

Textual traditions and biblical chronology

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There are three major textual traditions for the chronogenealogies of Genesis 5 and 11: the Masoretic text (MT), the Samaritan Pentateuch (SP), and the Septuagint (LXX). Comparisons of the three texts side-by-side show some important differences. The number and types of changes made to the texts by ancient scribes is most easily explained if the SP and LXX deliberately manipulated the chronological numbers in specific ways, causing date inflation and downstream chronological difficulties. Many changes are demonstrably deliberate, for they involve changing two numbers simultaneously, and all the differences occurred within the chronogenealogies themselves, not in the data for the individuals that link the two or for those that extend beyond the second. Most significantly, a single change to Jared's age when Enoch was born from 162 to 62, shared by the SP and proto-LXX, appears to have had a cascade effect, causing multiple patriarchs to be recorded as living past the Flood. The scribes involved in copying these texts were aware of the problem. The LXX translators seem to have inflated their text and left only the death of Methuselah post-Flood. The SP tradition seems to have truncated the lifespans of Jared, Methuselah, and Lamech to make them all die in the Flood year. Taking the various text types into consideration, the Masoretic seems to most closely reflect the original reading in the Genesis 5 and 11 genealogies.

For the biblical creationist, the genealogies in Genesis 5 and 11 are foundational for constructing any timeline of Earth history. There are multiple textual traditions and one's chronology will be determined by the text one chooses to follow. However, it is possible to examine the three major textual traditions and arrive at a reconstruction of the textual history that both honours the biblical text and makes sense from a text-critical perspective.

The relevant textual traditions

The Masoretic text (MT) is the basis for most English translations of the Old Testament today and is widely regarded as the best-preserved text of the Hebrew Bible. Yet, the oldest extant manuscript is dated to around AD 900, and we cannot simply assume that its genealogical figures are the most accurate without further investigation. Interestingly, the Latin Vulgate follows the MT exactly for the figures in question, meaning the MT tradition must date at least back to the translation of the Latin text, several hundred years earlier than the oldest surviving MT manuscript.

The Samaritan Pentateuch (SP) is also known only through manuscripts from the Medieval period; the earliest manuscript dates to the tenth century. It differs from the MT in about 6,000 places and agrees with the Septuagint (LXX) in about 2,000 of those places.¹ While it was obviously and intentionally changed to align with Samaritan practices—most notably with the addition of a commandment to build an altar on Mt Gerizim—most scholars agree that it bears witness to an ancient textual tradition.

The LXX refers to a family of ancient Greek texts of the Old Testament. The earliest and most complete copies are preserved in the Christian 'great uncials' Sinaiticus, Vaticanus, and Alexandrinus, though there are LXX fragments dating as far back as the first century BC, and the New Testament gives many quotes of LXX passages, testifying that those particular readings date at least to the first century AD. Most scholars, whether 'liberal' or 'conservative', view its version of the Genesis 5 and 11 chronologies as clearly secondary, a recension (a deliberate editorial revision of a text) possibly to agree with the Egyptian chronology of Manetho.² In fact, Wenham goes so far as to say, "Which of these chronologies is closest to the original? There is no consensus on this issue, except that the LXX looks secondary."³ Even though it is widely acknowledged that the term 'Septuagint' does not refer to a single monolithic entity, the various LXX texts do not have significant variants in the Genesis 5 and 11 genealogies.

The relevant passages in Genesis

The genealogies of Genesis 5 and 11 have been called 'chronogenealogies' because they contain more than just a list of names; they also provide the age of the father when his son was born, allowing us to construct a proper timeline. Genesis 5 also provides a total lifespan for each patriarch, which serves as a checksum. This important detail constrained the changes (deliberate or otherwise) ancient scribes could have made to the text.

Genesis 5:1–32 contains a list of Adam's descendants through his son Seth to Noah's sons Shem, Ham, and Japheth.

Each patriarch's age at the birth of his son is listed, followed by the remainder of his lifespan, and finally his total lifespan. This formula repeats through the entire section in each text type.

Genesis 11:10–26 contains a list of the descendants of Noah's son Shem to Terah's sons Abram, Nahor, and Haran. Each patriarch's age at the birth of his son is listed, followed by the remainder of his lifespan. The Samaritan Pentateuch adds the total lifespan to the end of each patriarch's entry.

It is possible to bridge the two passages in order to create a single chronogenealogy. Genesis 8:13 tells us that the Flood came when Noah was 600 years old and Genesis 11:10 reports that Shem was 100 when Arphaxad was born and that this happened two years after the Flood. This means that Shem was 98 when the Flood came and Noah was 502 when Shem was born (ignoring some of the ambiguities inherent in the text).

We can also extend the chronology to include the lives of Abram, Isaac, Jacob, and Joseph. However, there is an ambiguity involving the age of Terah when Abram was born. Ussher and many others argue that Terah was 130 when Abram was born, because Terah died at the age of 205, after which Abram left Haran at the age of 75 (Genesis 11:32; 12:4). However, the text only says that Abram was old enough to be married to a wife 10 years younger (Genesis 17:17) before the family moved to Haran (Genesis 11:31). There may have been a period of time between Terah's death and Abram leaving Haran, up to possibly 50 years.⁴

Genesis 21:5 establishes that Isaac was born when Abraham was 100 years old. Genesis 25:26 states that Isaac was 60 when Jacob and Esau were born. Joseph was 17 when he was sold into slavery (Genesis 37:2) and 30 years old when he became the vizier of Egypt (Genesis 41:46). Between 30 and 37, Joseph fathered his sons Manasseh and Ephraim (Genesis 41:50). Nine years after attaining the viziership, he called his family to Egypt when Jacob was 130 (Genesis 47:9). Combing these figures allows us to conclude Jacob fathered Joseph when he was 91 years old.

And thus, we can construct a biblical chronology that includes 23 consecutive generations, from Adam to Joseph. Importantly, although textual differences have arisen in the Genesis 5 and 11 chronogenealogies, there are no differences in the isolated dates that allow us to bridge between them, nor in the additional chronological information about Abraham, Isaac, Jacob, and Joseph. This is a strong clue that many of the changes that were made to the chronogenealogies were, in fact, deliberate.

Taken straightforwardly, the genealogies of Genesis 5 and 11 present a chronological framework with no gaps. Even if there were gaps in the generations represented in the genealogies, the age of the ancestor at the birth of his descendant is not dependent on whether that descendant

is his son or his great-great grandson (though all evidence points to straightforward father-son descent).⁵

Genesis 5

As mentioned above, all extant manuscripts are late compared to the original composition date of Genesis. The various traditions also diverged centuries prior to any documentary evidence but the overall similarity of the texts bears witness to the care taken in copying the manuscripts. Because it is the basis for all English Bible translations, the MT will be used as a baseline for comparison; however, this is only for convenience and does not *assume* the superiority of the MT genealogy.

There are many reasons why the majority of scholars believe the LXX and SP share a common textual source. The similarity in Methuselah's age at the birth of Lamech in the SP (67) and the LXX (167, 'inflated'—see below for definition) is one reason (of many) for this. Yet, the SP and MT have the same basic framework for most of the men in this list while the LXX differs more widely, which seems to indicate the changes were made later.

Compared to the MT, in Genesis 5 the LXX generally inflates the age of the father at the birth of his son by 100 years and subtracts 100 years from the remainder, keeping the total lifespan the same (table 1). Thus, it appears the inflated LXX ages occurred after the fact, perhaps at the time of translation. In other words, these changes are systematic and deliberate and the checksum was in the common textual tradition predating all three texts. Whoever made the changes in the LXX had to adjust two different numbers in each person's entry in order to inflate the chronology while keeping each patriarch's lifespan the same, meaning this was no simple scribal error.

If we assume this inflation was consistent and intentional, we can reverse the process to arrive at a 'proto-LXX' reading. These adjusted ages agree with the MT exactly for the first five generations. The first divergence is Jared's age at the birth of Enoch. The adjusted age would be 62 (agreeing with SP), rather than the listed 162 which agrees with the MT. The checksum for Jared is identical in both the MT and LXX, so either the LXX left it as in the original because it fits the general pattern of the generations around it or Jared somehow lost 100 years in the common LXX-SP text tradition. The latter is more likely as it requires fewer steps and less deliberate action on the part of the copyists and/or translators (figure 1).

Enoch's adjusted entry in the LXX genealogy agrees exactly with MT but the entries for Methuselah and Lamech differ wildly in the three texts. Of course, the primary problem with the (Hebrew) proto-LXX is that Jared, Methuselah, and Lamech would live well past the Flood!

Table 1. Comparison of the Genesis 5 and 11 chronogenealogies in the Masoretic (MT), Septuagint (LXX), and Samaritan Pentateuch (SP). Light grey = unique readings in LXX or SP. Dark grey = places where SP and LXX agree against MT. Dotted lines separate the main chronology from transition persons whose data must be calculated. It takes careful cross-referencing to tabulate the data for some individuals. For example, Joseph was 30 when put in charge of Egypt, + 7 years of plenty, + 2 years of famine, + Jacob was 130 when he went before Pharaoh. Therefore $130 - 7 - 2 - 30 =$ Jacob was 91 when Joseph was born. He lived in Egypt for 17 years, therefore, Joseph was 56 when Jacob died. Similar care must be taken when figuring the link between Noah and Arphaxad and between Terah and Abraham.

Person	Generation	References	Masoretic (MT)			Septuagint (LXX)			Samaritan Pentateuch (SP)		
			Age at son	Remainder	Age at death	Age at son	Remainder	Age at death	Age at son	Remainder	Age at death
Adam	1	Gen 5:3-5	130	800	930	230	700	930	130	800	930
Seth	2	Gen 5:6-8	105	807	912	205	707	912	105	807	912
Enosh	3	Gen 5:9-11	90	815	905	190	715	905	90	815	905
Cainan	4	Gen 5:12-14	70	840	910	170	740	910	70	840	910
Mahalalel	5	Gen 5:15-17	65	830	895	165	730	895	65	830	895
Jared	6	Gen 5:18-20	162	800	962	162	800	962	62	785	847
Enoch	7	Gen 5:21-23	65	300	365	165	200	365	65	300	365
Methusaleh	8	Gen 5:25-27	187	782	969	167	802	969	67	653	720
Lamech	9	Gen 5:28-31	182	595	777	188	565	753	53	600	653
Noah	10	Gen 5:32, 8:13-14, 9:28	502	448	950	502	448	950	502	448	950
Shem	11	Gen 11:10-11	100	500		100	500		100	500	600
Arphaxad	12	Gen 11:10-12	35	403		135	430		135	303	438
Cainan		(Gen 11:14-15)				130	330				
Shelah	13	Gen 11:14-15	30	403		130	330		130	303	433
Eber	14	Gen 11:16-17	34	430		134	370		134	270	404
Peleg	15	Gen 11:18-19	30	209		130	209		130	109	239
Reu	16	Gen 11:20-21	32	207		132	207		132	107	239
Serug	17	Gen 11:22-23	30	200		130	200		130	100	230
Nahor	18	Gen 11:24-25	29	119		79	129		79	69	148
Terah	19	Gen 11:26, 32	>=130	<=75	205	>=130	<=75	205	>=130	<=75	205
Abraham	20	Gen 11:31, 12:5, 17:17, 25:7	100	75	175	100	75	175	100	75	175
Isaac	21	Gen 25:26, 35:28	60	120	180	60	120	180	60	120	180
Jacob	22	Gen 47:28, 41:46	91		147	91		147	91		147
Joseph	23	Gen 50:22, 26	< 37		110	< 37		110	< 37		110

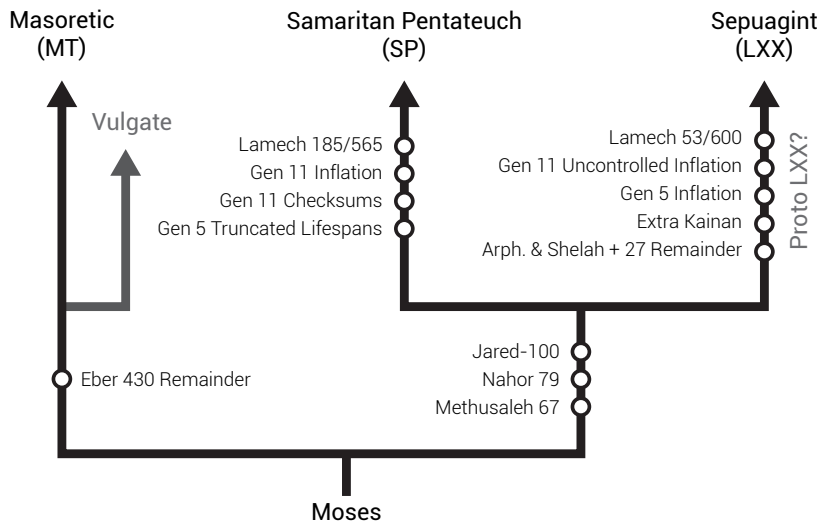


Figure 1. A textual family tree showing a possible history of the three main Old Testament text types. This tree represents the most parsimonious history, meaning the fewest changes must be made to account for all the differences. Vertical scale is arbitrary and branch lengths do not represent number of differences.

But systematic date inflation in the LXX translation means that only Methuselah remains a problem (table 2). He notably lives for 14 years after the Flood. This error was corrected only in the later copies of LXX; early copies retain the error.

In the SP, the data for six of the nine patriarchs agree with the MT without any adjustment needed. As above, the entries for Jared, Methuselah, and Lamech display major differences. Here, the age at birth of the son, the remaining years of life, and the checksum are all different. The lifespan of the three patriarchs appears to have been truncated in the SP to cause them to die the year of the Flood. The broad agreement of the SP with the MT means that the two probably represent a superior text than the inflated LXX in Genesis 5.

Jared

There is one possible early change that might explain almost all of these differences: the age of Jared when Enoch was born. The MT records the age as 162 and has no following chronological difficulties. However, the single change from 162 to 62, shared by the SP and proto-LXX, appears to have had a cascade effect causing multiple patriarchs to be recorded as living past the Flood. The scribes involved in copying these texts appear to have seen the problem and corrected the text in different ways. The LXX translators' inflation of their text left only the death of Methuselah post-Flood (figure 2, lifespan charts).⁶ The SP seems to have truncated the lifespans of Jared, Methuselah, and Lamech to make them all die in the Flood year.

Reconstructing a textual history for Genesis 5

In this reconstruction, we propose the MT preserves the correct chronology. This reconstruction is illustrated in figure 1. The reading of the MT, SP, and reconstituted 'proto-LXX' are very similar and the differences seem to be best explained as deliberate changes to the SP and LXX to get around chronological difficulties caused by earlier errors.

Due to the nature of textual criticism, it is impossible to say with certainty what the reading of the original text is concerning this datum for Jared. Therefore, we can only say that the MT appears to be a superior attempt to maintain the chronology, not that it conforms perfectly with the original. Given the textual variants that have been preserved, it appears that the MT preserves the original reading, therefore the LXX and SP

Table 2. The Genesis 5 genealogy in a theoretical 'proto-LXX'. With the exception of three patriarchs, 'proto-LXX' agrees with both the MT and the SP. Lamech, Jared, and Methuselah would live past the Flood if one used the 'simple additive' method for calculating dates and so we see more complex changes to their dates than in any other place within the chronogenealogies. Differences from MT bolded; asterisk indicates agreement with SP.

Patriarch	Age at son's birth	Remainder	Total lifespan	Year of death AM
Adam	130	800	930	930
Seth	105	807	912	1042
Enosh	90	815	905	1140
Kenan	70	840	910	1235
Mahala-leel	65	830	895	1290
Jared	62*	900	962	1422
Enoch	65	300	365	887
Methuselah	67*	902	969	1556
Lamech	88	665	753	1431
Noah	502	448	950	1716
Flood Year	1342			

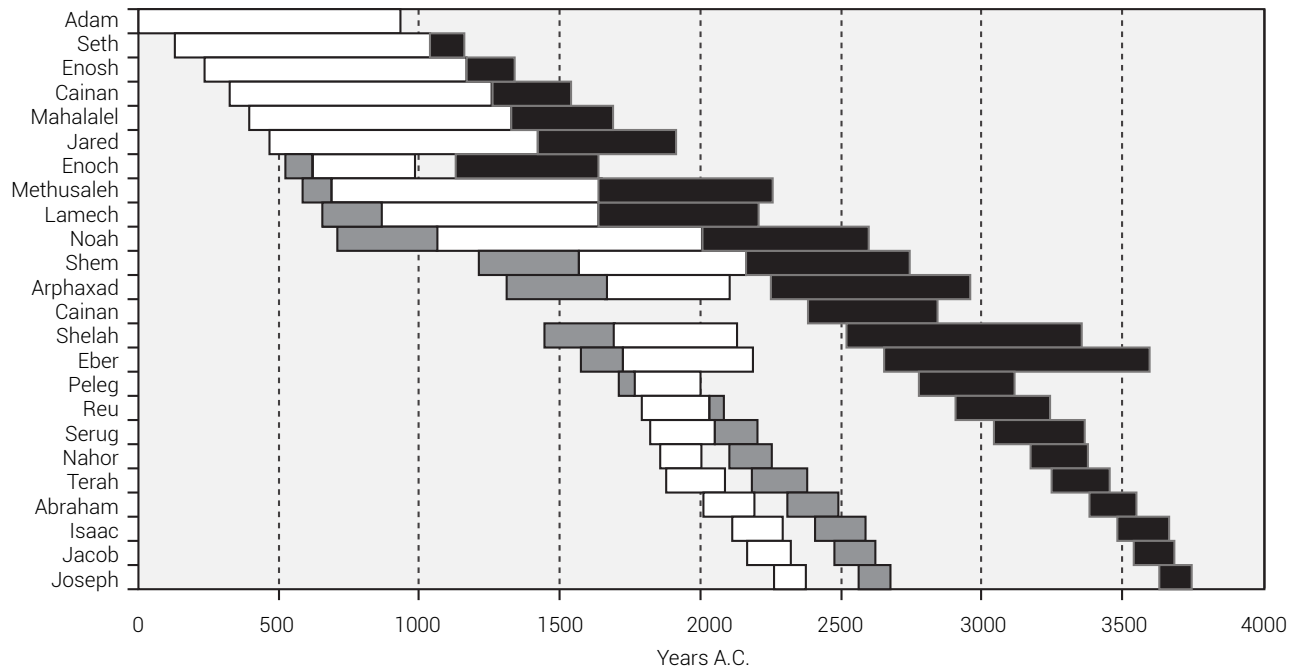


Figure 2. Life history data for the first 23 biblical generations. The Masoretic chronology is shown in white and obscures the Samaritan Pentateuch (grey) and Septuagint (black) where they overlap.

can be explained as textual corruptions followed by editorial manipulation.

Lamech

The one entry that is not explained by this reconstruction is that of Lamech. All three texts disagree (table 1) and the reconstruction is not obvious. While Klein dismisses the MT lifespan of 777 as “connected with the tradition about Lamech in Gen. 4”⁷, this is simply not the sort of change we see elsewhere in the MT and certainly not in this passage. While both LXX and SP are evidently recensions in general, all other evidence points to the MT being an attempt to transmit the text unchanged. For this reason, we prefer the MT’s figures for Lamech.

Genesis 11

Compared to the MT, both SP and LXX include an inflated Genesis 11 chronology. However, the SP uniquely includes a total lifespan, which acts as a checksum and constrains the SP’s inflation in the same way as the checksum in Genesis 5 constrains the inflation applied to that passage by the LXX. The SP retains the same total lifespan as the MT for all nine patriarchs. This is best explained as an intentional harmonization to duplicate the formula in Genesis 5 and this is the sort of change the SP often makes. For example, in Exodus, what God tells Moses to say to Pharaoh in one place

is duplicated verbatim when Moses is speaking to Pharaoh, while the Masoretic tradition has small differences. This supports the contention that the SP is indeed a recension, since later copyists tend to harmonize rather than introduce differences.

However, the inclusion of the checksum enables us to untangle a textual knot. Even though the LXX has the same age inflation as the SP for the age of each patriarch at the birth of his son, the additive lifespans do not match. This means the SP started with a MT-like source, calculated the lifespans, and deliberately added the lifespans into the text as a checksum. Afterwards, they inflated the age of the patriarchs at the birth of their sons but the checksum forced them to truncate the remainder of the lifespan by the same amount as the inflation. The importance of this ‘controlled’ inflation cannot be overstated, for it is obvious that the SP and MT started with similar source documentation for Genesis 11. If the SP and LXX text types have a common ‘ancestor’, as the data suggest, this means the LXX would have also started with a MT-like source. Thus, the LXX inflation of Genesis 11 is late and purposeful. It was also ‘uncontrolled’ (i.e. without an added checksum).

Eber

However, in the case of Genesis 11, there is evidence that the LXX preserves one number correctly which was corrupted in the MT tradition. For Eber’s entry, the SP

checksum and calculated proto-LXX lifespan match but the MT is 60 years off. The LXX and SP have predictably inflated the age-at-birth by 100 but we would expect LXX to maintain the remaining years of life and for SP to reduce it by 100 to keep the total lifespan the same. The 370 figure given in the LXX and the 270 given in the SP fit this formula but the MT gives 430. In fact, there is reason to believe that 370 is the original number. However, it should be noted that this has no effect on the MT chronogenealogy. As Klein explains:

“MT should be 370: its present reading results from a confusion with the age given for Eber at the birth of his first born ארבע ושלשים שנה [*‘arba’ ūsh^lōshīm shānāh*, four and-thirty years] and a subsequent metathesis: [מאות שנה] שלשים שנה וארבע [ש^lōshīm shānāh w^o‘arba’ [*me’ōt shānāh*], thirty years and-four [hundreds years]].”⁸

Nahor

Nahor’s entry is not as easy to explain. The SP checksum retains the total calculated from the MT (148), meaning this total value must have existed before the SP was composed. However, the SP and LXX give the same age when Terah was born (79), while the MT has 29. This would mean the SP inflated by 50 years instead of 100, as did the LXX.

There are only a few remaining differences among the main text types in Genesis 11 and none of them affect the chronology. The first is that the LXX adds 27 years to the remainder of Arphaxad and Shelah. While one might be tempted to think they simply switched two numerals (creating ‘430’ from ‘403’), it must be remembered that neither the original Hebrew text nor the Greek translation uses numerals in this way. In fact, the numbers are spelled out. The difference is the result of a simple scribal change in both cases, from the singular שלש (*shālōsh*, translated ‘three’) to the plural שלשים (*sh^lōshīm*, translated ‘thirty’).⁹

Discussion

Is the LXX secondary? Why did the LXX translators inflate the genealogy?

The biggest difference in all the textual traditions is that the Septuagint gives a dramatically longer chronology than either the MT or the SP. We argue that this was an *intentional* change. There are multiple possible reasons why the LXX translators or copyists may have inflated the genealogies. One might be to avoid something that seems as strange to us as it would to them (Hendel called it ‘disturbing’¹⁰)—multiple overlapping generations. Klein explains a possible

motivation for inflation in Genesis 11 SP which also applies to LXX:

“Whatever the significance of the individual figures may have been, a person calculating the absolute dates suggested by MT might well have been puzzled by the fact that Shem lived 500 years after the flood and died 35 years after his descendant Abram In order to correct this strange chronology, 100 years were added to the age given for Arpachshad to Serug at the birth of their first sons, plus 50 years to Nahor at this same milestone.”¹¹

Also, the Alexandrian Jews who translated the LXX would have been familiar with Manetho’s history of Egypt,¹² which claimed the founding of Egypt was centuries earlier than the biblical date of the Flood. Stretching the Bible’s chronology with a simple, consistent change may have been an attempt to harmonize the two histories. As Larsson explains:

“According to this the first ‘historical’ pharaohs had lived almost 3,000 years earlier. Consequently there could not have been a flood over the whole world just 2,000 years earlier. The simplest way to avoid discussions and objections was to lengthen the time by adding another 100 years to the patriarchs’ ages when they begat their first sons. An extra generation (Cainan) also helped, which was incidentally a duplication of the following Shelah. By this process the total history was lengthened by 606 years before the flood and by 780 years after or in all almost 1,400 years.”¹³

As noted above, the LXX has an extra Cainan in the list. This is a well-known and unique feature of the LXX. Most scholars believe it was due to a simple copy mistake but it would also aid in the inflation of the LXX chronology.¹⁴

Overcoming objections

There are some who believe the LXX preserves a superior text because the New Testament authors often quote from it. However, this is no different from an English-speaking pastor quoting from an English translation when he is preaching. The audience of the New Testament overwhelmingly spoke Greek and so it makes sense that the NT authors would use the Bible to which their audience had access. Furthermore, this paper does not address the overall merits of the LXX but specifically is looking at its text in these two chronogenealogies and linking passages. By standard text-critical analysis, these two *particular* passages are secondary when compared with the MT.

Does this mean that the Bible’s textual transmission is broken in some way? In fact, in many ways, the ‘democratization’ of transmission that resulted in so many variants actually aided the *preservation* of Scripture because

no one elite group could unilaterally change passages they did not like—there were simply too many copies. Over time, the accumulating variants mean that we come up with text families such as the MT, LXX, and SP, which can be weighed against each other. No text is always superior to the others (see discussion of Eber above for an instance where the MT was probably corrupted). However, using text-critical analysis, we can arrive at the probable original text by comparing all the variants.

Some would take exception to the assumption of inerrancy that has driven this analysis—for instance, we *assume* that any error, such as pre-Flood patriarchs living past the Flood, must be the result of a scribal error, rather than part of the original text. For instance, Hendel argues that the original genealogies were inserted into the narrative from another source with no thought of how things linked together.¹⁵ However, his reconstruction is less parsimonious, requiring *all three* extant texts to be recensions of a flawed original. Instead, a single datum, the age of Jared when Enoch was born, appears to be an early gloss in the LXX/SP tradition that explains all the relevant chronological difficulties.

Conclusion—the MT preserves a superior chronology

When one removes obvious inflations and clear textual errors, the MT, SP, and LXX are remarkably similar. This should give the biblical inerrantist confidence in the reliability of biblical chronology. All three texts agree that the antediluvian generations lived vastly longer than their post-Flood descendants (and the tendency was to *lengthen*, not shorten, these lifespans, at least for Genesis 11 LXX). All three agree that lifespans declined very quickly after the Flood, though Abraham, Isaac, and Jacob still lived substantially longer than modern people. And all three give a maximum age of the earth that is far less than 10,000 years. However, when we analyze the relatively small differences that do exist between the three versions, we come to the conclusion that the MT has the best claim for being closest to the original chronology penned by Moses.

We did not come into the analysis with the agenda of proving MT superiority. In fact, it was our intention to analyze the relevant details in a way to bridge the gap between several competing views. However after examining the relevant texts, the MT clearly has the superior claim to authenticity. Much of this work was presaged by Williams in his 1998 article, *Some Remarks Preliminary to a Biblical Chronology*, in this journal.¹⁶ We have come to similar conclusions after including a few relevant points he did not mention but more work could be done. We encourage all parties to dig deeply into this matter and allow the data to point them in whatever direction they lead.

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