



DATING

ADAM

AN ANALYSIS OF BIBLICAL CHRONOLOGY

BY MICHEL LOUBSER

ON A PERSONAL NOTE

My three oldest granddaughters (they are also my oldest grandchildren) are presently all pursuing professional qualifications at two universities. I am extremely proud of them - they are athletes as well as scholars, they exemplify admirable values, and they are committed Christians. (The eldest devoted a gap year working for her church at various remote locations, including Malawi.)

Whilst they were growing up, my wife and I were very fortunate to spend a lot of time with them. We frequently went camping, walked through game reserves, and in particular did hikes along the coastline. Our last long beach walk was five years ago, from the Kei River mouth to East London (about a week's walking). One of the prepared topics of conversation during that walk was the significance of the book of Genesis. Amongst other issues, it was concluded that the longevity of the patriarchs was questionable. Asked by them whether I was prepared to look into it, I committed myself to do a thorough investigation.

Five years later, the result of 'looking into it' is this manuscript.

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By trade I am a mathematician (with a master's degree in business leadership), but not a classical or biblical scholar. So my research should be viewed in the spirit in which it is offered, namely that of a lay person's attempt to better understand the fascinating topic of biblical chronology.

Nevertheless, my academic training and a lifetime of working experience have equipped me with the means for a rigorous examination of assertions and prepositions no matter their source. Every reasonable attempt has been made to avoid placing preconceptions on the evidence or to impose predetermined conclusions. Instead, painstaking analyses of the source information coupled to an uncompromising application of logic have been the point of departure.

Whilst the text will demonstrate deference to expert opinion and remain sensitive to religious dogma, it will also challenge long held opinions in a hopefully constructive and open-minded manner. I am very cognisant of not wishing to cause offence, either religious or secular, to anyone who may choose to read my work. Should readers disagree with any of my conclusions, or otherwise wish to express an opinion, their critical comments are invited on the website www.dating-adam.com. All such comment will be welcomed and appreciated, especially if it invokes constructive engagement and promotes debate in an amicable manner. Stimulating a review of biblical chronology, specifically with respect to the age-related numbers for the patriarchs, is one of the objectives of this work.

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And finally: I feel obliged to point out that many of the ideas that are explored and developed in this work did not originate with me, but with companions such as colleagues, friends and family. Hence I am uncomfortable with the use of the singular personal pronoun, to the extent that I have decided to use 'we' consistently throughout this manuscript.

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INTRODUCTION

The purpose of this introduction is to convey a conceptual framework of what subject matter is to be expected and why there are two distinct parts to this work, and to explain what ground rules have or have not been adhered to and the reasons for these choices.

Why (yet) another biblical chronology?

It is true that there already exist several hundreds of serious and meritorious attempts by acknowledged scholars to date the precise time of the biblical Adam. And that these attempts started long ago with the beginnings of Christianity.

The first 'wave' of these chronologists (who were active from about AD 160 to AD 1000, as typified by the work of the Roman historian Africanus) all determined that Adam's life started approximately 5500 BC. Of course, individually they differed from this rough average (some by as much as a few centuries) depending on how they understood certain biblical texts that may be considered to be open to different interpretations.

The principal reference used by these early Christians was the translated Greek Septuagint text of the Old Testament (OT), and later the secondary translation of this Greek text into Latin for the *Vetus Latina* (Old Latin) Bible. The OT of our modern Bibles all derive from the Hebrew Masoretic text. It so happens that the numbers contained in the genealogies of these two sources differ quite significantly. The period for the genealogies listed in *Genesis 5* (the first ten generations from Adam to Noah) and *Genesis 11* (the next ten generations from Shem to Abraham) is 1466 years longer in the Septuagint text when compared to the Masoretic text. It was only after the 1000s that Christians preferred the use of Jerome's Vulgate Bible (also in Latin), and later other translations into European languages, all of which derived from the Hebrew Masoretic text of the OT.

The second wave of these chronologists (who were active from about the year 1000 to the present, as typified by the work of Archbishop James Ussher) then determined that Adam's life started approximately 4000 BC (give or take a few centuries, depending on their individual interpretations). Actually, this second wave really culminated with the Reformation (or from about 1500 to 1700), when not only most of the prominent theologians felt compelled to produce a biblical chronology, but many leading scientists also followed suit. Despite their diverse backgrounds and disciplines, all their conclusions remained in the vicinity of 4000 BC.

In recent decades the "romance of biblical chronology" seems to have revived with unprecedented fervour. One only has to browse through the myriad of biblical chronologists active on the internet to realise that there are millions of people worldwide who are intensely interested in the topic, devoting inordinate amounts of time and effort to it. And many acclaimed academics have devoted their doctoral theses to selected aspects of it. Despite so much collective intelligence, knowledge and expertise being applied to such specifically defined subject matter, conclusions about when Adam's life started still centre around 4000 BC.

The aim of this work is to start a ripple that may conceivably lead to a third wave in biblical chronology. Starting off from the premise that it is physiologically impossible for Adam and his descendants to have achieved those incredible lifespans, it is established that when those numbers were originally recorded they could only have been Sumerian sexagesimal numerals, and when eventually converted to decimal numbers some very likely and obvious errors appears to have been made.

Taken to its logical conclusion this research will demonstrate that Adam's lifespan was not 930 years, but either 84 years and 4 months or possibly 74 years and 6

months; that he lived roundabout 2700 BC which was after the development of a phonetic writing system (*circa* 3100 BC) and shortly before that writing became fully syllabic (*circa* 2600 BC); and that in all likelihood Adam himself penned all of Genesis 1:1 - 5:1. Actually, 'penned' is the wrong word - he impressed Sumerian cuneiform graphemes with a wedge-tipped stylus onto four hand-sized soft clay tablets that were then dried or baked to obtain durability.

Does such a conclusion contradict the biblical text?

The concept of the inerrancy of the Bible has been with us since the early Christian church, as well as a history of extreme persecution of anyone deemed to have contradicted that tenet. But with the advent (a few centuries ago) of biblical criticism that challenges that concept, the degree of tolerance towards alternative points of view has steadily increased. Not that any change ever happens without upheaval, but a brief review of some of the most recent watershed moments will illustrate just how much more tolerant the various custodians of religions have become of biblical criticism:

- When the traditional interpretation of six literal days of creation and Adam as the first human being was first challenged it caused quite a furore. A change in interpretation was very slow to follow, with some conservatives holding out even to this day. Quite remarkable, considering that the challenge did not imply any change to any biblical text, but merely a different interpretation.
- Over the past century many of the age-old translation conventions have been discarded in favour of more accurate alternatives. One such recent instance is that the Hebrew word *toledoth* in Genesis is now mostly being rendered as "written record" instead of "generations". Not that these changes have been made without much debate, but considering that they actually affect the wording in our (translated) biblical texts and in most cases the interpretation of that text, the upheavals they caused were relatively minor.
- Nowadays errors to the source (Hebrew) text are regularly suggested (such as where the name Xerxes or Artaxerxes appears in *Ezra* 4, it should read as Cambyses), and the nods of approval often overshadow the murmurs.

No, such a conclusion does not imply a contradiction to the text written by the original authors. But just like the results of modern translators are continuously being challenged, such a conclusion challenges the results of ancient translators. Specifically, the ancient translators referred to are the writers commissioned by the kings David and Solomon to convert the sexagesimal numerals recorded by the original authors (since more than a millennium earlier) to decimal numbers expressed as words.

Why so much emphasis on contexts and perspectives?

There is an age-old anecdote about a blind man asking St Anthony: "Is there anything worse than losing one's eyesight?" To which the wise sage replied: "Yes - losing one's perspective".

When analysed data need to be interpreted, no matter how rational the logic that is applied, the quality of conclusions that are reached is always going to be directly dependant on whether the data are set into its proper context and understood from an informed perspective. Perhaps a couple of specific examples will help to explain:

- If all the nations in the Fertile Crescent used a sexagesimal number system right up until at least 1700 BC, how can we verify that someone correctly converted the sexagesimal numerals that were recorded during that time to the decimal numbers we are reading in your reference sources (such as the book of Genesis in the OT)? We would have to thoroughly understand that number system and all of its peculiarities (for perspective), as well as the historical setting and prevailing practices that pertained to the later translators or converters of those sexagesimal numerals to decimal numbers (for context).

- Most biblical scholars assume that the Hebrews had been using their lunisolar calendar ever since that label distinguished them as a distinct sub-group in Sumer; some believe that it had been in use even earlier, with Noah. By exploring the development of calendars and exactly how these calendars were employed by the earliest nations, a proper context and an informed perspective can be gained that will convincingly demonstrate that they encountered it for the very first time much later, only after their Babylonian exile (i.e. after 600 BC).

Since the historical parts of the OT is going to be the principal reference source in any biblical chronology, it is essential to know exactly when each history was first written and by whom it was written (not to mention the transcriptions, the editing and the translations since then) before one can begin to set it in appropriate contexts. And for perspectives to be added one will have to know the historical milieu of the environment in which it was written, as well as having modern-day knowledge of all the subject matter it relates to.

There is just no way this arduous task can be circumvented if the context needs to be understood and if perspectives need to be acquired. So, all of Part I of this work is aimed at exploring such essential background information. Only in Part II will biblical chronologies (our actual topic) be addressed.

So what content can be expected in Part I?

Entitled *In Search of Proper Contexts and Informed Perspectives* the following subject matter is explored:

Chapter 1 ~ Time explains how the measurement of time units (days, months, years) relates to the movement of heavenly bodies (earth's rotation, moon's orbit, earth's orbit). Attention is drawn to the problems created by the varying durations in these units of time, and the incompatibility between the average durations of these units of time. Of particular importance is the epact - the difference of $11\frac{1}{4}$ days between lunar years and solar years. The cycles of the planet Venus are also reviewed, because modern practitioners of history make use of ancient records of its movements to anchor the chronology of secular ancient history.

Chapter 2 ~ Calendars traces how ancient calendars slowly evolved to cope with the problems of the epact and epochs (starting points), progressing from lunar to lunisolar to solar calendars. Exactly what kind of calendar was used and when it was used by all the nations concerned (including the Hebrews/Jews) are explored in detail right up to our present Gregorian calendar, with a bit of added speculation about future reforms. Related controversies are addressed; that of a year 0 in some depth.

Chapter 3 ~ Number Systems introduces the most significant contribution of this work. The concepts of a positional number system are reviewed with several practical examples, before the Sumerian sexagesimal number system (used by the Hebrews or Israelites right up until their immigration to Egypt) is elaborately explained. The vulnerability of these numerals to ambiguity is emphasised with the aid of pictures of real clay tablets. That there are several alternative translations for any such set of numerals is demonstrated with the numbers given for Adam (in Genesis 5) as well as the numbers given for the first antediluvian kings (in the Sumerian *King List*).

Chapter 4 ~ Creation gives a thorough explanation of the evolution theory (aided by numerous scaled timelines) and contrasts it with the two biblical creation accounts. The traditional critiques of both the secular and the biblical versions are objectively (we would like to believe) evaluated. Proposing two minor adjustments to the latter, a surprising degree of reconciliation can be demonstrated. That Genesis supports the notions of six literal creation days and Adam as the first man is firmly contested.

Chapter 5 ~ Global Climatic Events traces the prehistorical global climatic events that affected the development of mankind during our current Holocene interglacial

period, such as the 5,9 kiloyear aridification event that led to population concentrations at riverine valleys (like the Tigris-Euphrates alluvium) that became the world's "cradles of civilisation". Particular attention is given to the impact event that created the submarine Burckle crater and conceivably Noah's great flood, and the dating of the volcanic eruption that Moses used as a beacon during the Exodus.

Chapter 6 ~ Sumerian Civilisation introduces the crucial role of archaeology and carbon dating in discovering prehistory (prior to 3100 BC), early ancient history (3100 BC to 2600 BC) and mid ancient history (2600 BC to 2000 BC), before thoroughly reviewing the development of civilisation in Mesopotamia during those times. It is particularly relevant to us, as Genesis's first 20 generations (from Adam to Abraham) were members of that civilisation.

Chapter 7 ~ Mesopotamian Empires continues from where the Sumerians left off up until the Greek conquest of the Middle East by Alexander the Great. It covers all the significant events and people of the Old Babylonian Empire (2004 - 1595 BC), the Old Assyrian Empire (1595 - 935 BC), the New Assyrian Empire (935 - 612 BC), the New Babylonian Empire (612 - 539 BC) and the Persian Empire (539 - 331 BC). Special emphases are given to any interactions with the Hebrews/Jews.

Chapter 8 ~ Development of the Old Testament reviews the Bibles used by different religion groups, touches on the apocrypha and the pseudepigrapha, and highlights the prominence of the narrative history genre in the OT. The main focus is on the origins and development of Genesis, the Pentateuch, the Deuteronomistic History and the Chronicler's History. The three principal theories of the authorship of Genesis and the Pentateuch (namely Mosaic authorship, the tablet theory, and the JEDP theory) are discussed in considerable detail.

Chapter 9 ~ Translations of the Old Testament explores the earliest translations of the Hebrew text of the Torah - namely the Samaritan Pentateuch that dates to about 450 BC, and the Greek Septuagint in which these first five books were translated from about 275 BC to 250 BC. In order to identify the most likely origin of discrepancies between the three versions, a structured model is developed that is aimed at obviating the reliance on subjectivity. The chapter concludes with a history of English translations that is taken right up to the latest controversies on changes to traditional translation conventions.

Chapter 10 ~ Written Sources for Ancient History first explains how the development of writing influenced historians' classification of history into periods, then evaluates the massive impact archaeology has had on our knowledge of ancient history, before the works of the earliest recognised historians are reviewed and compared with the narrative histories in the OT. The conclusion that the OT should not be ignored as a written source of ancient history is strongly motivated.

It is recognised that an inordinate amount of highly specialised information is contained in Part I, and it is acknowledged that it may err towards being excessive for the mere purpose of dating Adam, but that is a judgement that individual readers are in a better position to make.

Is the sequencing of this background material not problematic?

It is not unlike the "Who came first - the chicken or the egg?" conundrum. A whole array of sequencing was experimented with before settling for the final sequence presented above. Some compromises were inevitable, and it is acknowledged that as a result a reader may be inconvenienced.

For instance, when the secular version of creation is contrasted with the biblical version of creation (in *Chapter 4 ~ Creation*), it should ideally be presented only after the authorship of the biblical version (in *Chapter 8 ~ Development of the Old Testament*) has been assimilated. But the latter can only be meaningfully addressed

after the role of the Sumerians has been introduced (in *Chapter 6 ~ Sumerian Civilisation*). And this topic is the natural extension of the development of mankind (as discussed in *Chapter 4 ~ Creation*). The dependencies come around in a full circle.

And this is not the only instance - a reader will have to absorb the sexagesimal number system (in *Chapter 3 ~ Number Systems*) before having the benefit of really knowing about the Sumerians (*Chapter 6 ~ Sumerian Civilisation*), or review the later empires (*Chapter 7 ~ Mesopotamian Empires*) before exploring our earliest historians' written works (in *Chapter 10 ~ Written Sources for Ancient History*).

To cope with this problem the 'too early' chapters contain a degree of preliminary repetition of later subject matter. Since such preliminaries are as short and concise as possible, they court undesirable effects such as being too superficial or assuming too much insight at that point from the reader. As a consequence a reader may have to resort to rereading selected cross-referenced parts, or choose to select a different order for perusal.

And what content can be expected in Part II?

Entitled *Biblical Chronology* the following subject matter is explored:

Chapter 11 ~ Overview of Biblical Chronologies briefly introduces some of the more prominent and interesting work done by the early chronologists that were active from 160 to 1720, before selecting thirteen modern biblical chronologies as being representative of the current 'state of the art'. Their similarities and differences are summarised for the purpose of analysis and evaluation later on.

Chapter 12 ~ James Ussher's Biblical Chronology is generally considered as the 'flagship' for Christianity, on the strength that its dates were printed in the margins of English Bibles for almost three centuries, and that its methodology became the blueprint for later chronologists. Hence it is used as the first detailed example of what constitutes a biblical chronology, with as much detail about the man himself.

Chapter 13 ~ Yose ben-Halafta's Biblical Chronology has assumed the same prominence in Judaism, having pegged the epoch of their calendar. It is used as a second detailed example, and the opportunity is used to explore some aspects of that religion that is also based on the OT, such as its rabbinic literature. His methods and conclusions are compared with those of James Ussher.

Chapter 14 ~ Controversies comprehensively explores all the differences in the opinions or interpretations that exist, using the thirteen representative chronologies selected earlier as a basis for comparisons. The merits for each case are explored, but conclusions are largely left to the judgement of readers; only in a few selected instances of untenable assumptions are choices between them suggested.

Chapter 15 ~ Conversion of Genesis's Numbers is the heart of what this work has to contribute: it reconverts from the original Sumerian sexagesimal numeric symbols the ages at fatherhood and death of not only the 20 generations from Adam to Abraham, but also for the patriarchs up until their immigration to Egypt. The results conform to normal expectations, but differ drastically from those given in *Genesis* of either the Greek Septuagint, or the Samaritan Pentateuch, or the Hebrew Masoretic text that is used by our modern Bibles.

Chapter 16 ~ In Conclusion proposes a totally new biblical chronology (based on the conclusions reached in the preceding two chapters) that places Adam more than a millennium later than what the second wave of biblical chronologies does. A forthright critique of the current chaotic state of secular historical chronology for dates older than about 1200 BC and a denouncement of the commonly used "middle chronology" is followed by some positive suggestions about how the current stalemate may be resolved.

To conclude there is an appendix elaborating on a research suggestion relating to the long-standing chronological problems presented by the Sumerian *King List* that contains impossibly long reign durations, in as far as the conversion of the Sumerian sexagesimal numerals therein suffer from exactly the same problems as those in the book of Genesis.

Where is the long citation list of references used?

Quite frankly, if all the internet references that were consulted in the course of this work are listed it would literally extend to hundreds of pages. Google (and presumably its alternative search machines) is actually like the proverbial two-edged sword - it is a tremendous tool for accessing information, but (alas) the information accessed is unevaluated. The burden to do so proved to be extremely arduous and time consuming. But perhaps it is just because of our lack of 'googling' skills.

(As an aside: the convention whereby double quote marks are used for others' phrases and single quote marks for our own has been adopted throughout.)

Since this is not an academic or scientific research paper, no reference sources are quoted for what is labelled as "generally accepted common knowledge". Would it serve any real purpose to quote reference sources when (for instance) it is stated that the earth rotates around its axis and orbits around the sun? This decision dispenses with maybe 99% of what would have been a very voluminous citation list. For the purpose of verifiability (which it is intended to serve) a reader will no doubt be able to do so independently in a much more effective and efficient way than anything we may prescribe (given our confessed lack of internet searching skills).

But when it comes to anything that falls outside that label of generally accepted common knowledge (and even if it does not but is deemed as relatively obscure), the source will (hopefully invariably) be adequately identified in the body of the text. We have absolutely no intent to claim anybody else's ideas or work as our own.

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PART I ~ IN SEARCH OF PROPER CONTEXTS AND INFORMED PERSPECTIVES

TABLE OF CONTENTS

CHAPTER 1 ~ TIME

CHAPTER 2 ~ CALENDARS

CHAPTER 3 ~ NUMBER SYSTEMS

CHAPTER 4 ~ CREATION

CHAPTER 5 ~ GLOBAL CLIMATIC EVENTS

CHAPTER 6 ~ SUMERIAN CIVILISATION

CHAPTER 7 ~ MESOPOTAMIAN EMPIRES

CHAPTER 8 ~ DEVELOPMENT OF THE OLD TESTAMENT

CHAPTER 9 ~ TRANSLATIONS OF THE OLD TESTAMENT

CHAPTER 10 ~ WRITTEN SOURCES FOR ANCIENT HISTORY

CHAPTER 1 ~ TIME

TABLE OF CONTENTS

Section 1 ~ Measurement of Time

- 1.1 ~ Relation to Movement of Earth and Moon
- 1.2 ~ A Day
- 1.3 ~ A Month
- 1.4 ~ A Year
- 1.5 ~ Hours, Minutes, Seconds
- 1.6 ~ Weeks

Section 2 ~ Varying Durations in Units of Time

- 2.1 ~ Varying Duration of a Day
- 2.2 ~ Varying Duration of a Lunar Month
- 2.3 ~ Varying Duration of a Solar Month
- 2.4 ~ Varying Duration of a Solar Year

Section 3 ~ Incompatibility of Units of Time

- 3.1 ~ The Saros Cycle
- 3.2 ~ The Metonic Cycle
- 3.3 ~ The Calliptic Cycle
- 3.4 ~ The Sothic Cycle

Section 4 ~ Venus Cycles

- 4.1 ~ Conjunctions
- 4.2 ~ Eclipses
- 4.3 ~ Heliacal Rising and Setting
- 4.4 ~ The Synodic or Visual Cycle of Venus (1,6 years)
- 4.5 ~ The Pentagonal Cycle of Venus (8 years)
- 4.6 ~ The 'New Moon' Cycle of Venus (56 or 64 years)
- 4.7 ~ The Transit Cycle of Venus (243 years)

Section 5 ~ The Chaldeans: Astronomers to the World

5.1 ~ Old World Empires

5.2 ~ Who were the Chaldeans?

5.3 ~ The Chaldeans' achievements in Astronomy

5.4 ~ Kidinnu of the Chaldeans