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Sumerian Calendar Comparison

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Chapter 7
Sumerian Calendar Comparison

With various Sumerian-derived glyphs showing up in the reformed Egyptian of 300 to 400 AD, and considering that the Olmec 260-day calendar looks to be the Jaredite calendar as well, a question naturally arises: Are there sufficient similarities between the Sumerian calendar of pre-2600 BC and the Olmec 260-day calendar to indicate the latter is derived from a Sumerian calendar?

The sobering fact is that there is a very long time depth between 2600 BC and the actual potential documented archaeological evidence of the 260-day calendar in Mesoamerica in 900 BC (Grove 1970, 20). The apparent correlation of the 260-day calendar in the Book of Mormon for the lifetime of Coriantum appears to be around 2100 BC, hundreds of years after the Jaredite arrival. The Jaredites clearly followed a yearly calendar of some sort since as they were journeying prior to their arrival in the New World, they stopped for four "years" (Ether 2:13) in the Canary Islands (which also has a documented more recent 260-day calendar).

There are essentially six current theories regarding the origination of the Mesoamerican 260-day calendar: 1) observation of the solar zenith at a particular latitude in Mesoamerica; 2) the approximate length of the Mesoamerican agrarian year in which a planting and growing period covers 105 days and a harvesting and devotional period lasts 260 days; 3) the calendar is based on the cycles of visibility of the planet Venus, in which the total visibility time as the morning or evening star (excluding the periods where it passes behind or in front of the sun) averages 260 days; 4) the calendar is based on the cycles of the moon, in which the moon is visible for 20 days and wanes for 13 days (20 x 13 = 260); 5) the length of the human gestation period, which is approximately 260 days; and 6) 260 days is exactly half of 520 days, which is the average time period for three lunar eclipses.

The first two theories indicate a total calendar length that would be determined by conditions unique to Mesoamerica or other places of similar latitude, so any similarities with a Sumerian calendar would be in the elements not unique to the locale (e.g., day names, length of month).

260-Day Calendar Features

The 260-day calendar has two components: a succession of 20 day names, preceded by a count of numerals from 1 to 13. This results in a permutating calendar that proceeds for 260 days before the same number/day combination reoccurs. In other words, each day consists of a number from 1 to 13 followed by a day name. One can represent this calendar by considering the count from 1 to 13 as one wheel and the day names (there are twenty of them) on another wheel, which, as they each turn together, provide each of the sequential day combinations. Below is the Aztec example of the 260-day calendar, called the *tonalpohualli* calendar, with two interlocking wheels.

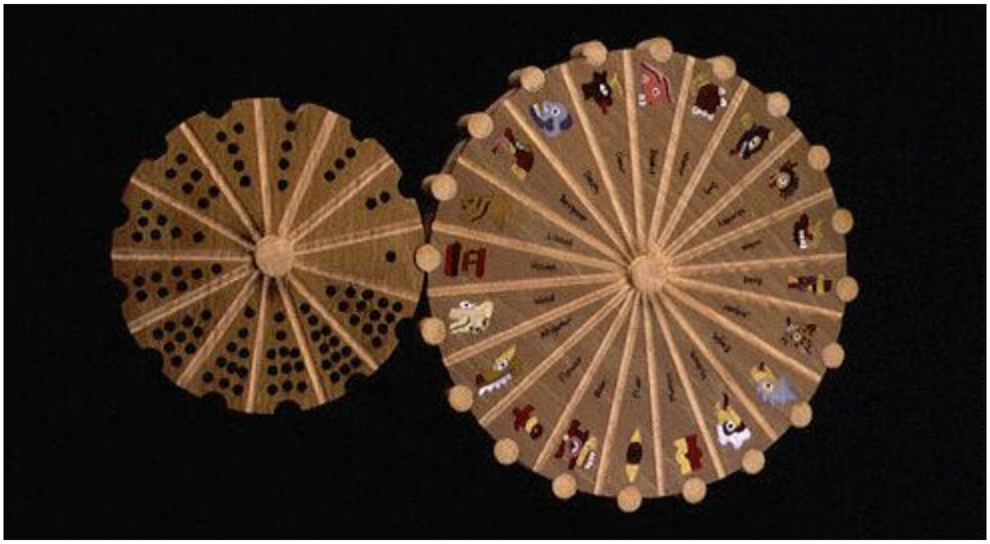

Figure 16. The *tonalpohualli* calendar with two interlocking wheels. (Hollaway 2014)

The 260-day calendar had an ancient geographical range from Mexico to Honduras. The 20 day names in the 260-day calendar is a feature shared throughout Mesoamerica. Many of the names were drawn from the natural world. They occurred in the same sequence, and many of the day names have the same meaning despite the individual language of the speakers. This broad dissemination indicates that day names originated deep in Mesoamerican history, perhaps at least prior to 2000 BC (Rice 2007, 33).

In addition, the day glyphs are not written phonetically but are logographs independent of any particular language. In the Classic Maya, the day glyphs always appear in a cartouche, which is indicative of a glyph for "20," or in a container such as a jar, gourd, or bag (see figure 17). Some of the cartouche have small, curled foot-like pedestals (Houston 1989, 35).

Figure 17. Maya day glyphs. (www.mayan-calendar.org, 2017)

The Aztec and Maya had religious festivals and feast days matching a 20-day month.

Sumerian Calendar

Generally speaking, the archaeological evidence indicates that the ancient Sumerian calendar divided a year into 12 lunar months of 29 or 30 days each. Each month began with the sighting of a new moon. Sumerian months had no uniform names throughout Sumer because of religious diversity. As a result, scribes and scholars referred to the months as “the first month,” “the fifth month,” etc. To keep the lunar year of 354 days in step with the solar year of 365.25 days, an extra month was added periodically, much like the Gregorian leap year corrects for the .25 days each year by adding an extra day every four years. Every six years the Sumerian calendar included an extra month of 62 days. In addition to a lack of uniformity among month names, there is also a lack of general uniformity in calendar coordination across regions, since most calendars were in fact regional or city calendars. The Sumerians also divided the 12 lunar months into two parts, precisely as did the Egyptians. There is consequently a second New Year in the Sumerian and Babylonian calendars (Langdon 1933, 97).

Sumerians did not use a sequential numbering system for years over centuries, or even over the span of a dynasty. For most of the third millennium BC, the years were named, not numbered. Names of the years were recorded by scribes, though not all lists have been found for various kings. Year names commemorated notable military and other regnal achievements such as the construction of buildings. The primary use of months was to mark cycles of the religious cult in order to know when to make proper offerings. (Sharlach 2013).

In southern Mesopotamia (ca. 2400–2200 BC), local Sumerian calendars were in use, documented in tablet archives from the cities of Adab, Lagaš, Nippur, Umma, and Ur. The pre-Sargonic (ca. 2350 BC) tablets from Lagaš provide insight into the cultic celebrations of a network of cities comprising the Lagaš state—Lagaš, Girsu, Nina, Sirara and various other smaller sites nearby. There are over 30 different month names on the tablets from the Lagaš area during this period, indicating many of the cities of the Lagaš city-state used separate calendars. Although these calendars shared month names, one name could be applied to months occurring at different times of the year; an administrative month-numbering system was developed to create order of the potential chaos in this calendar system.

By this period, the calendars of the Lagaš state reflected a syncretism of the gods of its cities and a shared observance of major festivals. The text themselves depict a community of cities wherein the citizens of one city made pilgrimages to observe major festivals in sister towns. The wife of the governor was responsible for organizing the offerings and leading the procession of pilgrims from town to town, from shrine to shrine. The tablets detail the offerings provided by the governor’s wife on a day-by-day basis, summing each day as “day 1,” “day 2,” etc. However, these notations refer to the day of the festival, not to the day of the month, and therefore there is no information as to the day of the month on which the festival occurred. (Cohen 1993, 9)

In Lagaš and Girsum these 30 months appear to be from at least three separate calendars, each probably used in its native town, such as Lagaš, Girsu, Sirara, and Nina, the major cities comprising the Lagaš-centered state. The numeric month notation on the tablets for certain months is inconsistent, and in some instances, widely divergent, suggesting that more than simple intercalation is involved. It is likely that the numeric system indicated the position of the month within the calendar year—for example, the first spring month was considered month one. (Cohen 1993, 39)

Beginning at least in the 30th year of Rim-Sin of Larsa (ca. 1822–1763 BC), for a period of about 20 years, there was a highly unusual calendrical system employed at Nippur, Larsa, Isin, and Ur, which comprised months of up to 48 days and cycles of up to 54 months. This unusual system was not employed through all Nippur, only by certain administrators of particular institutions. (Cohen 1993, 11)

As demonstrated by M. Cooper (1987), and cited by Cohen during the reign of Sulgi, several versions of the Ur calendar were used simultaneously at Drehem:

> Drehem texts used a number of different calendars prior to the reign of Amar-Sîn. Each of these calendars employed the Ur month names but differed as to the starting point of the year and the system of intercalation. When the

> administrative system which was later centered in Drehem was first organized late in the third decade of Sulgi's reign, the administrators employed the Ur month names but intercalated according to the local calendar. The queen's administrators used the same month names but did not intercalate at all. (Cohen 1993, 135)

From the Ur III Period (2112–2004 BC), a Neo-Assyrian lexical tablet (5R pl. 43) lists six different calendars that associate each month with the supposed corresponding month in the Standard Mesopotamian calendar. The first three calendars are Sumerian: the first is the Ur III Ur calendar, and the third is probably the Ur III Girsu calendar. The last three are Semitic: the fourth is of unknown provenience; the fifth is the calendar of Old Babylonian Susa; and the sixth is the Restored Assyrian calendar. (Cohen 1993, 208)

A most unusual adaptation of the Southern Mesopotamian Sumerian month names occurred during the reign of Rim-Sin of Larsa (1822–1763 BC) at Nippur, Larsa, Isin, and Ur. The system during this time had month cycles. Each cycle was named for a month in the Southern Mesopotamian Sumerian calendar. The subsequent month in the cycle used the same name, but added the element "di-#", which incremented the month number by one. The highest number of months attested in one cycle was 51. Another unique feature of this system was the number of possible days per month. In some of these month cycles, there are months attested with 33, 34, 36, 38, 40, 45, or 48 days (Cohen 1993, 227–228).

There are a number of other Sumerian calendrical oddities. There are several instances when "years" had far too many months. Early Dynasty Lagash used 40 full-length months per year. In the Ur III Period, there are various aberrations such as Shulgi's 44th year, which has a total of 19 months, created by repeating each of the first six months. There are also examples of shorter years, such as Shulgi's 48th year, which has only seven months (Sharlach 2013).

In summary, in looking for potential elements of the 260-day calendar in Sumer, the 260-day calendar is not specifically evidenced, but the following elements are shared between the 260-day calendar and Mesoamerican calendars:

1. The number of days in a month have sometimes deviated from the 29/30-day lunar month.
2. The calendars were administered locally, with variations occurring at local levels.
3. Religious festivals calendars could be independent from the base calendar.
4. Numbers were used for the day counts.
5. There are years that are much longer and much shorter than 12 months.
6. A primary function of counting months was to time religious cult practices.
7. Years were named, not numbered, and reflected names related to the reign of the king.

These types of elements are not unique to the 260-day calendar alone and so should not be considered proof that the 260-day calendar derived from the Sumerian calendar—they are for comparison only.

Potential for a 260-Day Year in the Early Sumerian Calendar in the King List

Since the departure of the Jaredites occurred sometime in the 2600–2700 BC timeframe, it is useful to look at any possibilities for variability in multiple calendars or year lengths.

The Sumerian king list is a puzzling ancient manuscript originally recorded in the Sumerian language, listing kings of Sumer from Sumerian and neighboring dynasties, the supposed lengths of their reigns, and the locations of their "official" kingship. What makes this artifact so unique is the fact that it blends apparently mythical pre-dynastic rulers with historical rulers who are known to have existed.

The first fragment of this rare and unique text, a 4,000-year-old cuneiform tablet, was found in the early 1900s by German-American scholar Hermann Hilprecht at the site of ancient Nippur and was published in 1906. Since

Hilprecht's discovery, at least 18 other exemplars of the king list have been found, most of them dating from the second half of the Isin dynasty (ca. 2017–1794 BC). No two of these documents are identical. However, there is enough common material in all versions of the list to make it clear that they are derived from a single "ideal" account of Sumerian history (www.ancient-origins.net 2016).

Figure 18. Weld-Blundell Sumerian King's List prism in the Ashmolean Museum cuneiform collection in Oxford. (www.wikipedia.org 2016)

The length of reigns of the various kings range wildly (up to 43,000 years), and academics are still puzzled as to possible explanations. Save for a couple of exceptions, for kings listed after 2500 BC, the reign lengths are reasonable, with the longest reign being 60 years. From 2500 BC back to 2600 BC, the reigns are generally 90 to 360 years long. From there back to the Flood, the reigns run from 100 years to 1,200 years in length. Prior to the Flood, the reigns range from 21,000 to 43,200 years.

Many of the kings on the king list have been verified archaeologically, so the list is not viewed as mythical (at least post-Flood). Though it has been thought that the lengths of the reigns are mythological or lineage exaggeration, variability in how calendars from various kingdoms reckon year lengths could also be at play. It is possible that the 260-day calendar was in existence at some of these locations for a particular reign, which would render the length of reign within the realm of reality.

Venus and the Sumerian Calendar

To date, no link has been made between Sumerian calendars and the cycles of Venus, however those cycles were known by Sumerian astronomers. The principal Sumerian god, Inanna, whose name derives from "Lady of Heaven" (Sumerian: *nin-an-ak*), was associated with the planet Venus, which at that time was regarded as two stars, the "morning star" and the "evening star." There are hymns to Inanna as an astral manifestation.

Mesopotamians most likely understood that the planet was one entity. A cylinder seal from the Jemdet Nasr period expresses the knowledge that both morning and evening stars were the same celestial entity. The discontinuous movements of Venus relate to both mythology and to Inanna's dual nature. Like Venus, Inanna is related to the principle of connectedness, but this has a dual nature and could seem unpredictable. As both the goddess of love and war, with both masculine and feminine qualities, Inanna is poised to respond, occasionally with outbursts of temper. Mesopotamian literature explains Inanna's physical movements in mythology as corresponding to the astronomical movements of Venus in the sky.

The Sumerians were sophisticated astronomers. A circular cuneiform stone-cast clay tablet was recovered from the 650 BC underground library of King Ashurbanipal in Nineveh, Iraq, in the late 19th century by Sir Henry Layard. According to researchers, this clay tablet is believed to be a planisphere (star map), one of the earliest astronomical instruments discovered in Mesopotamia. Computer analysis matched the inscription on the tablet to the sky above Mesopotamia on June 29 in the year 3123 BC (see figure 19). Interestingly, this date is close (though perhaps unrelated) to the base date of the Maya Long Count calendar: August 11, 3114 BC.

Figure 19. Sumerian planisphere from Mesopotamia (replica). (www.discussions.godandscience.org 2017)

Summary

There is no definitive evidence that the 260-day calendar came with the Jaredites to the New World; however, there are Sumerian calendrical practices consistent with portions of the 260-day calendar. It is possible that the calendar was fully developed after the arrival of the Jaredites in Mesoamerica. It would not be expected that a small group arriving in the New World, among an existing population, would maintain all (or much) of their culture after four or five generations. It is reasonable to expect, however, that in Mesoamerica, one might discern some cultural traces of the Jaredites that survived thousands of years after their arrival.