standard Model is the steady state theory (8). In this model, matter is created (in Bang-like creation events) at a rate determined by the expansion rate of the universe. The statistical properties of the universe (e.g., galaxy density and average galaxy age), both locally and cosmologically, remain constant with time. So as space expands, new matter is created to fill the void left by the matter that expanded

outward. Each creation event appears like a Bang, but it is localized in the universe as opposed to the beginning of the universe as a whole.

All of these models currently satisfy the cosmological observations, though the inflationary universe model is the presently accepted standard. All three models provide for a Bang and creation process events that follow the same general course. Therefore, they are all possible scientific answers to the question of creation. Because of this, we make no distinction among the three possibilities as we make comparisons of the ancient mythologies to the modern cosmological picture. In oral tradition, however, the story is descriptive rather than mathematical, though hints of Big Bang cosmology can be seen in it.

3.2 The Ancient Cultures

Every ancient civilization has its tales of the beginning (mostly accepted as "only mythology", but which can be assumed to contain a kernel of truth, simplified for the primitive minds that passed it on in oral tradition). For the purposes of this discussion, we selected five civilizations of the East to present the ancient concepts of the beginning. They all possess great antiquity in their written records. These traditions appear to be separately evolved pictures from what I believe to be a common source.

Looking at the cultures from a broader perspective can show a more unified past than is first apparent. Things that might lead to commonality in the mythologies of a group of cultures can include geographic proximity, trade relations, or political affiliations that can disseminate ideas that are later assimilated into tradition. However, there is also the earliest tribal heritage from a much older common beginning.

It is generally held that as groups of people dispersed in the distant past, they took with them their common language and oral traditions. With time and distance both the language and the traditions evolved away from the earliest common forms. Nevertheless, we see evidence of this common root in the degree of linguistic closeness of peoples, which can imply closeness in the oldest traditions that is not easily seen. The traditions of the five groups are examined in the following sections; but first, the physical setting, the language groups and the political realities of each of the cultures is summarized to indicate the possible closeness of the ancient heritage.

3.2.1 The Sumerians

The Sumerians were a mixture of Semitic and non-Semitic peoples (Ref. 9, Chapt. 2, Ref. 10; Ref. 11, pp 72-84) who populated the mid-east in urban settings between the Tigris and Euphrates Rivers from ~4500 - 1750 BC by traditional dating; and who go back even further (to as early as ~7500 BC) in early pre-urban settlements (12).

Waddell (1) advances the position that the Sumerians (notably under Sargon I (2656 BC by the RABMEC developed in this book, or 2334 BC by the traditional dating of the Standard TimeLine (STL)), expanded their reign over a massive empire that extended from Egypt to India and northward into Europe. DeLacouperie (13) offers further support for the vastness of the empire with evidence of their expansion into China.

The cuneiform writing of the Sumerians is considered the earliest in the region and is recorded on stone tablets which can be dated back to before ~2500 BC, with Kings Lists documenting reigns back before ~5300 BC (Appendix A). The origin of the language is unknown. However, it shows some signs of having a common source with the Caucasian language family found in the Caucasus Mountains, between the Black and Caspian Seas around modern Turkey (Ref. 14, p 215).

Note that the Caucasian family (and likely the Sumerian language) is derived from a parent language to which the Indo-European family (from which the Vedic Hindu is derived) can also be traced [Ref. 15, pp 143, 192]. The Caucasian, Sumerian to a larger degree, and Indo-European show signs of a large divergence with time. The Indo-European family includes the Latin-based Romance languages, the Germanic languages including English and the languages of northern Indian (Vedic).

Note also that the modern linguistic tree structure reflects the common belief in a single parent language in the most primitive times (Figure 3.1). Because of the condition of the Sumerian tablets (fragments that must be reassembled like a puzzle and missing tablets in an obvious sequence) and the uncertainty in the meanings of words in the ancient language, there is uncertainty in the myths and their meanings.

The connection of the Sumerian stories with other stories in the region is speculative based on similar phraseology and concept [16], and, on the far-reaching extent of the empire that carried writing and civilization with it.

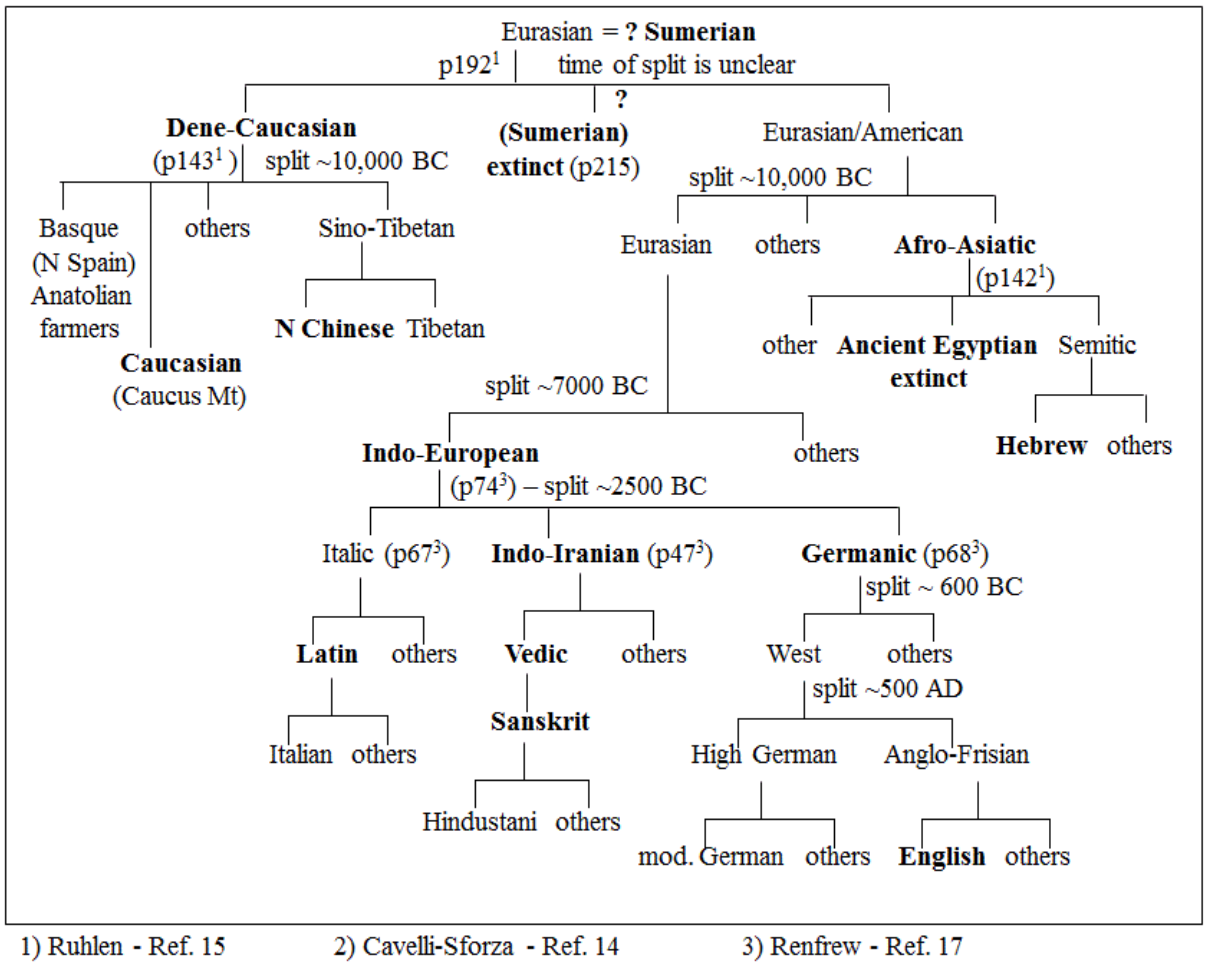

Figure 3.1. The language tree was constructed by comparison of words and grammar of the ancient languages. It shows the relation of the languages of the peoples whose myths are being compared in bold. The unknown origin of Sumerian places it in one of two possible places on the tree. English is included for reference.

The ancient Egyptian language is one member of the Afro-Asiatic family of languages spoken in the region of northern Africa [Ref. 15, p 142] (Figure 3.1). The diversion between Sumerian and Egyptian from the parent language represents the fact that, at the time of the Sumerian empire expansion, Egypt was already

occupied. Though there was some language blending between the groups, there was also some independent development.

The hieroglyphic writing is generally assumed to have been introduced by the Sumerians (~3100 BC STL - which corresponds with the empire expansion of Sargon I and his near predecessors, and the rise of Egyptian civilization), though the Egyptian hieroglyphs represent an evolution from the original characters. The Egyptian writings of the creation are found on papyrus rolls that are dated to the XXVI Dynasty (~650 BC STL) with oral tradition going back to the "Beginning of the World" (estimated from sacred records at ~5400 - 5500 BC RABMEC).

3.2.2 The Egyptians

The Egyptians (Ref. 9, Chapt. 4; Ref. 11, pp 22-72; Ref. 12) who are non-Semites that populated the Nile River Valley as a single kingdom from ~3100 BC, and before that as two independent kingdoms (the Upper and the Lower) back to about the fourth or fifth millennium BC, pre-urban settlements as early as ~7500 BC (Ref. 14, p 161-172).

The first pharaoh of the united kingdom is identified by tradition as Menes; but Egyptian records say little of him. Waddell(1) makes the case that the Egyptian, Menes (2638 BC ATL or c. 3100 BC STL), is the son of Sargon I of Sumer (known by the Sumerian name Manishtushu), and, he equates the first two Egyptian dynasties with the Sumerian line at that time. Further, this paper shows an apparent correspondence, in time, of the pre-dynastic god-kings and semi-god kings of Egypt (before Menes) with the earliest Sumerian king dynasties (thru Manishtushu) (Appendix B).

3.2.3 The Hebrews

Third, are the Hebrews (Ref. 9, chapt. 7; Ref. 11, pp 134-141) who were pastoral nomadic Semites who populated the desert areas around Sumer, and who were, at some point, integrated into the Sumerian population.

The ancient Hebrew language belongs to the Semitic family (along with Arabic and Aramaic, the language of Jesus (Ref. 15, p 142)). It is a member of the Afro-Asiatic family, which includes ancient Egyptian (Figure 3.1).

The Hebrew writings are included in ancient historical and religious texts, such as the Old Testament of the Bible that is dated to ~1240 BC but whose oral tradition goes back to ~4000 BC STL based on the biblical genealogies. (The Christian Old Testament is an edited version of the earlier Hebrew texts). It describes the historical events in the life of the Hebrew people (along with religious direction and rituals which are not considered here) though there is little of the early history that can be verified by other sources currently.

According to the accounts, the patriarch Abra(ha)m, with his tribe, left his home (the Sumerian city of Ur) ~2000 BC STL and traveled up the Euphrates River to Canaan which was already populated with an agricultural-based society. Later, his grandson Jacob with his tribe emigrated to Egypt.

In time, the descendants of Jacob were forced into slavery and finally freed in the Exodus led by Moses, traditionally around the 13th century BC (though there is some controversy regarding the recentness of that date). It was during this time that Moses wrote the first five books of the Bible, but further books were added by other authors as late as ~300 BC. The earliest versions date to the time of the Monarchs (~1000 BC STL), but much editing was done during the Babylonian Exile (~600 - 530 BC STL) (16).

3.2.4 The Hindus

Fourth, are the Hindus [Ref. 11, pp 176-204; Ref. 14, pp 208-212] (referred to as the Indus civilization) who populated the Indus River Valley in the northern Punjab region traditionally from ~2500 - 1750 BC STL. However, recent discoveries [Ref. 12, Ref. 18] indicate dates as early as ~3700 BC with a pre-Indus population in the region (possibly as early as ~7000 BC). Several of the cities appeared fully formed (not built on top of older more primitive settlements) ~2600 BC STL, about 600 years after the first Mesopotamian cities emerged.

Harappa and Mohenjo Daro are among the oldest. At their peak (~2000 BC STL), they were well planned cities with brick homes and gridded streets, comparable in size to modern Memphis in Egypt. The sophisticated water and sewer system (including indoor toilets) were not seen elsewhere in the ancient world until Rome, 1000 years later.

Traditionally, it is believed that the Indus collapse (~1700 - 1500 BC STL) was the result of the Aryan invaders from the north who introduced the Vedic tradition with its caste system. This late date, however, appears to be inconsistent with the accepted Vedic period dates (~2500 - 1750 BC). In addition, further, there appears to be no evidence of the invasion at the time of the collapse. There is, however, evidence that the collapse may have been precipitated by major climate disasters.

Waddell [1] makes the case that the Sumerian empire expansion under Sargon I and his predecessors (2656 BC RABMEC, but possible as early as ~3000 BC RABMEC) brought a new level of civilization (and writing) to the area. He equates the Sumerian king line with the Indian king line of the time. It is interesting to note that the timing of this empire expansion is consistent with the introduction of the Vedic period. Further, the following sections of this work will show that there are common concepts and phraseology in the Vedic hymns with the mythology of Sumer and its near surroundings.

The Hindu writings are found in several sacred books - the oldest of which is the Rig Veda [19] written in Sanskrit ~1300 BC STL but based on oral tradition much older. Sanskrit is an evolution of the Vedic language, which the Hindus consider to be the uncorrupted sacred language. Vedic is derived from Indo-Iranian [Ref. 17, p47] which directly descends from Indo-European and is closely related to its cousin languages - the Italic/Latin and Germanic families (Figure 3.1).

3.2.5 The Chinese

Finally, are the Chinese [Ref. 11, pp 288-317; Ref. 20, Ref. 21] whose earliest traces of culture originated as a collection of settlements along the Yellow River, possibly as early as ~10,000 BC STL. By ~4500 BC STL, the Hongshan culture had developed in the north, centered around trade (domesticated millet from ~8000 BC STL and Jade works). By ~3500 BC STL, the Langzhu had developed independently around the Yangtze, trading domesticated rice, laquerware and porcelain from ~7000 BC STL. These tribes however do not uniquely constitute the Chinese people.

DeLacouperier and Etienne [Ref. 13 and Ref. 22] describe the origin of the nucleus of the Chinese as a dozen Bak tribes arriving from the west who reached the Yellow River area already occupied by several races (both aboriginal and previous invaders from the northwest). The North Chinese language belongs to the Sino-Tibetan family [Ref. 15, p 143] that represents a parallel development with the Caucasian family, which shares a common parent with Sumerian (Figure 3.1). This family contains more than 20 members that reflect this diverse population.

The Bak brought with them a new level of culture, including writing and their mythic beliefs. Over time, the Bak, who became the elite and kings [Ref. 23, and Appendix C], integrated the former inhabitants of the region into their society. One of the earlier waves of the Bak was led by one who became identified as HuangTi (the

legendary Yellow Emperor, the third of the five Legendary Emperors). Shen-nong (identified as Sargon I of Sumer ~2600 BC RABMEC) led one of these waves.

The introduction of writing by the Bak is said to predate HuangTi. The ancient Chinese characters are believed to be evolved versions of the Sumerian characters; and, the giver of the writing is associated with one called Dungi (identified as King Dumuzi of Sumer~3040 BC RABMEC). However, it is said that in 3322 BC STL, Fu-hsi (the first of the Legendary Emperors) developed symbols from a sacred artifact into the eight trigrams of the I Ching [(24)]. These symbols are believed to pre-date writing in the region. Although the Bak personality was not identified, it is interesting to note that the event occurred during the reign of King Meskiaggasher (3437 - 2879 BC RABMEC) who was the legendary son of the sun god Utu.

Tradition says that the historical documents began with the invention of writing. However, the ancient Chinese writing pertaining to the creation and legendary figures are not dated back that far even though the stories are based on older oral tradition. Among the oldest and most valuable are: the *Classic of Change* (the I Ching [(24)] dated in some parts dating to ~800 BC, but with inclusions as recent as ~100 BC); *Questions of Heaven*[(25)] (written about the 4th century BC); the *Lao Tzu* (the Tao Te Ching [(26)] was known to exist already during the time of Confucius ~550 BC, but without a clear date of origin); and, the *Classic of Mountains and Seas*[(2)] (compiled in the late Chou to early Han periods from ~500 - 100 BC, but from earlier source materials).

With this introduction to the people in the five groups, we now proceed to the traditions of each group (subsections 3.3 through 3.7). The traditions include selected readings containing the mythology of the beginning, and, discussions of dating for those mythological periods where possible. Section 5 presents a summary of the cross tradition comparisons, and a synthesized origin tradition. Note that the small sample of selected readings is not intended as an all-encompassing picture of the traditions of any of the groups being discussed, but the collection gives an integrated picture of the mythological past stemming from that area of the world.

3.3 The Sumerian Traditions

The mythology of the Tigress-Euphrates valley area is, in large part, Sumerian in origin. The clay tablets that have survived are fragmented and incomplete, making construction of their cosmogonic story difficult to decipher. A detailed story of the creation has not been unearthed to date as a unified record; though, some fragmented hints of the story do exist [(Ref. 27)]. The written tablets date to about 2000 BC, but the construction of the stories is believed to date a hundred or so years before that. Later writings (from the first millennium BC) in the Akkadian language (i.e., the Semitic Babylonian and Assyrian dialects [(Ref. 28)]) contain classics such as the Epics of Creation and Gilgamesh that show signs of clearly being borrowed from the earlier Sumerian literature. It is found that several versions of the same story are used to complement one another and fill in detail that all of the versions individually lack. This is a recognized feature of the Sumerian literature.

In the following sub-sections, readings related to the Sumerian creation are included; and, following that, is the dating of the most ancient Sumerian periods back to the mythological time which cannot be dated by traditional methods.

However, since the Sumerian mythology personifies the aspects of creation in named gods, a brief diversion (before proceeding to the readings) can be helpful to minimize confusion by putting the named in perspective relative to one another and to a few theological concepts.

According to Kramer [(Ref. 10, chapt. 4)], the Sumerian concept of the cosmos, and all its manifest phenomena was believed to be supervised by immortal living beings in human form. They were designated as "dingir", translated as the word "god". Sumerian theology had a concept known as "me" (divine decrees) that kept the cosmic entities operating continuously and harmoniously in accordance with the pre-defined plan of the creating

deity. There were seven decreeing gods and 50 great gods (although all of the names are not clear). The process of creation was one of decree, that is, pronouncing the name of that which is to be created. The order of the bringing into being of the gods is summarized as follows [Ref. 28, p. 74]. The first god was Nammu, the primeval sea personified. Nammu gave birth to An (the heaven god) and Ki (the earth goddess). An and Ki then produced Enlil (the air god), who then proceeded to separate heaven from the earth. At this point Enlil was living in the darkness of the abyss, so he begat Nanna (the moon god), who then begat Utu (the sun god). Nammu and Enlil then produced Enki (the water god). Then, in some unspecified order, 1) Enki helps Enlil and Ki create all the vegetation and life on earth including man, and 2) An brings the Anunnaki (his followers who are the great gods) into being. Ultimately, Enki is declared to be the leader of the great gods. We can now proceed to the readings.

3.3.1 Reading 1 (Ref. 27, p 37)

According to Kramer, the major source of the Sumerian creation picture comes from the introduction to a poem found in the Epic of Gilgamesh, which is titled "Gilgamesh, Enkidu, and the Nether World". After a gallant deed in her service, the goddess Innana gave Gilgamesh a prize, which for undecipherable reasons he lost to the nether world. Warned against going to retrieve it, Enkidu, Gilgamesh's friend, went and died. The introduction, which seems unrelated to the events of the poem, however, contains the description of creation related events.

After heaven had been moved away from earth.
After earth had been separated from heaven,
After the name of man had been fixed;
After An had carried off heaven,
After Enlil had carried off earth,
After Ereshkigal had been carried off into Kur as its prize;
After he had set sail, after he had set sail,
After the father for Kur had set sail,
After Enki for Kur had set sail;

Against the king the small ones it (Kur) hurled,
Against Enki, the large ones it hurled;
Its small ones, stones of the hand,
Its large ones, stones of ... reeds,
The keel of the boat of Enki,
In battle, like the attacking storm, overwhelms;
Against the king, the water at the head of the boat,
Like a wolf devours,
Against Enki, the water at the rear of the boat,
Like a lion strikes down.

According to Kramer, the poem indicates that originally, heaven and earth were united. After their separation, and the creation of man was ordained (though not necessarily accomplished), Kur, a monster or dragon, hurled stones against Enki's boat while the primeval waters attacked it. Kramer does not interpret further; but, the poem could be considered as describing the earth's earliest birth and development when it was continually bombarded by comets (between 1 and 5 billion years ago).

3.3.2 Reading 2 (Ref. 27. p 62)

The poem, "The Journey of the Water-God to Nippur", describes Enki's building of the revered city of Eridu followed by his journey to Nippur to ask the blessings of his father, Enlil. The water-god Enki is also known as Nudimmud.

After the water of creation had been decreed,
After the name hegal (abundance), born in heaven,
Like plant and herb had clothed the land,
The lord of the abyss, the king Enki,
Enki, the lord who decrees the fates,
Built his house of silver and lapis lazuli;
Its silver and lapis lazuli, like sparkling light,
the father fashioned fittingly in the abyss.
The (creatures of) bright countenance and wise, coming forth from the abyss,
Stood all about the lord Nudimmud;
The pure house he built, he adorned it with lapis lazuli,
He ornamented it greatly with gold,
In Eridu, he builds the house of the water-bank,

The poem goes on to describe the Enki's filling the gardens with birds, fish, and fruit bearing trees; before he takes his boat to Nippur. Kramer does not speculate about the nature of the creatures of bright countenance. It could be a description of the appearance of the earliest gods who were intelligent but different in appearance from the species "Man" that came later. On the other hand, it could be an anthropomorphized reference to the re-emergence of the sun and moon and stars after a dust-filled sky cleared after the last great extinction (~65 MYA).

3.3.3 Reading 3 (Ref. 27. p 72)

The reading is from the introduction to the myth "Cattle and Grain". It describes how the great gods did not yet know how to grow food or make clothes until the cattle god and the grain goddess were created, and, that the purpose of the creation of man was to provide for the needs of the gods.

After on the mountain of heaven and earth,
An (the heaven god) had caused the Anunnaki (his followers) to be born,
Because the name Ashnan (the grain goddess) had not been born, had not been fashioned,
Because Uttu (the goddess of plants) had not been fashioned,
Because to Uttu no temenos had been set up,
There was no ewe, no lamb was dropped,
...
Because the name of Ashnam, the wise, and Lahar (the cattle god), [had not been born]
The Anunnaki, the great gods) did not know, ...
The small grains, the grain of the mountain, the grain of the pure living creatures did not exist.

Because Uttu had not been born, because the crown [of vegetation?] had not been raised,
Because the lord . . . had not been born,
Because Sumugan, the god of the plain, had not come forth,
Like mankind when first created,
They (the Anunnaki) knew not the eating of bread,
Knew not the dressing of garments,
Ate plants with their mouth like sheep,
Drank water from the ditch.

In those days, in the creation chamber of the gods,
In their house Dulkug, Lahar and Ashnan were fashioned;
The produce of Lahar and Ashna,
The Anunnaki of the Dulkug eat, but remain unsated;
In their pure sheepfolds milk, . . ., and good things,
The Anunnaki of the Dulkug drink, but remain unsated;
For the sake of the good things in their pure sheepfolds,
Man was given breath.

Kramer does not speculate on the meaning of this. However, this poem seems to describe the earliest state of man as a species (~2,500,000 BC with Homo Habilis and Homo Erectus, to ~250,000 BC with early Homo Sapiens and Homo Neanderthalis, and finally to ~150,000 BC with modern humans). It described the life of early man before the domestication of animals and the first farming (~10,000 BC) in the Levant.

3.4 The Egyptian Traditions

Like the Sumerian tradition (Section 3.3), the goal of this section is to continue walking the RABMEC back as far as possible into the pre-history of Man. This is done by providing the mythology of the beginning (the Creation Myth of the Egyptians - which can be compared with the other cultures' myths), and, by dating the Egyptian God-Kings periods. Recall that the Sumerian record had "man years" for the first two periods considered, but, only "god years" for the last two periods. The Egyptians, on the other hand, have only comparisons with the Sumerians for verifying the "man years" for their first two periods; but, once that is done, the Egyptian record provides the dating for the last two periods of both cultures. Both the mythology and the dating are addressed in the following sub-sections.

Since the Sumerian and Egyptian cultures are so intertwined, a brief look at a major difference in their views is valuable. That difference comes from their visions of the kings. The Sumerians believed that the kingship was bestowed by the gods, and the kings were the representatives of those gods. So, the Sumerian kings in the earliest periods were the super heroes with, at best, only partial parentage by the gods. The Egyptians, however, viewed their kings as gods, complete with god names in addition to their human names. For them, the earliest pre-history periods before Menes (their first historic king) had dynasties of gods and demi-gods that ruled Egypt. Their mythologies, as stories of the attributes of the gods, were at the same time stories of the activities of the kings - the god-kings. The reading, "the History of Creation", brings that into focus at the end by describing the bringing forth of the next generation of gods, which are listed among the named kings in the God I and God II dynasties. With this perspective, we can now proceed to the reading and the dating of the pre-history dynasties.

3.4.1 The *History of Creation* Myth

The text of the Egyptian History of Creation is found in the Papyrus of Nes-Menu preserved in the British Museum, under the number 10,188 [(Ref. 29, pp 1-13)]. By its appearance, it may be assigned to a time between the XXVIth Dynasty and the Ptolemaic Period (647 - 30 BC), and it bears a date being, the "first day of the fourth month of the twelfth year of Pharaoh Alexander, the son of Alexander," i.e., 311 BC. The History of Creation (- A) is the third work on the papyrus with a longer version (- B) inserted later on the same papyrus. The story is told by the god Neb-er-tcher, meaning "Lord to the uttermost limit (of time and space)" - the almighty and invisible power which filled all space. He assumed the form of the god Khepera to carry out the acts of creation. Following, is The History of Creation -A (the short version) with [additions from version - B (the long form)].

[1] The Book of Knowing the Evolutions of Ra, and of Overthrowing Apep. [These are] the words that the god Neb-er-tcher spake after he had come into being: "I am he who came into being in the form of the god Khepera, and I am the creator of that which came into being, [-B adds: I formed myself out of the substance which existed in primeval times, I brought my

[6] own name into my mouth as a word of power (i.e., I uttered my own name)] that is to say, I am the creator of everything which came into being; now the things which I created, and which came forth out of my mouth after that I had come into being myself were exceedingly many. The sky (or, heaven) had not come into being, the earth did not exist, and the children of

[11] the earth, and the creeping things, had not been made at that time. I myself raised them up from out of Nu from a state of helpless inertness. I found no place whereon I could stand. I worked a charm upon my own heart (or, will), I laid the foundation [of things] by Maat, and I made everything which had form. I was [then] one by myself, for I had not

[16] emitted from myself the god Shu, and I had not spit out from myself the goddess Tefnut; and there existed no other who could work with me. I laid the foundations [of things] in my own heart, and there came into being multitudes of created things, which came into being from the created things which were born from the created things which arose from what they

[21] brought forth. I had union with my closed hand, and I embraced my shadow as a wife, and I poured seed into my own mouth, and I sent forth from myself issue in the form of the gods Shu and Tefnut. Saith my father Nu: - My Eye was covered up behind them (i.e., Shu and Tefnut), but after two hen periods had passed from the time when they departed from me,

[26] from being one god I became three gods, and I came into being in the earth. Then Shu and Tefnut rejoiced from out of the inert watery mass wherein they were, and they brought to me my Eye (i.e., the sun). Now after these things I gathered together my members, and I wept over them, and men and women sprang into being from the tears which came forth

[31] from my Eye. And my Eye came to me, and found that I had made another [Eye] in place where it was (i.e., the moon), it was wroth with (or, raged at) me, whereupon I endowed it (i.e., the second Eye) with [some of] the splendor which I had made for the first [Eye], and I made it to occupy its place in my Face, and henceforth it ruled throughout all this earth.

[36] When there fell on them their moment through plant-like clouds, I restored what had been taken away from them, and I appeared from out of the plant-like clouds. I created creeping things of every kind, and every thing which came into being from them. Shu and Tefnut brought forth [Seb and] Nut; and Seb and Nut brought forth Osiris and Heru-khent-an-maati,

[41] and Set, and Isis, and Nephthys at one birth, one after the other, and they produced their multitudinous offspring in this earth."

According to Budge[(Ref. 29)], Neb-er-tcher's description of creation as "*everything which came out of my mouth*" refers to the concept of creation by pronouncing the names. Budge does not speculate, but this appears to be the same concept of creation identified by Kramer [(Ref. 27)] as a basis of the Sumerian tradition and referred to in Reading 1 (Section 3.3.1) i.e., "*the name of man had been fixed*".

Budge identifies the god Nu, in line 12, as the primeval watery mass - the substance from which the universe and all its contents were formed. This god appears to be the same as the Sumerian god, Nammu (Section 3.3).

Budge identifies the concept of "*Maat*", in line 14, as meaning that Neb-er-tcher's "*foundation [of things] in my own heart*" was the exact and definite rules by which creation and the running of the universe would proceed

where the "heart" was the act of his will. Though Budge does not speculate, this Matt could be the same concept of the Sumerians (Section 3.3.2 - Reading 2) which speaks of the god "*Enki, the lord who decrees the fates*".

Budge identifies the gods "*Shu and Tefnut*" in line 23 as the personification of dryness and wetness. Though he does not speculate, this appears to be a concept we will see later in the Chinese tradition of yin and yang (Section 3.7).

Budge does not speculate on the significance of lines 36 thru 38; however, it could be a description of the geological events 65 million years ago when a massive comet collided with earth ("*it fell on them their moment*") filling the atmosphere with dust, debris and hydrocarbon clouds that darkened the sky, blocking the sun ("*through plant-like clouds*"), and after a time the sky cleared ("*I restored to them what had been taken away from them, and I appeared out of the plant-like clouds*").

One final note, according to Budge, the creating deity was viewed by the Egyptians as being so remote and exalted that He did not interfere with affairs of nature after He created them. The other gods that He created were more like men and were amenable to interfering. Three in particular that are mentioned at the end of the poem include Osiris, Set and Isis who appear in the mythical god-kings list as part of the God I dynasty (see Table 4.7 in Section 4).

3.5 The Hebrew Traditions

Since the Patriarch Abraham came from the Sumerian city of Ur, it is expected that the Sumerian and biblical traditions have much in common; and, in fact, it is generally agreed that the early biblical tradition (particularly the Flood story) finds its origins in the Sumerian tradition. Unlike the Egyptian and Sumerian traditions discussed above, the Hebrew tradition does not have a re-history of patriarchs or kings before Adam (who by Waddell's analysis was the same person as Unzi, the first historical Sumerian king). Therefore, from a dating point of view, the Hebrews offer no insight into the mythological period of the Egyptians or Sumerians for comparison purposes. The one thing that the Bible has, that the Egyptian and Sumerians do not, is a time table for the creation events from the beginning. The time table is given in "days" which many fundamentalists accept as 24 hour periods, but, the more scientifically accepting agree are clearly more than that.

In the following sub-sections, the creation story of Genesis is given, followed by a new way of looking at the days of creation that allows a transformation from "creation days" to "man years".

3.5.1 *Genesis*

Perhaps the best-known creation story comes from the book of Genesis in the Tanakh [(Ref. 30)] (c. 1240 BC). The Holy Bible [(Ref. 31)] is the edited, Christian version of the Tanakh. There are some differences between the two; but, the stories are substantially the same. For the purposes of this discussion, the Tanakh wording is used:

3.5.1.1 Chapter 1:

> [1.] *When God began to create the heaven and the earth - the earth was unformed and void, with darkness over the surface of the deep and a wind from God sweeping over the water –*
> [3.] *And God said, "Let there be light"; ... and God separated the light from the darkness ... And there was evening and there was morning, a first day.*

The King James version of the Holy Bible translates "*a wind from God*" as "the Spirit of God". This "*wind*" of creation appears to be a concept we will see later in the Hindu tradition (Section 3.6.1). A possible modern scientific interpretation is discussed in Section 4.3.1.

> [6.] *And God said, "Let there be an expanse in the midst of the waters, that it may separate the water from the water." ...*
> [8.] *And God called the expanse Sky. And there was evening and there was morning, a second day.*

King James translates *an expanse* as "the firmament", and the *Sky* as "Heaven". The concept of the "*waters*" as the basis of existence is seen in the Sumerian tradition (Section 3.3.2), and the Egyptian god Nu, the primeval watery mass (Section 3.4.1), and later in the Hindu tradition (Section 3.6.1). A possible modern scientific interpretation is discussed in Section 4.3.2

> [9.] *And God said, "Let the waters below the sky be gathered together unto one area, that dry land appear" ...*
> [10.] *And God called the dry land Earth and the gathering of the waters He called the Seas ...*
> [11.] *And God said "Let the earth sprout vegetation: seed-bearing plants, fruit trees of every kind". ... And there was evening and there was morning, a third day.*

King James translates *vegetation* as "grass". A possible modern scientific interpretation is discussed in Section 4.3.3.

> [14.] *And God said, "Let there be lights in the expanse of the sky to separate day from night; they shall serve as signs for the set times - the days and the years"...*
> [16.] *God made two great lights; the greater light to dominate the day and the lesser light to dominate the night, and the stars. ... And there was evening and there was morning, a fourth day.*

The apparent creation of the sun and moon, out of geological order, after the earth and vegetation were already created appears to be the same period in the Egyptian tradition (Section 3.4.1) after the mass extinction 65 million years ago. A possible modern scientific interpretation is discussed in Section 4.3.4.

> [20.] *And God said, "Let the waters bring forth swarms of living creatures, and birds that fly above the earth across the expanse of the sky". ... And there was evening and there was morning, a fifth day.*

King James describes the *swarms of living creatures* as the "abundance of moving creatures". The Tanakh includes in the living creatures, the great sea monsters, which King James calls whales. A possible modern scientific interpretation is discussed in Section 4.3.5.

> [24.] *And God said "Let the earth bring forth every kind of living creature: cattle, creeping things, and wild beasts of every kind." ...*
> [26.] *And God said "Let us make man in our image, after our likeness...." ... And there was evening and there was morning, a sixth day.*

A possible modern scientific interpretation is discussed in Section 4.3.6.

3.5.1.2 Chapter 2:

7. ... the Lord God formed man from the dust of the earth. He bled into his nostrils the breath of life and man became a living being. ....
15. The Lord God took the man and placed him in the garden of Eden, to till it and tend it.

The concept that man's purpose was *to till and tend the garden* appears consistent with the Sumerian tradition of providing for the gods (Section 3.3.3). Note that is not until verse 18 when God gave "man" a helpmate that he is referred to as the individual, Adam rather than "man" the species. From the passage, it is not clear how long it is after the *breath of life* was given to the *man* that God placed him in the garden. There is some reason to infer that: 1) man, as a species, was created (geologically ~150,000 to 250,000 years ago), 2) man was placed in the garden (marking the beginning of agriculture ~10,000 BC), and then, 3) Adam, as a person and the first fully human (as opposed to god or demi-god) king of the tribe, came into being in 4169 BC RABMEC. A possible modern scientific interpretation is discussed in Section 4.3.6.

3.6 The Hindu Traditions

Like the previous traditions (Sections 3.3 thru 3.5), the goal of this section is to compare the mythological views of the beginning. As the other traditions discussed, the Hindu tradition traces its heritage back to the Sumerian king line (Section 3.2.4), sharing common elements with the Sumerian and Egyptian mythological concepts. The mythological readings presented come from the Rig Veda.

3.6.1 The *Creation*, hymn (x.129) (Ref. 32, p 23) in the Rig Veda of Hindu tradition, considered to be the oldest text in an Indo-European language (c. 1300 BC), addresses creation:

1. Non-being then existed not nor being:
There was no air, nor sky that was beyond it.
What was concealed? Wherein? In whose protection?
And was there deep unfathomable water?
2. Death then existed not nor life immortal;
Of neither night nor day was any token.
By its inherent force the One breathed windless;
No other thing than that beyond existed.
3. Darkness there was at first by darkness hidden;
Without distinctive marks, this all was water.
That which, becoming, by the void was covered,
That One by force of heat came into being.
4. Desire entered the One in the beginning;
It was the earliest seed, of thought the product.
The sages search their hearts with wisdom,
Found out the bond of being in non-being.
5. Their ray extended light across the darkness;
But was the One above or was it under?
Creative force was there, and fertile power;
Below was energy, above was impulse.
6. Who knows for certain? Who shall here declare it?
Whence it was born, and whence came this creation?
The gods were born after this world's creation;
Then who can know from whence it has arisen?
7. None knoweth whence creation has arisen;
And whether he has or has not produced it;
He who surveys it in the highest heaven,
He only knows, or haply he may know not.

Doniger [Ref. 19, p 25] translates *token*, in verse 2, as distinguishing sign; and, *bond*, in verse 4, as ability to create; and, *world's*, in verse 6, as universe; and, line 2 of verse 7 as perhaps it formed itself or perhaps it did not. Though Doniger does not speculate, it is clear that the more metaphysical nature of this reading gives it more in common with the Chinese picture (Section 3.7 - with comparison details presented there) than the previous discussions which had more of a "god" orientation. In verse 6, one obvious agreement between the Egyptians (Section 3.4.1) and the Hindus is that the gods were created after the creation of the world. Like the Egyptian and the Hebrew (Section 3.5.1.1) traditions, the Hindu hymn speaks of the void before creation and the breath ("the One" here, the Egyptian god Neb-er-tcher, and the Hebrew "God") that gave rise to the creation out of the (primeval) waters.

3.6.2 The *Cosmic Heat,* hymn (x.190) [Ref. 32, p 25]:

> *1. From fervour kindled to its height Eternal Law and Truth were born;*
> *Thence was night produced, and thence the billowy flood of sea arose.*
> *2. From the same billowy flood of sea the year was afterwards produced,*
> *Ordainer of the days and nights, Lord over all who close the eye.*
> *3. Dhatar, the great creator, then formed in due order sun and moon,*
> *He formed in order heaven and earth, the regions of the air, and light.*

Doniger [Ref. 19, p 34] translates line 1 as (Cosmic) order and truth were born from heat as it blazed up. Doniger does not speculate, but, this cosmic order or "*Eternal Law*" appears to be the same concept as expressed in the Egyptian tradition (Section 3.4.1, line 14 of the reading) "*I laid the foundation [of things] by Maat*".

Doniger identifies *all who close the eye*, in verse 2, as all living creatures.

3.6.3 *The Unknown God,* hymn (x.121) [Ref. 19, p 27]:

> *1. In the beginning the Golden Embryo arose. Once he was born, he was the one lord of creation. He held in place the earth and this sky. Who is the god whom we should worship with the oblation?*
> *2. He who gives life, who gives strength, whose command all the gods, his own, obey; his shadow is immortality - and death. Who is the god whom we should worship with the oblation?*

Though Doniger does not speculate, the Golden Embryo appears to be the creator god who is the same as the Egyptian Neb-er-tcher and the Sumerian An.

3.6.4 *The Origin of Sacred Speech,* hymn (x.71) [Ref. 19, p 61], verse 1:

> 1. *Brhaspati! When they (the first sages) set in motion the first beginning of speech, giving names, their most pure and perfectly guarded secret was revealed through love.*

Doniger does not speculate; but, this seems to be a reference to the beginning of awareness and intelligence in the human species. This is the time of the development of complex language in "early man" (Section 4.3.6).

3.6.5 The *Hymn to Indra*, hymn (1.130)) [Ref. 17, p 179]:

> 1. *COME to us, Indra, from afar, conduction us even as a lord of heroes to the gatherings, home, like a King, his heroes lord. ....*

3. *He found the treasure brought from heaven that lay concealed, close-hidden, like the nestling of a bird, in rock, enclosed in never-ending rock. ...*
8. *Indra in battles help his Aryan worshipper, he who hath hundred helps at hand in every fray, in frays that win the light of heaven. ....*

Doniger does not speculate; but, this hymn gives hints of the coming of the Sumerians, recognizing the hero leader as a king. From the dates (Section 3.2.4), it is possibly an identification of the Sumerian Sargon I with Indra - similar to the Egyptian concept of the god-kings in their mythological period.

3.7 The Chinese Traditions

Like the Sumerian and Egyptian traditions (Sections 3.3 and 3.4 respectively), the goal of this section is to compare the mythological views of the beginning. Unlike those earlier two traditions, the Chinese tradition is younger than either of them; and so cannot contribute to extending the RABMEC further back in time than is already achieved with the Egyptian and Sumerians. The Chinese tradition does trace its heritage back to the Sumerian king line (Section 3.2.5), sharing common elements with the Sumerian and Egyptian mythological concepts; but, there is a striking similarity between the Tao Te Ching and the Vedic hymns (in some of the more mysterious phrases). The mythological readings come from the Taoist philosophy (c. 550 BC) and the cosmogonic myths (dating to the 4thcentury) which are compared to the Sumerian, Egyptian and Hindu readings (i.e., the similar concepts and, in cases, the similar phraseology used to describe the events of the beginning).

3.7.1 Verse one of the *Tao Te Ching*

The *Tao Te Ching* [Ref. 26] is a book of Taoist philosophy dating to c. 550 BC. Verse one addresses the creation:

The Tao that can be told is not the eternal Tao.
The name that can be named is not the eternal name
The nameless is the beginning of Heaven and Earth.
The named is the mother of ten thousand things.
Ever desire less, one can see the mystery.
Ever desiring, one can see the manifestations.
These two spring from the same source but differ in name;
They both may be called deep and profound.
Darkness within darkness. The gate to all mystery.

In Wilhelm [Ref. 26], *nameless* is translated non-existence; *named* is existence; and, the *manifestations* are called spatial limitations. In the Hindu Creation Hymn (Section 3.6.1, verse 3), the phrase '*Darkness there was at first by darkness hidden*' seems to refer to the mystery of the nameless One, indicating the same meaning and almost identical phraseology as in the Chinese verse referring to the Tao.

3.7.2 Verse twenty-five:

Something mysteriously formed, Born before heaven and earth.
In the silence and the void, Standing alone and unchanged.
Ever present and in motion.
Perhaps it is the mother of ten thousand things.
I do not know its name. Call it Tao.
For lack of a better word, I call it great.
Being great it flows. It flows far away.
Having gone far, it returns. ...

The Egyptian Creation myth (Section 3.4.1, lines 9-12) addresses the beginning in much the same way as it is expressed here. The creator god is described as existing when '*The sky had not come into being, the earth did not exist*' and he was '*[then] one by myself* '. The concept of being 'ever present and in motion' is indicated by his description of being raised up (brought into existence) '*from out of Nu* (the primeval sea) *from a state of helpless inertness*'.

3.7.3 Verse forty-two:

> *The Tao begot one. One begot two. Two begot three.*
> *And three begot the ten thousand things.*
> *The ten thousand things carry yin and embrace yang.*
> *They achieve harmony by combining these forces. ...*

In Wilhelm, *combining these forces* is translated as flowing power. Though Wilhelm did not speculate, this could represent modern cosmology's picture of the first moments after the Big Bang creation event as described in Section 3.1 (i.e., when first there was a single unified field, followed by a series of symmetry breaking events that finally gave the three fields observed today - the electromagnetic, the weak and the strong). Further, the idea is expressed in the Egyptian tradition in similar words in the reading in Section 3.4.1 line 26, (i.e., "*from being one god I became three gods*" - the creator god (Neb-er-tcher) created two gods ("*Shu and Tefnut*") who then separated from him to become three gods.

3.7.4 The first reading from the Chinese cosmogonic myths

The first reading of the cosmogonic myths (of the origin) is taken from the 4th century BC *Questions of Heaven* (Ref. 25, Chapt. 1, p.31) :

> *In the beginning of the eternal past*
> *When all was ultimate sameness in vast empty space,*
> *Empty and same, all was one,*
> *One eternally at rest,*
> *Moist-wet and murky-dim,*
> *Before there were darkness and light.*

The '*vast empty space*' before the beginning is not inconsistent with the concepts of modern cosmology of the likely time before the Big Bang and is addressed in the other traditions. Genesis (Section 3.5.1) speaks of the '*unformed earth and void*'; and, the Hindus (Section 3.6.1) describe it as 'that which becoming by the void was covered'. The concept of '*moist-wet*' or primeval sea or vast waster in seen in the traditions, i.e., Section 3.3.2 of the Sumerians ('*the water of creation*'); Section 3.5.1.1 of the Hebrews ('*wind of God sweeping over the water*'); and Section 3.6.1 of the Hindus ('*and was there deep unfathomable water*').

3.7.5 The second reading from the Chinese cosmogonic myths

This reading comes from a newly discovered text dated to the same period, 4th century BC (Ref. 25, Chapt. 1, p.32):

> *Before Heaven and earth were formed, there was a shapeless, dark expanse,*
> *a gaping mass; thus it was called Great Glory. The Way [Tao]*
> *first came from vacant space, vacant space gave birth to the*
> *cosmos, the cosmos gave birth to the Breath, and the Breath had its limits. ...*

If expressed in terms of modern cosmology, "*the Breath*" could be an expression of the explosive energy of the Big Bang of modern cosmology.

3.7.6 The third reading from the Chinese cosmogonic myths

This reading, from *Questions of Heaven,* briefly describes how the mythical figure Nu Kua created human beings [(Ref. 25, Chapt. 1, p.35)]:

> *People say that when Heaven and earth opened and unfolded, humankind did not yet exist. Nu Kua kneaded yellow earth and fashioned human beings.*

3.7.7 Verse forty from the Tao Te Ching:

This reading is from the English translation [(Ref. 33)].

> *Returning is the motion of the Tao.*
> *Yielding is the way of the Tao.*
> *The ten thousand things are born of being.*
> *Being is born of non being.*

Ho-Shang-Kung's commentary [(Ref. 34)] translates *motion* as '*movement generates all things*'; *yielding* as '*tenderness and weakness are what the Tao always uses*'; and being *born of non being* as '*existence originates from non-existence*'. The Hindus (Section 3.6.1) describe the time before as when '*non-being then existed not nor being*' indicating a description of created matter vs. the unborn pre-creation state.

It is now possible to draw together, in a unified manner, the mythology and the dated Kings Lists to extend the RABMEC back from the historical era thru the mythological era, and to provide a synthesis of the source tradition.

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4. THE DATED MYTHOLOGICAL EVENTS

The goal of this chapter is to provide calibrated dates for the mythological events and people of four of the five cultures discussed in the last chapter. The Hebrews, Egyptians, Sumerians, and Hindus all reference such events and kings in their traditions.

Chapter 2 dated the historical portion of the RABMEC timeline based primarily on the Hebrew genealogies in the Bible. As part of that dating process, interactions of the Israeli kings with named Babylonian and Egyptian kings helped to fix historical dates in the Hebrew line.

These Babylonian and Egyptian kings lived in the well-accepted historical time of their respective countries. The Babylonians were masters of the Tigris-Euphrates region of the mid-East after the dominance of the Sumerians. For this reason, we consider a single king line (the Sumerian/Babylonian) as ruling the region. This single king line consists of the Sumerian king line followed immediately by the Babylonian king line.

The kings' lists for both the Egyptians and the Sumerians have kings that precede their respective historical times. These kings are considered part of the mythological period. There are no monuments or other records that validate their existence. Because of this, traditional dating of these kings is not possible.

In the Hebrew tradition, the Bible contains the creation story. This period of time occurs before the historical genealogies. For this reason, we consider the creation story to be the mythological period of biblical times.

We do not consider the Hindu king line. However, the Hindu tradition describes the past development of the earth in terms of divine cycles.

In the following sections, we address the calibrated dating of these ancient traditions. We date the mythological part of the Sumerian and Egyptian kings' lists. We calibrate the biblical days of creation. Finally, we correlate the Hindu Divine world cycles with identified geological events and catastrophes.

4.1. The Dated Sumerian Mythological Kings

The new RABMEC timeline with respect to the Sumerians [(Appendix A)] has two parts: 1) an historical part (developed in Section 2) that extends from the birth of Christ (6 BC RABMEC) back to the beginning of the reign of Unzi (4169 BC RABMEC), the first historical king; and, 2) a mythical part from Unzi back to the beginning of the Mythological Chronicle (5538 BC RABMEC). (The Mythological Chronicle is the term used here to refer to the Antediluvian Dynasties and Early Postdiluvian Dynasties at Kish from the IsinDynasty List).

The process of dating the mythological portion of the RABMEC begins here by considering the Sumerian Kings List (referred to simply as the Kings List) back to the earliest Sumerian period, before the first historical king. The Kings List is a list of kings and their years of reign.

The proper dating of the kings in ancient times is difficult because there is no unified time reference as there is today. The dates of events are referenced to a specific year of a specific king; and relative positions of events

are only properly oriented if the proper order of the kings is known. In ancient Sumer (as elsewhere in the ancient world), there was no master list of ordered kings. Therefore, multiple lists from more than one source are considered, and the inconsistencies are resolved making judgment calls about authenticity and accuracy of the sources (Ref. 1, Ref. 2, and Ref. 3).

The RABMEC, for the historic period, based its ordering and years on the more traditional timeline of Waddell (Ref. 1) (though even Waddell's timeline is not considered the standard), and then made modifications based on further comparisons with biblical references to historic individuals in the Sumerian/Babylonian (Appendix A) and the Egyptian (Appendix B) king lines. The Kings List used here maintains the same order as the RABMEC but keeps the older chronicles' lengths of reign as seen in the more notable sources. This allows a comparison of realistic years of reign (RABMEC) with the older "corrupted years of reign (which is discussed in detail later).

To begin the dating process, it is necessary to pick a starting point in the historic period to begin the march backwards. The point selected is 18 years into the reign of Sargon I (2638 BC RABMEC). This point was chosen because this is when a Sumerian prince became the first pharaoh of Egypt. This ties the Egyptian king line to the Sumerian king line. This allows comparisons between the two when dating the mythological portion of both lines.

To provide motivation for the connection (which justifies the comparison of the two cultures into the past), according to Waddell(1), when Sargon became king of the Sumerian empire (in 2656 BC RABMEC), his two sons, Manishtushu and Rimush, were acting in the capacity of governors in Egypt. In 2638 BC RABMEC, Manishtushu declared independence from his father and established himself as king of the newly united Upper and Lower kingdoms of Egypt under the name of Menes.

Further, Waddell proposes that Sargon's and his sons' relationship to Egypt was not new or unique in the governance of that country. So comparing the king lines of Egypt and Sumer is appropriate, especially in the dating context. The comparison of Egyptian and Sumerian king lines is considered in the Egyptian discussion (Section 4.2), but the time span and ways of recording the years of reign for the Sumerian king line are presented here.

From the historical time of Sargon's 18th year of reign back to the beginning of the Mythological Chronicle, there are four distinct periods with identifiable boundaries between them.

Within the historical period, the Flood (3113 BC RABMEC) is clearly recorded in the Kings List as one boundary. (The Flood is the same biblical Flood of Noah.) From the Flood to king, Unzi (4169 BC RABMEC) is a second clearly identifiable period. Before King Unzi, the mythological portion of the kings' list is divided between two capital cities or dynasties (beginning 5027 BC RABMEC and 5538 BC RABMEC respectively - see Table 4.1). In the following subsections, each of the four periods and the records of the time span are considered.

Table 4.1. This table shows the four periods in the Sumerian timeline from Manishtushu's independence (2638 BC RABMEC - 18 years into Sargon's reign) to the beginning of the Mythological Chronicle. The RABMEC shows the realistic "man years" for the period. The (Sumerian) Kings List shows the "corrupted years" as recorded in the older chronicles. And the Mythological Chronicle shows the years for the period corrupted to "god years" (to be discussed later).

Period		**RABMEC years**	**Kings List years**	**Mythological Chronicle years of reign**
a	Flood to Manishtushu's independence	475	5124	----
b	Unzi to Flood	1056	1240	68,400 (3-city period)
c	Badtibira City Period	858	----	108,000
d	Eridu City Period	511	----	64,800

4.1.1. Manishtushu's Independence Back to the Flood (period a)

The resolved RABMEC for this period spans 29 kings over 475 years. The Sumerian Kings List for this same set of kings spans 5124 years (see Table 4.2). The difference in the two numbers (475 vs. 5124) results from the Kings List endowing some of the kings with extraordinary lifetimes.

It is likely that two things contributed to these extreme lengths. First, the tablets on which the lists were recorded, both, 1) were not robust (easily cracked and corrupted by accident or politically motivated design), and, 2) lacked a single master list (multiple lists needed to be integrated to produce a contiguous line of kingship). Secondly, and probably more importantly, the Sumerian view of kingship is one of being divinely conferred. This means that the priests who maintained the lists had both a political, as well as a religious, reason for writing the years of reign in a fashion that emphasized the importance of their earliest kings.

Table 4.2. This shows the Sumerian dynasties from Sargon (18 years into his reign) back to the Flood. Column 2 shows the total number of kings in the dynasty, and the (number of kings whose reign were corrupted to give the Kings List years).

Capital City (Dynasty)	**Number of Kings (# with corrupted reign)**	**RABMEC Years of Reign**	**Kings List Years of Reign**
Erech	11 (4)	234	1986
Hamazi/Erech	3 (2)	10	187
Ur	4 (0)	116	116
Awan	3 (3)	6	356
Kish	6 (6)	66	2436
Erech/Agade	2 (0)	25 (Lugalzaggesi) 18 (into Sargon I)	25 18
Total	29 (15)	475	5124

A detailed examination of the kings in this period[(Ref. 1 and Ref. 2)] shows that of the 29 kings, 14 had the same normal reigns in both the RABMEC and the Kings List. Of the remaining kings, the extraordinary reigns appear to have been recorded by miswriting the numerical symbol "D" (which equals 1 in Sumerian) as "D" (which equals 60). For example, the 3rd king of Erech after the Flood, Dumuzi the fisherman, is listed in the Kings List with a reign of 100 years (i.e., D oooo, note o = 10), but by writing "D" as "D" the reign length becomes the one and forty (41) years in the RABMEC which was verified by Waddell in his comparisons with lists from other sources.

No simple transformation seems to explain the years for Awan which lists three nameless king reigning 356 years; but, which Waddell verified to be six years using another source. It is clear that decisions made about the degree of corruption to be applied, were based on the perceived importance of the individual kings within a dynasty relative to one another.

For example, the 2nd king in Erech, Lugalbabda, is listed as 1200 years (vs. 20) in the RABMEC.

> The Sumerians had a symbol for 600 = Ɒ. So they would write
> 1200 = 600 x 2 = ƆƆ
>
> However, the symbol for 600 could have been corrupted to "o" by simply not writing the D over top giving the years as
> 20 = 10 x 2 = oo .

The 1st, 3rd, and 4th have reigns of 420, 100 and 126 years (vs. 7, 41 and 26); and the last seven were not corrupted at all in the Kings List with reigns from 6 to 36 years (the same as the RABMEC).

Further, decisions were clearly made about the importance of one set of dynasties relative to other sets as seen in the pattern and degree of corruption for the earlier three periods (sections 4.1.2 through 4.1.4 below). We use the results of this section (475 "man years" translating into 5124 "corrupted years") later in the Egyptian discussion of the Demi-god period (section 4.2.1).

So, for the purposes of comparison, the period from the 18th year of Sargon's reign back to the Flood covers 475 "man years", which is equivalent to 1524 "corrupted years", and is dated from 2638 BC RABMEC to 3113 BC RABMEC.

4.1.2. The Flood Back to Unzi, the First Historical King (period b)

This period directly precedes the last one (section 4.1.1, period a) in time, going back to the beginning of the historic period. The resolved RABMEC for the period discussed here spans 18 kings over 1056 years. The Sumerian Kings List for this same period lists 22 kings over 1240 years. The RABMEC and the Kings List have three differences (see Table 4.3).

In Kish I, the RABMEC has the one king, Ku-Bau, as reigning for 64 years (i.e., D DDDD = 60 + 4), which was verified by Waddell from another source. However, the Kings List records it as 100 years (i.e., D oooo = 60 + 40, in this case "D" would have been miswritten as "o").

Table 4.3. This shows the Sumerian dynasties from the Flood back to the first king, Unzi. Column 3 shows the corruption to the "man years" in the RABMEC to produce the "corrupted years" in the Kings List. The last column shows the "god years" for the same period - known as the 3-Cities Period in the Mythological Chronicle. The three cities as placed on the table do not equate with the capital cities in column 1, but the period is specified to end with the Flood.

Capital City (Dynasty)	**RABMEC Years of Reign**	**Corruption to RABMEC Years to Give Kings List**	**Kings List Years of Reign**		**3-Cities Period Years of Reign**
Akshak	99	---	99		28,800
Kish I	64	60 + 4 -> 60 + 40	100		
Adab	31	30 + 1 -> 30 + 60	90		21,000
Mari	47	4 kings added 47 -> 47 + 89	136		
Kish II	491	---	491		
Erech	324	---	324		18,600
total	1056		1204		68,400

In Adab, the RABMEC records Lugalannemundu as reigning 31 years (i.e., D ooo = 1 + 30). However, the Kings List has his reign as 90 years (i.e., D ooo = 60 + 30, again miswriting "D" as "o").

The corruption to Mari appears to be a little different. The Kings List records two kings over 47 years plus four unnamed kings covering 89 years for a total of 136. The RABMEC found the years of reign to be 47. This implies that the other kings were minor rulers, possibly added to increase the importance of the dynasty. In his analysis, Waddell found that minor rulers were listed as kings even though the rule is coincident with the king in the king line.

There is also another Sumerian record of the time span for this period from the Mythological Chronicle which is different from the Kings List used above. Like the Kings List, the Mythological Chronicle clearly makes the end of the period with the Flood specified.

In a more dramatic way than simply corrupting the "man years" to emphasize importance, it addresses the more relevant case of emphasizing the divine right of the kings. The connection between the "man years" of actual reign and the "god years" of the Mythological Chronicle becomes relevant later in the comparison of the Egyptian with the Sumerian king lines (Section 4.2). This is because the last two Sumerian periods have no corresponding "man years" but the Egyptian record does. However, the Egyptian record is without an absolute BC time reference which the Sumerian record provides. So, it is necessary to show here that a plausible corruption path exists showing that the 1056 RABMEC "man years" can be corrupted (perhaps in more than one step) to the 64,800 "god years" of the Mythological Chronicle (see Table 4.4).

Table 4.4. This shows one possible corruption path for "man years" of reign to "god years" of reign for the Sumerian dynasties of the 3-city period. The final corruption from the 1056 "man years" to the 68,400 "god years" reflects the Sumerian view of the divine right of the kings. The only corrupted number used is for Kish I (100 rather than 64).

Capital City (Dynasty)	**RABMEC Years of Reign**	**Representation of Years of Reign**
Akshak	99	1x60 + 3x10 + 9
Kish I*	64 -> 100	1x60 + 4x10
Adab	31	3x10 +1
Mari	47	4x10 + 7
Kish II	491	8x60 + 1x10 +1
Erech	324	5x60 + 2x10 + 4
numerical summation Sumerian representation	17x60 + 3x10 + 6 written as 600 + 7x60 + 3x10 + 6	15x60 + 17x10 + 22 = 19x60 +2 written as 600 + 8x60 + 1x10 + 2
corruption to change "man years" to "god years"		drop the extra 2 and miswrite 10 (o) -> 3600 (O)  60 (D) -> 3600 (O) 600 ( ) -> 36,000 ( )
total	"man years" = 1056	1x36,000 + 9x3600 "god years" = 68,400

There is no obvious way to match up which of the six Kings List dynasties correspond to any particular one of the three mythological cities. For this reason, only the final sum totals are compared.

The Sumerian symbols used for the corrections in the table are:

36,000 =  , 3,600 = O, 600 =  , 60 = D, 10 = o, 1 =

Column 2 shows the years of reign. In the case of Kish I, the 100 years have been corrupted from the actual years of 64.

Column 3 shows how the years would have been recorded given their base symbols 1, 10 and 60. For example, in the base 10 system we use, 99 is written as 9x10 + 9x1. For the Sumerians, 99 is written as 1x60 + 3x10 + 9x1. For simplicity 9x1 is represented as 9. The sum of the first six rows in this column (19x60 + 2) is shown in row 7. This sum is then rewritten as the Sumerian might have done taking advantage of their symbol for 600 (i.e., 19x60 + 2 = 600 + 8x60 + 1x10 + 2). At this point, no corruption has been applied to the years of reign.

Row 8 of column 3 now shows the possible systematic corruption that is applied to the sum 19x60 + 2 = 600 + 8x60 + 1x10 + 2 to go from the “man years” of the first seven rows to the “god years” in the last row. This example shows just one possible corruption path from the "man years" to the "god years” in the two different kings’ lists for the same period.

The "man years" representation in Sumerian would be

600 + 8x60 + 1x10 + 2 = D + 8xD + 1xo + 2xD

Using the corruptions in row 8 means 600 goes to 36,000 (D –> O).
The 60 goes to 3,600 (D –> O), and the 10 goes to 3,600 (o –> O).
With these corruptions, after dropping the 2,

600 + 8x60 + 1x10 + 2 goes to 1x36,000 + 9x3600

This gives the "god years" corruption as:

1x36,000 + 9x3600 = 1xO + 9xO = 68,400 god years.

So, for the purposes of comparison, the period from the Flood back to the first historic king, Unzi, covers 1056 "man years", which is equivalent to 68,400 "God years", and is dated from 3113 BC RABMEC to 4169 BC RABMEC.

4.1.3. The Badtibira Period (period c)

The Badtibira period is a mythological period that directly precedes the reign of King Unzi. The Mythological Chronicle lists three kings that reigned a total of 108,000 years, making the time span clearly recorded in "god years" (see Table 4.1).

Unlike the previous two periods (periods "a" and "b" above) which have historic records and alternate historic sources, the Badtibira period has no alternate historic sources. The "man years" (858) shown on the table are determined by equating this period with the Egyptian God II dynasties (shown later in Section 4.2.3).

So, for the purposes of comparison, the Badtibira period covers 108,000 "god years", and ends in 4169 BC RABMEC. The equivalent 858-"man years" are developed in Section 4.2.3 which indicates the period begins in 5027 BC RABMEC.

4.1.4. The Eridu Period (period d)

The Eridu period is a mythological period that directly precedes the Badtibira period and begins the Mythological Chronicle. The Mythological Chronicle lists two kings that reigned a total of 64,800 years, making the time span clearly recorded in "god years" (see Table 4.1). Like the Badtibira period (section 4.1.3), there are alternate historic sources. The "man years" (511) shown on the table are determined by equating this period with the Egyptian God I dynasties (shown later in Section 4.2.4).

So, for the purposes of comparison, the Eridu period covers 64,800 "God years", and ends in 5027 BC RABMEC. The equivalent 511-"man years" are developed in Section 4.2.4) which indicates the period begins in 5538 BC RABMEC.

4.2. The Dated Egyptian God Kings

Considering the mythical god-kings period in Egypt, although a slight diversion from the mythical reading, is useful here in providing dating for the earliest pre-history, before the traditional historic period dated by the usual methods. As one moves back in time, it allows a perspective on the Egyptian timing of the "beginning of the world", and, the calibrated dating of the god-kings in pre-history otherwise un-datable by traditional methods.

Like its counterpart in the Sumerian tradition (Section 4.1 above), Egypt has an historical period and a mythological period. Manetho of Sebennytus compiled a comprehensive list of Egyptian kings [(4)] for Ptolemy of Philadelphus in the third century BC.

He divided the historical kings (beginning with Menes) into 30 dynasties; and, the time before Menes is referred to as the mythical period composed of four God and Demi-god dynasties. The total time span for all of the kings, including the gods and demi-gods, by Manetho's record according to Boeckh, is 24,836 years (Table 4.5). We begin with a brief discussion of the historical part to provide some perspective on the perceived accuracy of the list as a whole, and then move on the mythological part - the part of particular interest here.

In the RABMEC, the historical period begins with the first Egyptian pharaoh of the united Upper and Lower kingdoms, i.e., Menes. He was located in time (2638 BC RABMEC) based, in part, on Waddell's analysis [(1)] that equated Menes with the Sumerian king, Manishtushu (son of Sargon I). Manetho's original list was lost, but several different copies have been found (dated some 500 years later, and, which do not all perfectly agree).

For the historic period, the number of kings varies between 361 and 561, depending on the version of the list. The total years of reign are between 4480 and 5813 years. Generally, experts seem to agree that Manetho's sources were not entirely reliable, so other sources, not related to Manetho, are also considered.

For example, the Chronicle of Eratosthenes [(Ref. 4, p LXXIII)] begins with Menes in the year 2900 AM (Anno Mundi or from the beginning of the world) and lists 38 kings over 1076 years, going as far as Manetho's 13th dynasty; and, the Sothis [(Ref. 4, p LXXV)], a priest sect, begins with Menes in 2776 AM and lists 86 kings over 2160 years going as far as the 26th dynasty.

Modern chronologist, using the best, but incomplete records and monument inscriptions, estimate the historic period as covering 2757 years beginning around 3100 BC; however, because of the condition of the records they have, and the multiple names associated with each king, they are unable to identify which king is Manetho's Menes. (The RABMEC resolution of the list is provided in Appendix B and spans 2608 years, beginning 2638 BC RABMEC).

The approximately 3000 years preceding Menes are believed to be a period of conflict between the Upper kingdom of moon worshipers, under the divine dynasty of Osiris (in the south) and the Lower kingdom of Anu worshipers, under the divine dynasty of Set (in the north). (The two cults were united around 3500 BC - hundreds of years before political unification under Menes). This is the period that corresponds to Manetho's mythological dynasties. The lack of supporting records and the extreme reign lengths makes Manetho'slist for this period unacceptable to modern historians who regard it as nothing more than unbelievable tales. Further, the other chronicles do not address it.

In the following sections (a thru d), each of the pre-history periods are addressed for dating purposes assuming Manetho's list is based in fact even if the reign lengths are corrupted. By Waddell's analysis [(1)], the first dynastic Egyptian king was Menes, who was the Sumerian Manishtushu; but, there was also the suggestion that the pre-dynastic kings of Egypt (the gods and demi-gods) were, at the same time, the pre-Manishtushu Sumerian king line. Working backwards in time (and assuming this suggestion is correct), the Egyptian God and Demi-god dynasty periods are provided with calibrated dating by making comparisons with the corresponding Sumerian periods where reasonable. With this introduction, we now proceed with the dating.

Table 4.5. This shows the dynasties of the mythical period[(Ref. 31, p LX)] according to Manetho as recorded by Boeckh. The Demi-gods I - IV are unnamed; and Gods III only lists the last god. Gods II and Gods I have a full list of names and reigns that are specified in Tables 4.6 and 4.7 respectively.

Period	Dynasty	Length of Reign (yrs)
historic	Menes	5813
A	Demi-gods I Demi-gods II Demi-gods III Demi-gods IV	1255 1817 1702 350 . 5,124 total
B	Gods III	1056
C	Gods II	858
D	Gods I	9,000 2,985 . 11,985 total

4.2.1. The Demi-gods I - IV Period (period a)

The period that Manetho attributed to the Demi-god dynasties (period a) is the most recent of the four periods after the historic one (Table 4.5). It is the last of the mythological periods and spans 5,124 years. Since this Egyptian period begins with Menes as you go backward in time, and the Egyptian Menes is the Sumerian Manishtushu, the Egyptian Demi-god period - (a) is compared with the Sumerian period - (a) from Manishtushu (2638 BC RABMEC) back to the Flood (3113 BC RABMEC).

The Sumerian period spans 475 "man years" in the resolved RABMEC; but, as shown in Table 4.2, the Sumerian Kings List[(2)] for the same period spans exactly 5124 "corrupted years". Since the Egyptian period - (a) and the Sumerian period - (a) start with the same man (going backward in time), and since the time span for the period in both traditions is exactly the same number of "corrupted years" we conclude the comparison is justified. So, the equivalence of the Sumerian Kings List "corrupted years" with the Egyptian Demi-gods dynasties years supports Waddell's hypothesis that the two represented the same king line; and further the date 3113 BC RABMEC can be assigned to the beginning of the Demi-gods I - IV (i.e., the Demi-gods period - (a) spans 475 "man years" and lasts from 2638 BC RABMEC to 3113 BC RABMEC).

4.2.2. The Gods III Period (period b)

This Egyptian period that directly precedes the Demi-gods period - (a) is the Gods III (period b) which spans 1,056 years. From the Demi-gods period - (a), we know that the Gods III period - (b) ends in 3113 BC RABMEC with the Flood. However, we don't know if the 1056 years are "man years" or "corrupted years" without comparison to the equivalent Sumerian period, i.e., the Sumerian period - (b) that goes from the Flood back to Unzi, the first historic Sumerian king.

From Table 4.3, the Sumerian period - (b) spans exactly 1056 "man years". So, the Egyptian 1056 years are "man years" - supporting Waddell's hypothesis of a common king line for the Egyptians and Sumerians into yet a second period before Menes. The equivalence of the Egyptian period - (b) with the Sumerian period - (b) allows us to assign a starting year for the Gods III period - (b) as 4169 BC RABMEC (i.e., the Gods III period - (b) spans 1056 "man years" and lasts from 3113 BC RABMEC to 4169 BC RABMEC).

4.2.3. The Gods II Period (period c)

This Egyptian period that directly precedes the Gods III period - (b) is the Gods II (period c) which spans 858 years (see Table 4.6). From the Gods III period - (b), we know that the Gods II period - (c) ends in 4169 BC RABMEC. However, again we don't know if the 858 years are "man years" or "corrupted years" without

comparison to the equivalent Sumerian period, i.e., the Sumerian period - (c) - the Badtibira period, the second of the Sumerian mythological periods.

Table 4.6. This shows the Egyptian God II years of reign. Nine gods are listed with 2 years wanting at the end indicating Boeckh was referring to another list and was unable to resolve, unambiguously, the number conversion from the other list.

Egyptian Dynasties	**God II Years of Reign**
Horus	100
Ares	92
Anubis	68
Herakles (Greek Hercules)	60
Apollo (Greek Apollo)	100
Ammon	120
Tithoes	108
Sosos	128
Zeus (Greek Zeus)	80
years wanting	2
Total	858

To this point as one works backward in time, there have been reasonably reliably dated Sumerian king lines (with "man years") to compare with the Egyptian line for dating purposes. However, the Badtibira period has no "man years" available. It only has "god years" that span 108,000 years (see Table 4.1). We assert here that the 858 years of God II - period (c) are most likely "man years" for several reasons.

First, from Table 4.6, although the reigns seem a little longer than is usual, they are not excessively long, giving us hope that the years are indeed "man years". Second, because both the Egyptian period - (c) and the Sumerian period - (c) end at the same time, and precede, in time, two successive periods that were shown to be the same (periods (a) and (b) in both traditions), it is reasonable to assume that period (c) in both traditions represents the same time.

Based on this assumption, we establish a corruption path from the 858 Egyptian years to the 108,000 Sumerian "god years" for the Badtibira period - (c) (using a method like the one used in Section 3.3.4 (c) between the two Sumerian versions of the years of reign for the same period) would further support the idea that the 858 years are "man years". This is easily done by writing the Egyptian years in the Sumerian way.

Egyptian years (858) = 600 + 4x60 + 1x10 + 6 + [2years wanting]
= Ð + 4xD + 1xo + 6xᴅ + [2xᴅ]

After dropping the [2 wanting years] , and miswriting ᴅ as D, the
4xD + 6xᴅ => 10xD = 10x60 = 600 = 1xD, so the years become
=> 2xÐ + 1xo = 2x600 + 1x10

Miswriting Ð as ©, and o as © gives
=> 3x© = 3x36000 = 108,000

This is equal to the 108,000 "god years" of the Sumerian Badtibira period.

So, the RABMEC, for the Gods II period - (c), spans 858 "man years" and lasts from 4169 BC RABMEC to 5027 BC RABMEC).

4.2.4. The Gods I Period (period d)

This Egyptian period that directly precedes the Gods II period - (c) is the Gods I period - (d) which spans 11,985 years (see Table 4.7). From the Gods II period - (c), we conclude that the Gods I period - (d) ends in 5027 BC RABMEC.

Table 4.7. This shows the Egyptian God I years of reign as recorded by Boeckh. Six gods are listed. The extremely long reign lengths make it likely that the years have already been corrupted - especially for the first god on the list.

Egyptian Dynasties	**God I Years of Reign**
Hephaistos	9,000
Helios	992
Agatho-Daimon	700
Kronos	501
Osirir & Isis	433
Typhon	359
Total	11,985

Because of the extremely long reigns for each of the kings, it is clear that the 11,985 years are "corrupted years", so comparisons with other sources are needed to determine the equivalent "man years". However, the Eridu period is the Sumerian period corresponding to Gods I. It is the first of the Sumerian mythological periods which has no "man years". It only has "god years". A comparison of Egyptian "corrupted years" with the equivalent Sumerian "god years" does not give any useful information about the equivalent "man years" which are needed to extend the RABMEC further back in time. So, additional information to resolve the question is needed.

Here, the additional information comes from Egyptian records (i.e., the Egyptian determination of the time of the beginning of the world relative the beginning of the reign of Menes, 2638 BC RABMEC). Recall from Section 3.4.2, that the Sothis list placed the beginning of the world at 2776 years before Menes; and, Eratosthenes placed it at 2900 years before Menes. From the previous sections, we know that the total year spanned by the Demi-gods period through the Gods II period was

Total number of years = 475 +1056 + 858 = 2389 "man years".

This means that the span of "man years" for the God I period - (d) according to the Egyptians would be either

2776 - 2389 = 387 years (according to the Sothis)

or 2900 - 2389 = 511 years (according to Eratosthenes).

The "real" number of years to the beginning of the world should be obtainable by comparing the 511 or 387 possible "man years" for the God I period - (d) with the Sumerian Eridu period - (d) "god years" and showing a corruption path between the two. However, there is no reasonable path of corruption from 511 to 64,800 or from 387 to 64,800. So, another idea is needed.

Considering again the years from Menes to the beginning of the world does help, however. The Sothis and Eratosthenes came up with two different numbers of years (2776 and 2900 respectively) for the time span. If it is assumed that both numbers came from a common source, written in such a way that it could be misinterpreted, then the solution to the problem of the timing of the beginning of the world is to determine how the Sothis and Eratosthenes might have misread the "real" number differently to produce the two different estimates.

This is done by seeing if it is possible to de-corrupt the "known" numbers (2776 and 2900) back to the "real" number. Writing the numbers in Sumerian fashion we show the possible corruption path for each.

For the Sothis,

2776 = 4x600 + 6x60 + 1x10 + 6x1

= 4xD + 6xD + 1xo + 6xD

If the D in the Sothis record was really an o in original source the, then

6x1 = 6xD was really 6xo = 6x10 = 60 = D,

and, if the o in the Sothis record was really a D in the original source, then

1x10 = 1xo was really 1xD = 60.

This gives us an estimate of the number in the original source that is

2776 => 4x600 + 8x60 = 2880.

So the Sothis would have corrupted the “real” number from 2776 to 2880.

For Eratosthenes,

2900 = 4x600 + 8x60 + 2x10

= 4xD + 8xD + 2xo.

If the o in Eratosthenes record was really a D in the original source, then

2x10 = 2xo was really 2xD = 2x1 = 2.

This gives us a second estimate of the number in the original source, that is

2900 => 4x600 + 8x60 + 2 = 2882.

So Eratosthenes would have corrupted the “real” number from 2900 to 2882.

So, it seems likely that the "real" beginning of the world is 2880 or 2882 years before Menes. Choosing 2880 for the time span, the "man years" for the God I period - (d) becomes 2880 - 2389 = 491 (that is, Menes to the beginning - Menes to the end of God I). So we have:

"man years" (491) = 8x60 + 1x10 + 1 = 8xD + 1xo + 1xD.

If D is miswritten as O, then

8x60 = 8xD becomes 8xO = 8x3600.

If o is miswritten as O, then

1x10 = 1xo becomes 1xO = 1x36,000.

Then if the extra 1 = 1xD is dropped, we get

491 => 8x3600 + 1x36,000 = 64,800.

This is equal to the 64,800 "god years" of the Sumerian Eridu period. Having shown a corruption path between the Egyptian period - (d) "man years" (491), and the Sumerian period - (d) "god years" (64,800), it seems likely that the choice of 2880 "man years" from Menes to the beginning of the world was valid.

So, the RABMEC, for the Gods I period - (c), spans 491 "man years" and lasts from 5027 BC RABMEC to 5518 BC RABMEC.

A final note before proceeding to the next culture should be made. The corruption paths, in both the Sumerian and here in the Egyptian dating, assumed two things.

First, the actual years recorded on the various kings lists, although treated as exact, do have some uncertainty. This allowed the dropping of a small numbered of years (1 or 2) when constructing corruption paths from "man years" to "corrupted years" or "god years". Further, the actual process used to corrupt "man years" may have been accomplished in more than one step rather than the simple, direct path presented.

Second, the corruption process presented here was as simple and direct as possible. That is, in no single path was an individual character interpreted simultaneously in more than one way to get the answer required. For example, a 6 = 6xD might be interpreted as 6xD or 6xo, but not 2xD + 4xo; and further, the fewest number of changes were made in any corruption path.

4.3. The Dated Seven Days of Creation

The seven days of creation described in the Tanakh and the Bible are taken by some as seven 24-hour time periods. However, it is known that the word "day" in ancient Hebrew had more than one meaning. One meaning was a 24 hour period; but, a second meaning was an indefinite period of time (e.g., like an epoch).

Assuming this second meaning was the one intended in the original texts, and recognizing the geologic age of the earth as more than ~6,000 years (as the Hebrew genealogies might suggest), the question becomes one of reconciling the biblical time and the geologic time (in the broader sense of the beginning of the universe through earth's geologic and paleontological development) for the period from the beginning to the appearance of Adam, the first biblical man.

Note that the Hebrew word for "man", as in "God formed man from the dust of the earth" (Ref. 5, Chapt. 2:7) was "adam". So, the creation of "adam", the species, and, the birth of Adam, the first biblical man, must be recognized as possibly two separate events in identifying the length of the biblical days.

In the traditional religious view, the creation of "adam", and the birth (creation) of Adam are one and the same. In the more naturalist view, the beginning of "adam" is not a well-defined moment in time, and could be as much as several hundred thousand or more years before the birth of Adam (if such an individual can be assumed).

The existence of the individual, Adam, is assumed. When correlating the biblical texts with the Sumerian and Egyptian King's Lists (Appendices A and B respectively), we determine that Adam's birth year was 4769 BC (somewhat earlier than the traditional date, ~4000 BC). We now address the question of which event represents the end of "Day = 6" (Gen. 1:26) in any scheme for counting the days of creation. Does the end of Day 6 represent the birth of the individual Adam (4769 BC RABMEC) or the creation of the species man (around 1-2 million years ago)?

There are two tools available to help with this reconciliation: 1) the base of the counting system, and 2) the scientific point-of-view of relativity.

First it is worth noting that the Hebrew patriarch, Abraham, came from Ur, a Sumerian city of much repute. The considerable influence of the Sumerian culture on the Hebrew culture brought with Abraham is well known - most notably, the similarity of the two Flood stories (Ref. 2, chapt. 4).

The Sumerians were known to have a mathematical system [Ref. 2, chapt. 3] based on a peculiar mixture of both "6" and "10", rather than "10" alone as is common in our current Western culture. So, it is not unreasonable to assume that the base 6 part of the number system might have some relevance to the determination of the correlation of the biblical days with geologic time. This relevance becomes evident in the discussion of the second tool, the relativistic perspective.

Let us pretend that God's point-of-view is a relativistic one, in the scientific sense of two observers traveling in space with different timescales. The days (or specifically, the end of the days in question) are then the points of time when both observers (i.e., God and man) see the events occurring simultaneously.

The reference to relativity typically brings to mind the General Relativity (GR) of Einstein [Ref. 6, Chapt. X]. GR assumes equivalence in the laws of nature for all observers whatever their state of motion. A consequence of this assumption is that two observers in different systems locate an event in their own reference frame ("t_1, x_1, y_1, z_1" or "t_2, x_2, y_2, z_2") and relate the two coordinate systems by the 4-D distance between them and the speed of light carrying the signal from one to the other (i.e., $s^2 = Dt^2 - [Dx^2 + Dy^2 + Dz^2]/c^2$, where $Dt^2 = [t1 - t2]^2$, ...). A requirement for this condition is that both observers measure the same D-coordinate (i.e., using the same rigid ruler and uniformly ticking standard clock) in their respective reference frames. Although this is the most familiar relativity form, other versions have been proposed that can differ radically from GR.

One version of particular relevance to the days of creation is known as kinematic relativity [Ref. 6, Chapt. XI] (KR) proposed by Milne in 1948. In KR, the laws of nature may be the same, but how the universe is seen will be different for observers in the same place but in different states of motion.

The most important concept of KR is that of the passage of time. It assumes that any observer can locate two local events as a sequence (one later than the other). However, it does not require 'a uniform flow of time' (i.e., an evenly running clock). This dynamical time, therefore, provides for the existence of different time-scales (unlike GR which has shifted but equivalent time-scales in different reference frames).

Although, there are an infinite number of possible time-scales that satisfy the conditions of KR, the scale called t-time appears most relevant to the biblical day question. The transformation from t-time (one observer's time-scale) to t-time (a different observer's time-scale) is:

$$t = t_0 \log(t/t_0) + t_0 \qquad (1)$$

where the log is base-10. The zero of t-time is the origin and fundamental event - when the separation of the observers vanishes. In t-time, the event takes place in the infinite past.

For the purposes of the biblical-geologic time correlation a slight modification of this form is taken:

$$t = t_0 \log_6(t_0/t) + t_0 \qquad (2)$$

The reversal of the log argument results from the direction of time flow ($t_0 > t$) in the calibrated t-time system (years BC). Note that years BC is equivalent to relative years ago for times more distant that a million or so years. Also, the log is base-6 here and the usual definition of $\log_6(x) = \ln(x)/\ln(6)$ is used. Further, we identify the end-of-day with t/t_0. Solving for t-time gives:

$$\text{geologic year} = t_0 / \exp[(\text{end-of-biblical-Day} - 1) \cdot \ln(6)] \qquad (3)$$

It is now possible to determine the geologic year of the biblical days once t_0 is determined.

From one cosmological point-of-view [7], there are cyclic rises and falls in the order and matter content of the universe at-large (not inconsistent with the Hindu view of Kalpa cycles (seen below in Section 3.6.6), denoted here as HC-K,m). The process of selecting t_0 begins by assuming a massive destructive event of some previous phase of the universe at HC-K=1, m=1 [(Appendix D)] (i.e., at 14,929,491,113 BC) that leaves a mass-less void. The t_0 occurs after that, coincident with the Big Bang of modern cosmology. The event recognized as the Big Bang (traditionally placed at ~14 billion years ago) corresponds, in time, to the event HC-K=1, m=4 (i.e., 14,003,776,827.2 BC). It is this event that we chose as t_0.

So, the modified kinematic relationship (3), using t_0 = 14,003,776,827.2 BC, gives the geologic year when a given end-of-biblical-Day occur (indicated as the Day). (Again, for convenience, years BC is used because of its equivalence to relative years ago for times more distant than around ten thousand years):

4.3.1. Day 1: ends at 14,003,776,827.2 BC

The "*light*" in verse 1 is the burst of energy of the Big Bang. There was now in the universe a distinction between the void and matter/energy as the "*light* was separated from "*dark*".

4.3.2. Day 2: 14,003,776,827.2 BC to 2,333,962,804.5 BC

The early universe was forming - creating a sea of fundamental particles. By BB + 400,000 years, these particles coalesced into neutral hydrogen in the expanding space, to "*separate the waters from the waters*". By BB + 1 billion years, small galaxies were forming. By 4.7 billion years ago, the solar system including the earth had formed - separating the gases into well-formed bodies. By ~2 billion years ago, early land masses were beginning to form with the first signs of life - the Pre-Cambrian (4.7B-550M) geologic age. This appears to be a reference to the development of stars and galaxies, and the solar system and earth through its initial cooling period.)

4.3.3. Day 3: 2,333,962,804.5 BC to 388,993,800.8 BC

By ~1.1 billion years ago, "the dry land" had formed into a super-continent that, over 300 hundred million years broke apart and reformed with ocean basins forming, "the Seas". In the process, it suffered many major impacts and numerous mass extinctions. The earth was now in the Paleozoic (550M-250M) age. Primitive sea plants, seed ferns and corals flourished in the CO_2 rich atmosphere as the "earth sprouted vegetation". This could be a reference to the early continent building in the Paleozoic - the time of many mass extinctions and repopulation of species.)

4.3.4. Day 4: 388,993,800.8 BC to 64,832,300.1 BC

Thru the later Paleozoic and the Mesozoic (250M-65M) age, amphibians and reptiles, including the carnivores and dinosaurs, developed - again after a series of mass extinction events. At the close of the Cretaceous period of the Mesozoic (65M), a massive comet impact in Mexico caused global storms, tsunamis and forest fires. These, combined with the impact debris, blocked the sun leaving the earth in total darkness and cold, for an extended period of time, resulting in the extinction of over 70% of all species, before the atmosphere finally cleared to reveal new "lights in the sky" (the sun, moon, and stars).

Is this a reference to the period after the great KT extinction, ~65 MYA, when the atmosphere finally cleared exposing the sun and other celestial bodies?)

4.3.5. Day 5: 64,832,300.1 BC to 10,805,383.4 BC

The earth now entered the Tertiary (63M - 2M) age. It "brought forth swarms of living creatures" that repopulated the species (both surviving ones and many new ones) as the warm sunlight brought the planed back to life. It was a period of explosive growth in the number of small mammals, rodents and birds, and plants (both in numbers of species and numbers within the species). For the first time, modern birds, fish and marine invertebrates appeared. This may be a reference to the early to middle Tertiary when repopulation of the species began again.

4.3.6. Day 6: 10,805,383.4 BC to 1,800,897.2 BC

Through the late Tertiary and into the Quaternary (2M to present) age, growth continued in "every kind of living creature". Grassy planes appeared along with the larger grazing mammals, including the modern horse, elk, elephants, camels, bison; as well as, the "wild beasts", such as wolves, foxes, badgers and saber-tooth tigers. By ~7,000,000 BC, the primate line split between the ape line and what is referred to as the pre-man line, which finally leads to the human species. At ~2,500,000 BC, early man (Homo Habilis and Homo Erectus) appeared, and was well on the way in its development by the end of Day 6. The species of man (or mankind) was now created.

After that, with the beginning of Day 7, the "creation process" ended and God rested; but, the development process continued according to plan. By ~250,000 BC early Homo Sapiens and Homo Neanderthalis are found; and, by ~150,000 BC modern humans are recognized (~ Day 7.4). The first complex language is postulated to have appeared by ~40,000 BC (Day 8.1); and evidence of the first farming occurred in the Levant ("the garden") by ~10,000 BC (Day 8.9). Finally, the individual Adam is born in 4,769 BC RABMEC (Day 9.3).

This protracted time line appears at odds with the Bible that traditionally accepts Day 6 as the creation of Adam the individual. However, it is clear from comparisons, of the Hebrew tradition with the Sumerian tradition (that have much in common because of Abraham's birth place in Ur), that the extended picture is not out of line.

The Sumerian tradition (Section 3.3.3) indicates that, when "mankind" was first created, it had much in common with the animals. No clothes were worn (presumably because hair coats made them unnecessary). They grazed in the fields and drank water from the ditches. This description is in keeping with modern anthropology's view of "early man" where the tool makers shared more in common with the apes and pre-man than the thinkers ("modern man").

The end of Section 3.3.3 indicates that Man ("the thinker") was finally "given breath" for the purpose of satisfying the needs of the gods. This occurred in two steps: 1) the gods gave mankind the names (i.e., the secret words or complex language, as indicated below in the Hindu tradition Section 3.6.4); and 2) the gods taught the knowledge of agriculture so man could till the fields and tend the sheep. This all indicates that the Kinematic Relativity picture of the Days of creation is reasonable.

4.4. The Hindu Divine Cycles And The Geological Past

In the previous cultures, dating of the king lines and creation days of the mythological periods was done to extend the RABMEC backward in time. In this section, the Hindu tradition does not include a datable king line to support the previous efforts. However, it does have as part of its mythological tradition its cosmic cycles.

Coomaraswamy and Nivedita (Ref. 8, p 392) describe the Hindu concept of the universe in terms of a series of cycles. The longest, the Kalpa (K) is 4,320,000,000 calendar years. The Kalpa is divided in fourteen manvantaras (m), ~308.57 million years long.

The Kalpa is also divided into 1000 maha-yuga cycles (y), each of which consists of four ages: the Satya yuga (A1) lasting 1,728,000 years; followed by the Treta yuga (A2) lasting 1,296,000 years; followed by the Dvapara yuga (A3) lasting 864,000 years; and finally followed by the Kali yuga (A4) lasting 432,000 years. The total length of the maha-yuga is 4,320,000 years.

Other sources [Ref. 9, p 326] identify these long cycles as divine cycles because they are based on the regular cycles' definition except that the years are divine years (i.e., 360 calendar years). For example, the regular maha-yuga is 12,000 years = divine maha-yuga / 360 = 4,320,000 / 360.

Because of their long lengths, the divine cycles are more easily related to cosmic and early geologic events; while the regular cycles are more easily related to recent events (tens to hundreds of thousands of years ago). Table 4.8 shows a selection of the major events that are considered. (Appendix D provides a more inclusive list of events in the development of the earth; but, most are not relevant to the discussion here.)

The time of the events on the table is given in millions of years ago (MYA). The only exceptions are the orbit change at 18,000 YA (16,100 BC) that precipitated the end of the last great Ice Age (~2.5 MYA which is approximately 2.5 BC), and the biblical Flood at 5013 YA (3113 BC RABMEC). The resolution of the dating process for the geologic years is at least a million (and as much as 5 to 10 million) years. All of the events considered here are within the divine K=4 (the current) cycle that began 1,969,491,113 BC [10].

4.4.1. The Climate Cycles and Extinction Events

The warm-cold cycles of the earth's climate tend to be thought of in terms of the Pleistocene period (2.5 MYA - 11,500 YA) of the current Quaternary geological age (i.e., the period of the great Ice Ages). Analysis of the recurrent glaciations of the period [11] shows cycles with periods of 100 TY (thousand years), 43 TY, 24 TY and 19 TY. These cycles are associated with the parameters of the earth's orbit, such as, the inclination of the earth's axis relative to the orbital plane, the orbit eccentricity (i.e., the degree of its circularity), and the phase of the perihelion (i.e., the timing of the position of the orbit's most distant point from the sun).

The glaciations-cycles of this period show some correspondence to the regular (as opposed to the divine) Hindu cycles. We determine this correspondence by comparing the span of the regular maha-yuga ($Dy_R = 12{,}000$) with the glaciations-periods (without considering any calibration of the y_R's to BC date). For example, a single 24 TY glaciation-period is exactly $2 \cdot Dy_R$.

For the other periods, a string of several consecutive cycles are considered. For example, 5 consecutive 19 TY periods equals $7 \cdot Dy_R$ + 11 TY which puts the end of the fifth period in the $A_R = 4$ of the 8^{th} y_R cycle. (The $A_R = 4$ age of the y-cycle is considered to be the most destructive of the four age.) Similarly, 5-43 TY periods = $17 \cdot Dy_R$ + 11 TY, and 3-100 TY periods = $25 \cdot Dy_R$ exactly.

This recurrent match-up would hint that the geologically recent, ecologically destructive glaciations could be observed in the regular y-cycle when properly calibrated to BC date (possibly being particularly long or cold when the end of the string of periods matched with the end of the y-cycle, that is at the boundary between y's or within the A = 4 period of a particular y).

We note, here, that the shorter period y_R cycles are not restricted to describing only recent (2.5 MYA to present) time. They are simply less well suited to describing longer period events. More about the regular y_R cycle is discussed later in the context of the most recent events. However, we now proceed to the discussion of long period climate cycles and the correspondence with the divine y_D cycle.

The long period climate cycle is associated with the orbital period of the solar system around the galactic core (~200 MY), and its position relative to the galactic plane. Over the course of the orbit, the solar system passes thru the galactic plane in an off-set zigzag (above and below the plane) pattern [Ref. 12; Ref. 9, p61; Ref. 13, p41], passing thru the disc material (dust, comet-like bodies, etc.).

This material impacts the long period climate by masking the sun's light and altering the heat balance at the earth's surface in several ways. Dust clouds can shroud the sun directly (and fill the earth's atmosphere externally) shifting the wavelength or reducing the intensity of the light that reaches the earth's surface. In addition, increased large body impacts can increase the atmospheric dust internally, having the same effect.

One specific example of this was the comet impact and subsequent mass extinction of over 70% of the species (including the dinosaurs) 65 MYA. Impact dust blocked the sun's light, plunged the earth into near darkness, and precipitated the beginning of the climate shift to the cold part of the cycle. This example also demonstrates the relation between the long period climate cycle and the extinction events.

A detailed temperature trace for the last 65 MY [14] and temperature change data for the last 500 MY [Ref. 15, p182], were used here to show a long period cycle that is consistent with these data and is correlated with the divine Hindu y cycle (Table 4.8, column 1). The comparison method is similar. That is, it uses the span of the divine maha-yuga (Dy_D = 4,320,000), but in this case it is tied to calibrated BC years. As with the regular y-cycle, A4 is the most destructive age of the yuga, and for the divine cycle, A4 occurs at $0.9y_D$ = 3,888,000.

The identified long period cycle is 38.25 MY (peak-to-peak of the warm periods, and also peak-to-peak of the cold periods) for a span of $Dy = 32 \cdot Dy_D$. The time from the warm peak to the following cold peak is 99.33 MY ($Dy = 23 \cdot Dy_D$); and, from the cold peak to the following warm peak is 38.92 MY ($Dy = 9 \cdot Dy_D$). This warm-to-cold and cold-to-warm cycle asymmetry results from the non-symmetrical (off-set zigzag) pattern of the solar system's path in its orbit. Column 2 shows the major impact and species extinction events with the time data uncertainty.

The recognized uncertainty in all of the times is not readily available, but is shown where possible. The peak temperature time span, < >, shows the climate data uncertainty [Ref. 15, p182]. The extinction time span, { }, shows the extinction data uncertainty [Ref. 9 and Ref. 15].

Table 4.8. A relation between the major climate and extinction events and the divine Hindu y-cycles (in the K = 4 major cycle). Column 1 shows the identified long period warm/cold cycle of the climate in millions of years with the corresponding y-cycle. Column 2 shows the time of the observed major climate and extinction events in millions of years with the data uncertainty indicated in < > for the climate data and { } for the extinction times. Column 3 shows the beginning of Age = 4 for the closest corresponding y-cycle.

CLIMATE CYCLE (MYA) (and Hindu Y Cycle)	**GEOLOGIC EVENT (MYA)**	**YEAR (MYA) and the HINDU Y CYCLE**
772.85 [warm peak] y = 278	750 (beginning of Frozen Earth)	747.4 y=283,A4
673.52 [cold peak] y = 301		
634.6 [warm peak] y = 310	635 (end Frozen Earth) 600 (comet impact) 570 (comet impact) 550 (extinction)	635.0 y=309,A4 600.5 y=317,A4 570.2 y=324,A4 553.0 y=329,A4
535.27 [cold peak] y = 333	<535-520> cold peak	
496.35 [warm peak] y = 342	<500-480> warm peak 500 (volcanic period) 450 (Ice Age) 440 (extinction)	 501.1 y=340,A4 449.3 y=352,A4 440.6 y=354,A4

394.02 [cold peak] y = 365	<400-390> cold peak	
358.1 [warm peak] y = 374	<375-355> warm peak	
	360 (extinction)	358.7 y=373,A4
	310 (extinction)	311.0 y=384,A4
	300 (Ice Age)	298.0 y=387,A=4
258.77 [cold peak] y = 397	<275-260> cold peak	
	250 (comet impact, extinction)	250.6 y=398,A4
219.58 [warm peak] y = 406	<225-215> warm peak	
	{208-210} (extinction)	207.4 y=407,A4
	{160-163} (extinction)	159.8 y=419,A4
	{144-146} (extinction)	146.9 y=422,A4
120.52 [cold peak] y = 429	<125-110> cold peak	
	{90.3-91} (extinction)	90.7 y=435,A4
81.6 [warm peak] y = 438	<80-60> warm peak	
	65 (comet, extinction)	64.8 y=441,A4
	55 (extinction)	56.1 y=444,A4
	35 (extinction)	34.7 y=448,A4
	30 (extinction)	30.2 y=449,A4
	10 (extinction)	8.6 y=454,A4
	2.5 (Pleistocene Ice Age)	2.5 y=455, in A1
	{16100-9100} BC (orbit change)	~16100 y=456, in A3
	3113 BC (biblical Flood)	3,113 y=456,A4
-17.68 [cold peak] y = 460	*timing possibly disrupted by the orbit change ~16 TY BC	

Column 3 shows the year of the indicated y_D that is closest to the corresponding event in column 2. All of the events are associated with the beginning of A4 for the identified y_D with the exception of the Pleistocene Ice Age and the orbit change; but, considering the progress of the Ice Age can provide insight into the apparent difference in behavior with respect to the destructive A4 of a y_D cycle.

The temperature record for the last 65 MY[14] shows a high variability curve that decreases roughly linearly from all warm temperatures (at ~ 55 MYA) to all cold temperatures (thru ~2.5 MYA when the Ice Ages began to ~18,000 YA when it reached its minimum). Following that is a sharp rise in temperature (associated with a change in the earth's orbit) that interrupted the long-period climate cycle leaving a roughly flat, relatively low variability temperature trace of alternating warm and cold temperatures that has lasted to the present.

It was during this last period that melting glaciers discharged large amounts of water with the warmer temperatures that allowed the development of agriculture for the first time. From the Middle Ages to the end of the 1800's AD, the Little Ice Age [16] there were periods of glacier advance and retreat, interspersed with decadal periods of hot and dry, causing chaos primarily in the agriculture of Europe. (These conditions seem to be evident today indicating the Ice Age may not be over as the long period climate cycle would indicate).

It is here that we turn back to the regular y_R Hindu cycles which, previously, were not calibrated to BC years. In the divine cycles, 3113 BC is registered to the A4 of a given y_D which was then used to work backwards to the beginning of the current K_D cycle and its 14 m_D cycles. By also registering 3113 BC to the A4 of a y_R cycle, we can again work backwards to the beginning of the current regular K_R cycle and its 14 m_R cycles. Beginning with 3113 BC, one full y_R cycle back is 15113 BC (within the data uncertainty time span for the orbit change, i.e., {16100-9100} BC). This event also occurs at the beginning of the A4 age of that y_R cycle. And, going back 136 full y_R cycles from 3113 BC is 2,499,113 BC (the beginning of the Pleistocene Ice Age), also the beginning of A4 for that y_R cycle.

The major events in Table 4.8 are shown on average to occur at roughly 30 MY intervals (~7 y_D cycles) for the more distant past; and roughly 11 MY (~1 y_R cycles) for the most recent times. This indicates that the distant events and the nearer events, as well as, the climate cycles seem to be associated with the Hindu cycles.

4.5 References for Chapter 4

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5. THE EVIDENCE FOR THE DATES OF THE MYTHICAL TIMES

The Introduction indicated that there were two things to be accomplished in this work. First was to find the common kernel of truth in the mythical stories of the five cultures, and place them in the context of a datable timeline; and, second was to extend datable history back in time to the beginning by reconciling the oldest body of knowledge with some verifiable supporting evidence. We examine three periods: 1) the time of oral and most ancient events, 2) the time of the mythological kings; and 3) the time of historical records.

Here, Section 5.1 presents the source tradition synthesized from the oral traditions - satisfying our first goal. Next, Sections 5.2 and 5.3 present the physical evidence supporting the dating of the mythological kings and events - satisfying our second goal. And, finally, in Section 5.4, the most ancient events, the mythological period and the historic period are tied together to produce the fully resolved RABMEC.

5.1 A Synthesized Ancient Source Tradition

We speculate that all of the five cultures have a common source for their traditions that was lost over time. Differences in the primitive people that were exposed to this common source resulted in their varying evolution of the surviving traditions. By combining the different pictures and focusing on the common elements, we can synthesize the most likely elements of the earliest source, including the origin stories and the mythological period dating. Note that this synthesis is not intended as a comparison of the religious beliefs of the modern evolution of the ancient ideas. The same ancient words may have totally different meanings in the current interpretation by the different religions. The intention here is to compare the ancient words in the different traditions to show commonality in expression in the ancient times and synthesize a possible source tradition for all of the cultures.

The concepts of the beginning bear many common ideas across the five cultures. The Hindu and Chinese traditions share the more mystic writings, spending more time discussing the mysterious beginning of the creator "god". (Technically, the Chinese Tao is not really a god but it is the source as is the creator god of the other traditions.) The Hebrew, Egyptian and Sumerian traditions, on the other hand, seem more accomplishment oriented, detailing the chronology (though not calibrated to BC date) of the creation events. It is very possible that this latter group, in the beginning, also had a body of mystic writing that did not survive; and, that the former group has accomplishment-oriented writings that are not easily available.

There is some hint of the mystic beginning of the creator god in the Hebrew and Egyptian traditions. Since these, as well as much of the Chinese and Hindu traditions, likely came from the Sumerians because of their places in the Sumerian empire, we speculate here that the mystical concepts were precepts transferred from the Sumerian conquerors.

Comparing the common elements produces a synthesized picture of the earliest beliefs. (The references include the culture - Sum, Egy, Heb, Hin, Chi, and the section - verse.) One synthesis goes as follows.

> *Before the beginning there was a void* (Chi, 3.7.4, 3.7.5; Heb, 3.5.1.1-1; Hin, 3.6.1-3). *The void was made up of the primeval sea or water with no distinguishable variation or identifiable matter* (Chi, 3.7.4; Heb,

(3.5.1.1-1;Hin, 3.6.1-3). *It was murky and dark. It was the motionless fabric of space, and, eternally unchanging, that is, time had not yet begun. Then, hidden by the darkness of non-understanding, something mysteriously formed in the darkness of the void* (Chi, 3.7.1; Hin, 3.6.1-3). *It raised itself up from out of the fabric of space; and, it took on being and entered the realm of existence* (Chi, 3.7.4 and 3.7.7 ; Egy, 3.4.1-4; Hin, 3.6..1-6). *The thing that gave it existence was going from being motionless to being continuously in motion* (Chi, 3.7.2; Egy, 3.4.1-12).

(Modern cosmology cannot predict the nature of space and time before the Big Bang event that is the beginning of this universe. Thus, this murky dark fabric and the origin of the force that began the change are both mysteries from before the beginning - even to today's science. We postulate here that one can view the picture of the pre-Big Bang fabric of space as a 3-D network of strings extending infinitely in all directions. Silent and still, there is no manifestation, no matter. Plucking the string brings matter into existence. Vibrations on the string, like standing wave, are seen as solid matter - one interpretation of the Chinese concept of motion on the motionless).

Once the mysterious one formed, the work of creation began. Thru the act of desire (or speaking the names in the mind) the rules of the nature of existence were fixed (Egy, 3.4.1-14; Hin, 3.6.2); *and manifestations (the 10,000 things) were raised up out of the fabric of space and brought into existence* (Chi, 3.7.1; Hin, 3.6.1-4; Sum, 3.3.1; Egy, 3.4.1-6). *Creation began with the Breath* (Chi, 3.7.5; Heb, 3.5.1.1-2; Egy, 3.4.1-8). *The Breath brought heat and light* (Hin, 3.6.1-3,5; Heb, 3.5.1.1-3). *It was the impulse to the motionless that separated the unity* (Hin, 3.6.1-5; Chi, 3.7.5, 3.7.3, Egy 3.4.1-22) *- the light from dark, the motion from the motionless, matter from the fabric of space. In the creation of the 10,000 things, first came the One, that brought forth the Two, that became the Three (forces)* (Chi 3.7.3, Egy, 3.4.1-26). *This ended era 1.*

(The Breath could be viewed as the Big Bang event (see Section 3.1) which represents the beginning of the universe as we know it. The event can be ascribed to the date 14,003,776,827.2 BC - the Hindu cycle K=1, m=4 (see Appendix E; and Hin, 4.4), and the end of biblical Day 1 (see Heb, 3.5.2.1). As depicted in the Standard Model, it marks the start of both the creation of matter that fills the universe, and, the beginning of time. We suggest here that the heat and light represent the transfer of potential energy in the fabric of space to kinetic energy, the continuous vibration motion that is matter. Polarization in the fabric gave the power to form matter. Immediately following the Big Bang, in modern cosmology, the unified force experienced a symmetry breaking event giving two forces (the strong and the electro-weak) which then experienced another symmetry breaking resulting in the three forces we recognize today (the strong, the weak and the electromagnetic). All of these events were realized within the first 10^{-6} seconds (see Section 3.1). With these three forces, the building blocks that we know as the elementary particles began coming into being, and with them, all matter is formed.)

Once the three were created, the growing existence began to organize itself - separating the waters of matter (stars) from the sea of the fabric of space. This ended era 2.

Then the earth was formed (Sum, 3.3.1; Heb, 3.5.1.1-6; Egy, 3.4.1-26; Hin, 3.6.2), *and vegetation filled the earth* (Heb, 3.5.1.1-9; Sum, 3.3.2). *This ended era 3.*

(This period spans the biblical Day 2 - ending 2,333,962,804.5 BC - and Day 3 - ending 388,993,800.8 BC which correspond to the Hindu cycle K=3, y=915, A4; and K=4, y=365, A4 respectively. By the end of Day 4 the dramatic extinction took place.)

When there fell on them their moment through plant-like clouds, (the comet came and the sky darkened and the earth fell cold. When the sky cleared the sun, moon and stars appeared again (Egy, 3.4.1 - 36; Heb, 3.5.1.1 - 14; Sum 3.3.2). *This ended era 4.*

The warm earth then brought forth all kinds of creatures (Egy, 3.4.1 - 38; Heb, 3.5.1.1 - 20; Sum 3.3.2). *This ended era 5.*

Then the larger bests came to be, and then man was brought forth thru the laws of nature (Egy, 3.4.1 - 41; Heb, 3.5.1.1 - 26; Sum 3.3.3), *raised from the clay of the earth* (Heb, 3.5.1.2 - 7; Chi, 3.7.6). *This ended era 6.*

When he first appeared, man wore no garments and ate and drank like the animals (Sum, 3.3.3) *After a time he was given the names and a purpose to tend the earth* (Heb, 3.5.1.2 - 15; Sum 3.3.3; Hin, 3.6.4).

(This describes the mass extinction that blackened the sky with hydrocarbons and dust for a time before clearing to reveal the sun again. It corresponds to the end of biblical Day 4 - ending 64,832,300,1 BC - and Day 5 - ending 10,805,383.4 BC; which corresponds to the Hindu cycle K=4, y=440, A4 - a time of destruction; and K=4, y=453, A1 - a time of growth. As time progressed, the species of Man evolved from an animal like state - ending biblical Day 6 - 1,800,897.2 BC, corresponding to the Hindu K=4, y=455, A2 - until he achieved language and intelligence with a purpose - into biblical Day 7.)

The synthesized source tradition represents the oral and most ancient events in the RABMEC. This story of the beginning thru the attainment of intelligence, demonstrated by the unified synthesis of a source mythology of the creation, is dated with the Hebrew (Section 4.3) and Hindu (Section 4.4) time calibration. The dating of this time satisfies our first goal.

We now move on the physical evidence related to the pre-history portion of the RABMEC that deals with the mythological flood and the beginning of the Egyptian world age (the Anno Mundi) events, which will satisfy our second goal. In Section 2, we established the historic portion of the RABMEC by correlating the Sumerian, Egyptian and Hebrew kings' lists and concurrent events. That portion of the timeline extends from the birth of Jesus (6 BC RABMEC), back thru the first historic Egyptian pharaoh Menes (2638 BC RABMEC) and finally ending with the earliest known civilization, the Sumerians, and their first historical king Unzi (4169 BC RABMEC).

Dating the mythological portion of the RABMEC that was developed in Section 4 requires establishing the believability of two dates. First, we need the date of the end of the mythological period, i.e., the beginning of the reign of Menes, the first historical Egyptian pharaoh. Second, we need the date of the beginning of the mythological period, i.e., the Anno Mundi event known as the beginning of the world according to the Egyptians. The evidence to support the believability of those events is now presented.

5.2 Supporting The New 2638 BC Date For The First Egyptian Pharaoh

Dating current events is a well-ordered process that, today, is referenced to the event about 2000 years ago known as the birth of Jesus Christ. The event marked the beginning of the year 1 AD (anno Domini); and, all events prior to that were declared year BC (before Christ). Alterations to the calendar in medieval times maintained the nomenclature, but, actually shifted the date of the pivotal event to about 6 BC (the date accepted by the RABMEC). Political correctness has renamed BC to BCE (before the current era), and AD to CE (the current era), resolving the obvious inconsistency of Christ being born 6 years before his birth. (Note that throughout this work, the BC nomenclature is used.)

Using a reference so far back provides a timeline that is both relatively consistent, as well as, absolutely calibrated from a global perspective. This convenient state of affairs however was not available in the ancient world.

Without a common more ancient time reference (global or even relatively local from state to state), events were dated relative to a particular king; and, the order of the kings on any one list was not necessarily consistent with any other list, making a consistent line from the beginning difficult to achieve. As a result, for example, the date of the reign of the first Egyptian king Menes (relative to the calibrated AD-BC timeline) is a puzzle of comparisons and judgments about the lengths of reigns in the line and the order of the real kings (as opposed to the co-regents or petty kings of other cities).

In Section 2, the RABMEC was constructed (using comparisons and judgments) resulting in a date for Menes of 2638 BC RABMEC, but, comparisons with earlier dating efforts were not made there. This section now makes those comparisons to show where the RABMEC agrees with other efforts and where it differs.

Earlier dating efforts consisted of comparing written records and making inter-culture comparisons; but, the process is plagued with inconsistencies and incompleteness. The most ancient surviving evidence for the king line comes from Manetho's kings lists [(Ref. 1)], compiled in the third century BC but, it is not totally trusted. Later attempts to reconstruct the kings' chronology blend monument inscriptions and other recorded lists, and a small number of astronomical observations associated with the named kings[(Ref. 2, and Ref. 3)] from the Middle Kingdom and New Kingdom periods (~2200 - 900 BC). Such events are not well retrospectively predicted after so long a time relative to the present, because many were cyclic in nature allowing for several possible time sequences, resulting in large uncertainties in the estimated dates. Estimates from the 18th and 19th century (AD) for the beginning of the first dynasty (i.e., Menes) ranged from 5869 BC to 3623 BC [(Ref. 1, p. LIV)].

More modern dating efforts (from the 1940's on) combine these historically based techniques with radiocarbon dating to produce a better date estimate. Radiocarbon dating [(Ref. 4)] is a two-step process: first, measuring the ratio

$$A = {}^{14}C/({}^{12}C + {}^{13}C)$$

in a wood sample, and then, calibrating the radiocarbon years to calendar years. The ^{14}C is a radioactive isotope of carbon with an atomic weight of 14, and ^{12}C and ^{13}C are stable isotopes with atomic weights 12 and 13 respectively.

The dating technique is based on principle that ^{14}C is continuously being formed in the atmosphere at a constant ration $A = A_0$, and then enters the plants and animals through the food chain or respiration at that same ratio throughout life. With death, no new carbon is ingested; and the ^{14}C begins to decay, while the other two isotopes do not, allowing the value of A to deviate from A_0. At some time later, the latest value of A is measured in a sample; and the radiocarbon years or age of that sample is determined according to the relation

$$t = -t \ln(A/A_0)$$

where t is the measured radioactive decay half-life of the ^{14}C isotope.

The dating method assumes: 1) that the atmospheric concentration of ^{14}C does not change over time, 2) that ^{14}C intake ends with the death of the life form, and 3) ^{14}C concentrations in the dead plant or animal changes only by radioactive decay of the ^{14}C already in the system. These assumptions are not strictly correct for a variety of reasons, one of which is that A_0 does change with time (e.g., during times of high volcanic activity which may, in fact, be a relatively local rather than a global effect). To address these problems, calibrations are applied to the computed radiocarbon age.

One common method of obtaining a calibration curve is to count tree rings (ideally one ring for every year of life of the tree) of very long lived trees and compare the number of rings to the radiocarbon date for a specimen. Two things are noted about the calibration curves. We know, for example, that the bristlecone pine

of the White Mountains of California can live for up to 4000 years providing calibration date for that far back. First, the farther back in time one goes, the larger the absolute calibration correction (difference between radiocarbon age and calendar year) becomes; and, second, the farther back in time one goes, the larger the uncertainty in the absolute calibration correction becomes (translating into uncertainty in the corrected calendar year). In addition, other things that can contribute to calendar date uncertainty. These include the variability of the carbon isotope in the wood sample, and wood reuse. Wood reuse refers to the fact that later kings sometimes reused older tombs. This obscures the real date of the current occupant by confusing it with the original occupant. Typically, the resulting uncertainty in calendar year at ancient times is accepted as about 100 to 200 years.

Table 5.1 shows the comparisons of the RABMEC with some previous dating efforts. Five samples of other dating are shown with the published year and the difference between the RABMEC and the referenced work in parentheses. Back through the sixth dynasty, the difference between the RABMEC and all of the previous efforts is relatively small, on average ~50 years. This is well within the dating uncertainty limits.

Even thru the chaotic times of the Middle Kingdom (MK) the differences are not unusually large compared to the accepted date uncertainty. As expected, there is a larger difference for the earlier dynasties.

Table 5.1 Comparison of the RABMEC BC dates for the historic Egyptian dynasties with previous dating efforts. ED indicates the Early Dynastic period (dynasties 1-2); OK is the Old Kingdom (3-6); MK is the Middle Kingdom (7-17); NK is the New Kingdom (18-24); LP is the Late Period (25-30); and EP is the Estate Period (31). The blank fields indicate unavailable data. The numbers in ( ) indicate the difference between the RABMEC date and the referenced data. The last row indicates the average difference for the dynasties 6 thru 31.

Dynasty	**RABMEC** Appendix B	**(1929)** Ref. 6	**(1980)** Ref. 7	**(1998)** Ref. 8	**(2006)** Ref. 9	**(2011)** Ref. 2
ED 1	2638	2703 (-65)	3100 (-462)	3100 (-462)		
2	2484	2522 (-38)		2890 (-406)		
OK 3	2454	2493 (-39)		2686 (-232)	2592 (-138)	2691-2675 (-221)
4-5	2381		2613 (-232)	2613 (-232)	2543 (-161)	2649-2583 (-129)
6	2254			2345 (-91)	2305 (-51)	2423-2335 (-81)
MK 7-8	2090			2181 (-91)		
9-11	2034		2160 (-126)	2160 (-126)	2009 (+25)	2064-2019 (0)
12	1899		1900 (-1)	1885 (+14)	1939 (-40)	1998-1952 (-53)
13-14	1739			1795 (-56)		
15-17	1555		1652 (-97)	1650 (-95)		
NK 18	1452		1567 (-115)	1550 (-98)	1539 (-87)	1570-1544 (-92)
19	1244			1295 (-51)		1313-1290 (-46)
20	1139			1186 (-47)		1202-1176 (-37)
21	1023		1069 (-46)	1069 (-46)		
22-24	909			945 (-36)		
LP 25	729			747 (-18)		
26	647		656 (-9)	664 (-17)		
27	528			525 (+3)		
28-29	404			404 (0)		
30	378			380 (-2)		
EP 31	341		331 (+10)	342 (-1)		
avg. diff. dyn 6-31			(-54)	(-45)	(-38)	(-51)

Columns 4-6 are based on the traditional long-lived wood samples for their dating; while, column 7 used a novel short-lived plant sampling technique with a claimed precision of 76 years for the Old Kingdom results, 53 years for the Middle Kingdom, and 24 years for the New Kingdom. The column 7 results are the 95% confidence limits of the analysis; and the difference of the RABMEC was from the nearest date. The zero difference for the 9-11 dynasties indicates the RABMEC date is within the confidence limits for the reference.

The largest difference for the group comes from the 18th dynasty in the New Kingdom, which seems to be a particularly problematic time. The date is generally placed at 1550 BC (which is within the 100-year uncertainty to the RABMEC date). However, the beginning of the 18th dynasty is considered to be an especially difficult time(5).

An enormous volcanic eruption of Mt. Santorini in the Aegean is related in time to the dynasty. There are two alternate dates for the eruption: in one, precise radiocarbon dating places it between 1710 and 1600 BC (Ref. 10), and in the other historical dating places it between 1575 and 1480 BC (Ref. 11). Further, Beitak (Ref. 11) showed a close date relation between the eruption and the beginning of the 18th dynasty at 1530 to 1480 BC. The date difference (at best 180 to 70 years) shows a troubling disparity between the two results that is not fully explained. However, Ramsey's improved analysis technique (Ref. 2) places the beginning of the 18th dynasty at 1570 to 1544 BC (see Table 4.1, column 7), within 14 years of the historical estimate of Beitak at the closest dates. It is interesting that Ramsey's estimate is older than Beitak's, while the RABMEC's is younger by 28 years. It is clear that proper sampling association and precision in dating, along with the best available calibration, may still be leaving something unconsidered given the continued ambiguity.

As we progress farther back into the Old Kingdom (dynasties 3-6), the difference between the RABMEC and the other estimates is shown to grow from 51-91 years for the 6th dynasty to 138-232 years by the 3rd dynasty; but here again, the difference is close to, or well within, the dating uncertainty limits. It is interesting to note that the other older historical estimate of Waddell (Table 4.1, column 2) is close in agreement with the RABMEC, at 39 years.

We note here that high precision (sample to sample agreement - the 76 years claimed in Reference 2 for the column 7 data) is not necessarily the same as improved accuracy uncertainty (difference from truth, which is the 100-200 years uncertainty for the traditional radiocarbon technique). Of course, the 76 years precision may actually translate into 76 year accuracy in this case. Still, one has to ask if sampling assignment or an otherwise unexplained trend in the calibration is causing the radiocarbon dates to diverge more with the more ancient dates. In the case of the 18th dynasty, the agreement between the two techniques did seem to improve, but the actual truth of the estimates is still not undeniably certain.

We have finally reached the Early Dynastic Period (dynasties 1 and 2) and the search for Menes' date. James (Ref. 8, and Table 4.1, column 7) notes that virtually nothing is known of Menes (the first king). The only exceptions are Manetho's reference in the kings' list, and a comment that legend tells of Menes being carried away by the hippopotamus and he perished. Waddell indicates that his research supports the idea that Menes was lost at sea which would account for the uncertainty in the whereabouts of his physical remains. Under these circumstances, identifying the apparent earliest remains of those in the king line, and finding proper sampling association to combine with the historical lists is all-important.

There are two sources of comparison with the RABMEC here. The radiocarbon dates (columns 4 and 5) that agree on c.3100 BC, a 462 year difference from the RABMEC, and Waddell's early historic estimate that differs by only 65 years. The increasing difference between the radiocarbon dates and the RABMEC continue to be troubling. However, there is another possible source of enlightenment found in the historical kings lists.

Eratosthenes, in the late second millennium, constructed a list of Egyptian kings that ends early in the 13th dynasty (though no dynasty assignment was made). An unambiguous entry for a king that is recognized as

the first of the 6th dynasty is recorded as beginning his reign 414 years after Menes. If one accepts the RABMEC date for that king (2254 BC RABMEC), then Eratosthenes would have Menes beginning his reign in 2668 BC, just 30 years earlier than the RABMEC date.

Given that Eratosthenes was reconstructing his kings list some 4000 years closer to the political situation in Egypt than modern chronologists, and only ~1000 years from Menes, it seems reasonable that his estimates for Menes have some merit. (Further consideration for his estimate is discussed in the next section (5.3)). However, given the approximate concurrence of the historical estimates, even though the radiocarbon date for Menes is so different, the RABMEC maintains that reasonable support for the 2638 BC RABMEC date exists.

5.3 Supporting The Previously Undated 5538 BC Anno Mundi Event And The New 3113 BC Biblical Flood Date

Ancient legends all over the world speak of a great flood and the beginning of world ages. Some speak of them as being the same event or repeated events of the same importance. The Bible tells the story of the flood of Noah (Ref. 12, Ref. 13). The Sumerians tell the story of the flood of Ut-napishtim (Ref. 14) and record it in their Kings List (Ref. 6, p. 533). The resolved RABMEC shows that these two events occurred at the same time, in 3113 BC RABMEC. Coincidentally, the Mayans, on the other side of the world, describe the beginning of the new world age that was accompanied by a great flood in 3113 BC (Ref. 15), at the same time as the biblical and Sumerian floods, though that's another story.

The Egyptians do not have a flood legend. However, in his *Histories, Herodotus* (Ref. 16) tells of the Egyptian priests that told of repeated great floods where only those in the right place at the time survived; though, though he does not allude to timing or an association with the biblical flood. However, in their Kings' Lists, both Eratosthenes (Ref. 1, p LXXIII) and the Sothis (Ref. 1, p LXXV) list Menes' reign relative to the beginning of the world (Anno Mundi), though there is no indication of what that event is.

Two questions immediately come to mind. First, is the Anno Mundi event related in any way to the biblical flood; and second, is there any physical evidence to support the biblical flood or the Anno Mundi event. We begin with the biblical flood.

5.3.1 The Biblical Flood Event

The actual date (and fact) of the Flood is a matter of some conjecture. Within the religious framework, the reality of the Noah Flood is accepted as a matter of faith and no visible scientific evidence is required to support it (giving a Flood date, based on the extremely large ages of Adam's line, of ~2294 BC and a creation date of 3950 BC). However, within the scientific framework, the historical reality of the Noah flood has long been debated due to a lack of supporting data.

In 1929, Leonard Wooley found evidence of a great flood deposit beneath his excavations at Ur (Ref. 17). The broad area of the deposits indicated a locally global extent to the flood given the mobility and experiences of the inhabitants of the region at the time. The earliest dating was 3500-3800 BC, while re-evaluation by Langdom and Watelin reduced the date to 3300 BC. In addition, Max Mallowan, in a more northern area, observed evidence of flood deposits dated to ~2900 BC. It is interesting to note that, unlike the ~2294 BC Noah flood year of the standard timeline, the date of 3113 BC RABMEC for the biblical flood falls within the range of the evidence of Wooley's excavation. There is, however, further scientific evidence of another massive flood in ancient times.

5.3.2 The Anno Mundi Event

In 1997, two marine geologists, W. Ryan and W. Pitman [(Ref. 18)], developed a hypothesis based on sea floor measurement in and around the Black Sea that a biblical-type flood event occurred. The event was the result of a major thaw from the last Ice Age freeze (c. 25,000 years ago) which broke through a land dam at Gibraltar. This flooded the Bosporus and filled the Black Sea, raising its level over 350 feet to its present level. It also changed the body of water from a fresh water lake to a salt-water sea connected to the Atlantic Ocean.

Dating of five large sample sets placed the event between 7580 and 7470 BP (before the present) which calibrated to 5630 - 5520 BC. Since the RABMEC resolved the flood date to 3113 BC RABMEC, the Ryan and Pittman flood event could not be that same event. This takes us back to our other question of the physical evidence for the Egyptian beginning of the world (the Anno Mundi event).

According to Eratosthenes, the Anno Mundi occurred 2900 years before Menes. Since the RABMEC resolved the date of Menes as 2638 BC RABMEC, the Anno Mundi event occurred in 5538 BC RABMEC which is within the date range of the Ryan and Pitman flood data (i.e., the five sample sets include: 5550 BC, 5630 BC, 5560 BC, 5560 BC and 5520 BC for an average of 5564 BC.) This implies that the Ryan and Pittman flood event is the event identified by the Egyptians as the Anno Mundi beginning of the world.

5.4 Tying It All Together - The Fully Resolved RABMEC

We now come to the end of our exploration into the past. We have addressed all of the issues relating to the new RABMEC. Thus, it seems appropriate, here, to tie up loose ends and summarize the pivotal events.

The RABMEC begins with the prime reference point of the current calendar, the birth of Christ, which even in the Standard TimeLine (STL) is before 1 AD, i.e., ~6 BC which is the date the RABMEC accepts. Judgments and inter-culture comparisons made in this work allow for divergences between the RABMEC and the STL as we go farther into the past where date uncertainties grow and king orders within the different lines are confused at times.

Moving back from 6 BC RABMEC, the next pivotal point is the besieging of Jerusalem. The STL declares it was in the reign of Nebuchadnezzar II in 606 BC. The RABMEC however claims it was Nebuchadnezzar, the first of that name, in 1204 BC RABMEC, based on the nearly identical names in the lists and time spacing of the kings around the two Nebuchadnezzar's; and the fact that either grouping around the first of that name or the second of that name satisfied the inter-cultural relationships. So, at this point, the RABMEC has added ~600 years to the timeline compared to the STL.

Moving back again, the next point is the Exodus of the Jews from Egypt. The STL finds the pharaoh was Phiops, in 2666 BC RABMEC, rather than Ramesses II in 1496 BC. Further, the RABMEC identifies the namesakes of the two treasure cites mentioned in the story. The first, Pithom was named for Phiops, where the apparent name difference is achieved by simple consonant shifts and vowel changes which were in general not expressed. The second city Ramesses was named for Rimush the son of Sargon I and governor of the divided Egypt just before the independence and unification under Menes (called Manishtushu and Sargon's other son). In the STL, Ramesses II is the one namesake; but the second namesake has no identifiable candidate. The RABMEC is now almost 1200 years longer than the STL.

This brings us to the last historical event, the first Egyptian pharaoh, Menes that the RABMEC places at 2638 BC RABMEC. The STL locates him at c.3100 BC, combining both historical and radiocarbon data, and the difference is not resolved at this time. At this point, however, the STL has now expanded to 462 years longer than the RABMEC.

The second part of the RABMEC is the dating of what is considered mythological events and kings; and, which the STL cannot date. There are two pivotal points in the RABMEC: the biblical flood, and the Anno Mundi event - the beginning of the world according to the Egyptians.

The traditional flood date is ~2294 BC, but there is no physical evidence to support that date, so the flood is considered to be allegorical. However, the RABMEC places the flood at 3113 BC RABMEC, which is supported by the locally global flood deposits originally discovered by Wooley in 1929, and, dated ~2900 - 3500 BC.

For the Anno Mundi event, the STL has no date or speculated date. The RABMEC dates the event at 5538 BC RABMEC which closely aligns with the Ryan and Pittman flood event at ~5557 BC; and further, it is right where Eratosthenes claimed it would be in relation to Menes - thus further supporting the Menes-Anno Mundi date relationship and the 2538 BC RABMEC Menes date.

The final RABMEC accomplishment was showing a mathematical relationship between the biblical creation days and physical events in the pre-human era (i.e., the geological past) which has not been done before.

The total accomplishment for the RABMEC can be succinctly stated as providing a continuously connected timeline from 6 BC RABMEC back thru the Anno Mundi 5538 BC RABMEC event (equivalent to creation day 9.2, i.e., 3 days after the work of creation ended), and finally back to the beginning of the universe as we know it at ~14 billion years ago (the end of creation day 1) - satisfying the stated goals of this work. Table 5.2 provides a list of selected events on the RABMEC, with the STL dates indicated. Appendix E provides a more inclusive list. So what hasn't been done?

The Wooley excavation showed locally global flood deposits in the mid-east region that date to near the RABMEC flood date of 3113 BC RABMEC. We also note here that the Mayan beginning of the last world age occurred in the same year, and likely had a flood that was locally global to them. The implication of this is that if there can be found flood deposits for that event, and if other locally global flood events can be found in other regions, then the true global nature of the biblical flood can be considered a reality even if there is no evidence that the earth was uniformly covered in water. Pursuing this idea was not part of this exploration into the past, and is left to some future study.

Another issue that was not considered was the extreme ages of the pre-flood Hebrews since they did not represent critical timing or pivotal events in the development of the RABMEC. Therefore, the extreme age question is left to the devices and initiative of other studies.

The other issue not considered has to do with how the makers of the oldest oral tradition (like the creation stories) knew what happened when there were no humans there to see it. This is an issue of spiritual inspiration and is left to future studies.

Having summarized what was accomplished in the RABMEC, and mentioning what was not addressed, this work is now completed for the reader's consideration.

It Is Finished

Table 5.2. RABMEC timeline compared with dated physical and historic events. The STL date is indicated when it exists.

BC RABMEC	Historical Event	Corresponding Physical Event
	Pre Human Period	
14 BY	created light - end biblical Day 1	Big Bang (14 BY)
2.3 BY	separated waters - end Day 2	1st galaxy formation to earliest land masses of earth (~13 BY - ~2 BY)
388.9 MY	dry land and seas formed, vegetation covers earth - end Day 3	super continents form (~1 BY) large ocean basins form (~300 MY)
64.8 MY	placed sun, moon & stars in heavens - end Day 4	impact & extinction of dinosaurs (65 MY) then sky cleared and re-speciation began
10.8 MY	large swarms of creatures - end Day 5	first modern species and early mammals
1.8 MY	every living creature and beasts & Man - end Day 6	modern mammals, primates early man (~2.5 MY)
	post creation - Day 7-9	Homo Sapiens ~250,000 yrs modern man ~150,000 yrs 1st language ~40,000 yrs, agriculture ~10,000
	Mythical Period	
5538 5509STL 5174	Beginning of world age by Egyptians **Egyptian God I dynasty** (511 yrs) 5) Osiris & Isis (83)	Ryan and Pittman flood event (~5557 BC) Greek Orthodox calendar begins object of Upper Kingdom moon worshipers
5027 4947 4591 4491 4371	**Egyptian God II dynasty** (858 yrs) 1) Zeus (80) (= Greek god) 5) Apollo (100) (= Greek god) 6) Herakles (60) (=Greek Hercules) 7) Anubis (68)	 object of Lower Kingdom Anu worshipers
4169	**Egyptian God III dynasty** (1056 yrs)	1st Sumerian king Unzu = Adam
~3500 STL		unification of Egyptian Osiris and Anu cults
3113	**biblical FLOOD** **Egyptian Demi-Gods dyn.** (475 yrs)	Wooley locally global flood deposits (2900 - 3500 BC). STL ~2300 BC.
	Historic Period	
3761	start of Jewish calendar	
2638	1st Egyptian king Menes	STL 3100 BC
2666	Exodus during Phiops reign	STL 1496 BC during Ramesses II reign
1204	Jerusalem besieged by Nebuchadnezzar I	STL 606 BC Nebuchadnezzar II
539	Cyrus rebuilds temple -665 yrs exile	STL 536 BC after 70 years exile
6	birth of Christ	STL 6 BC

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APPENDIX A

SUMERIAN / BABYLONIAN KINGS LIST

Note: RABMEC = revised timeline; STL = Standard TimeLine

BC RABMEC	Dynasty	Note
5538	**Eridu** 2 kings (64800 "god years")	co-insides with Egypt God I dynasty 511 "man years"
5027	**Badtibira** 3 kings (108000 "god years")	co-insides with Egypt God II dynasty 858 "man years"
4169	**Akshak (Ukhu City)** 6 kings (99 yrs) **1**) Unzi (30 yrs) 2) Undalulu (12) 4 kings (57)	corresponding to Egypt God III dynasty
4070	9 kings (Kings List - 326; use 142 yrs) **Kish** Ku-Bau (60) **Adab** Lugalannemundu (90) use 31 **Mari** 6 kings (136 yrs) use 47 **Kish** Ku-Bau again (40) use 4	
3928	**Kish** 7 kings (491 yrs)	
3437 3113 3080	**Erech (Uruk)** 12 kings (558 yrs) **1)** Meskiaggasher (324) **FLOOD** 2) (7), 3) (26), **4)** Dumuzi (41) 5) Gilgamesh (20) 7 kings (140 yrs)	STL ~2294 BC = Dungi - introduced writing to China STL c.2630 BC
2879	**Hamazi/Erech** 3 kings (10 yrs)	
2869	**Ur** 4 kings (116 yrs)	
2753	**Awan** 3 kings (6 yrs)	
2747	**Kish** 6 kings (66 yrs)	
2681 2656 2591	**Erech/ Agade** 11 kings (197 yrs) **1)** Lugalzaggesi (25) 2) Sargon (56) 3) Rimush (9) **4)** Manishtushu (15) 5) (28), 6) (25), 7-9) (3), 10) Dudu (21) 11) (15)	STL c.2359 BC Sumer-Akkad unification STL c.2334 BC began reign as Menes in Egypt - 2638 BC RABMEC
2484	**Erech** 5 kings (30 yrs)	
2454	**Gutium** 21 kings (91 yrs)	
2363	**Erech/Ur** 6 kings (116 yrs)	
2247	**Isin I** 14 kings (203 yrs)	STL c. 2180 BC env. Disaster
2044 2004	**1st Babylonian** (12 kings (300 yrs) **1)** (20), 2) (20), **3)** Khammu-Rabi (43) 8 kings (217 yrs)	STL c. 1728 BC
1886	begin Kassite Dyn. 36 kings (576 yrs)	(initially not part of dyn rule), competed for

	(17 kings, 368 yrs unnamed, no years) **1st Sealand** 11 kings (368 yrs) (period of chaos)	dominance
1744	end 1st Babylonian	
 1518 1325	**Kassite** 19 kings (208 yrs) 15 kings (179) 16) Meli-Shipak II (14) **17)** Marduk-apla-iddina I (12) 18) Zababa-shuma-iddin (1) 19) Enlil-nadin-ahi (2)	(official beginning of dyn in Babylon) STL c. 1171 BC
1310	**?** kings 56 yrs (period of chaos)	unnamed kings
1255	**Mixed** begin 45 kings 526 yrs to Phulos = Tiglath-Pileser III **2nd Sealand** 3 kings 21.5 yrs **Bazi** 3 kings 20.3 yrs **Elamite** 1 king 6 yrs **Arabian** 9 kings 245 yrs	Kings List A incomplete - missing names and years - includes between Isin II and Assyrian:
 1237 1208 1164	**Isin II** 11 kings 132 yrs 3 kings (29 yrs) **4**) Nebuchadnezzar I (23) 5) Enlil-nadin-apli (3) 6) Marduk-nadin-ahhe (18) **7)** Marduk-shapik-zeri (13) 4 kings (46 yrs)	 STL c. 1125 BC STL c. 1082 BC
 732 729 722	**Assyrian** 16 kings (105 yrs) **1)** (3) **2**) Tiglath-Pileser III (2) 729 BC 3) (5) **4**) Marduk-apla-iddina II (Marduk Baldan) (12) 12 kings (83)	 STL 729 BC STL 722 BC
 626 605 560	**Chaldean** 6 kings (88 yrs) **1)** (21) **2**) Nebuchadnezzar II (43) 3) Amei-Marduk (2) **4)** Nergal-shar-usur (Nergal-sharezer)(4) 5) (1), 6) (17)	 STL 605 BC STL 560 BC
 538 528 521 261	**Persian** 19 kings (277 yrs) **1)** Cyrus II (9) **2**) Cambyses II (7) 3) (<1), 4) (<1), 5) (<1) **6**) Darius I (36) 13 kings (224) end of Persians	 STL 538 BC STL 528 BC STL 521 BC

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APPENDIX B

EGYPTIAN KINGS LIST

Note: RABMEC = revised timeline; STL = Standard TimeLine

BC RABMEC	Dynasty	Note
5538	Anno Mundi event 2900 yr before Menes	STL no dates for this entire period
	God I dyn 6 god-kings (511 "man years")	co-insides with Sumer Eridu dyn, beginning of world (age)
	1) Hephaistos (87); 2) Helios (102)	
5174	3) Agatho-Daimon (74);	object of Upper Kingdom moon cult
	4) Kronos (101)	
	5) Osiris & Isis (83)	
	6) Typhon (64)	
5027	**God II dyn** 9 god-kings (858 "man years")	Co-insides with Sumer Badtibira dyn
	1) Zeus (80) (= Greek god)	
	2) Sosos (128); 3) Tithoes (108);	
	4) Ammon (120)	STL no dates for this entire period
4591	**5)** Apollo (100) (= Greek god)	
4491	**6)** Herakles (60) (=Greek Hercules)	object of Lower Kingdom Anu cult
4433	**7)** Anubis (68)	
	8) Ares (92); 9) Horus (100); 10) ? 2 years	
4169	**God III dyn** (1056 "man years") names unspecified	coincides with Sumer Unzi to Flood STL no dates for this entire period
~3500		unification of Osiris and Anu cults
3113	**4 Demi-god dyn** (475 "man years")	Sumer Flood to Menes
	1) Demi-god I (1255 corrupted years)	
	2) Demi-god II (1817 corrupted years)	STL no dates for this entire period
	3) Demi-god III (1702 corrupted years)	
	4) Demi-god IV (350 corrupted years)	
Pre Dynastic Period ATL = 5538 - 3113 BC, 2425 years (STL Mythical, Legendary no years)		
	Dyn I (This 1) 8 kings (**154** yrs)	
2638	**1)** Menes (62)	is Sumer's Manishtushu
	7 kings (92yrs)	Early Dynastic Per. 1-2
2484	**Dyn II (This 2)** 9 kings (**30** yrs)	2nd Manis. Dyn
2454	**Dyn III (Memphis 3)** 9 kings (**73** yrs)	Old Kingdom 3 - 6
2381	**Dyn IV (Memphis 4)** 8 kings (**127** yrs)	
	Elephantine 5 total overlap of 4	
2254	**Dyn VI (Memphis 6)** 6 kings (**164** yrs)	
	1) Othpes (30); 2) Phios (53)	incursion of Asians & Bedouins
	3) Methusuphis (7)	
	4) Phiops (61) 2164 - 2103 BC	Exodus 2103 BC RABMEC under Phiops
	5) Methesuphis (1); 6) Nitokris (12)	
2090	**Dyn VII, VIII (Memphis 7,8) (56** yrs)	Middle Kingdom 7-12
	no names	

2034	**Dyn XI (Thebes 11)** ? kings (**135** yrs)	Herakleopolis 9,10 overlap 11
1899	**Dyn XII (Thebes 12)** 7 kings (**160** yrs)	
1739	**Dyn XIV (Xots 14)** ? kings (**184** yrs) no names (Sothis Ramesseid dyn)	Thebes 13 overlap 14 2nd Intermediate Period 13 - 17
Dyn 1 - 14	RABMEC = 2638 - 1555 BC, 1083 years	(STL = c. 3100 - 1650 BC, 1450 years)
 1555 1496	**Dyn XVII (Shepherds 17)** 4 kings **(103** y) 1) Saites (19); 2) Bnon (40) **3**) Aphobis (14) ; 4) Archles (30)	Shepherds 15 ,16 overlap 17 STL Exodus 1496 BC
Dyn 15 - 17	RABMEC = 1555 - 1452 BC, 103 yrs	(STL = c.1650 - 1550 BC, 100 yrs)
1452	**Dyn XVIII (Thebes 18)** 14 kings (**208** yrs)	New Kingdom 18-20
1244 1229	**Dyn XIX (Thebes 19)** 7 kings (**105** yrs) 1) Thuoris (17) **2)** Nekhepsos (19) 3) Sethos (16); 4) Rapashes (14) 5) Ammenephthes (27) ; 6) Ammenemnes(5) 7) Thuoris (7)	 = Ne-choc, co-incident with Neb I of Babylon 1208 - 1185 BC RABMEC
1139	**Dyn XX (Thebes 20)** 12 kings (**116** yrs) no names	
Dyn 18 - 20	RABMEC = 1452 - 1023 BC, 429 years	(STL = c. 1550 - 1069 BC, 481 years)
1023	**Dyn XXI (Tanis 21)** 7 kings (**114** yrs)	3rd Intermediate Period 21 - 24
909	**Dyn XXII (Bubastis)** 9 kings (**116** yrs) **Dyn XXIII (Tanis 23)** 4 kings (**58** yrs) **Dyn XXIV (---- 24)** 1 king (**6** yrs)	
729	**Dyn XXV (Ethiopians 25)** 3 kings (**82** yrs)	Late Period 25 - 30
647 612	**Dyn XXVI (Sais 26)** 8 kings (**119**yrs) 4 kings (93) **5)** Nekhao II (9) 2 kings (75)	 STL = Ne-choc coincident with Neb II Babylon STL 605- 562 BC
528	**Dyn XXVII (Persians 27)** 8 kings (**124.5** years) **1)** Cambyses (7) 528 - 521 BC **2**) Darius (36) 521 - 485 BC 6 kings (81)	Cyrus the Great takes Egypt 528 BC
404	**Dyn XXVIII (Sais 28)** 4 kings (**20.5** years) **Dyn XXIX (Mendes 29)** 1 king (**6** yrs)	
378	**Dyn XXX (Sebennytus 30)** 3 kings (**37** years)	
Dyn 21 - 30	RABMEC = 1023 - 341 BC, 682 years	(STL = c. 1069 - 343 BC, 726 years)
341 332 305	**Dyn XXXI (Persians 31)** 3 kings (**9** years) **Macedonian Period** ?kings (**27** years)	King's Estate Period

	Ptolemaic Period 9 kings (**275** yrs)	
Total dynastic time RABMEC = 2638 - 30 BC, 2608 yrs (STL = c. 3100 - 30 BC, 3070 yrs)		
30	**begin Roman control**	
6	birth of Jesus	

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APPENDIX C

CHINESE KINGS LIST

Note: RABMEC = revised timeline; STL = Standard TimeLine

BC RABMEC	Dynasty	Note
5538	beginning of world (age)	2900 yr before Menes in Egypt
4500	**Hongshan culture**	northern China STL c. 4500-2250 BC
3500	**Liangzhu culture**	southern China STL c.3500-2250 BC
3437		Sumer King Messangger Legendary son of sun god Utu 3437-3113 BC RABMEC .
3325	**1) Fu-hsi** = 1st Legendary Emperor	created 8 trigrams of I Ching
3113		Sumer & biblical Flood
3049	Dungi introduced writing to China	= Sumer King Dumuzi 3080-3039 BC RBMEC
	Pre-Dyn (**400** yrs)	
2766	**1) Huang Ti** = 3rd Legendary (Yellow)	leader of Sumer/Bak invaders STL 2697 BC
2606	Emperor 2) Shen-nong = Legendary Farmer god king	= Sumer King Sargon 2656-2600 BC RABMEC leader of Bak invaders
2366	**Shin Dyn** (**150** yrs) 1) Yao	
2216	**Hsai Dyn** (**439** yrs) 1) Yu	STL c. 2250-1776 BC tamed the Great Flood
1777	**Shang (Yin) Dyn** (**644** yrs) 1) T'ang	STL c. 1777-1027 BC
1133	**Chou Dyn** (**296** yrs) West Chou (1027-771 BC) Ch'in Ch'ui Per. (722-481 BC)	STL 1027-256 BC barbarians drove capital east to Honan
604		Writer of Tao Te Ching - Legendary Lao Tsu (49 yrs)
c. 300	Warring States. (481-221 BC)	Mongolian Huns invade Great Wall built as defense
221	**Chin Dyn (14** yrs)	Chinese unification
206	**Former Han (~197 yrs)**	
9 **AD**	**Hsin (14** yrs)	
25	**Later Han (207** yrs)	
220	**3 Kingdoms Pre. (220 - 280 AD)** Wei(220-265 AD) Shu(221-263 AD) Wu(222-280 AD)	
265	**Western Chin (50** yrs)	
316		north falls to Tartars
317	**Easern Chin (103** yrs)	
358	N. Wei (358-581 AD)	
420	**Liu Sung (59** yrs)	
479	**Southern Ch'i (23** yrs)	
502	**Liang (55** yrs) W. Wei (535-557 AD)	

	E. Wei (543-550 AD) N. Ch'i (550-577 AD)	
557	**Ch'en (32** yrs) N. Chou (557-581 AD)	
581	**Sui (37** yrs)	
618	**T'ang (289** yrs)	
907	**5 Dynasties (54 yrs)** Lao (947-1125 AD)	
960	**Sung (318 yrs)** Chu (1126-1134 AD)	
1279	**Yuan (or Mongol) (87 yrs)**	
1366	**Ming (278 yrs)**	Acquisition by China: Korea 1627 AD, Inner Mongolia 1635
1644	**Ch'ing (or Manchu) (268 yrs)**	Further expansion: Szechwan 1678, Outer Mongolia 1697 Burma 1769, Nepal 1792 Final expansion to modern China limits
1912	**October Revolution** **Republic of China**	Feb 12 last emperor abdicates
1949	**Peoples Republic of China**	under Mao

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APPENDIX D

THE HINDU CYCLE AND THE RELATED GEOLOGICAL EVENTS

Note: n = [K(y=1,A=1) - event year] / 1,432,000 ; y = n + 1; for distant past BC year = years ago

Geologic Event Year (BC)	Event	Hindu Cycle Year (BC)
	begin K=1 and m=1	14,929,491,113 y=1 A=1
14,000,000,000	Big Bang ***begin m=4***	14,003,776,827.2 y=214 in A=1
13,900,000,000	1st star formation ***in m=4***	13,901,331,113 y=238 A=1
13,000,000,000	galaxy formation ***in m=7***	13,002,771,113 y=446 A=1
	begin K=2 and m=1	10,609,491,113 y=1 A=1
	begin K=3 and m=1	6,289,491,113 y=1 A=1
4,750,000,000	sun - solar system formation ***in m=5***	4,751,571,100 y=356 A=1
4,700,000,000	**PreCambrian to 550,000,000**	
4,700,000,000	earth formation, massive comets ***in m=6***	4,699,731,100 y=368 A=1
3,800,000,000	simple single cell - first life ***in m=9***	3,801,171,100 y=576 A=1
2,100,000,000	complex single cell ***in m=14***	2,103,411,100 y=969 A=1
	begin K=4 and m=1	1,965,171,100 y=1 A=1
1,850,000,000	major impact ***in m=1***	1,848,531,100 y=28 A=1
750,000,000	Frozen Earth to 635M continent build. to 120M ***in m=4***	751,251,100 y=282 A=1
	begin m=5	730,885,385.7 y=28 A=1
700,000,000	1st multi cell	699,411,100 y=294 A=1
635,000,000	end Frozen Earth	634,611,100 y=309 A=1
600,000,000	major impact	600,051,100 y=317 A=1
570,000,000	major impact	569,531,100 y=324 A=1
550,000,000	*mass extinction (to as late as 570,000,000)*	
550,000,000	**Paleozoic to 250,000,000**	
550,000,000	**Cambrian** - to 500M primitive sea animals	552,531,100 y=328 A=1
500,000,000	**Ordovician** - to 425M	500,691,100

	sea vertebrates, warm volcanic, mt build	y=340 A=1
440,000,000	*mass extinction (or as late as 450,000,000)*	
440,000,000	Ice Age to ?	440,211,100 y=354 A=1
425,000,000	**Silurion** - to 410M sea plants	422,931,100 y=358 A=1
	begin m=6	422,313,957.1 y=358 in A=1
410,000,000	**Devonion** - to 310M seed ferns, plants, corals	409,971,100 y=361 A=1
360,000,000	amphibians to land	362,451,100 y=372 A=1
310,000,000	**Carboniferous**- to 285M forest development	310,611,100 y=384 A=1
300,000,000	glaciation to 250M	301,971,100 y=386 A=1
285,000,000	**Permian** - to 250M reptiles, conifers	284,691,100 y=390 A=1
250,000,000	*largest mass extinction*, major impact, continent breaks & mergers *(as recent as 245,000,000)*	
250,000,000	**Mesozoic to 65,000,000**	
250,000,000	**Triassic** - to 210M big reptiles, volcanic	250,131,100 y=398 A=1
210,000,000	*mass extinction, 60% (as recent as 208,000,000)*	
210,000,000	**Jurassic** - to 145M carnivores	211,251,100 y=407 A=1
160,000,000	*smaller extinction*, volcanic activity, continent movement *(as late as 363,000,000)* 159,411,000 BC y=419 A=1	
145,000,000	**Cretaceous** - to 65M tyrannosaurus, mild	146,451,100 y=422 A=1
144,000,000	*smaller extinction (as late as 146,00,000)*	
120,000,000	end continent build	120,531,100 y=428 A=1
	begin m=7	113,742,528.6 y=429 in A=2
91,000,000	*smaller extinction* 90,291,100 BC y=435 A=1	
65,000,000	*mass extinction, 70%*, volcanic, Mexico Comet	
63,000,000	**Tertiary** - to 2M Paleocene - to 55M - mammals and flower plants	64,371,100 y=441 A=1
55,000,000	*mass extinction on sea floor*	
55,000,000	Eocene - to 35M warm earth, primitive mammals	55,731,100 y=443 A=1
35,000,000	*mass extinction, 20%*	
35,000,000	Oligocene - to 25M primates developed, 1st apes and monkeys	34,131,100 y=448 A=1
30,000,000	*small extinction* 29,811,100 BC y=449 in A=1	
25,000,000	Miocene - to 6M	25,491,100 y=450 A=1

7,000,000	primates split to ape line and pre-man line	8,211,100 y=454 A=1
6,000,000	Pliocene - to 2M pre-man Ardipithecus to 4.4M	6,483,100 y=454 A=2
4,400,000	Australopithecus pre-man to ~1.5M	4,323,100 y=454 A=4
4,000,000	begin 28th y in m=7 time of mag field flips to ~14T, per. ~100T: N->R	3,891,100 y=455 A=1
3,000,000	*mammoth extinction*, mag field reverse R->N	
2,500,000	Ice Age to 10,000, mag field reverse N->R, Homo Habilis and Homo Erectus to 150T	
2,400,000	bigger brain primates, tool making, language	
2,000,000	**Quaternary** - to present Pleistocene - 2M -11.5T - great Ice Ages, mag field reverse R->N	2,163,100 y=455 A=2
1,900,000	mag field reverse N->R begin glaciation - cycles 100T, 43T, 24T, 19T	
1,000,000	mag field reverse R->N, begin glaciation	
700,000	mag field reverse N->R	867,100 y=455 A=3
~250,000	Homo sapiens to present, begin glaciation	
~200,000	Rise Ice Age, Homo Neanderthalis to 24T	
150,000	modern human , begin glaciation	
50,000	modern man out of Africa, 95% Europeans with DNA from 7 women 45T - 10T	
40,000	complex language	
18,000	max cold of last glatiation	
14,000	mag field reverse R->N	
12,000	first cities and agriculture	
11,500	Holocene - 11.5T - pres. - Great Pleistocene Flood	
10,000	*large mammal extinction*	
10,000	end Ice Age	
5,013	FLOOD common Sumerian & Biblical event on RABMEC	3113 BC y=455 A=4
463	Little Ice Age	1450-1850 AD
0	present	1900 AD A=4 + 5013 years

References:

1. D. Dixon., *The Practical Geologist, Simon and Schuster/Fireside, NY (1992)*
2. F. Rhodes, H. Zim, P. Shaffer, *Golden Press, NY (1962)*
3. T. Palmer, *Perilous Planet Earth, Cambridge Univ. Press, Cambridge, UK (2003)*
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5. S. Finnegan, et. al, *"The Magnitude and Duration of Late Ordovician - Early Silurian Glaciation", Science, vol. 331 (2011) pp 903-906*
6. K. Wong, "The Human Pedigree", Scientific American, June 2009
7. N. G. Sovity, Earth in Flux, National Geographic Supplement, May 1998.

APPENDIX E

SELECTED EVENTS ON THE INTEGREATED RABMEC/STL TIMELINE

RABMEC	BC Event	STL	AD Event
5538	Anno Mundi event STL ND	33	death of Jesus
5509 STL	Greek Orthodox calendar begins	67	Nero persecutions
4947	god king Zeus STL not date	c.250	Rise of Mayan civilization in Mesoamerica
4769	birth of Adam STL 3956	312	Constantine converted
4169	Rise of Sumerian Dyn I STL2750	325	Council of Nicea
3761	Hebrew calendar begins	400	Disappearance of Olmec civilization in Mesoamerica
3325	Pao-His/Fu-His writes I Ching – artifact from flaming dragon STL 3322	550	Ritual Mayan building to 600AD
3113	biblical & Sumer flood STL 2300 & start Mayan calendar world age	570	Muhammad born (death 623AD)
2766	China Yellow Emperor STL 2697	793	Viking raids on England to 1066AD
2656	Sargon I of Akkad STL 2334	800	King Charlemagne crowned & moon orbit change
2638	Rise of Egyptian Dyn I STL 3100 & Rise of Indus & Aryan invasion STL 2500	900	Disappearance of Mayans (ritual building 800-900AD)
2216	Yu tamed Great Deluge, starts Hsai dyn. in China STL c.2250 & fall of Troy STL 2500-1181	1059	1st Crusade to 4th Crusade (to 1204AD)
2103	Exodus STL 1496 or 1280	1066	Battle of Hastings
2044	Rise of Babylon STL 2000	1291	Last Crusade
2004	Khammu-Rabi STL 1728	1300	Hundred Years War between France and England
1777	Tian starts Shang dynasty in China STL c.1777	1347	Black Death - killed half the population of Europe
1667	Israel's King David STL c.1000	1350	Renaissance (through 1500's)
1627	Israel's King Solomon STL 960	1450	Little Ice Age to 1850
1250 STL	Rise of Olmec in Mesoamerica	1773	Age of Revolution (to 1810AD)
1204	Jewish Babylonian exile STL 606	1775	American Revolution (to 1783AD)
753	Traditional founding of Rome	1821	Death of Napoleon
722	Assyrians obliterated Israel	1830	Joseph Smith founded Mormon Church
604	Babylon defeat Egypt STL 604	1861	American Civil War (to 1865 AD)
587 STL	Lao Tse (writer of Tao Te Ching)	1905	Russian Revolution (to 1925 AD)
c.563 STL	Buddha lived STL death 483	1911	Chinese Revolution (to 1949 AD)
c.551 STL	Confucius lived STL death 479	1914	World War I (to 1918 AD)
539	Cyrus begins temple STL 536	1929	Great Depression (to 1939 AD)
526	Darius completes temple STL 526	1939	World War II (to 1945 AD)
c.500 STL	Hellenistic Period STL to 338	1948	Israel founded
481	Warring States period in China STL to 221	1949	Cold War (to 1989AD)

c.431 STL	Peloponnesian wars STL to 404	1950	Korean War (to 1953AD)
264 STL	Roman Empire STL 264 -565AD	1957	Vietnam War (to 1973AD)
63 STL	Romans defeat Egypt	2001	9/11 World Trade Center bombing
6	Jesus birth (STL death 33AD)	2012	Winter Solstice Myan calendar major event
	END RABMEC		

APPENDIX F

COMPARISON OF THE RABMEC TIMELINE WITH THE NEW CHRONOLOGY OF DAVID ROHL

What is Rohl's New Chronology?

The traditional biblical chronology is based on the genealogies of the Hebrew patriarchs and kings in the Bible. However, it is well known that the historical record offers little support for the derived dates of the notable events.

David Rohl **(1)** modified the traditional chronology dates based on astronomical considerations stated in the Bible and non-biblical historical records that support the biblical events but indicate the traditional dates are misplaced in time. His New Chronology produces a better fit between the Bible and the historical record.

The RABMEC (2) chronology developed in this work provides a different modification of the traditional chronology. It agrees with Rohl in some respects and differs in others.

The defining assumption in RABMEC is the length of the Babylonian Exile. The traditional chronology and Rohl's chronology assume the Exile length is 70 years as given by Jeremiah's prophesy. Instead, RABMEC uses Daniel's prophesy, "a time, times, and a half". It then determines the Exile length based on comparisons of biblical kings and events with named Babylonian and Egyptian kings.

One consequence of this is that RABMEC pushes the beginning of the Exile to the time of Nebuchadnezzar I rather than the second of that name as is traditionally assumed. This pushes the biblical Flood back about 1000 years from the traditional date to 3113 BC. This new Flood date is the same as the date David Rohl determined.

Another consequence is to push the Exodus further back in time to 2100 BC which differs from Rohl's 1447 BC date. The two dates are supported by different eruption events and also by different dating of an historical Egyptian papyrus.

What does this appendix do?

Following Rohl's lead, I take the position that many events critical to the biblical timeline are associated with natural catastrophes. This appendix compares the RABMEC, Rohl and traditional chronologies by identifying the recognized volcanic eruptions and impacts that are closest to the catastrophic "acts of God" in each timeline. (See Table F.1). The traditional timeline is referred to as the Standard TimeLine (STL).

The comparisons are based primarily on three works. Palmer (3) provides a detailed discussion of catastrophism and natural catastrophes. Lewis (4) discusses comets and meteors in detail and the cycles of Earth impacts. And Oppenheimer (5) presents details of the most devastating volcanic eruptions that had a global impact.

In addition to the biblical timeline, there are comparisons of the Egyptian dynastic timeline (Table F.2) and the Sumerian/Babylonian dynastic timeline (Table F.3).

In the three tables below, the numbers in ( ) indicate the difference in date from RABMEC. At the bottom of the tables are average differences for several temporal ranges. The averages are not meant as statistically significant measures. They are simply indicative of trends showing where there is general agreement with RABMEC.

Table F.1 This shows a comparison of RABMEC BC dates for biblical events with Rohl and the STL. The numbers in [ ] indicate the relative years since the birth of Adam.

Biblical Event	**RABMEC**	**Rohl** [1]	**STL** [6]
Anno Mundi Egypt. beginning of world	5538 R&P flood event[7,8]		
Adam birth	4769[0]	5375[0] (**-606**) After R&P flood	3950[0] (**819**)
Noah birth	3713[1056]	3713[1662] (**0**)	2894[1056] (**819**)
Flood	3113[1656] Wooley debris [9] & Impact ~3114 [10]	3113[2262] (**0**) Eruption 3119 [11] & Impact ~3114±? [10]	2294[1656] (**819**) Impact 2300 [13]
Abraham birth	2823[1946]	1900[3475] (**932**)	2001[1949] (**822**)
Abraham sojourn in Egypt	No name Divided kingdom	Pharaoh Khety IV 10th dyn,1876-1847	Phar. Ammenemes I [14] 12th dyn, c.1985-1955
Isaac birth	2723[2046]	1842[3533] (**881**)	1901[2049] (**822**)
Sodom & Gomorrah	~2711 Impact ~2700±? [15]	1830[3545] (**881**) Eruption ~1830 [17]	~1889[2049] (**822**) Impact ~1900 [18]
Joseph birth	2572[2197]	1696[3679] (**876**)	1750[2200] (**447**) Or 1832[2118] (365)
Joseph's pharaoh-dynasty Astronomical data[1, page 168]	Usaphasis-1st 2475-2449 No data	Amenemhat III-12th1678-1634 Good data agree.	No name-12th Dyn. 1750-1650 [14] Or Ammenemes III-14th 1854-1808 [14] Poor data agree.
Joseph death	2462[2307]	1617[3758] (**845**)	1640[2310] (**824**)
Exodus, Pharaoh Ipuwer Papyrus date [19] (6th dyn or 13th dyn)	2103[2666] Phiops, 6th dyn Eruption ~2100 [20] date 1 agreement	1447[3928] (**656**) Dudimose, 13th Eruption 1500±? [22] date 2 agreement	1280[2670] (**823**) [6] Ramesses I, 19th [14] Impact ~1200±? [23] Or 1496[2454] (607) [6] Tuthmosis I, 18th [14] Eruption ~1500±? [23]
Joshua Jericho destruction Eclipse date [1, page 243]	2058 [2711] Eruption &Impact 2055±37 [20] no data	1406[3969] (**652**) Eruption ~1400 [24] Good date agree. 1000 year gap in archaeology	1240[2710] (**818**) [6] ? Impact ~1200 [23] No data Or 1456[2494] (620) [6] Eruption 1400 [24] No data
King David	1667[3102]	1011[4364] (656)	1060[2890] (**607**)
Babylonian Exile begins Babylonian king	1204[3565] Nebuchadnezzar I	599[4776] (605) Nebuchadnezzar II	606[3346] (**598**) Nebuchadnezzar II [25]
Babylonian Exile ends	539[4230]	539[4836] (0)	536[3412] (**-3**)
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avg. diff. Total		490.5	695.2

avg. diff. Adam-Flood		-202	818
diff. Flood		0	819
avg. diff. Abram-Jericho		817.6	768.3
avg. diff. David-Exile		630.5	602.5
Exile length	665	60	70

Table F.2 This shows a comparison of RABMEC BC dates for the historic Egyptian dynasties with Rohl and the STL. The blank fields indicate unavailable data.

Dynasty	**RABMEC** (2012)	**(1998)** [14] James	**Rohl** [1] (2002)
Early Dynastic			
1	2638	3100 (-462)	2770 (-132)
2	2484	2890 (-406)	2670 (-186)
Old Kingdom			
3	2454	2686 (-232)	2554 (-100)
4-5	2381	2613 (-232)	2499 (-118)
6	2254	2345 (-91)	2273 (-19)
Middle Kingdom			
7-8	2090	2181 (-91)	2073 (17)
9-11	2034	2160 (-126)	2018 (16)
12	1899	1985 (-86)	1803 (96)
13-14	1739	1795 (-56)	1632 (107)
15-17	1555	1650 (-95)	1439 (116)
New Kingdom			
18	1452	1550 (-98)	1202 (250)
19	1244	1295 (-51)	962 (177)
20	1139	1186 (-47)	865 (274)
21	1023	1069 (-46)	842 (190)
22-24	909	945 (-36)	822 (87)
Late Period			
25	729	747 (-18)	769 (-40)
26	647	664 (-17)	656 (-9)
27	528	525 (+3)	
28-29	404	404 (0)	
30	378	380 (-2)	
Estate Period			
31	341	342 (-1)	
----------	**----------**	**----------**	**----------**
avg. diff. for dyn 1-6		(-248.6)	(-111)
avg. diff. for dyn 6-17		(-90.8)	(43.4)
avg. diff. for dyn 6-26		(-66.0)	(95.5)
avg. diff. for dyn 6-31		(-50.5)	(95.5)

Table F.3 This shows a comparison of RABMEC BC dates for the Sumerian/Babylonian dynasties with Rohl and the STL. The blank fields indicate unavailable data.

Dynasty	**RABMEC**	**Rohl** [(1)]	**STL** [(25)]
Eridu	2k, 5538-5028		
Badtibura	3k, 5027-4170		
Akash	6k, 4169-4070	pre-flood ? – 3112 (?)	
Kish III	9k, 4070-3928	1k, 2192-2183(1878)	
Kish IV	7k, 3928-3437	7k, 2182-2052(1800)	
Erech I	1k, 3437-3113	1k, 3000-? (437)	
Flood	3113	3113(**0**)	
Erech I (con't)	11k, 3113-2879 Gilgamesh 3039 Lugalkidul 2915	From Kish 1B, 10k, 3112-2398(**1**)	Gil. 2400(**639**) Lug. 2380(535)
		11k, 3000-2249(113)	
Erech II	3k, 2879-2869	3k, 2248-2130(631)	
Ur I	4k, 2869-2753 Elulu 2814	5k, 2365-2189(**504**)	Elulu 2421 (**393**)
Awan	3k, 2753-2747		
Kish II	8k, 2747-2681 Uruka-Gina 2684	8k, 2397-2193(**350**)	Ur.-Gina 2351(**333**)
ErechIII/Agade	11k, 2681-2484	9k, 2129-1937(**552**)	2340-2154(**341**)
Erech IV	5k, 2484-2454	5k, 1940-1911(**544**)	
Gutium	21k, 2454-2363 Tiri-gan 2363	21k, 2000-1908(**454**)	Tiri-gan 2130(**233**)
Erech V/Ur II	5k, 2363-2247	5k, 1910-1785(**453**)	2112-2004(**243**)
Isin I	14k, 2247-2044	15k, 1805-1507(**442**)	2017-1794(**230**)
1st Babylonian	11k, 2044-1744 Hammurabi 2004	11k, 1667-1362(**377**) Hammurabi 1565(439)	1894-1595(**150**) Hammurabi 1792(212)
1st Sealand	1886-1518		
Kassite	19k, 1518-1310 K.-Enlil II 1410 Marduc 1325		1374-1155(**144**) K.-Enlil II 1263(147) Marduc 1171(203)
Chaos	Chaos 1310-1237		
Mixed	1255-729		1025-979(**230**)
Isin II	1237-1105 Nebuchadnezzar I 1208		1157-1026(**80**) Neb. I 1125(83)
Assyrian	732-626 Tiglath-P III 729		731-626(**1**) Tiglath-P III 729(0)
Chaldean	626-538 Nebuchadnezzar II 605		625-539(**1**) Neb. II 605(-1)
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avg. diff flood-Erech I		(0.5)	(639)

avg. diff flood-1st Babylon		(367.7)	(321.0)
avg. diff 1st B.-Chaldean			(91.2)

References/Notes:

1 D. Rohl, *From Eden to Exile, The 5000-year History of the People of the Bible*, Greenleaf Press, Lebanon, TN (2002)

2 J.A. Giannini, *Revised Ancient Biblical and Mid-East Chronology (RABMEC) Timeline*, Chapter 2 www.jagnetbooks.org (2012)

3 T. Palmer, *Perilous Planet Earth, Catastrophes and Catastrophism through the Ages*, Cambridge Univ. Press, Cambridge, UK (2003)

4 J.S. Lewis, *Rain of Iron and Ice*, Perseus Publishing, US (1997)

5 C. Oppenheimer, *Eruptions That Shook the World*, Cambridge Univ. Press, Cambridge, UK (2011)

6 W.C. Martin, *These Were God's People, A Bible History*, The Southwestern Company, Nashville, TN (1966)

7 W. Ryan and W. Pitman, *Noah's Flood, the New Discoveries about the Event That Changed History*, Simon and Shuster, (1998)

8 According to Ryan and Pittman, the Black Sea flood event was the result of a breach in the ice dam separating the ocean from the fresh water lake. This event was likely the result of sudden but prolonged climate change. According to Oppenheimer (5, page 355) at around this time, there were several major eruptions that would have had a global impact. Among them are: 5480 BC, Kikai, Ryuku Islands (M_e 7.2); 5677 BC, Mazama, Oregon (M_e 7.1); 6000 BC, Menengai, Kenya (M_e 6.9).

9 L. Wooley, and P. R. S. Moorey, *Ur of the Chaldees: A Revised and Updated Edition of Sir Leonard Wooley's Excavations at Ur*, Cornell Univ. Press, Ithaca, NY (1982)

10 D. Steel, *Rogue Asteroids and Doomsday Comets*, John Wiley & Sons, NY (1995)

11 Rohl (1, page 48) describes the effects of a massive volcanic eruption in 3119 BC that caused global climate shifts. Fierce winters and cooler summers allowed ice buildup resulting in drought conditions in Mesopotamia. Toxic dense cloud cover resulted in acidification of the water supply. Final clearing of the atmosphere took about 6 years and the final warming permitted ice melting that lead to the massive flood conditions in 3113 BC. Kropelin (12) describes similar conditions in North Africa at the same time. Oppenheimer (5, page 355) identifies the massive eruption of Black Peak, Alaska (M_e 6.5) at ~3000 BC lending credence to the global nature of the climate devastation.

12 S. Kropelin, et al., *Climate-Driven Ecosystem Succession in the Sahara: The Past 6000 Years*, Science, vol. 320, 9 May 2008, p 765

13 Palmer (3, page 120, 340) relates that Schaeffer (1898-1982) concluded that the Earth suffered wide-spread devastation on at least five occasions beginning ~2300 BC. He identified the other events at ~2100 BC, ~1600 BC, 1365 BC and ~1200 BC. The source of the impact was not identified.

14 T.G.H. James, *A Short History of Ancient Egypt*, The Johns Hopkins Univ. Press, Baltimore, MD (1995)

15 Palmer (3, page 342) relates that Bruce Masse indicated at least 20 impacts over the last 6000 years resulting in global destruction. He identified the most significant at ~2800 BC. Clube and Napier (3, page 339, and 16) relate that Enke comet has an Earth-crossing orbit every ~20,000 years. Two identified breakups (~7500 BC and ~2700 BC) likely produced impacts around those times. Lewis (4, page 48) indicated that the Enke comet was responsible for the two Taurrid meteor streams producing destructive impacts ~2700 BC and in the 5th century AD. He notes the Taurrid meteor stream was responsible for the particularly destructive Tunguska impact in Siberia in 1908 AD.

16 V. Clube and B. Napier, *The Cosmic Serpent*, Universe Pub, (1982)

17 Rohl [1, page 121] and Palmer [3, page 340] describe the destruction of Sodom and Gomorrah as the result of a volcanic eruption from the geological rift extending along the Jordan Valley. Rohl identifies the time as 1830 BC. The exact location of both cities is uncertain but generally believed to be along the Dead Sea.

18 Lewis [4, page 35] describes the exploration of John Philby in 1932 in the central Arabian Peninsula of Rub' al Khali where he found craters he interpreted as volcanic. Discovery of an iron meteorite fragment later confirmed the impact origin which dated to ~1900 BC. No meteorite fragments have been found in the Dead Sea area. But it is conceivable that a meteor stream could have resulted in an impact into the sea at the same time.

19 According to Roger Henry [*Synchronized Chronology*, Algora Publishing, 2003], the Papyrus Ipuwer is a seventeen page document known as "Admonitions of an Egyptian Sage". Several parts are missing and almost every page is fragmentary. According to Wikipedia, the document in the Leiden Museum is a copy made around the 18th dynasty (ca. 1550-1295 BC). The time of its original composition is debated. Some say as early as the 6th dynasty (2254-2090 BC RABMEC) and some say as late as the 13th dynasty (ca. 1802-1649 BC STL, 1632-1439 BC Rohl). The papyrus describes catastrophes that have a striking resemblance to the plagues and conditions of the biblical Exodus. Scholars debate whether it is a description of current events or historical reference.

20 Palmer [3, page 210, 340, and 12] indicates Schaeffer's second major impact in the early Bronze Age was ~2100 BC. Oppenheimer [5, page 355] indicates that a volcanic eruption in 2100 BC at Veniaminof, Alaska (M_e 6.7) would have had a global climate impact that could have contributed to the Exodus conditions. Weiss [21] describes archaeological and soil-stratigraphic data showing climate collapse of third millennium in Mesopotamia, the Aegean, Egypt, Palestine and the Indus supporting the global impact of the eruption. At 2200 BC a marked increase in aridity and wind circulation subsequent to a volcanic eruption induced abrupt climate change effects. Climate effects were visible in Greenland ice cores and Anatolian tree-ring records beginning in 2200 BC with reduced and irregular ring growth continuing thru 2055-2043 $\pm$ 37 BC. A further support for the 2100 BC date comes from one dating of the Ipuwer Papyrus [19] in the 6th dynasty.

21 H. Weiss, et al., *The Genesis and Collapse of Third Millennium North Mesopotamian Civilization*, Science, vol. 261, 20 August, 1993, p995

22 Rohl [1, page 206] identifies the departure from Egypt as taking place in 1447 BC. His exit date is tied to Dudimose, the 13th dynasty pharaoh whom he dates as 1450-1446 BC. A support of this pharaoh is one dating of the Ipuwer Papyrus [19] in the 13th dynasty. The climate effects associated with the Exodus can be associated with an eruption or an impact. Oppenheimer [5, page 355] identifies the nearest volcanic eruption with a global climate impact at Santorine, Greece [5, page 230] 1500 BC or as late as 1600 BC. Fallout from the eruption is seen to the northeast of Turkey and to the south in North Africa. Oppenheimer notes that uncertainty in the atmospheric carbon-14 makes dating around this time particularly difficult. He also notes that this eruption coincides with end of Minoan 1B (1490-1476 or 1425-1420). Rohl's 1447 BC Exodus date should be close to the eruption dating uncertainty.

23 According to Martin [6], the traditional date of the Exodus is a matter of debate, as recent as 1280 BC or as late as 1496 BC. The 1496 BC date is consistent with the Ipuwer Papyrus 18th dynasty date and can be associated with one of the Santorini eruption dates. Like Rohl's Jericho event, the STL Jericho date of 1456 BC is consistent with the other eruption ~1400 BC. The other STL Exodus date 1280 BC and its companion Jericho 1240 BC date are more difficult to account. Schaeffer's ~1200 BC impact event [13] can only account for one of the events unless it was more extended or other evidence of catastrophes becomes obvious. As it stands, 1500 BC Santorini eruption [22] seems to support the Ipuwer Papyrus date for the Exodus better than the 1280 BC Exodus date.

24 Rohl [1, page 237] identifies the events at Jericho as taking place in 1406 BC, 40 years after the Exodus. He notes that archaeological evidence for the 40-year wandering in the desert is lacking. Oppenheimer [5, page 355] identifies the nearest volcanic eruption with a global climate impact in ~1400 BC at Witori, Papua New Guinea (M_e 6.5). The distance from the eruption site seems large and except for the global climate effects appears an unlikely correlation. However, eruptions of such magnitude can be observed over great distances. The Tambora [5, page 298] eruption in Indonesia in 1812 AD was heard over 2600 km away in

Sumatra. Thick black clouds completely blocking the sun covered the sky as far as 600 km away for two days after the eruption. And tremors were felt over 360 km. Of course the distance that any eruption is felt is a detail of the nature of the eruption and the geological environment of the volcano. Rohl's Jericho destruction date of 1406 BC should be within the eruption dating uncertainty.

25 G.P. Verbrugghe and J.M. Wickersham, *Bosseros and Manetho Introduced and Translated: Native Traditions in Ancient Mesopotamia and Egypt,* Univ. of Michigan Press, Ann Arbor (2001); A.L. Oppenheimer, *Ancient Mesopotamia: Portrait of a Dead Civilization,*Univ. of Chicago Press (1977)

APPENDIX G

COMPARISON OF THE RYAN AND PITTMAN FLOOD DATA WITH THE EXPECTED ANNO MUNDI DATE OF THE RABMEC TIMELINE

The RABMEC [(1)] chronology provides a modification of the traditional biblical chronology which is based on the genealogies of the Hebrew patriarchs and kings in the Bible. However, it is well known that the historical record offers little support for the derived dates of the notable events.

The traditional chronology assumes a Babylonian Exile length of 70 years as stated in Jeremiah's prophesy. Instead, RABMEC uses Daniel's prophesy, "a time, times, and a half" to produce a long Exile length. It determines the Exile length based on comparisons of biblical kings and events with named Babylonian and Egyptian kings.

One consequence of this change is that RABMEC pushes the beginning of the Exile to the time of Nebuchadnezzar I rather than the second of that name as is traditionally assumed. This pushes the biblical Flood back about 1000 years from the traditional date to 3113 BC.

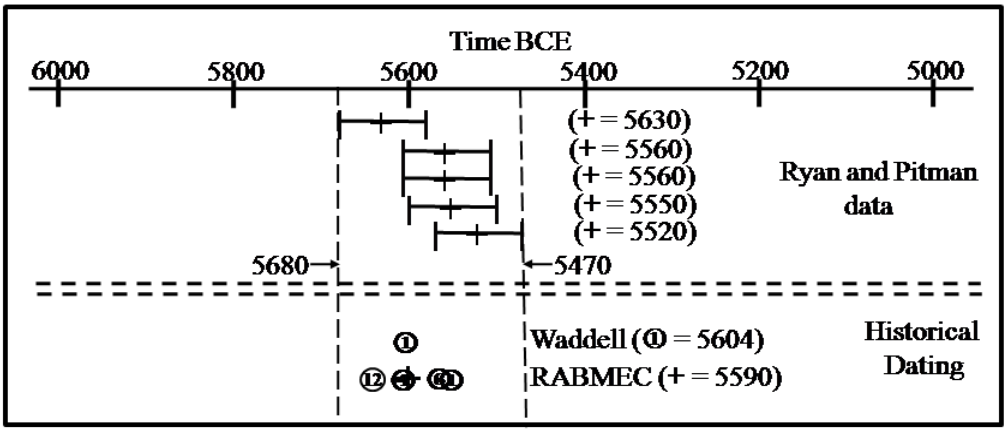
Another consequence is that, with the modified alignment of the Egyptian, Babylonian and Hebrew kings, we arrive at a new date for the first Egyptian king Menes that is more recent than the traditional date [(2, 3)]. With this new calibration, a date for the Anno Mundi event (the Egyptian beginning of the world) is determined using the 2900 years before Menes as indicated by Eratosthenes [(4)].

The Ryan and Pittman flood event data [(5, 6, 7)] provides the data for comparison with the expected Anno Mundi date. However, the straight forward king alignment method that was used does not adequately account for the uncertainty in the derived date for Menes.

To account for this uncertainty, Eratosthenes' kings list was considered. In Eratosthenes' list, there are well recognizable kings associated with the beginning of the 4^{th}, 6^{th}, and 12^{th} dynasties – in addition to Menes who begins the 1^{st} dynasty. The 4^{th} dynasty begins with his 10^{th} king in 3231 AM – 331 years after Menes. The 6^{th} dynasty begins with his 15^{th} king in 3314 – 414 years after Menes. And the 12^{th} dynasty begins with his 32^{nd} king in 3742 AM – 842 years after Menes.

RABMEC provides historically-based calibrated dates for these kings. So, extrapolating back from the calibrated dates for the 4^{th}, 6^{th} and 12^{th} dynasty gives a set of dates for Menes. Adding 842 years to the 12^{th} dynasty RABMEC date produces the first date in the set. Adding 414 years to the dates of the 6^{th} dynasty king produces the second date in the set. Adding 331 years to the dates of the 4^{th} dynasty gives a third date. And, of course, there is the date for the 1^{st} dynasty for the fourth date. The average of the four Menes dates gives the fifth date. (Waddell [(8)] is another example of an historically-based dating for Menes. He only provides a date for Menes as the beginning of the 1^{st} dynasty.)

Counting back 2900 years from Menes as indicated by Eratosthenes places the Anno Mundi event for each date in the set. The figure shows that all of the dates in the RABMEC set for Menes (as well as, Waddell's date for Menes) fall within the spread of the Ryan and Pittman flood event data. This indicates that the Ryan and Pittman event could be considered as the Anno Mundi event.



This figure shows the comparison of the flood data dates with the Anno Mundi dates derived from historical dating sources. Eratosthenes * identifies Anno Mundi as 2900 years before Menes *. In his list there are three well identifiable kings that begin the 4th, 6th and 12th Dynasties – along with the number of years from Menes in each case. Extrapolating back from these kings gives a measure of the historical uncertainty in the date of Menes – along with the uncertainty in the date for Anno Mundi. The plot shows the expected Anno Mundi event relative to the extrapolated Menes dates where ① indicates beginning of the 1st Dynasty for each source; ④ is 331 years back from the beginning of the 4th Dynasty; ⑥ is 414 years back from the 6th Dynasty; ⑫ is 842 years back from 12th Dynasty; and + is the average of the four dates for RABMEC.

*** Budge, E.A.W. *The Book of the Kings of Egypt Part One, Facsimile of 1908 Edition* (USA: Kessinger Publications), LXXIII.**

Further, the confluence of the Anno Mundi and the Ryan and Pitman events suggests there may be some additional insight gained about the identity and date of Menes. We now present the different accounts of Menes date and identity, and consider how they could be resolved. Remember that James concluded that Narmer was the most likely individual identified with Menes.

Recall that Waddell identified Menes as Manis-Tissu, the son of Sargon the Great. (According to him, Sargon the Great of Mesopotamia was the last of the pre-dynastic (Sumerian) kings in Egypt. He was preceded by his father (Ro, ~2765 BCE) and his grandfather (Khelm, ~2780 BCE)). Waddell determined Manis began his reign ~2704 BCE and was succeeded by his son Narmer in ~2640 BCE. Note that both dates are well within the bounds of the Ryan and Pittman event propagated forward 2900 years. Note too that the RABMEC dates for Menes (and Narmer) are also well within the data bounds - not just the 1st dynasty date but also the extrapolated dates from the 4th, 6th and 12th dynasties.

Suppose as Waddell suggests that Manis began his rebellion against his father in Egypt and was identified by the Egyptians as Menes. Assuming Manis' campaign was a long one, it is not hard to believe he was joined by his son Narmer. Further, as legend indicates, when Menes (a.k.a. Manis) was carried off, Narmer would have carried on the fight in his father's name – possibly even assuming the name Menes.

This could account for the carved slate palettes commemorating Narmer's battle for the unification of Upper and Lower Egypt. And it could explain why there is no tomb or other indication of Narmer's predecessor. As such, Narmer would have gained renown as the unifier of Egypt under the name of Menes.

Finally, at the end of the long campaign the unification could have come to a close with Narmer crowned as the first king Menes. As determined by Waddell, Narmer began his reign in 2640 BCE - which is within the bounds of the Ryan and Pittmen data when propagated forward 2900 years.

This scenario shows how it might be possible to view Menes as both father and son. One could see Menes – the father – beginning (his unification campaign) at a date consistent with the Anno Mundi data. And one could see Menes – the son – as completing the unification and being crowned at a date also consistent with Anno Mundi data.

Such speculation, though interesting, is not likely to be verified any time soon. However, it offers food-for-thought on an earliest part of Egyptian tradition and history.

References/Notes:

1 J.A. Giannini, *Revised Ancient Biblical and Mid-East Chronology (RABMEC) Timeline*, Chapter 2 www.jagnetbooks.org (2012)
2 J.A. Giannini, *Revised Ancient Biblical and Mid-East Chronology (RABMEC) Timeline*, Appendix B www.jagnetbooks.org (2012)
3 J.A. Giannini, *Revised Ancient Biblical and Mid-East Chronology (RABMEC) Timeline*, Chapter 5.2 www.jagnetbooks.org (2012)
4 Budge, E.A.W. *The Book of the Kings of Egypt Part One, Facsimile of 1908 Edition* (USA: Kessinger Publications) , LXXIII.
5 W. Ryan and W. Pitman, *Noah's Flood, the New Discoveries about the Event That Changed History*, Simon and Shuster, (1998)
6 According to Ryan and Pittman, the Black Sea flood event was the result of a breach in the ice dam separating the ocean from the fresh water lake. This event was likely the result of sudden but prolonged climate change. According to Oppenheimer [5, page 355] at around this time, there were several major eruptions that would have had a global impact. Among them are: 5480 BCE, Kikai, Ryuku Islands (M_e 7.2); 5677 BCE, Mazama, Oregon (M_e 7.1); 6000 BCE, Menengai, Kenya (M_e 6.9).
7 J.A. Giannini, *Revised Ancient Biblical and Mid-East Chronology (RABMEC) Timeline*, Chapter 5.3 www.jagnetbooks.org (2012)
8 Waddell, L.A. *Egyptian Civilization Its Sumerian Origin and Real Chronology, Facsimile of 1929 Edition* (USA: Kessinger Publications), 32-59, 76-82.