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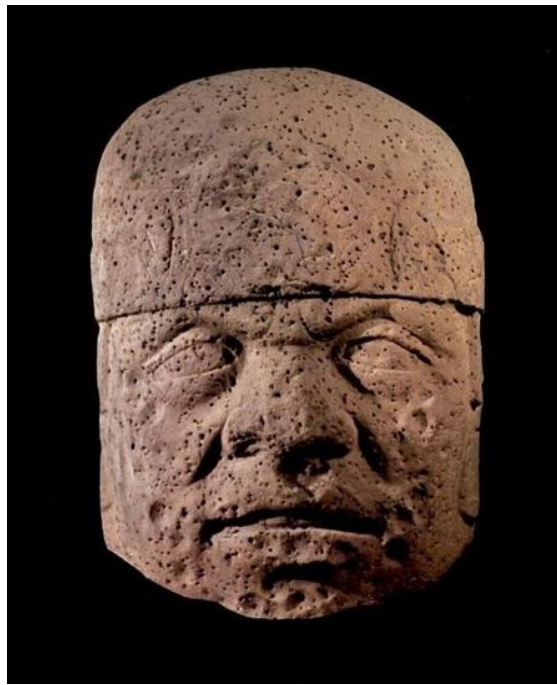
The Swords of Shule: Jaredite Land Northward Chronology, Geography, and Culture in Mesoamerica

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Abstract: The Olmec civilization has long been considered to be the Jaredite civilization. New evidence is presented here that provides a reliable correlation of chronology between Mesoamerican archaeology and the Jaredite timeline. New etymological and scientific evidence now provides a method of establishing a more detailed geography of the "land northward" referred to throughout the Book of Mormon, the Old World point of departure of the Jaredites, and Olmec cultural elements reflected in the Book of Mormon text.

The Swords of Shule



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Geography, and Culture in Mesoamerica

Jerry D. Grover Jr., PE, PG

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**Jaredite Land Northward Chronology,
Geography, and Culture in Mesoamerica**

by

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On the front cover:

San Lorenzo Colossal Head 2 corresponding with king Shule (Arqueología Mexicana 1995)

On the back cover:

Sword fashioned from pieces of the Gibeon, Henbury and Chinga meteorites, (www.milleroriginals.com 2017)

Molten lava spews from the side of a cinder cone in an eruption at Kilauea Volcano on the island of Hawaii on July 24 and July 25, 1983 (Associated Press, 1983)

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Introduction

This book is an effort to situate the history of the Jaredites as narrated in the Book of Ether in the chronological, geographical, and cultural context of ancient Mesoamerica.

This work has grown out of earlier works by the same author.

In doing geologic analysis of the destructions in 3 Nephi for my 2015 *Geology of the Book of Mormon*, using distances of earthquake attenuation from the Veracruz fault system I was able to identify the probable geographic area where the city of Gilgal was located before it was destroyed. Because this same locale, the valley of Gilgal, is also mentioned in the Book of Ether, it was clear that this location might be utilized to better understand Jaredite geography.

In completing a translation of the Caractors Document (Translation of the “Caractors” Document [2015]), it became apparent to me that some of the place names contained in the Book of Mormon are actually descriptors of the places themselves. This is not an unusual phenomenon, as it occurs anciently in the Bible, in other ancient cultures, and all over the world today in many cultures, including the United States (i.e. Niagara Falls, Salt Lake City, etc.). Nor is it an entirely new way to view Book of Mormon names, since the Book of Mormon openly indicates that approach to some geographic names:

Ether 15:8

And it came to pass that he came to the waters of Ripliancum, which, by interpretation, is large, or to exceed all;

It seemed prudent to attempt to determine any potential etymologies of Jaredite place names that might give some insight in helping reconstruct some more specific plausible locations for Jaredite places. This led to the publication of my most recent book *Sumerian Roots of Jaredite-Derived Names in the Book of Mormon* (2017).

As is the case with most of my inquiries, here I chase interesting spin-offs or unsolved questions related to the initial thrust of my research. As a result, this book contains other wide ranging relevant issues and topics related to the Jaredites, with all them looking at some new data, new approach, or new insights for the reader to consider.

This work’s primary purpose is to provide new and hopefully interesting insights about the Jaredites and the land northward. This work is designed to augment the recent works by Brant A. Gardner (*Traditions of the Fathers; The Book of Mormon as History*, 2015) and John L. Sorenson (*Mormon’s Codex*, 2013). Reading those books prior to the present book would provide a helpful background for understanding this one.

It is hoped that this effort will provide a better working geography of the Jaredite civilization, and provide some additional insights into Jaredite calendrical information for other researchers of the Book of Mormon. It should be noted at the outset, that Don Bradley’s input has significantly contributed to this book in the form of drafting introductions and segues, and I have had ongoing discussions with Don about various topics and elements in the book. Specifically, Don should be considered as the originator of the idea of the relationship between the Biblical Og and Gath in regards to the place name Ogath having a common theme of giants, although I took that idea and incorporated it into its Mesoamerican setting. Don’s input and original ideas are also intertwined into the discussion and application of the Fayette Lapham information, as it is also a source for Don’s current research and upcoming book, *The Lost 116 Pages: Rediscovering the Book of Lehi*, forthcoming from Greg Kofford Books, 2019.

The present book divides naturally into three sections, covering, respectively, Jaredite chronology, geography, and culture.

2 Introduction

Section I, Chronology, sketches the Jaredite calendar system and uses textual analysis of the Book of Mormon and the archaeology and natural history of Mesoamerica to establish a chronology of Jaredite history, including a chronology of the formative event behind Jaredite society—the “confounding” of language at the “great tower.”

Section II of this book, Geography, describes Jaredite geography from the “great tower” at the beginning of the Jaredite narrative through the stages of Jaredite national history and then into the post-Jaredite period when Jaredite lands became Nephite and Mulekite lands. This section builds heavily on earlier work in Book of Mormon geography but seeks to considerably extend that work. In addition to using such traditional methods as mapping the action in the text and comparing this to topographical and archaeological features of the land, this section will pioneer linguistic methods of reconstructing Book of Mormon geography.

Our final section, Section III, will explore a potpourri of aspects of Jaredite culture, including material culture, linguistic culture, numeric systems, metallurgy, and the most important relic surviving Jaredite society—the twenty-four plates. Among other questions, this section will examine the origin of the Nephite glyph representing the name Jared, the relationship of the colossal Olmec stone heads to the Jaredite kings, whether the Sumerian numeric system brought by the Jaredites influenced Mesoamerican numeric systems, the significance of Ether dwelling “in the cavity of a rock,” the cultural significance of the steel swords of Shule, the Book of Mormon relevance of the Olmec practice of buying weapons, and contents and character of the twenty-four Jaredite plates.

Section I: Chronology

This section begins by situating Jaredite history broadly in the context of the Olmec culture, using the work of earlier scholars (chapter 1). It then moves to establishing the basics of the Jaredite calendrical system and the length of the Jaredite “year” by correlating the Book of Ether text with the Olmec 260-day year (chapter 2). A chronological framework is then established by benchmarking major events in Jaredite history, associated with the figures Shiblom and Heth, against major cataclysms in the natural history of Mesoamerica (chapter 3).

Key to the construction of a chronology of Jaredite history is the analysis, in chapter 4, of Old World linguistic traces among the Jaredites to determine when that history began—i.e., when the Jaredite migration to the New World occurred. This determination is possible using remnants of Sumerian names and words in the Book of Mormon text and Sumerian epigraphy (writing) in the Caractors Document.

Later events in Jaredite history can be pegged to certain timeframes by looking at occurrences in the natural history of Mesoamerica and the cultural history of the Olmec (chapter 5). This chronology is further refined using descriptions of the reigns of the Jaredite kings and developments in Olmec culture evident in the archaeological record (chapter 6).

In light of the chronology established in earlier chapters, an analysis of Sumerian calendar systems in relation to the Jaredite calendar is discussed in chapter 7. The final chapter in this section, chapter 8, shores up the foundations of the Jaredite chronology by comparing the impetus behind the Jaredite migration, the “confounding” of language, to events in the Jaredites’ Sumerian homeland to solidify the time of departure.

Chapter 1

The Olmec and the Jaredites

All Book of Mormon Mesoamerican models asserting that the narrow neck of land is the Isthmus of Tehuantepec equate the Jaredites of the Book of Mormon with at least a portion of the Olmec culture, or as Brant Gardner describes it, as “participants” in the Olmec culture. It is important to note that the record that recounts the Jaredite civilization is not a history or an archaeological book. It is primarily a religious lineage history, which crosses into political realms to the extent that the lineages do. The Olmec civilization is defined by modern archaeologists, whose main tools are remnants of structures, monuments, pottery, and urban detritus. One would not expect the geographic boundaries proscribed by modern archaeologists for the Olmec civilization (which most likely is not what they called themselves; no one yet knows what they called themselves) would match the Jaredite geographic boundaries. For example, there might be groups that left the main Olmec body but continued to participate in Olmec culture and practices. These groups would probably be included in the Olmec culture based on the definitions of modern archaeology, but they would probably not be considered in the Jaredite record since they are no longer in the area of the lineage history. Comparing the archaeological record of the Olmecs and the religious lineage record of the Jaredites is like comparing tangerines to oranges, as opposed to apples to oranges. They are similar but not exactly the same.

Just as the Book of Mormon Jaredite record is severely limited, much the same is true of the Olmec archaeological record. Besides the standard issues of skew of the past (e.g., concentration on ceremonial centers, prioritization based on touristic interest, etc.), when it comes to archaeological research of the Olmec area, other issues have severely limited the archaeology that has taken place. The massive impact of 500 years of cattle ranching and agriculture, as well as the burying of archaic and early formative sites deep in the flood plains, requires deep excavation that has not occurred. In addition, the change of climate and sea level, acidity of soils, water table dynamics, and volcanic activity distorts the reality of the past when it comes to the Olmecs (Oryuela-Caycedo 2013, 595).

The ancient Olmec civilization was centered around the southern Gulf Coast of Mexico area (today the states of Veracruz and Tabasco). The Olmec culture developed in the centuries before 1200 BC, and declined around 400 BC. Figure 1 shows the core or heartland Olmec area with principal archaeological sites.

Other cultures that originated after but were partially concurrent with the Olmec and exhibited some Olmec elements or influence were located to the north (figure 2) and south (figure 3) of the Olmec heartland.

Significant trade and exchange between the Olmec and sites to the north and south have been documented in the archaeological record (see figure 4).

This work is not intended to be a complete discussion of the similarities between the Jaredites and the Olmec culture, since those comparisons have been extensively documented in John L. Sorenson’s work, *Mormon’s Codex* (2013) and in other prior works. The reader is presumed to have some background knowledge of the foundations of the Mesoamerican models for the Book of Mormon; if not, a concurrent consultation of this work and the relevant sections in *Mormon’s Codex* is recommended.



Figure 1. Olmec heartland archaeological sites. Yellow markers indicate major sites, and red, minor sites. (www.latinamericanstudies.org 2015)



Figure 2. Archaeological sites to the north of the Olmec heartland (www.latinamericanstudies.org 2015)



Figure 3. Archaeological sites to the south of the Olmec heartland. (www.latinamericanstudies.org 2015)

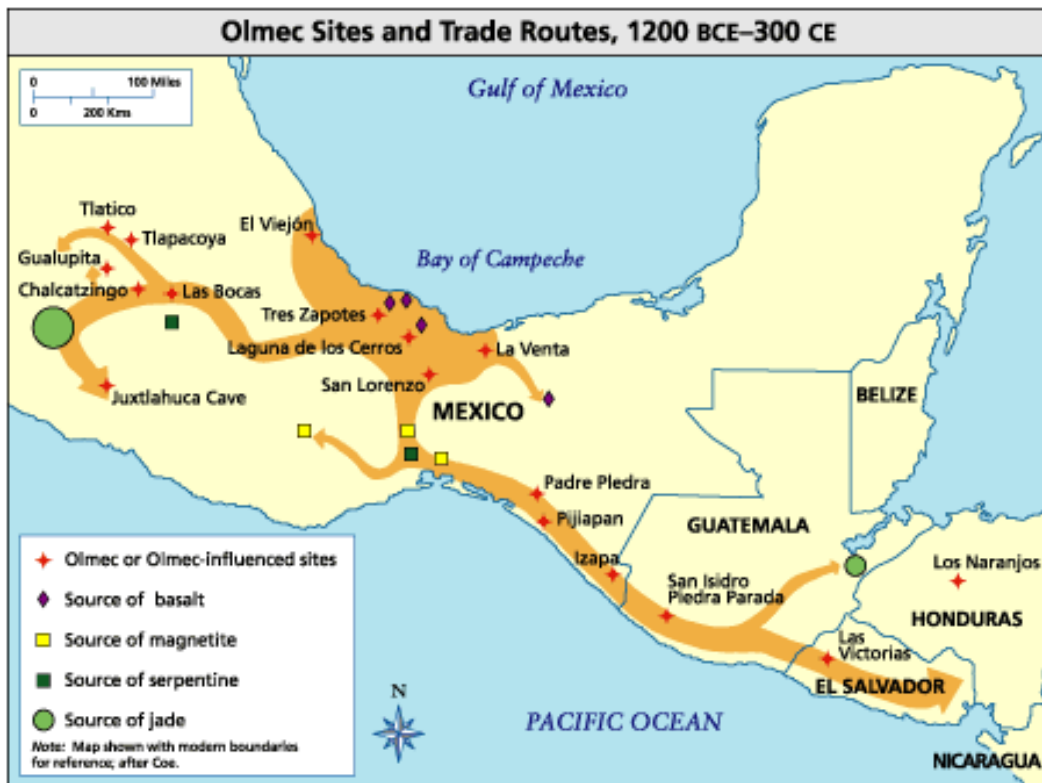


Figure 4. Olmec trade routes (www.latinamericanstudies.org 2015)

Chapter 2

Jaredite Calendar and Preliminary Chronological Framework

In discussing correlations between the Olmec people and Jaredites, chronology is a good place to start. Unlike other parts of the Book of Mormon, the Jaredite record in the book of Ether does not follow an obvious calendar, although there clearly is some type of timekeeping going on since the record occasionally measures the ages and reigns of kings provided in "years." One technique to possibly estimate time in the Jaredite record is to establish a framework based on the estimated reigns of the kings (or deposed kings) where specific regnal years are not actually listed. Unfortunately, the record of kings is not continuous as there is an undefined break between Riplakish and Morionton (Morianton in the current Book of Mormon text was spelled Morionton in the Original Manuscript), who is only listed as a descendant of Riplakish (Ether 1:23, 10:9). As a result, two separate chronological periods can be identified: the pre-Riplakish period and the post-Morionton period. The length of the separation between the two is not known except that it is only specified by the "space of many years" (Ether 10:9).

Before trying to establish in what years various events in Jaredite history occurred, a good starting place for this work is to determine the length of a Jaredite "year," as spoken of in the Book of Ether. There is reason to believe this "year" is not the familiar 365-day year.

Jaredite/Olmec Calendar Comparison

It is apparent that the calendar years referenced in the book of Ether are not solar or even lunar years. Ether 9:23–25 discusses the reign of Coriantum₁, who had a wife who died at 102 years of age, after which Coriantum₁ fathered more children and finally died at the age of 142. The age 142 is 26 years older than the oldest documented male (116 years, 54 days) in the modern era, which has much longer life expectancies (www.wikipedia.org 2017b).

The Nephite measurement of years in the Book of Mormon involved calendars of both solar years of 365 days and uncorrected lunar years of 354.37 days (Spackman 1993; Grover 2015). Even adjusting Coriantum₁'s age to accommodate a shorter lunar year, he would still have been nearly 138 years old by the time he died.

There is an additional indication that the Jaredites were operating under a different calendar system: the visit of Jaredite Coriantum₂ to the people of Mulek lasted for "nine moons."

Omni 1:20–22

20 And it came to pass in the days of Mosiah, there was a large stone brought unto him with engravings on it; and he did interpret the engravings by the gift and power of God.

21 And they gave an account of one Coriantum_r, and the slaying of his people. And Coriantum_r was discovered by the people of Zarahemla; and he dwelt with them for the space of nine moons.

22 It also spake a few words concerning his fathers. And his first parents came out from the tower, at the time the Lord confounded the language of the people; and the severity of the Lord fell upon them according to his judgments, which are just; and their bones lay scattered in the land northward.

The term "moons" is used nowhere else in the Book of Mormon. It has been fairly well established that the people of Mulek not only hosted Coriantum₂ but also inherited the tail end of the Jaredite (Olmecoid) culture (Sorenson 2013, 536–42). The mention of "moons" instead of "months" only at this place in the Book of Mormon record is indicative of a different calendar.

260-Day Calendar

In basically all of Mesoamerica, the oldest widespread calendar is the 260-day calendar. Simplistically speaking, the 260-day calendar could be considered to consist of 13 months of 20 days each. This calendar system, however, is actually a bit more complex than that; the individual days in the 260-day year are each identified by one of 20 day names, accompanied by one of 13 numbers in a continuous day count. The 260-day calendar was distributed anciently as far north as Hidalgo, Mexico and as far southeast as Honduras. Among the Aztecs it was known as *tonalpohualli* (count of days). Among the Maya its name is unknown, but modern scholars have assigned it the Yucatec Mayan name *tzolk'in* (division of days).

This calendar is the only one postulated to have existed in the earlier Olmec times, with linguistic and similarities pointing to origination of the day names within the 260-day year perhaps as early as 3500 BC or as late as 2000–1600 BC (Rice 2007, 31–33). So far, the earliest example of the 260-day Olmec calendar is found on an earspool from Cuicuilco, Mexico, dated to 679 BC (see figure 5).



Figure 5. Earspool from Cuicuilco, Mexico with a 679 BC date, Al. 2 Lord (Olmec). (Edmonson 1988, 20)

The 260-day calendar is the calendar that existed during Jaredite times in the Olmec/Jaredite area. Without any other information from the Jaredite record about the Jaredite calendar, it would be appropriate to see if the 260-day calendar is evidenced in the Jaredite time frames given in the Book of Mormon during Jaredite time frames. The biologically impossible age of *Coriantum₁* is, in fact, evidence of the 260-day calendar. In a 260-day calendar, the actual biological age of *Coriantum₁*, adjusted to our modern 365.24-day solar calendar year, is a little over 101 years, which is within reasonable biological possibility and fairly direct evidence of the consistency of the Jaredite record with the Olmec culture area.

In addition, the Book of Ether has no calendar year counts, as is found elsewhere in the Book of Mormon (e.g., “360 years from the departure of Lehi,” etc.), which is consistent with the 260-day calendar, which did not count years from any base date (at least as far as is known).

Moons in the 260-Day Calendar

The mention of “moons” in relation to *Coriantum₂*’s visit is also consistent with the 260-day calendar. Although the actual lunar cycle is on the order of 29 or 30 days, the 20-day period consisting of a month in the 260-day calendar is consistent with a known lunar period, since 20 days is the time that the moon is actually visible in the sky. Among the Maya, the numbers 20, 13, 7, and 9 are symbolically important numbers and correspond with lunar cycles: The moon is visible for 20 days; it is waxing (period from first visible crescent moon to full moon) for 13 days; it is waning for 7 days (period from full to the third-quarter moon); and then is not visible over the next 9 days before reappearing (Macri 2005).

Further, a nearly closed crescent-moon glyph represents the number 20 in Maya script (Glyph T683) (see figure 6).

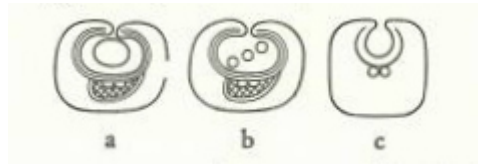


Figure 6. Maya crescent-moon glyphs (T683 a-c) signifying the number 20. (Thompson 1991)

A crescent-shaped symbol similar to the Maya glyph has been identified on the Epi-Olmec La Mojarra Stela as both “20” and “moon” (see figure 7).

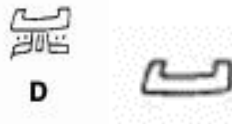


Figure 7. Epi-Olmec symbols for both “20” and “moon” (Justeson et al. 1993, figs 6D, 8A, and 8B; Kaufman et al. 2001, 2.34)

The numbers 9 and 13 are important in Mesoamerican mythology. The Lords of the Night are a set of nine gods who each ruled over every ninth night forming a calendrical cycle. Each lord was associated with a particular bad or good fortune, which was an omen for the night over which they ruled. The Lords of the Night are known in both the Aztec and Maya calendars, although the names of the Maya Night Lords are unknown.

In Aztec mythology the Lords of the Day are a set of 13 gods who each ruled over a particular day corresponding to one of the 13 heavens. The 13-day periods were cyclical, so the same god recurred once every 13 days.

Coincidentally, nine 20-day “moons” is 180 days, which is half of the 360-day calendar (plus five additional days) also used in Mesoamerica. The Book of Mormon Jaredite account is precisely consistent with the expected calendars of the Olmec area in Mesoamerica.

Beginning of the Jaredite Calendar

Any attempt to determine the beginning of Jaredite history requires one to address the “great tower” at the time the “language of the people” was “confounded” and people were being driven out. Gardner duly notes that there is no mention of the tower being that of Babel (2015, 382–83 and references therein). However, the story is similar and does imply the correlation. Gardner (2015) also indicates that the context of the tower being the one where the confounding of languages, etc., it was an interpretive translation provided by Mosiah₂ when he translated the Jaredite record, from which translation Moroni₂ was working with in his abridgement (383). Before assuming translation malfeasance, it would be prudent to look at other chronological correlators to see whether the timeframe of the tower of Babel is consistent with that of the Jaredite exodus.

Chronological Correlators

Certain items from the Book of Mormon text and elsewhere are useful in better correlating Jaredite chronology to the chronological framework of the calculated reign of kings framework discussed elsewhere. These items include the following:

12 Chapter 2

1. Historical timing of volcanic eruptions and its comparison with incidents in the Book of Ether
2. Etymological sources and time depth of the Sumerian etymological units for transliterated Jaredite words or names in the Book of Mormon
3. Sources and timeframes of Sumerian proto-cuneiform elements from the Caractors Document
4. Mesoamerican archaeological and scientific evidence that correspond to chronological events
5. Post-Jaredite events and commentary from the Book of Mormon

Each of these will be discussed in subsequent chapters.

Chapter 3

Historical Timing of Volcanic Eruptions and Its Comparison with Incidents in the Book of Ether

We can establish a basic chronological framework for the events narrated in the Book of Ether by connecting two of those events—the great destructions associated with the reigns of Shiblom and Heth—with volcanic eruptions for which a timeframe can be established. Though there are other possibilities for the natural disasters described here, volcanic activity is a likely fit.

Shiblom Event

There is particularly one event in the Book of Ether, during the reign of Shiblom, that has all of the telltale markings of a volcanic eruption and its after effects:

Ether 11:7

And they hearkened not unto the voice of the Lord, because of their wicked combinations; wherefore, there began to be wars and contentions in all the land, and also many famines and pestilences, insomuch that there was a great destruction, such an one as never had been known upon the face of the earth; and all this came to pass in the days of Shiblom.

The volcanic and seismic event that occurred in 3 Nephi is also described as a “great destruction,” although this term is not used exclusively in the Book of Mormon to describe a volcanic eruption (3 Nephi 8:23). Moroni², in his abridgement of the Book of Ether, utilizes language nearly identical to what was engraved by his father, Mormon, to describe the 3 Nephi great storm/volcano event, which “such an one as never had been known in all the land” (3 Nephi 8:5).

Volcanic eruptions and subsequent ashfalls impact local climate, ecology, agriculture, and human health and livelihood. Ash blocks solar radiation from reaching the lower atmosphere, and, as a result, modification in precipitation, temperature, cloudiness, and air pressure occurs, which creates localized cooling and warming. Mesoamerican colonial documents indicate a connection between major eruptions and occurrences of drought and subsequent famine (Gill 2000, 199, 235–36). It has recently been recognized, for instance, that local ground-level emissions from volcanic eruptions can cause localized droughts because the reactions of local emissions, SO₂, and other volcanic gases in the local atmosphere can suppress rainfall by inhibiting raindrop formation (USGS, 2001). In addition, eruptions and ashfall directly destroy vegetation and crops, buildings, agricultural land, as well as humans and animals.

On a local level, Sorenson (2013) noted that the 1902 eruption of the Santa Maria volcano in Guatemala killed all of the birds for hundreds of miles around, with the result that “flies, mosquitos, and rats [multiplied] to such an extent” and caused illnesses “that life for human beings became nearly unbearable” (Dull 2001). Moziño (1869) reported a similar effect on wild birds after one of the smaller eruptive events of the 1793 eruption of the San Martín volcano, located in the Olmec area. In that instance, the birds were stunned and immobilized to such an extent that they could be collected by hand.

Dull also noted that:

Although post-eruption starvation and disease have caused only 4 percent of the volcano-related deaths worldwide since 1900, this percentage swells dramatically to 49 percent for the pre-industrial period from 1600 to 1899. . . .

Thus, malnutrition, starvation, and pestilence following the TBJ eruption (*260 AD Tierra Blanca Joven eruption of the Ilopango caldera in central El Salvador*) might have been partly responsible for progressive demographic collapse throughout the abandonment zone. (37)

Sorenson (2013), citing other authors, notes the contamination of water supplies caused by ashfall, essentially stopping agricultural production. Moziño also reported that during the 1793 San Martín eruption, fish were killed and the Tuxtla River was clogged with mud and sand. Drinking the murky water caused “many grave cases of dysentery and persistent coughing.” Thus, volcanic eruptions directly correlate to famines, pestilence, and the “great destruction” mentioned during the reign of Shiblom.

In the Olmec area, during Olmec times, there have been three active volcanoes, with the following eruption timeframes documented by radiometric sampling (see table 1 and figure 8). The San Martín volcano, which is centrally located in the Olmec heartland, erupted in 750 BC \pm 55. The Pico de Orizaba volcano, located on the northern margins of the Olmec heartland, erupted in 780 BC \pm 60. On the southern boundary of the Olmec heartland, the El Chichón volcano had a series of at least three eruptions dating potentially from 777 BC to 645 BC.



Figure 8. Location of Pico de Orizaba, San Martín, and El Chichón volcanoes in the Olmec heartland. (www.latinamericanstudies.org 2015, modified by author)

Table 1. Historical Eruptions of El Chichón, Pico de Orizaba, and San Martín Volcanoes

El Chichón

255 BC +/- 60
340 BC +/- 250
520 BC +/- 50
695 BC +/- 55
700 BC +/- 200 *
722 BC +/- 50 **
1095 BC +/- 105
1175 BC +/- 70
1340 BC +/- 150 *
1357 BC +/- 50 **
1725 BC +/- 80
2030 BC +/- 100 *

(Espíndola 2000, * Smithsonian 2015, **Nooren et al. 2015)

Pico de Orizaba

780 BC +/- 60 **
1500 BC +/- 70 **
2110 BC +/- 120 **
2300 BC +/- 75
2500 BC +/- 70 **
2780 BC +/- 75

(Smithsonian 2015, ** Del La Cruz-Reyna et al. 2002)

San Martín

150 BC +/- 300
750 BC +/- 55 *
1320 BC +/- 250 **
2130 BC +/- 50 *

(Smithsonian 2015, * Espíndola et al. 2010, **Nelson et al. 1992)

Based on this data, with all three of the major volcanoes in and surrounding the Olmec heartland erupting at the same time, correlating to the Book of Ether, the reign of Shiblom, as mentioned in the Book of Either, fits

somewhere in the 750 BC to 720 BC time frame, perhaps earlier or later. Evidence from pollen cores in a small lake in the Tuxtla Mountains indicates that the lake essentially dried up starting in this same time frame (Goman et al. 1993), further corroborating this timeframe with the reign of Shiblom.

Many volcanic eruptions consist of multiple eruption events that take place over months or years, so the effects are not necessarily of short duration, thus fitting well with the description given for the Shiblom event, which suggests the effects of the “great destruction” occurred over a long period.

By thus placing the end of the reign of Shiblom at approximately 715 BC, using the volcanic correlation which happened earlier in his reign, together with the calculated regnal period calendar (discussed later), one arrives at the date of Ether’s death at 440 BC, which corresponds fairly well with the demise of the Jaredites/Olmecs somewhere around 400–450 BC.

This framework also places the start of Lib₁’s reign at approximately 1065 BC. The Olmec city of La Venta (discussed in more detail later) is a nice match for the “great city” constructed by Lib₁. An initial layer of occupation at La Venta dates to 1200 BC, but La Venta did not reach its apogee until after 900 BC. After 500 years of preeminence, La Venta was all but abandoned by the beginning of the fourth century BC (Diehl 2004).

Heth Event

The Book of Ether describes another dearth on the land, which occurred when Heth was the ruler, involving a significant ecosystem disruption:

Ether 9:29–35

29. But the people believed not the words of the prophets, but they cast them out; and some of them they cast into pits and left them to perish. And it came to pass that they ~~did~~ [done] all these things according to the commandment of the king, Heth.

30. And it came to pass that there began to be a great dearth upon the land, and the inhabitants began to be destroyed exceedingly fast because of the dearth, for there was no rain upon the face of the earth.

31. And there came forth poisonous serpents also upon the face of the land, and did poison many people. And it came to pass that their flocks began to flee before the poisonous serpents, towards the land southward, which was called by the Nephites Zarahemla.

32. And it came to pass that there were many of them which did perish by the way; nevertheless, there were some which fled into the land southward.

33. And it came to pass that the Lord did cause the serpents that they should pursue them no more, but that they should hedge up the way that the people could not pass, that whoso should attempt to pass might fall by the poisonous serpents.

34. And it came to pass that the people did follow the course of the beasts, and did devour the carcasses of them which fell by the way, until they had devoured them all. Now when the people saw that they must perish they began to repent of their iniquities and cry unto the Lord.

35. And it came to pass that when they had humbled themselves sufficiently before the Lord ~~he~~ [the Lord] did send rain upon the face of the earth; and the people began to revive again, and there began to be fruit in the north countries, and in all the countries round about. And the Lord did show forth his power unto them in preserving them from famine.

This event during the reign of Heth can be summarized chronologically as follows:

1. There is a great dearth upon the land.
2. Inhabitants are destroyed exceedingly fast because of the dearth; there was no rain on the face of the earth.
3. Poisonous serpents came forth and poisoned many people.
4. Flocks flee “before” the poisonous serpents toward the land southward.
5. Some of the animals perished along the way; some made it into the land southward.
6. Serpents stopped pursuit and hedged up a way so people could not pass without falling to the poisonous serpents.
7. People followed the path of the animals, eating all of the ones that had fallen.
8. Rain came back to the earth.
9. Sometime later the serpents were destroyed, so people could pass to the land southward.

In the Jaredite/Olmec homeland, there are five types of poisonous snakes: coral snakes, fer-de-lances (pit vipers), cantils, eyelash vipers, and regionally located pit vipers. There are two varieties of coral snakes, the variable coral snake and the elegant coral snake. The five types of regional pit vipers are the jumping pit viper, the Olmecan pit viper, the hog-nosed pit viper, Dunn’s hog-nosed pit viper, and Rowley’s palm pit viper.

Coral snakes prefer wooded areas, marshes, or places with loose soil. Coral snakes remain in their dens for the majority of the day and are rarely spotted by humans during the day. Unlike many other snakes, the coral snake is timid and will try to flee a situation rather than stand its ground. If the animal feels harassed, however, it may strike without warning.

The Mexican cantil lives in a vast range of habitats, including seasonally dry forest, tropical deciduous forest, tropical scrub forest, and savanna. These cantils prefer habitat bordering rivers or streams, but they may also be found in grasslands and cultivated lands. They are generally shy by nature, and if threatened, their first instinct is to rely on camouflage to evade danger. If the camouflage proves insufficient, they will use a threat display to ward off potential predators. The tightly coiled animal will raise the last several inches of its tail—this portion of the tail is often bright yellow or green in juveniles and a faded yellow or green in adults. The animal will then quickly flick its tail creating a loud whipping sound against its coils or surroundings. They generally will only display these behaviors when given no other choice.

The eyelash viper prefers lower altitudes and humid, tropical areas with dense foliage, generally not far from a permanent water source. It lives in trees and is not known to be an aggressive snake but will not hesitate to strike if harassed.

The fer-de-lance (aka terciopelo) likes moist environments and lives in most life zones at low or middle elevations (up to 600 meters), excluding those with strong seasonal dry periods. These snakes have been described as excitable and unpredictable when disturbed. They can, and often will, move very quickly, usually opting to flee from danger rather than attack, but they are capable of suddenly reversing direction to vigorously defend themselves.

The jumping pit viper lives in moist forests, including tropical moist and wet rainforest, deciduous forest and lower cloud forest, as well as secondary forest. Their common name alludes to the supposed ability these snakes have to launch themselves at an attacker during a strike, thereby bridging a distance that is equal to or greater than the length of their bodies. They are slow moving and nonaggressive. When provoked, however, all species will put on a rather dramatic open-mouthed threat display. These snakes can be active during both the day and night.

The Olmecan pit viper lives principally in the Tuxtla Mountains. Its preferred habitat includes upper rainforest and cloud forest, including degraded forest and associated pastureland. It is not known to be quick moving or aggressive.

The hog-nosed pit viper and Dunn's hog-nosed pit viper occupy lowland rainforest and lower mountain wet forest. They have also been found in secondary forest. They are not known for being quick moving or aggressive.

Rowley's palm pit viper inhabits intermediate elevations in cloud forest and moist ravines in pine-oak forest. It is found in primary forests and coffee plantations. They are also not known to be quick moving or aggressive.

In trying to identify the most likely specie(s) of the "poisonous serpents" referred to in the Book of Ether, we can compare the habitations of the snakes listed above with the description of the Jaredite lands. The Jaredite lands at this time, for instance, were not in the higher mountains but were in lower mountain slope elevations or more low-lying flatlands, likely ruling out pit vipers. The description of the snakes given in Ether indicates that they were fast moving and were apparently somewhat aggressive. Thus the most likely candidate species is the fer-de-lance (see figure 9). Since the fer-de-lance is principally adapted to moist habitat, the species would also be likely to migrate en masse to a more suitable habitat in the case of a drought.



Figure 9. Fer-de-lance. (pariasprings.typepad.com, 2014)

The episode of snake migration described in Ether is not in the least far-fetched. Snakes often migrate en masse on a seasonal basis and are known to migrate in search of water during a drought. In 2007, a large migration of venomous brown snakes invaded the city and suburbs of Sydney, Darwin, and other areas of Australia that had been hit by the worst drought in 100 years. The snakes were seeking water and were much more aggressive than normal, biting many people, though normally brown snakes are known for being aggressive.

It has been suggested that the snakes discussed in Ether migrated to follow a food source, namely the flocks (Tvedtnes 1997); however, this does not appear to be consistent with the description that the fleeing animals that died were not eaten by the snakes but were instead left for the inhabitants to collect and eat. It appears that the snakes were looking for water, and perhaps when they encountered water and moist habitat (perhaps a river?), they stopped.

The description in Ether of the snakes maintaining high population densities blocking or “hedging” passage of a particular area for a period of time might be explained by the lack or reduction of snake predators in conjunction with ample food supply. Volcanic eruptions, for instance, have been known to significantly remove local birds, which would have allowed the venomous snake population to grow unhindered by snake-eating bird predators. Without the birds, there also would have been reduced competition for the rodent or lizard food supply, allowing growth in snake populations.

This situation of ample food supply and lack of predation currently exists off the shore of Brazil, almost 93 miles away from downtown São Paulo, on an island called Ilha de Queimada Grande. The island is untouched by human development because of the snakes. Researchers estimate that there are between one and five snakes per square meter of the island. The snakes live on the many migratory birds (enough to keep the snake density remarkably high) that use the island as a resting point. There are also no natural predators of the snakes on the island.

The snakes on Queimada Grande are a unique species of pit viper, the golden lance head. The golden lance heads that occupy the island grow to well over half a meter in length, and they possess a powerful fast-acting poison that melts the flesh around their bites. Golden lance heads are so dangerous that, with the exception of some scientific outfits, the Brazilian Navy has expressly forbidden anyone from landing on the island.

Locals in the coastal towns near Queimada Grande recount grisly tales of death on the island. In one story, a fisherman unwittingly wanders onto the island to pick bananas. Naturally, he is bitten. He manages to return to his boat, where he promptly succumbs to the snake's venom. He is found some time later on the boat deck in a great pool of blood. Another story is of the final lighthouse operator on this island and his family. One night, a handful of snakes enter through a window and attack the man, his wife, and their three children. In a desperate attempt to escape, they flee toward their boat, but they are bitten by snakes on overhead branches.

There are many species of birds in the Jaredite/Olmec homeland area that prey on snakes and rodents, including:

- Gray-headed kite
- Plumbeous kite
- Crane hawk
- White hawk
- Great black hawk
- Roadside hawk
- Barred forest falcon
- Collared forest falcon
- Laughing falcon
- Ornate hawk eagle
- Black-and-white hawk eagle
- Sharp-shinned hawk
- Bicolored hawk
- Common black hawk
- Broad-winged hawk
- Swallow-tailed hawk
- Great horned owl
- Northern pygmy owl
- Central American pygmy owl
- Mottled owl
- Striped owl
- Northern harrier

- Great blue heron
- Little blue heron
- Black-crown night heron
- Osprey
- Wood stork
- Cattle egret
- Limpkin
- Least bittern
- Yellow crowned night heron

Elimination or decimation of these birds would remove serious snake predators and competition for snake prey. There are also perhaps a hundred other species of birds in the Jaredite region, which do not prey on snakes, but they do prey on rodents or lizards, similar to the fer-de-lance. Elimination or depletion of these species would also allow population explosions of snakes for which rodents and lizards are a food source.

Notably, the account in Ether indicates that some time later, the serpents were “destroyed,” but it does not say whether the destruction was caused by humans or natural events; perhaps it occurred naturally through the reestablishment of competing predator populations.

The description of the level of domestication of Jaredite flocks is consistent with the semi-domesticated nature of many Mesoamerican animals, since the Jaredite flocks successfully migrated without the guidance of owners or caretakers.

Although the Book of Ether does not enumerate any occurrences directly descriptive of volcanic activity during the Heth period, the volcanic activity concurrent with the “dearth” may have been one of the causalities and may also help to explain the poisonous serpent phenomenon.

Based on the only other volcanic event besides the Shiblom event involving all three surrounding volcanoes (Pico de Orizaba, San Martín, and El Chichón) erupting during the same time period, the indications are that the Heth event took place approximately during some period between 2070 and 2130 BC, which, by using calculated regnal periods (discussed later), would place the departure of the Jaredites at approximately 2600 BC.

Chapter 4

Chronological Identifiers Based on Sumerian Etymological Roots of Book of Mormon Terms and Names

A previously untapped source for establishing a chronology of Jaredite history is linguistic analysis. Since the Jaredites left Mesopotamia from a particular place at a particular time, their language should display signs of Sumerian language as it existed at the time of their departure. Thus, analyzing Jaredite names, words, and written characters and comparing them with the Sumerian language at different points in its development will establish the window of time in which the Jaredites left Sumer for the Americas. As Joseph Smith once said, “If we start right, it is easy to go right all the time; but if we start wrong we may go wrong, and it will be a hard matter to get right” (Smith 1844). Using linguistic correlations to establish when the Jaredites left the Old World will give us the correct starting point for a chronology of Jaredite history, enabling us to get our chronology off on the right track.

An analysis of the Sumerian etymological roots of all the Book of Mormon names and unknown words was recently completed by the current author (Grover 2017). Portions of the book discussed Sumerian root words that could be reliably determined and provided some definitive dates, reproduced here. Methodological premises used in that work include:

1. The original location of the Jaredites was somewhere in Mesopotamia (see the great towers and confounding of languages in Ether 1:3, 33). As stated above, in this research, Sumer is shown to be the area of origination.
2. The Nephites, after joining with the people of Mulek, had, at a minimum, a bilingual society (Omni 1:17–18). Zeniff said he was taught in “all the language of the Nephites” (Mosiah 9:1), indicating multiple languages were in use at the same time. That the Nephites were outnumbered by the people of Mulek (Mosiah 25:2–3) indicates the language of the people of Mulek was likely more dominant.
3. The fact that names from Jaredite times appear in the Book of Mormon after the demise of the Jaredites clearly indicates the incorporation of the Jaredite language into the Nephite language, likely principally through the people of Mulek, but also possibly through other local peoples among whom the Nephites found themselves, even from their first landing.
4. The Caractors Document indicates multiple levels of linguistic meaning in the original name glyphs in the Book of Mormon (Grover 2015). Most of the personal and place names in the Book of Mormon have at least three levels of etymological meaning, in Hebrew, Jaredite/Sumerian, and reformed Egyptian.
5. Many of the names in the Book of Mormon are metonymic, which means the names were created and given after the fact (or at least later in life) and are based on the exploits and characteristics of the individual or place. This concept for explaining Book of Mormon names is not a new one (Thomasson 1994).
6. While well-meaning researchers have tried to find Hebrew names in the Old World and place them in the Book of Mormon, little thought has been given to the fact that most of the Book of Mormon was written after the Lehites were 1,000 years removed from the Old World. In the case of Jaredites and their names,

their records were found and translated approximately 2,500 years after leaving the Old World, and another 500 years passed before they were abridged by Moroni². Consideration must be given to the Mesoamerican location and the significant passage of time; both factors potentially modify our understanding of the underlying syntax and language.

Since the language of the Jaredite interpreted names is proposed to be Sumerian-based, a brief synopsis of the Sumerian language is in order.

Sumerian Language

Sumerian is a peculiar language in that it is not only a dead language but also a language that was not likely spoken already in the period from which most Sumerian texts date. From 2500 to 1600 BC, Sumerian gradually changed from a spoken language to an exclusively literary language (Thomsen 1984). Sumer was one of the ancient civilizations and historical regions in southern Mesopotamia, which is modern-day southern Iraq (see figure 10).

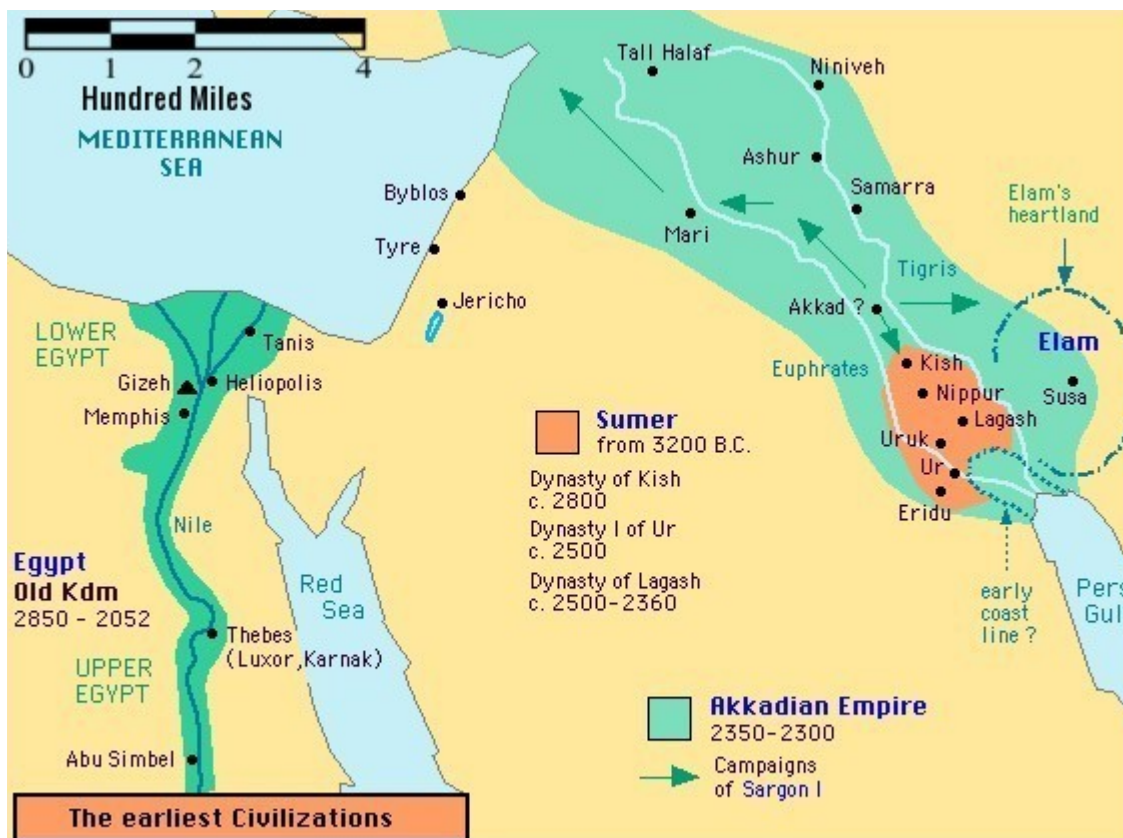


Figure 10. Map of ancient Sumer and Elam. (www.hyperhistory.com 2016)

It is not certain when the Sumerians had initial contact with the Akkadians, who were generally located to the northwest of Sumer, but it seems to have been as early as 3000 BC. It is likely that there was a long period of contact, at least in the boundary areas, although there are no written attestations until 2600 BC. Some 2600 BC Sumerian texts include Akkadian personal names, including the names of some of the scribes of the texts. A few loanwords also appeared at that time.

During the reign of Sargon (2334–2279 BC), the official language was principally Akkadian, with royal inscriptions, religious texts, and year dates being bilingual. Elsewhere, however, Sumerian was used only in Sumer proper, so it is surmised that the Sumerian language began to seriously vanish around this time. However, during the third dynasty of Ur (2112–2004 BC), after Sargon, the use of Sumerian increased in official documents and was almost exclusively

used in royal inscriptions, juridical and administrative documents, and correspondence, while the use of Sumerian as a spoken language was very limited.

During the Old Babylonian Period (2000–1600 BC), Sumerian is considered to have been a dead language, with Akkadian being the spoken language, though Sumerian was still used as an official and literary language. Sumerian may have been spoken by scholars and scientists. The death of a language is not a uniform or simple process, so there may have been pockets of Sumerian-speaking people, especially in the south.

Since Sumerian was a dead language at the time of the Akkadians, much of the knowledge of how Sumerian was actually pronounced must be gleaned from Old Babylonian period lexical texts in which the scribes took care to represent the full phonology of the Sumerian words. There are a few limitations to our understanding of Sumerian pronunciation, the first being that the lists represent the pronunciation of Sumerian as filtered through the Akkadian phonological system, and, second, the texts we have appear to be practice exercises as part of a scribal training process and so exhibit some errors (Smith 2007).

Structurally, Sumerian features a word structure called agglutination, which, by simplistically speaking, consists of “gluing” different morphemes (simple structures contained in a word) and word modifiers together to form a single, complex (often long) word (Cunningham 2013, 96). Another feature of Sumerian (and other languages) is compounding, or the combining of individual words to form a “compound word.” In the case of many Book of Mormon names, construction is through compounding, since one does not contemplate a full sentence as a name. In compounding, different nouns/verbs/adjectives are placed together. For example, *green* and *house* can be compounded to become *greenhouse*.

In evaluating whether Sumerian is a candidate as a source language for Jaredite names, one must compare the phonetic sounds (letters) in Sumerian with known Jaredite names to see if the phonetics of each are compatible. Since there are probably some sounds in ancient Sumerian that are not precisely known, there may be a few defugalties. When looking at the transliteration of words in Sumerian, it must be recognized that the Romanized Sumerian dictionary (ePSD) used for comparison in this work does not include the English letters *c*, *f*, *j*, *o*, *q*, *v*, or *x*. Comparing Sumerian phonetics to definitively Jaredite names reveals that all of the Sumerian phonetic elements or letters (with the possible exception of *ĝ*) are found in the Jaredite names. In reverse, as in Sumerian, Jaredite names lack the *f*, *q*, and *x*. The Jaredite names have only one instance of *v*, which is in the name Levi, a clearly biblical name, which may have been the result of the translation of the Jaredite plates by Mosiah into the Nephite language, or may be a Nephite name assigned after the fact to this particular Jaredite king. Moroni₂ likely consulted the Mosiah translation to make his abridgement. The Jaredite names include *ph*, which does not necessarily equate to an *f* sound; the pronunciation could be a *p* sound followed by an *h* sound. The same may be true for the *th* that is also found in Jaredite names.

That leaves *j*, *o*, and *c* as the only Jaredite sounds or letters unaccounted for in the phonetics found in the ePSD Sumerian dictionary. Academics have accepted the fact that Sumerian transliteration dictionaries missed the *j* sound. As previously averred, modern knowledge of Sumerian phonology is inevitably flawed and incomplete because of the lack of native speakers, the transmission through the filter of Akkadian phonology, and the difficulties posed by the cuneiform script. As I. M. Diakonoff observes, “When we try to find out the morphophonological structure of the Sumerian language, we must constantly bear in mind that we are not dealing with a language directly but are reconstructing it from a very imperfect mnemonic writing system which had not been basically aimed at the rendering of morphophonemics” (Diakonoff 1976).

The existence of various other consonants has been hypothesized, including *j*, based on graphic alternations and loans. Diakonoff lists evidence for two *i* sounds, two *r* sounds, two *h* sounds, and two *g* sounds (excluding the velar nasal) and assumes a phonemic difference between consonants that are dropped word-finally (such as the *g* in *zag*

> za₃) and consonants that aren't (such as the *g* in lag). Other “hidden” consonant phonemes that have been suggested include semivowels such as /j/ and /w/ (www.wikipedia.org 2016). The *j* was lost in Sumerian at or before the Uruk III time period (2112–2004 BC) (Jagersma 2010, 54–55).

Some academics have also argued that a letter *o* phoneme might have existed, a fact concealed by the Akkadian transliteration, which does not distinguish it from the letter *u* (Michalowski 2008, 16). In collecting etymological possibilities from Sumerian in this work, to be thorough, both *a* and *u* will be considered when the letter *o* is present.

The letter *c* in Jaredite names seems to be equivalent to *k*, as far as expected pronunciation and word structure in English goes. A recent publication linking Sumerian to the Uralic language family identifies a phonetic *k* and a tonal *k'* for proto-Sumerian (ca. 4000–3000 BC) and so provides a reasonable explanation for the *k* and *c* that occur in Jaredite names (Parpola 2016, xxi). In collecting etymological possibilities from the ePSD Sumerian dictionary, *k* will be considered when the letter *c* is present.

In summary, the Jaredite names and Sumerian language appear to be phonetically compatible, so Sumerian, at least from the standpoint of similar sounds, is a good candidate as the source language of Jaredite names.

Attestation Timeframes

The dictionaries do not identify word attestation by exact dates; they use only archaeological or dynastic periods. Because there is not unanimity among academics as to the exact dating of these periods, for purposes of this work, what is called the Middle Chronology will be used, which is as follows:

Early Dynastic I: 2900–2700 BC

Early Dynastic II: 2750–2600 BC

Early Dynastic IIIa: 2600–2450 BC

Early Dynastic IIIb: 2500–2350 BC

Old Akkadian: 2340–2200 BC

Lagash II: 2260–2023 BC

Ur III: 2112–2004 BC

Early Old Babylonian: 1950–1776 BC

Old Babylonian: 1950–1530 BC

Middle Babylonian: 1530–1000 BC

An “attestation” is the point in time and place where the word is found in some sort of text. Any attestation that currently is known to be the earliest or latest should not be assumed to be the earliest or latest that the word was ever used or spoken. In addition, the legible Sumerian cuneiform language that developed from the early proto-cuneiform, did so around 2600 BC, so attestations would not be expected prior to the Early Dynastic IIIa Period (2600 BC) simply because, other than the numbers and portions of the Sumerian metrological system, most of the proto-cuneiform has not been deciphered. With that in mind, the dates of attestation are still generally helpful in evaluating the timeframe of the Jaredites’ departure.

Sumerian Writing

The first stages of Sumerian writing are found in Uruk and Gemdet Našr around and before 3000 BC. The writing was pictographic or ideographic (called proto-cuneiform). Sumerian writing was not always written in the order it had to be read. The ideographic writing system without phonetic signs for grammatical elements signifies that the identification of the language behind the written script is not apparent. It was considered a mnemonic language, using rebus principles, and functioned primarily as a memory aid. Even when using the maximum number of

phonetic symbols created for its signs, it remained a mnemonic system for which exact renderings of the pronunciation was not the goal:

Sumerian writing never attempted to render the language phonetically correct, exactly as it was spoken. The very first stages of writing as attested in Uruk and Ĝemdet Našr (about 3000 BC) were pictographic or ideographic in nature, thus rendering only the most important words like the catchwords of an account or a literary text. . . . The ideographic writing system without phonetic signs for grammatical elements means that the identification of the language behind the written records is not immediately evident. (Thomsen 1984, 22)

Thomsen (1984) has indicated that reconstructing the complete spoken Sumerian is probably impossible (24). Thus texts cannot be taken at face value and read as a detailed grammatical description of the language. Before the death of the language, the Sumerian script was mainly a memory aid, rendering the most important words in an ideographic way, and leaving out many things that were not thought absolutely necessary for the understanding of the text. As a result, knowledge of Old Sumerian grammar is limited. Old Sumerian dates from the early texts in 2600 BC to the end of the Sargonic dynasty in 2200 BC.

Unknown Words in the Book of Mormon

Paul Y. Hoskisson has written that “the greatest challenge for persons interested in the meanings of proper names in the Book of Mormon has to do with those names whose meanings we already know” (Hoskisson 2002). In addition to words where a meaning is specifically given, there are other words for which no meaning is provided, but some general understanding of the meaning can be derived through context. The following words in the Book of Mormon are not personal or place names and were not translated, but rather appear to have been transliterated: *amnor*, *antion*, *cumoms*, *cureloms*, *Deseret*, *ezrum* (*ezrom*), *Gazelem*, *leah*, *Liahona*, *limnah*, *neas*, *onti*, *Rameumptom*, *senine*, *senum*, *seon*, *Sheum*, *shiblon*, *shilum* (*shiblum*), *shum*, and *Ziff*. *Shiblum* has been shown to be a spelling error of *shilum* at the time the printing of the 1830 edition of the Book of Mormon.

Two of the words, *cureloms* and *cumoms*, specifically pertain to the Jaredites. They are identified as animals: “*cureloms* and *cumoms*; all of which were useful unto man, and more especially the elephants and *cureloms* and *cumoms*” (Ether 9:16–19). A previous investigation of *Ziff* (another untranslated and presumably transliterated word) determined that the word had an ancient meaning of a specialized metal, and for the time period of the target language of the translation of the Book of Mormon, there was no available English word for that specialized metal (Grover 2016). The same criteria would be applicable for evaluation of *cureloms* and *cumoms*.

In the case of *cureloms* and *cumoms*, it is not certain whether the transliterated words were generated from Hebrew, from the language of the Jaredites, or from some other extant Mesoamerican language. The original Jaredite plates were first interpreted by Mosiah₂ and were then abridged by Moroni₂, so the words might have a Hebraic genesis. If the word does not have a Hebrew etymology, however, then it can be assumed that the Nephites, at the time of Mosiah₂, probably did not have a word for the animal, so it was just transliterated. In any event, exploring the possibility of a Mesopotamian language derivation is useful in determining whether any chronological information can be derived from it.

Curelom

A search for *curelom* in Sumerian presented a fairly straightforward definitional compound word etymology. It is assumed that the “s” on the end of both *cureloms* and *cumoms* is indicative of an English plural and was not part of the original transliterated name. The word *kur* or *kurra*, meaning “mountain(s),” is attested to in Sumerian during the Early Dynastic IIIa, Early Dynastic IIIb, Old Akkadian, Lagash II, Ur III, Early Old Babylonian, and Old Babylonian Periods, indicating the presence of this word from 2600 to 1600 BC (Pennsylvania Sumerian Dictionary 2006). The word *e₃-li-um* (a form of the word *e*), meaning “sheep” or “a description of ewes or lambs” is attested to in the

Early Dynastic IIIb Period, indicating the presence of this word from before or during 2500 to 2230 BC (Pennsylvania Sumerian Dictionary 2006). There is some disagreement over the chronological dates for these various periods, so the longest possible chronology was considered for each element of the word. A similar word, *kura*, is also found in Sumerian and means “a designation of looms,” and is thus indicative of an animal that provides the source material for weaving (Pennsylvania Sumerian Dictionary 2006).

One issue involving the construction of this word is that it is not found as an attested compound in the Sumerian script. The typical construction of this word in Sumerian script (and also in Egyptian, Akkadian, and other Semitic languages) would place the adjective (*kur*) behind the noun, not in front of the noun. However, as has been discussed, the syntax and grammar of early spoken Sumerian cannot be accurately constructed from the Sumerian logograms. In addition, the translation of the Characters Document (Grover 2015) indicates that one of the changes made in the reformed Egyptian was that the adjectives were moved in front of the nouns. Mormon indicated that modifications to the Egyptian syntax was to be expected:

Mormon 9:32–33

32 And now, behold, we have written this record according to our knowledge, in the characters which are called among us the reformed Egyptian, being handed down and altered by us, according to our manner of speech.

33 And if our plates had been sufficiently large we should have written in Hebrew; but the Hebrew hath been altered by us also; and if we could have written in Hebrew, behold, ye would have had no imperfection in our record.

This method of compounding or agglutinating different words to make a name was used in Mesoamerica. For example, the typical way to form an Aztec place name is to combine nouns, typically by dropping a portion of one or more of the nouns, and also sometimes adding a place particle at the end. Book of Mormon place names do not appear to have a place particle included, but this may be an artifact of translation where the particle was replaced by the English form or word such as “city” or “land.” For example, the Aztec place name Acamilixtlahuacan is translated as “where are level fields of rushes.” The name is a compound of *aca(tl)* (reed); *mil(li)* (field); *ixtlahua(ca)* (level expanse); and *can* (place particle). The letters in parentheses are the letters that are dropped from each word when it is compounded (Starr 1920). An example of an Aztec place name that doesn’t have a definitive place particle is Teocalhueyac, translated as “in the high or upreared temple,” consisting of *teocal (li)* (temple) and *hueyac* (high, prolonged). Personal names in Nahuatl (the language of the Aztecs) are typically compound names as well. For example, the Nahuatl name Kozkakuahitli was created from *kozka(tl)* (necklace) and *kuauhtli* (eagle).

Many Maya names are compound names as well. For example, the Maya name Sachihiro is made of ‘*sachi*, which means “happiness,” and ‘*hiro*, which means “vast.” Zoque place names are typically compound names, and some also have place suffixes like the Aztec (Wonderly 1946). The Mixe also have compound names, such Naaxwiiñ, the name of a Mixe god, which is made of *naax* (earth) and *wiiñ* (face, surface).

Interestingly, the two languages whose proto-language was most likely spoken among the Olmec are Mixe and Zoque (Campbell et al. 1976). Both of these languages generally place the adjective (or adjective equivalent) in front of the noun (Faarlund 2012; Romero-Mendez 2008). The Nahuatl and the Maya languages exhibit this same feature. This may indicate that the word *curelom* was constructed by the Jaredite record-keepers sometime after their arrival and linguistic assimilation into the existing Mesoamerican population. According to the calculated chronology, the word *curelom* (and *cumom*) appears at the time of Emer, approximately 300 years after the Jaredites’ arrival.

Strictly speaking, based on the etymology of word *curelom*, meaning “mountain sheep,” the departure of the Jaredites would have been between or before 2500 BC and 2230 BC. There is of course some give and take for that timeframe, since the data is based on what has been found archaeologically—there may be some earlier or later examples of the word that have not yet been unearthed.

Other Sumerian etymological units found within the word *curelom* are:

<i>u</i> : sheep or ewe	2600–1000 BC
<i>u₈-ra</i> (form of <i>u</i>)	1950–1530 BC
<i>ur</i> : harness	2600–2450 BC, 1950–1530 BC
<i>ur</i> : to roam around	1950–1530 BC
<i>re</i> : that	2112–2004 BC, 1950–1530 BC
<i>lah</i> : to full (cloth, wool)	unknown

Following the identification of etymological units and analysis, a constructed compound word is proposed that is equivalent or close to the Book of Mormon name or term. Some letters or sounds may be shared more than twice, for example the “u” in “Kur-e₃-li-um” is actually shared by the words *kur*, *u*, *ur* (harness), and *ur* (to roam around). This superposition of multiple words phonetically allows language to pack a lot of meaning into a few letters. This concept appears in the reformed Egyptian glyphs and will be discussed later. In this book, when listing proposed compound words, bold font indicates potentially overlapping letters and/or words. Letters that are dropped when forming the compound appear inside parentheses. Compound construction presumes the name is metonymic, and so only etymological units consistent with the meaning in the Book of Mormon context are considered. This does not mean I have represented all of the potential constructs from the Sumerian etymological units, just the one(s) that are closest to the Book of Mormon spellings and meanings. If one assumes that a name is not metonymic, then it is probably possible to construct nearly all Book of Mormon names without dropping letters.

Constructed Compound Word: **Kur-e₃-li-um**

Cumom

Like *curelom*, *cumom* is also an animal whose name is a compound word in Sumerian, with the adjective preceding the noun. The first part of the word, KU, means “plough” or “plow” and is attested to in Sumerian during the Early Dynastic IIIb, Ur III, Early Old Babylonian, and Old Babylonian Periods (2500–2350 BC, 2112–2004 BC, 1950–1600 BC) (Pennsylvania Sumerian Dictionary 2006). When transcribing Sumerian syllabic signs into English, archaeologists use subscripts to mark different signs that have the same phonetic value. So for example, *gu* is “flax,” *gu₂* is “neck,” and *gu₃* is “voice.” When transcribing logograms, capital letters are used, such as MUSHEN for “bird” or, as just mentioned, KU for “plow.” The roots *ku-/*k(u)- are also found in Indo-European and Semitic languages.

The second part of the word *cumom* is the Sumerian word *u₂-ma-am* (form of the word *umamu*), meaning “beasts,” which is attested to in the Old Babylonian Period (1950–1530 BC). While not a perfect match chronologically, variants of the word have attestations dating potentially back to 2120 BC (Pennsylvania Sumerian Dictionary 2006).

Based on the etymology of *cumom*, meaning “plow beast,” the departure of the Jaredites would have been between or before 2500 BC and 2230 BC. Like the timeframe for *curelom*, there is some give and take for this dating.

Other Sumerian etymological units found within the word *cumom* are:

<i>u</i> : sheep or ewe	2600–1000 BC
<i>u₈-am₃</i> (form of <i>u</i>)	1950–1530 BC
<i>mah</i> : milk producing (of cows)	2600–1530 BC

Constructed Compound Word: **KU-ma-am**

Other Jaredite Words Found in Sumerian

For the remainder of this section, the Sumerian dictionary consulted is the online Pennsylvania Sumerian Dictionary, typically referred to as the ePSD. For Semitic and Egyptian references, the Book of Mormon Onomasticon and the online Abarim Publications website for Hebrew biblical names are the primary sources consulted. When various forms of Sumerian words are noted, no analysis is given of the rules involving Sumerian prefixes or suffixes, so further research and analysis are needed.

Gazelem

Alma 37:23

And the Lord said: I will prepare unto my servant Gazelem, a stone, which shall shine forth in darkness unto light, that I may discover unto my people who serve me, that I may discover unto them the works of their brethren, yea, their secret works, their works of darkness, and their wickedness and abominations.

The punctuation seems to indicate that *Gazelem* is the name of the stone, not the servant, but this interpretation is not universal. However, since punctuation was added to the Book of Mormon later, it is possible that the term refers to the servant instead of the stone, or perhaps to both.

The actual identification of *Gazelem* is not certain, but the most likely candidates are the seer stones used by Mosiah₂ and Joseph Smith. The Jaredites are the people whose secret works *Gazelem* brings to light, and both Mosiah₂ and Joseph Smith are supposed to have used seer stones to translate the Jaredite record.

The Book of Mormon Onomasticon (2016) offers potential Hebrew etymologies for *Gazelem* that appear to be promising but does not explore any Sumerian possibilities. There is a fairly direct Sumerian etymology for the word. When considering the timeframes listed for the attestations of each word, one should recognize that each word was probably used earlier than the time period listed. As discussed previously, the Book of Mormon words with Sumerian etymology may have some variations in order and syntax based on the New World setting. In addition, it became apparent in the translation of the Characters Document that all of the personal and place names contain multiple meanings (sometimes in the complete name and sometimes in a portion of the glyphs). That fact should be kept in mind when approaching any search for meaning in Book of Mormon names.

The multiple Sumerian words from which *Gazelem* can be derived are:

<i>ĝizza</i> : wisdom, understanding, hearing	2600–2450 BC, 1950 BC–1530 BC
<i>lum</i> : to shine	2500–2004 BC, 1950–1530 BC
<i>za'am</i> : piece of stone	unknown
<i>zal</i> : to shine	1950–1530 BC
<i>le'um</i> : writing board	unknown
<i>za</i> : gem	2340–2023 BC, 1950–1530 BC

Constructed Compound Word: *Ĝizzalum*

It would appear that the definition of this word would not include that of “servant,” favoring the punctuation that implies the name *Gazelem* refers to the stone. However, it should be noted that the word for “priest” in Sumerian is *lumah*, which is similar to the last syllable of *Ĝizzalum*.

Rameumptom

In the first century BC, Alma₂ and a group of missionary companions visited the Zoramites, who were practicing an apostate form of religion that involved an elevated place in the center of their synagogue where one person could recite a prayer. This elevated place was referred to as *Rameumptom*, which was interpreted as “the holy stand.”

Alma 31:

12 Now, when they had come into the land, behold, to their astonishment they found that the Zoramites had built synagogues, and that they did gather themselves together on one day of the week, which day they did call the day of the Lord; and they did worship after a manner which Alma and his brethren had never beheld;

13 For they had a place built up in the center of their synagogue, a place for standing, which was high above the head; and the top thereof would only admit one person.

14 Therefore, whosoever desired to worship must go forth and stand upon the top thereof, and stretch forth his hands towards heaven, and cry with a loud voice, saying:

15 Holy, holy God; we believe that thou art God, and we believe that thou art holy, and that thou wast a spirit, and that thou art a spirit, and that thou wilt be a spirit forever.

16 Holy God, we believe that thou hast separated us from our brethren; and we do not believe in the tradition of our brethren, which was handed down to them by the childishness of their fathers; but we believe that thou hast elected us to be thy holy children; and also thou hast made it known unto us that there shall be no Christ.

17 But thou art the same yesterday, today, and forever; and thou hast elected us that we shall be saved, whilst all around us are elected to be cast by thy wrath down to hell; for the which holiness, O God, we thank thee; and we also thank thee that thou hast elected us, that we may not be led away after the foolish traditions of our brethren, which doth bind them down to a belief of Christ, which doth lead their hearts to wander far from thee, our God.

18 And again we thank thee, O God, that we are a chosen and a holy people. Amen.

19 Now it came to pass that after Alma and his brethren and his sons had heard these prayers, they were astonished beyond all measure.

20 For behold, every man did go forth and offer up these same prayers.

21 Now the place was called by them Rameumptom, which, being interpreted, is the holy stand.

22 Now, from this stand they did offer up, every man, the selfsame prayer unto God, thanking their God that they were chosen of him, and that he did not lead them away after the tradition of their brethren, and that their hearts were not stolen away to believe in things to come, which they knew nothing about.

The Book of Mormon Onomasticon provides a reasonable Hebraic etymology for *Rameumptom*, but a Sumerian etymology is also apparent:

<i>ra</i> : to be pure	unknown
<i>me</i> : Being, divine properties enabling cosmic activity; office; (cultic) ordinance	2500–2023 BC, 1950–1530 BC
<i>e</i> : temple; room	2600–2023 BC, 1950–1776 BC
<i>e</i> : perfect plural and imperfect stem of <i>dug</i> [to speak]	2500–1530 BC
<i>u</i> : to voice, cry	2340–2200 BC
<i>me'am</i> : term of endearment, dear	unknown
<i>mi-am</i> (form of <i>mi</i>): to praise	2500–2350 BC

<i>ama</i> : cell or chamber	2500–2350 BC, 2112–2004 BC
<i>pu</i> : lower course, footing; depth	2500–2350 BC, 2112–1000 BC
<i>pu₂-ta</i> (form of <i>pu</i>)	1530–1000 BC
<i>tam</i> : to be pure, to be clean	2340–2200 BC, 1950–1530 BC
<i>tum</i> : suitable, acceptable	2500–2004 BC, 1950–1530 BC

Constructed Compound Word (among other possibilities): Rameamaputum

The Nephite Metrology (Measuring) System

The Book of Mormon identifies how values of gold and silver were compared against the “measure of barley, and also for a measure of every kind of grain.”

Alma 11:3–19

3 And the judge received for his wages according to his time—a senine of gold for a day, or a senum of silver, which is equal to a senine of gold; and this is according to the law which was given.

4 Now these are the names of the different pieces of their gold, and of their silver, according to their value. And the names are given by the Nephites, for they did not reckon after the manner of the Jews who were at Jerusalem; neither did they measure after the manner of the Jews; but they altered their reckoning and their measure, according to the minds and the circumstances of the people, in every generation, until the reign of the judges, they having been established by king Mosiah.

5 Now the reckoning is thus—a senine of gold, a seon of gold, a shum of gold, and a limnah of gold.

6 A senum of silver, an amnor of silver, an ezrom of silver, and an onti of silver.

7 A senum of silver was equal to a senine of gold, and either for a measure of barley, and also for a measure of every kind of grain.

8 Now the amount of a seon of gold was twice the value of a senine.

9 And a shum of gold was twice the value of a seon.

10 And a limnah of gold was the value of them all.

11 And an amnor of silver was as great as two senums.

12 And an ezrom of silver was as great as four senums.

13 And an onti was as great as them all.

14 Now this is the value of the lesser numbers of their reckoning—

15 A shiblon is half of a senum; therefore, a shiblon for half a measure of barley.

16 And a shiblum is a half of a shiblon.

17 And a leah is the half of a shiblum.

18 Now this is their number, according to their reckoning.

19 Now an antion of gold is equal to three shiblons.

A delineation of silver and gold values in terms of relative standard barley measures, as described in the above scripture, appears in the following table:

Table 2. Nephite Metrological Comparisons

Measures of Barley	Amount of Gold	Amount of Silver
7	limnah	onti
4	shum	ezrum
2	seon	amnor
1.5	antion	
1	senine	senum
.5		shiblon
.25		shilum
.125		leah

So far, all past research, as represented in the Book of Mormon Onomasticon, has not successfully identified etymological sources for these terms of measurement. Sumerian provides direct etymology for most of the terms and reasonable etymologies for all the terms. Sorenson (2013) suggested that the Akkadian or Sumerian morpheme *she* (which signifies “barley” or “grain”) was a possible etymological source, given the fact that the morpheme has a secondary meaning of “unit of measure” (305).

By way of note, the small number subscripts on the Sumerian words do not change the pronunciation. Some different Sumerian glyphs carry the same pronunciation, and the number designates which is the underlying glyph. In addition, the phonetic *š* makes an English *sh* sound. The spelling of *ezrum* and *shiblon* are taken from Skousen’s analysis of the Original and Printer’s Manuscript of the Book of Mormon (Skousen 2009). The Sumerian etymologies of the Nephite measurement system are as follows:

limnah

<i>la</i> : to weigh	2500–2004 BC, 1950–1530 BC
<i>imin</i> : seven	2500–2350 BC, 2260–2004 BC, 1950–1530 BC
<i>imin-na</i> (form of <i>imin</i>)	2112–2004 BC

As can be seen from the above table, a *limnah* is equivalent to seven measures of grain, an excellent match. Other Sumerian etymological units related to measurement found in the word *limnah* are:

<i>na</i> : stone weight	2500–1530 BC
<i>na₄-a</i> (form of <i>na</i>)	1950–1530 BC
<i>i</i> : container for oil	2600–1530 BC
<i>i₃-am₃</i> (form of <i>i</i>)	2112–2004 BC

Constructed Compound Word: l(a)imin-na

shum

<i>še</i> : barley, grain; a unit weight/volume/length/area	2500–2004 BC, 1950–1000 BC
<i>še-am₃</i> (form of <i>še</i>)	2112–2004 BC, 1950–1530 BC
<i>še-me</i> (form of <i>še</i>)	2112–2004 BC

Other Sumerian etymological units related to measurement found in the word *šum* are:

<i>šu</i> : basket	2500–2350 BC
<i>šu</i> : a stone or shell (pestle)	1950–1530 BC
<i>šuhum</i> : a stone or shell	1950–1530 BC
<i>u</i> : grain	unknown
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-am₃, u₂-um</i> (forms of <i>u</i>)	1950–1530 BC

Constructed Compound Word: *š(e)-(a)um₃* (the sound of *š* is “sh” in English)

seon

<i>še</i> : barley, grain; a unit weight/volume/length/area	2500–2004 BC, 1950–1000 BC
<i>še-ni</i> (form of <i>še</i>)	2340–2200 BC, 2112–2004 BC

Other Sumerian etymological units related to measurement found in the word *seon* are:

<i>e</i> : barley?	1950–1530 BC
<i>e</i> : to measure (grain) roughly (with a stick)	2600–1530 BC
<i>e₃-a-ni</i> (form of <i>e</i>)	1950–1530 BC
<i>e</i> : chaff	2500–1530 BC
<i>e₃-ni</i> (form of <i>e</i>)	2112–2004 BC
<i>u</i> : grain	unknown
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-ni, u₂-ne, u₂-na</i> (forms of <i>u</i>)	2340–2200/1950–1530 BC, 2112–2004 BC, 1950–1530 BC
<i>un</i> : (to be) high	1950–1530 BC

Constructed Compound Word: *še-on*

antion

<i>ana</i> : as much as; equivalent to (mathematically)	2500–2200 BC, 2112–2004 BC, 1950–1530 BC
<i>te-am₃ ta-am₃, ta, te, na₂</i> (forms of <i>ana</i>)	1950–1530 BC

Other Sumerian etymological units related to measurement found in the word *antion* are:

<i>ana</i> : upper	2600–2450/1950–1530 BC
<i>anta</i> : upper	2600–2450/1950–1530 BC
<i>u</i> : grain	unknown
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-ni, u₂-ne, u₂-na</i> (forms of <i>u</i>)	2340–2200/1950–1530 BC, 2112–2004 BC, 1950–1530 BC
<i>un</i> : (to be) high	1950–1530 BC
<i>i</i> : container for oil	2600–1530 BC
<i>i₃-ni, NI</i> (form of <i>i</i>)	1950–1530 BC

<i>na</i> : stone weight	2500–1530 BC
<i>na₄-a</i> (form of <i>na</i>)	1950–1530 BC

Constructed Compound Word: **ant(a)ion** (The unit “o” can be represented as either “a” or “u.”)

senine

<i>še</i> : barley, grain; a unit weight/volume/length/area	2500–2004 BC, 1950–1000 BC
<i>še-ni</i> (form of <i>še</i>)	2340–2200 BC, 2112–2004 BC
<i>NE</i> : designation of silver	2500–2350 BC, 2112–2004 BC
<i>NE-NE</i> : designation of silver	2500–2350 BC, 2112–2004 BC

Other Sumerian etymological units related to measurement found in the word *senine* are:

<i>e</i> : barley?	1950–1530 BC
<i>e</i> : to measure (grain) roughly (with a stick)	2600–1530 BC
<i>e₃-a-ni</i> (form of <i>e</i>)	1950–1530 BC
<i>e</i> : chaff	2500–1530 BC
<i>e₃-ni</i> (form of <i>e</i>)	2112–2004 BC
<i>i</i> : container for oil	2600–1530 BC
<i>i₃-ni, NI</i> (form of <i>i</i>)	1950–1530 BC

Constructed Compound Word: **še-niNE**

onti

<i>anta</i> : upper	2600–2450 BC, 1950–1530 BC
<i>unta</i> : to be high	1950–1530 BC

The *onti* was described as being “as great as them all” (Alma 11:13).

Other Sumerian etymological units related to measurement found in the word *onti* are:

<i>u</i> : grain	unknown
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-ni, u₂-ne, u₂-na</i> (forms of <i>u</i>)	2340–2200/1950–1530 BC, 2112–2004 BC, 1950–1530 BC
<i>i</i> : container for oil	2600–1530 BC
<i>i₃-ni, NI</i> (form of <i>i</i>)	1950–1530 BC

Constructed Compound Word: **ont(a)i** (The unit “o” can be represented as either “a” or “u.”)

ezrum

<i>eš rah</i> : to measure	1950–1530 BC
<i>e</i> : to measure (grain) roughly (with a stick)	2600–1530 BC
<i>e₃-zu</i> (form of <i>e</i>)	1950–1530 BC

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<i>rum</i> : perfect, ideal	2112–2004/1950–1530 BC
<i>u</i> : grain	unknown

Other Sumerian etymological units related to measurement found in the word *ezrum* are:

<i>e</i> : barley?	1950–1530 BC
<i>e</i> : chaff	2500–1530 BC
<i>e₃-a-am₆, e₃-a-am₃, e₃-am₃</i> (forms of <i>e</i>)	2500–2350 BC, 2340–2200/2112–2004 BC, 2340–2200 BC
<i>zar</i> : sheaf (of barley); stack of sheaves	2500–2350/2112–2004 BC
<i>zar-ra</i> (form of <i>zar</i>)	1950–1530 BC
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-um, u₂-am₃, u₂-mu</i> (forms of <i>u</i>)	1950–1530 BC, 2112–2004 BC

Constructed Compound Word: *e₃-z(u)rum*

amnor

<i>ama</i> : cell; chamber	2500–2350 BC, 2112–2004 BC
<i>a-min-ni</i> (form of <i>ama</i>)	2112–2004 BC
<i>mana</i> : unit of weight	2600–2004 BC, 1950–1530 BC
<i>na</i> : stone; stone weight	2500–1530 BC
<i>u</i> : grain	unknown
<i>ur</i> : that, this same; one; corresponding (to one another); like (one another)	2260–1530 BC

Other Sumerian etymological units related to measurement found in the word *amnor* are:

<i>na</i> : pestle; a stone	1950–1530 BC
<i>nir</i> : valuable stone	2112–2004 BC, 1950–1530 BC
<i>nu</i> : (to be) not, no; without, un-	2500–1530 BC
<i>nu-ur₂, a-ma-nu</i> (forms of <i>nu</i>)	2112–2004 BC
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-ra</i> (form of <i>u</i>)	2112–2004 BC
<i>ur</i> : (to be) abundant	1950–1530 BC

Constructed Compound Word: *am(a)n(a)or* (The unit “o” can be represented as “a” or “u.”)

senum

<i>šenumun</i> : seed	2500–2200 BC, 2112–2004 BC, 1950–1530 BC
<i>še</i> : barley; grain; a unit weight/volume/length/area	2500–2004 BC, 1950–1000 BC
<i>[še]-nim</i> (form of <i>še</i>)	1950–1530 BC
<i>še-ni</i> (form of <i>še</i>)	2340–2200 BC, 2112–2004 BC
<i>še-am₆</i> (form of <i>še</i>)	2112–2004 BC, 1950–1530 BC
<i>e</i> : to measure (grain) roughly (with a stick)	2600–1530 BC
<i>e₃-a-ni</i> (form of <i>e</i>)	1950–1530 BC
<i>u</i> : grain	unknown

Other Sumerian etymological units related to measurement found in the word *šenum* are:

<i>e</i> : barley?	1950–1530 BC
<i>e</i> : chaff	2500–1530 BC
<i>e₃-ni</i> (form of <i>e</i>)	2112–2004 BC
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-um, u₂-am₃, u₂-mu</i> (forms of <i>u</i>)	1950–1530 BC, 2112–2004 BC
<i>nu</i> : (to be) not, no; without, un-	2500–1530 BC
<i>nu-ma</i> (form of <i>nu</i>)	2340–2200 BC

Constructed Compound Word: *šenum*(un)

shiblon

<i>še</i> : barley; grain; a unit	2500–2004 BC, 1950–1000 BC
weight/volume/length/area	
<i>še-bi-am₃</i> (form of <i>še</i>)	2112–2004 BC
<i>še-ba-am₃</i> (form of <i>šeba</i>) grain ration	2340–2200 BC
<i>ib</i> : middle	2340–2200/2112–1530 BC
<i>iba</i> : ration	1950–1530 BC
<i>ba</i> : to divide into shares, share, halve; to allot	2500–1530 BC
<i>i₃-ba, ib₂-ba</i> (forms of <i>ba</i>)	2500–2200/2112–1530 BC, 2112–1530 BC
<i>ba</i> : half; thirty	1950–1530 BC
<i>bala</i> : conversion (math.)	2600–1530 BC
<i>bal, šu-bal, i₃-bal, u₃-bal-e, bal-a-na,</i>	2600–1530 BC
<i>i₃-bal-la, bala-a-na, bala-a-ni, bil₂-a,</i>	
<i>i₃-bal-a, ib₂-bal-a</i> (forms of <i>bala</i>)	
<i>bala</i> : wastage (in processing grain)	unknown
<i>la</i> : to supervise, check; to weigh, weigh (out),	
pay; to hang, balance, suspend, be	
suspended; to winnow (grain)	
<i>la₂-e, bi₂-la₂, ib₂-la, i-ib₂-la₂, la₂-a-na,</i>	2600–1530 BC
<i>ba-la₂-a, la₂-a-ni</i> (forms of <i>la</i>)	

As can be seen in table 2 above, a *shiblon* is equal to half a measure, so the Sumerian etymology of *ib* (middle), *iba* (ration), and *ba* (half) is exactly correct.

Other Sumerian etymological units related to measurement found in the word *shiblon* are:

<i>i</i> : container for oil	2600–1530 BC
<i>i₃-bi, i₃-be₆</i> (forms of <i>i</i>)	2500–1530 BC, 2340–2200 BC
<i>lu</i> : (to be) abundant	2600–1530 BC

Constructed Compound Word: *š(e)ibalo-n(i)* (The unit “o” can be represented as “a” or “u.”)

shilum

<i>še</i> : barley, grain	2500–2004 BC, 1950–1000 BC
<i>sila</i> : a unit of capacity; a vessel	2600–1530 BC
<i>sila₃-um</i> (form of <i>sila</i>)	2112–2004 BC

<i>sila₃-am₃</i> (form of <i>sila</i>)	2112–2004 BC, 1950–1530 BC
<i>u</i> : grain	unknown
Other Sumerian etymological units related to measurement found in the word <i>shilum</i> are:	
<i>i</i> : container for oil	2600–1530 BC
<i>il</i> : a basket	unknown
<i>il</i> : to raise, carry	2500–1530 BC
<i>il₂-la-am₃, il₂-am₆, il₂-am₃</i> (forms of <i>il</i>)	1950–1530 BC, 2500–2350 BC, 2112–2004 BC
<i>lu</i> : (to be) abundant	2260–1530 BC
<i>lum</i> : a small drinking vessel	1950–1530 BC
<i>le'um</i> : writing board	unknown
<i>u</i> : bread, loaf; food; grass, herb	2500–1530 BC
<i>u₂-um, u₂-am₃, u₂-mu</i> (forms of <i>u</i>)	unknown

Constructed Compound Word: *š(e)(s)il(a)um*

leah

<i>la</i> : to weigh, weigh (out)	2600–1530 BC
<i>la₂-a</i> (form of <i>la</i>)	2500–2200 BC, 2112–2004 BC, 1950–1530 BC
<i>la₂-a-e, la₂-e</i> (forms of <i>la</i>)	1950–1530 BC
<i>e</i> : barley?	1950–1530 BC
<i>e</i> : to measure (grain) roughly (with a stick)	2600–1530 BC
<i>e₃-a-ni</i> (form of <i>e</i>)	1950–1530 BC

Other Sumerian etymological units related to measurement found in the word *leah* are:

<i>le'um</i> : writing board	unknown
<i>e</i> : chaff	2500–1530 BC
<i>e₃-a</i> (form of <i>e</i>)	1950–1530 BC
<i>ea</i> : a qualification of bitumen	1950–1530 BC
<i>ah</i> : (to be) dried (out), dry; to dry	2500–1530 BC

Constructed Compound Word: *l(a)eah*

As is apparent, this metrological system is directly derived from one of the Sumerian metrological systems. Interestingly, the actual measurement value for those Nephite measurements beginning with “sh” or “se” do not overlap in value between gold and silver except for *senine* and *senum*, with those being “equal.” That is consistent with the presence of a continuous Sumerian grain system of measurement. It is important to note the particular terminology utilized in the description. A “reckoning” refers to each of the individual measurements (gold, silver, and barley). The relationship of the individually measured amounts is only given internal to each system. The value tie between each of the three systems is set at the *senum-senine* measure of barley. The value is reiterated in the smaller amounts with the *antion-shiblon*-half measure of barley, which clarifies the relationship of the lower amounts of silver, where no lower gold amounts exist.

At this point, it is important to highlight a portion of the above-mentioned scripture:

. . . for they did not reckon after the manner of the Jews who were at Jerusalem; neither did they measure after the manner of the Jews; but they altered their reckoning and their measure, according to the minds and the circumstances of the people, in every generation, until the reign of the judges, they having been established by king Mosiah.

As the scripture indicates, the system was altered through the generations by the “circumstances of the people, in every generation.” The Nephites combined with the people of Mulek in 198 BC, with the reign of the judges commencing in approximately 89 BC, so there was at least a couple of generations of contact and mixing of the Nephites with a people that had direct contact with the end of the Jaredite era. It is possible that other Mesoamerican groups like the Maya incorporated Olmec/Jaredite elements into their measurement systems as well. When king Mosiah₂ apparently standardized the existing practices, the system exhibited both Hebraic and Jaredite/Sumerian elements.

Summary of Sumerian Grain-Measurement System and Other Numerical Systems

Approximately 1,200 different signs and sign variants have been isolated in the Sumerian archaic proto-cuneiform texts. Approximately 60 of them have been identified as numeric signs (See figure 11). The Sumerians had a complex assortment of incompatible archaic number systems, and each city had its own local way of writing numerals. Around 3200 BC, or slightly before, in the city of Uruk, there were more than 15 different numeric systems (See figure 12). In this city, there were separate number systems for counting discrete objects (such as animals, tools, and containers), cheese and grain products, volumes of grain (including fractions), beer ingredients, weights, land areas, and time and calendar units. Furthermore, these systems changed over time; for instance, numbers for counting volumes of grain changed when the size of the baskets carrying the grain changed.

The state adjacent to Sumer, Elam, also had a system of glyphs. Although most of the Elamite glyphs are different, the sequence of basic signs in the proto-Elamite numerical notations corresponds to that of the Sumerian proto-cuneiform notations (Damerow 1989, 21).

The actual Sumerian grain volume unit measurement has not yet been determined (meaning we don’t know how many cubic inches a grain “measure” was). All that is known is the ratio between the different units in the system, which is all we really know about the Nephite gold/silver system as well. As has been discussed, the Nephite gold/silver system, implemented by Mosiah, is consistent with the Israelite weight system ratios.

Since the Nephite measuring system is close to 3,000 years removed from the Uruk system, one would not expect complete similarity. Also, Mormon indicated that the system had been “altered” even during Nephite times. The ratios in the Nephite measuring system do not appear to be consistent with any of the Uruk metrological systems. Perhaps there are a few ratios consistent with EN System E shown in figure 12. Alma 11:3 indicates that the names *senine* and *senum* for the gold/silver units were given by the Nephites; we don’t know for sure who named the other units. At this point, it is clear that the Nephite measuring practice is consistent with the concept of having different metrological systems for each type of good or material and so is consistent with the Sumerian-Uruk archaic system in that respect. The Nephites used Sumerian/Jaredite names, with the meaning of some of the names containing descriptions consistent to the ratios. The system is also apparently derived, with some consistency, with Hebraic practice and Jaredite names. The change in “reckoning” and “measure” may also indicate a move from measurement of weight to one of volume.

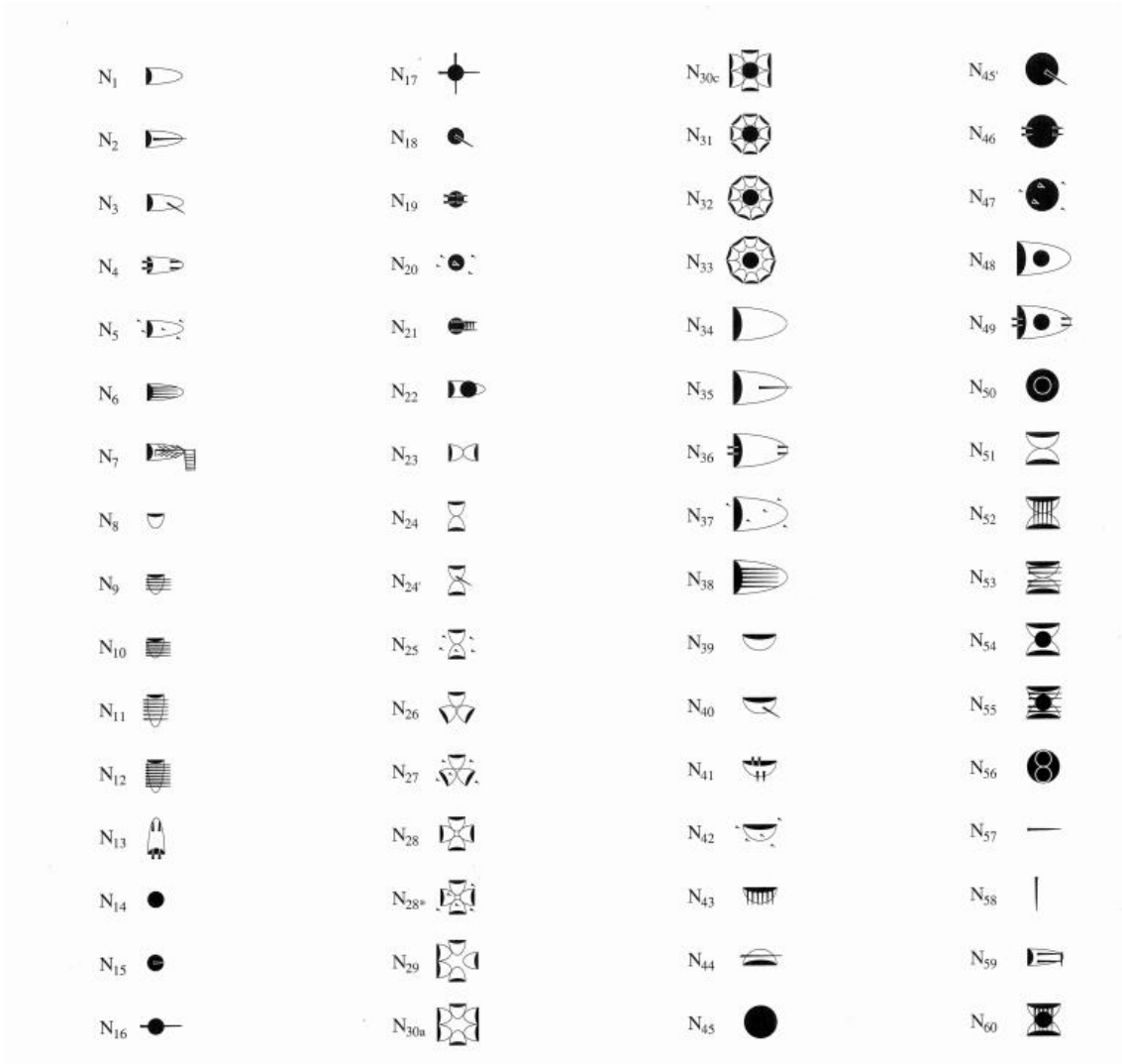
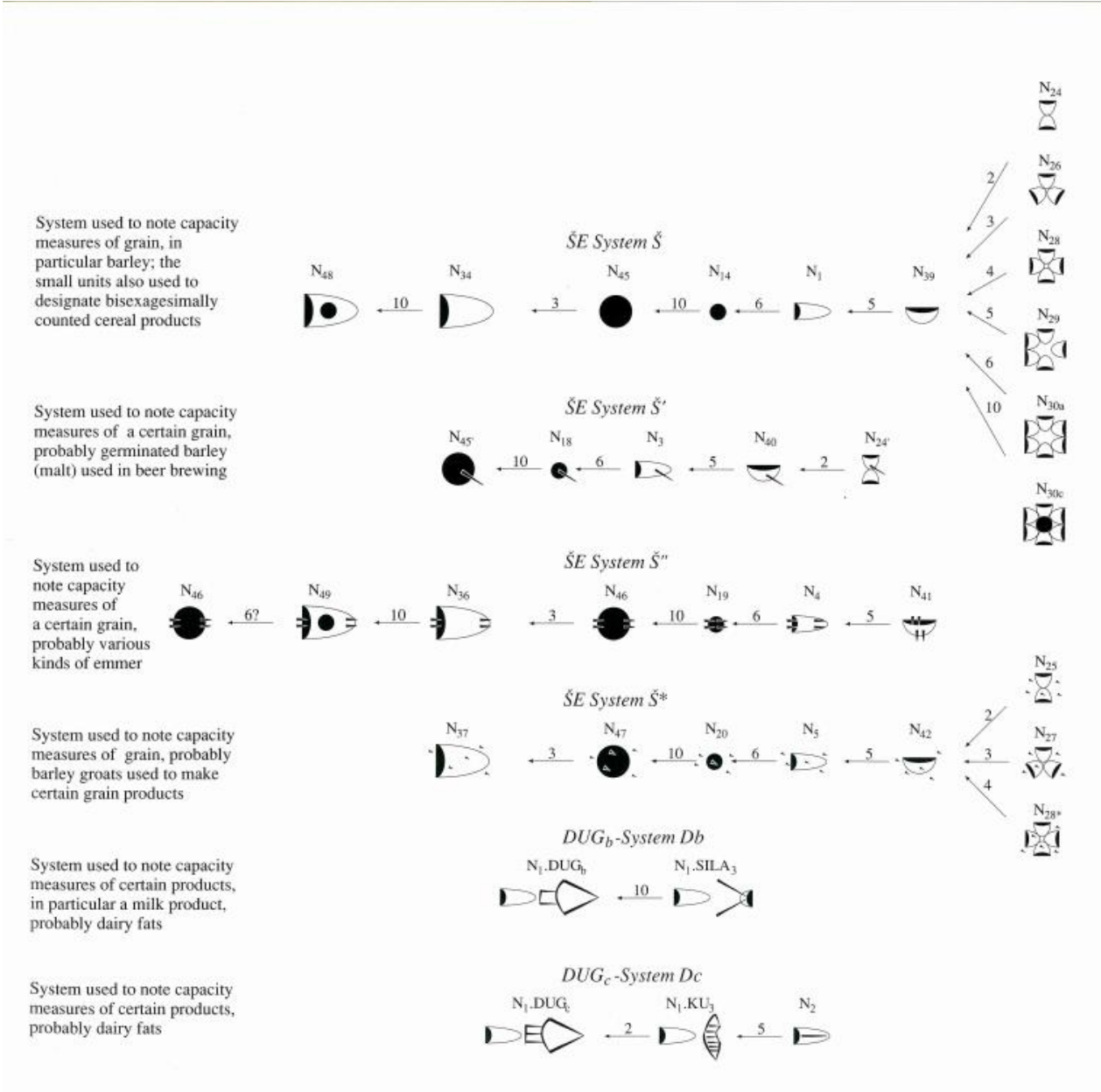


Figure 11. The numerical signs of the proto-cuneiform texts from Uruk. (Nissen et al. 1993, 26)



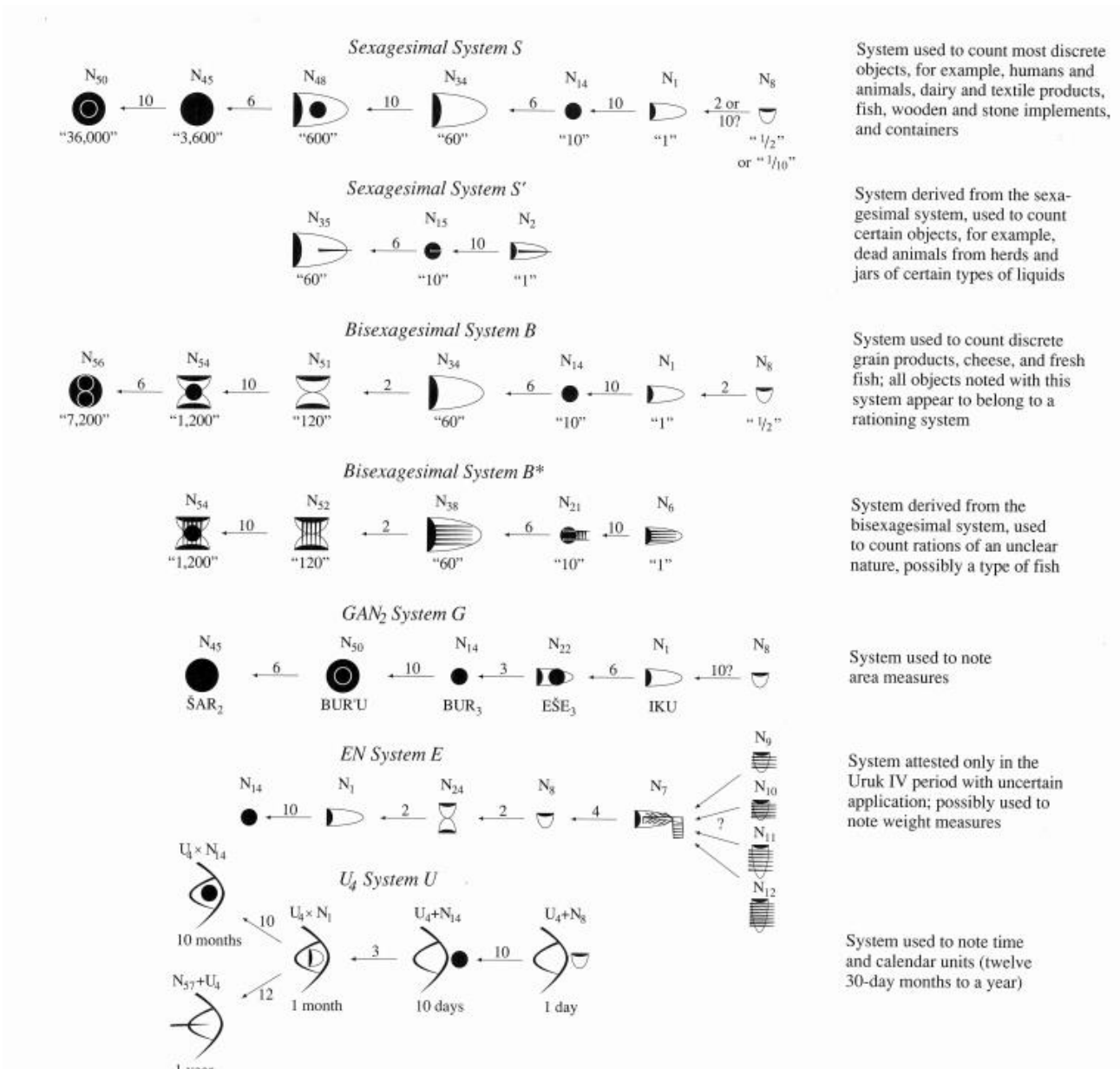


Figure 12. The numerical sign systems of the proto-cuneiform texts from Uruk. (Nissen et al. 1993, 28-29)

Nephite/Jaredite Terms Derived from SumerianSheum

The agricultural product *Sheum* was noted in Mosiah 9:9 while discussing what the party of Zeniff had commenced to plant circa 163 BC in the land of Nephi (in the neighborhood of the Valley of Guatemala, using the Sorenson model):

And we began to till the ground, yea, even with all manner of seeds, with seeds of corn, and of wheat, and of barley, and with neas, and with sheum, and with seeds of all manner of fruits; and we did begin to multiply and prosper in the land.

As was just indicated, the word *Sheum* has an exact Sumerian etymology of some type of grain:

še: barley, grain; a unit weight/volume/length/area	2500–2004 BC, 1950–1000 BC
še-am ₃ (form of še)	2112–2004 BC, 1950–1530 BC

Additional Sumerian etymological units for or related to grain contained in the word *Sheum* are:

e: barley?	1950–1530 BC
e: to measure (grain) roughly (with a stick) e ₃ -am ₃ , e ₃ -a-am ₃ (forms of e)	2600–1530 BC 2340–2200 BC, 2340–2200/2112–2004 BC
e: chaff e ₃ -a-am ₆ , e ₃ -a-am ₃ , e ₃ -am ₃ , e ₃ -a-me (forms of e)	2500–1530 BC 2500–2350 BC, 2340–2200/2112–2004 BC, 2340–2200 BC, 2112–2004 BC
u: grain	unknown
u: bread, loaf; food; grass, herb u ₂ -am ₃ , u ₂ -um (forms of u)	2500–1530 BC 1950–1530 BC, 2112–2004 BC

Constructed Compound Word: Šeu₂-um (the sound of š is “sh” in English)

Neas

Sumerian words and morphemes that provide a reasonable etymological construction for *neas* are:

us: a qualification of grain na-an-us (form of us)	2500–2004 BC, 1950–1530 BC 2112–2004 BC
e: to sow nu-e ₃ (form of e) na-e ₃ -e (form of e) na-e ₃ (form of e) na-e ₃ -e ₃ (form of e)	2600–1530 BC 2112–2004 BC, 1950–1530 BC 1950–1530 BC 1950–1530 BC 2112–2004 BC
i'iz: seed	unknown
ANIŠ: a plant	unknown
Nla: a plant	2600–2450 BC
NEhan: type of tree	2500–2004 BC, 1950–1530 BC
NE: designation of trees	1950–1530 BC
eš: a tree	1950–1530 BC

Constructed Compound Word: NEeš or Nla(u)s

Liahona

Since the *Liahona* was found by Lehi while still in the Old World, one might expect that the word would have a reasonable Semitic etymology. However, the actual name of the directional ball or compass made of fine brass is not indicated in the Book of Mormon until hundreds of years later, in Alma 37:38:

And now, my son, I have somewhat to say concerning the thing which our fathers call a ball, or director—or our fathers called it Liahona, which is, being interpreted, a compass; and the Lord prepared it.

The Book of Mormon Onomasticon does not identify any reasonable Hebrew or other etymology behind this term—those listed appear to be quite tortured. Jonathan Curci, however, does provide a reasonable Hebraic etymology with “direction of the Lord,” (Curci 2007). An on-point compound etymology for *Liahona* is also found in Sumerian:

<i>la</i> : to supervise, check; to show, display; to balance	2600–2004 BC, 1950–1530 BC
<i>la₂-a, la₂-e, la₂-a-e, la₂-a-na, la₂-a-ni</i> (forms of <i>la</i>)	2500–2004 BC, 1950–1530 BC
<i>i</i> : oil, container for oil (indicates priestly function)	2600–1530 BC
<i>i₃-a</i> (form of <i>i</i>)	1950–1530 BC
<i>hunu</i> : to be helpless	2112–2004 BC, 1950–1530 BC
<i>al-hu-nu, hu-nu-a</i> (forms of <i>hunu</i>)	1950–1530 BC
<i>a</i> : power	2600–1530 BC
<i>an</i> : heaven	2600–1530 BC
<i>a-na, an-na</i> , (forms of <i>an</i>)	2600–1530 BC
<i>un</i> : to arise	1950–1530 BC
<i>u₃-na, un₃-na</i> , (forms of <i>un</i>)	1950–1530 BC
<i>anna</i> : approval	1950–1530 BC
<i>anna</i> : metal (interpreted as tin or lead)	2500–2004 BC, 1950–1530 BC

The word for “brass” does not exist in Sumerian, so *anna* would appear to be a reasonable substitute.

Constructed Compound Word: *L(a)iahon(u)a* (The unit “o” can be represented as “a” or “u.”)

Deseret

Ether 2:3, 5–6

3 And they did also carry with them deseret, which, by interpretation, is a honey bee; and thus they did carry with them swarms of bees, and all manner of that which was upon the face of the land, seeds of every kind.

5 And it came to pass that the Lord commanded them that they should go forth into the wilderness, yea, into that quarter where there never had man been. And it came to pass that the Lord did go before them, and did talk with them as he stood in a cloud, and gave directions whither they should travel.

6 And it came to pass that they did travel in the wilderness, and did build barges, in which they did cross many waters, being directed continually by the hand of the Lord.

No word for bee has been located in Sumerian. However, the words for honey (*lal*), beekeeper (*lu-lal*), and honeycomb (*gab-lal*) exist. Honey was used in Sumerian rituals, as indicated by cylinders that describe the building of a new temple for the god Ningirsu by Gudea, the ruler of the city of Lagash in about 2450 BC (Ransome 1937,

35). The Book of Mormon Onomasticon (2015), citing Hugh Nibley, indicates a possible Egyptian etymology for *deseret* as *dšr.t*.

There may also be a biblical Hebrew root element in the word *Deseret* that is consistent with the honeybee in the form of the word *šarats*, which can mean “to swarm” and is found in Exodus 8:3 and other locations in the Bible.

One question that arises in regard to *Deseret* is why the Jaredite word *Deseret* would need clarification to the Nephites when the 24 plates of the Jaredites were interpreted and translated. It is likely because the honeybee is described as a “stinging insect” in the Sumerian form of *Deseret*. All of the bees used for production of honey in ancient Mesoamerica were stingless bees native to America. A description of a “stinging insect” would not be consistent with the domesticated honeybees of ancient Mesoamerica known to the Nephites, so even if they did understand the Sumerian roots of the word, the term would need to be interpreted to be understood.

The Maya cultural practice of bee husbandry dates back thousands of years. In the ancient Maya culture, honey was used as a sweetener, antibiotic, and as an ingredient in the Maya version of mead, a fermented drink. Of the 500 or so species of stingless bees in the tropical world, the favorite species among Maya beekeepers has been *Melipona beecheii*. Its traditional name, *xunan kab* (or *kolil kab* in the Mayan language), means “royal lady.”

In the Maya tradition, a priest harvested stingless bee honey as part of a religious ceremony twice a year. To increase the number of hives and honey production, beekeepers would regularly divide existing nests. (Lovgren 2005)

The stingless bees (*Melipona Beecheii* and *Melipona Yucatanica*) are the only native bees cultured to any degree in Central America, have been kept by the Maya people for thousands of years, and, as mentioned, are part of their traditional religious ceremonies. The bees are kept like family pets in log hives or pots passed down from generation to generation. The religious use of the honeybee by ancient Mesoamericans and *Deseret*’s capitalized first letter is also consistent with the capitalization of the words for other religious terms in the Book of Mormon (e.g., *Liahona*, *Rameumptom*, etc.).

There is no indication in the Book of Mormon that the Jaredite honeybees were transported to the New World. *Deseret* is mentioned only in the Old World in the valley of Nimrod (Ether 2:1–3), and the bees appear to have been carried with the Jaredites only over the first leg of their journey “into the quarter where there never had man been.” It is possible bees were carried as far as the stop the Jaredites made “beyond the sea in the wilderness” on their trip in barges (Ether 2:5–7), provided that they were periodically near land where the bees could successfully forage. On the last leg of their journey, consisting of a long voyage on the open sea, it is unlikely that honeybees could have survived. Notably, there is no specific reference to taking bees aboard the Jaredite ships when other animals are mentioned (Ether 6:4). The Jaredites were traveling in barges that needed to be airtight at times when the seas were rough, so swarms of bees would have been poor shipmates. Finally, Old World bees were not found in the pre-Columbian New World.

Like other Book of Mormon names, *Deseret* also seems to incorporate other elements of the Jaredite honey bee story into the Sumerian word such as “to carry,” “to go,” “to leave,” and, perhaps, “water”:

<i>de</i> : to carry	2500–2004 BC, 1950–1000 BC
<i>de₆-a-še₃</i> , <i>de₆-a-aš</i> (forms of <i>de</i>)	2112–2004 BC
<i>sa</i> : to sting	2500–2350 BC, 2112–2004 BC, 1950–1530 BC
<i>eh</i> : insect, bug	2600–2450 BC, 1950–1530 BC, 1000 BC
<i>re</i> , <i>er</i> , <i>ere</i> : to go	2112–2004 BC

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<i>e</i> : to leave	2600–1530 BC
<i>e-ta-a₃</i> (form of <i>e</i>)	2500–2350 BC
<i>e₃-ta</i> (form of <i>e</i>)	1950–1530 BC
<i>a</i> : water	2600–1000 BC
<i>a-ta</i> (form of <i>a</i>)	2112–2004 BC, 1950–1530 BC

Constructed Compound Word: *Des(a)e(h)re₃t(a)*

Ziff

I completed an extensive analysis of *Ziff* in a recent book, *Ziff, Magic Goggles, and Golden Plates* (Grover 2016), which established a likely Aramaic and biblical Hebrew etymology involving the Aramaic and Arabic word *zyf*. I determined that *Ziff* was a gold-gilded metal with religious significance, specifically because of its reddish color, likely indicative of the Mesoamerican religious significance of blood. A similar meaning is derived from Sumerian, with the condition that the “ff” is reflected as a “b” sound. Taken together, it can literally mean the color of life, which, in a Mesoamerican context, can mean blood.

zib: a mark; mark, token; color, paint

Additional etymological units for or related to the religious significance of *Ziff* from Sumerian are:

<i>zi</i> : life	2600–1530 BC
<i>zi-ba, zi-bi</i> (forms of <i>zi</i>)	1950–1530 BC
<i>i</i> : oil; container for oil (royal or priestly anointing, discussed later)	2600–1530 BC
<i>i₃-be₆</i> (form of <i>i</i>)	2340–2200 BC
<i>i₃-bi</i> (form of <i>i</i>)	2500–2200 BC, 2112–1530 BC

Constructed Compound Word: *zib*

Additional “Glossed” Words

There are certain names and words in the Book of Mormon that are “glossed,” meaning that specific definitions are provided for the terms. In such cases, it is not entirely necessary to look at all possible etymologic units, just those related to the definition already given. The following are Book of Mormon, post-Jaredite words that are considered “glossed”:

Rabbanah

Alma 18:13

And one of the king’s servants said unto him, Rabbanah, which is, being interpreted, powerful or great king, considering their kings to be powerful; and thus he said unto him: Rabbanah, the king desireth thee to stay.

<i>rabianum</i> : commander, high official	1950–1530 BC
<i>a</i> : strength, power	2600–1776 BC
<i>a₂-a</i> (form of <i>a</i>)	2112–2004, 1950–1530 BC
<i>he</i> : be it, be he	2500–2200 BC

Constructed Compound Word: *Rabian(um)ah(e)*

Irreantum

1 Nephi 17:5

And we beheld the sea, which we called Irreantum, which, being interpreted, is many waters.

<i>ir</i> : mighty	1950–1530 BC
<i>ir₉-ra</i> (form of <i>ir</i>)	1950–1530 BC
<i>re</i> : that	1950–1530 BC
<i>re-a</i> (form of <i>re</i>)	1950–1530 BC
<i>iri</i> : high	2340–2200 BC
<i>ene</i> : the plural suffix marker	1950–1530 BC
<i>anta</i> : upper	1950–1530 BC
<i>a</i> : water	2600–1530 BC
<i>a-am</i> (form of <i>a</i>)	2112–2004 BC, 1950–1530 BC
<i>tam</i> : to be bright; to be pure; to be clean	2340–2200 BC, 1950–1530 BC

Constructed Compound Word: *Irreantam*

Onidah

Alma 47:5

. . . they fled to Onidah, to the place of arms.

The Original Manuscript and the Printer’s Manuscript of the Book of Mormon both identify the correct spelling of Onidah as “Oneidah” in Alma 47:5. A very good gloss that includes meanings similar to a place of arms where the Lamanites fled is found in the Sumerian:

<i>a</i> : arm; strength; wage; power
<i>a</i> : arm; strength; wage; power
<i>A</i> : a weapon or a leather holder for a weapon
<i>an</i> : sky, heaven; upper; crown (of a tree)
<i>an-e, an-ne, an-ne₂</i> (forms of <i>an</i>)
<i>an</i> : date spadix (shape of a javelin)
<i>un</i> : to arise; sky; (to be) high
<i>un₃-e</i> (form of <i>un</i>)
<i>e</i> : estate
<i>e</i> : to leave, to go out; to remove, take away; to bring out; to enter; to bring in; to winnow
<i>e₃-i₃</i> (form of <i>e</i>)
<i>da</i> : edge, side
<i>he</i> : be it

Constructed Compound Word: **Onei₃dah(e)** (The unit “o” can be represented as either “a” or “u.”)

Ripliancum

Ether 15:8 provides a meaning for the word *Ripliancum*: “the waters of Ripliancum, which, by interpretation, is large, or to exceed all.” Sumerian provides essentially an exact etymology as specified in the Book of Mormon, with additional related terms:

ri: to be distant

ri-a (form of *ri*)

ri, Ri: to pour out

Ri-a (form of *ri*)

rib: (to be) surpassing, outstanding; (to be) strong, massive

li: branch

la: flooding

la: to stretch out

a: water

a-ni, a-na, a-ka, a-ke₄ (forms of *a*)

an: upper

an-na, an-ne₂, an-na-ke₄, an-e, an-na-ka, an-na-kam, an-kam (forms of *an*)

ana: upper

ana: as much as

a-na, a-na-a

ku: to spread, discharge

ku-um (form of *ku*)

kam: to alter

kaman: irrigation work

Constructed Compound Word: **Riblianum**

The fact that some name forms in the Book of Ether contain the letter [H] is important for Jaredite chronology because the sounds for Sumerian [H] and the Akkadian [h], [h̄], and [ḥ] were lost to the language by Ur III times (2119–1940 BC) at the latest (Edzard 2003, 175), meaning that the Jaredite departure would have to have been before 2000 BC. In addition, all Akkadian words that have an *m* ending (called mimmation) lost the *m* endings after 1600 BC, which is evidence of a departure prior to 1600 BC (www.personal.sron.nl/~jheise/akkadia).

Because the names almost universally have Sumerian roots, it can be assumed that the common language of the Jaredites at the time of their departure was Sumerian. Based on the dates when Sumerian was in common usage, and based on the dates of attestation of the various words identified above, a departure date prior to 2500 BC is the only viable option.

Forms of the Nephite Numbers 20, 30 and 300 in the Sumerian Proto-Cuneiform

In my translation of the Caractors Document, certain numbers found in the reformed Egyptian did not appear to have a strong base in Egyptian. Further investigation has determined that these numbers originated in the Sumerian/Elamite proto-cuneiform, and similar forms are also found in Mesoamerica. Each is discussed here. The C-# designation was the method used to identify each character in the Caractors Document.

Numbers 30 and 300



Number "30" C-158



Number "300" C-225

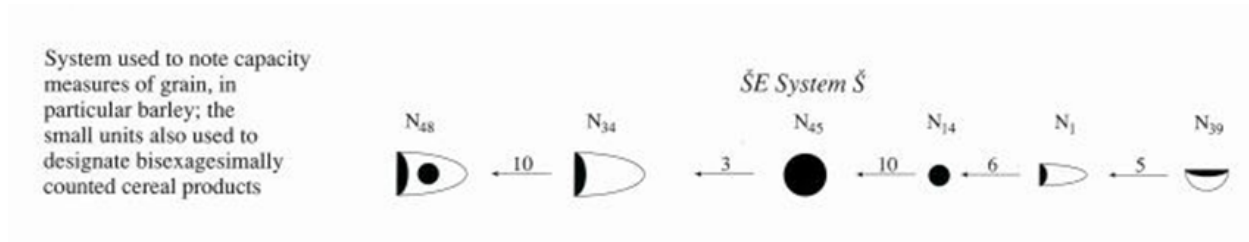
This number glyph form is found in Sumerian proto-cuneiform in the Early Dynastic I Period (ca. 2800–2700 BC) in a list known as the Burrows Archaic Texts Sign List (Burrows 1935). The relevant sections are extracted and shown here.

C	●	I, ■	<p>ten, passim. [In 225 apparently units precede tens. Cf. also 51 rev. ?]</p> <p>b(2), theoretic analogue to a, is rare: supplied from 185(gur).</p>
G		■	<p>88 ii 4: following traces of eight or more sixties. Probably <u>six hundred</u>. If so, the same tablet contains both a longer and a shorter writing of six hundred. Cf. longer and shorter writings of ten bur in System III (10 bur = sign III-H and also sign III-G repeated 10 times).</p>

THE M... ..

Number 20

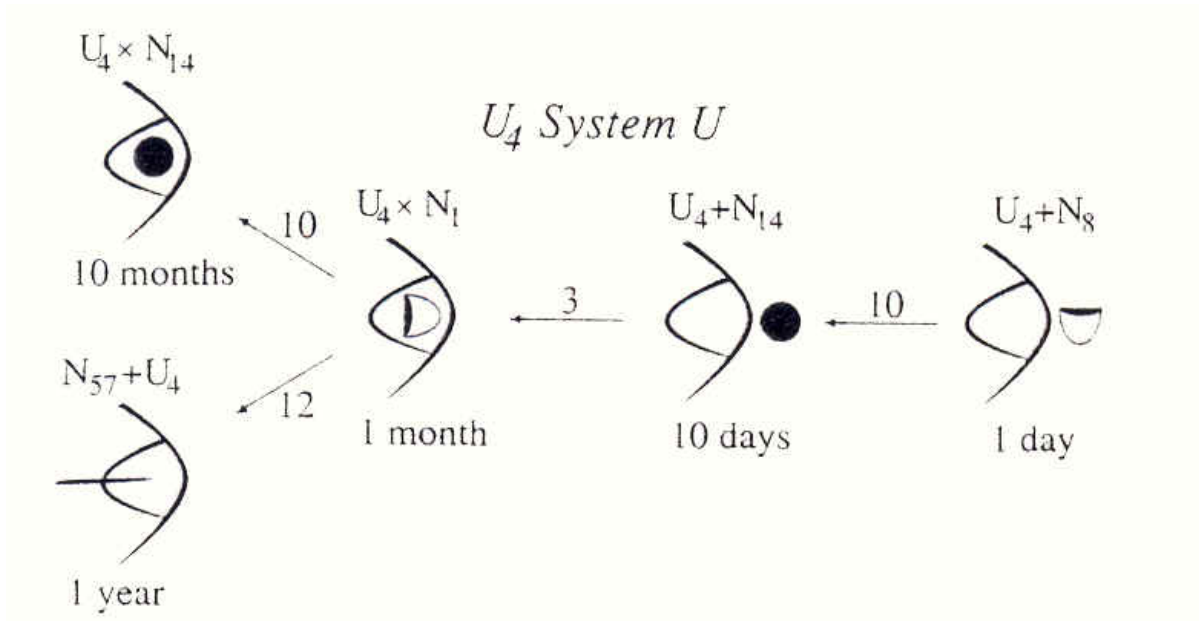
The number 20 in reformed Egyptian has the form of the cone-shaped Sumerian proto-cuneiform number and also has the general form for the Mesoamerican "shell" glyph, which can either represent 0 or 20. In the Sumerian ŠE grain number system, 10 of the empty shells creates a number that consists of a shell with a dot in it. Ten small dots creates a large dot.



(Nissen 1993)

Sumerian Proto-Cuneiform Dots as Tens and One

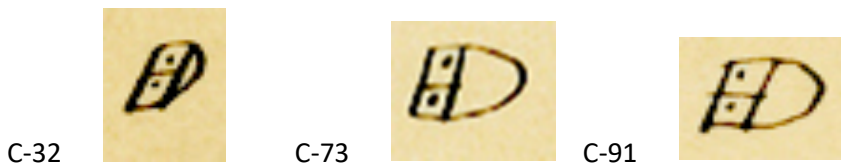
Similarly, in the Sumerian U₄ calendar number system, 10 days is signified by a dot adjacent to an empty shell; ten months is the empty shell with a dot inside of it. The number 20 in reformed Egyptian consists of a shell with two dots inside of the shell.



(Nissen 1993)

C	●	I, ■	<p>ten, passim. [In 225 apparently units precede tens. Cf. also 51 rev. ?]</p> <p>b(2), theoretic analogue to a, is rare: supplied from 185 (gur).</p>
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(Burrows 1935)



Number "20" glyphs from the Caractors Document

Proto-Cuneiform Bar Dot Number System (Elam)

The bar dot number system in Mesoamerica also has glyph forms that are found in the Elamite proto-cuneiform and documented from the Proto-Elamite Period (ca. 3100–2900 BC).



M001+M379~c



M001+M379~d

(Dahl 2006)



C-92

Caractors Document, number 9 (bar-dot)

Proto-Cuneiform Tally Number System (Elam)



M001+M379~d MO41

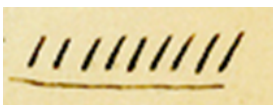


M041~c



M041~d

(Dahl 2006)



C-47

Caractors Document, number 9 (rebus)

Since proto-cuneiform was not used after 2500 BC, this is a clear indicator that the Jaredite migration occurred prior to 2500 BC. The timeframe attestations of Sumerian roots of Jaredite names and words in the Book of Mormon are also consistent with a departure prior to 2500 BC.

Chapter 5

Mesoamerican Archaeological and Scientific Evidence Indicative of Chronological Events

Following the method we employed in chapter 2, when looking at destructions in the Jaredite narrative in tandem with volcanic eruptions in Mesoamerica, we can correlate various other Jaredite events with incidents in the natural history of the region and the cultural history of the Olmec.

Opening the Land Southward for Game

Based on the approximate date of 1095 BC for Lib₁, from the chronological framework calculation (discussed later), and the founding of the great city by the narrow neck, which corresponds with the Olmec city of La Venta (also discussed later), there was an opening up of the land southward (at least in that area) for the principle purpose of preserving the land for hunting. There are no mentions of any previous migrations into the land southward since the time of Heth (ca. 1635 BC) and no indication there had been any (due to the proliferation of venomous serpents).

Ether 10:19, 21

19 And in the days of Lib the poisonous serpents were destroyed. Wherefore they did go into the land southward, to hunt food for the people of the land, for the land was covered with animals of the forest. And Lib also himself became a great hunter.

21 And they did preserve the land southward for a wilderness, to get game. And the whole face of the land northward was covered with inhabitants.

From a chronological and cultural standpoint, this practice is consistent in time with the Olmec chronology. A variety of studies cited by Christopher Pool (2007) indicate that by the end of the Early Formative Period (1000 BC), maize-based agriculture had been established through the Olmec culture area, augmented with other resources (64). The Olmec consumed a wide array of animal species including red brocket deer, white-tailed deer, rabbits, raccoon, peccary, duck, turkey, armadillo, boa constrictor, ocelot, and various types of fish (Vanderwarker 2006).

When sedentary agriculture becomes established, habitat and food for smaller game (insects) increase. While some larger mammals that browse (such as deer) can benefit from the new landscape partially devoid of forest, other large game becomes scarce. Several archaeological studies concentrated on the southwestern United States have shown that as people become more committed to farming, they actually increase their exploitation of larger prey (Speth et al. 1989, 76; Szuter and Bayham 1989, 89). These studies indicate that these groups selectively focused on larger species and suggest that when farmers were faced with a local depletion of large prey, they extended their hunting ranges and shifted from an individual-based to a communal-based hunting strategy. With the combined effort, they spent less time on long-distance hunts while procuring a higher return on preferred prey.

This approach is also consistent with other studies that show when a society becomes dependent on sedentary agriculture, it utilizes “trekking,” one strategy for dealing with fluctuations in productivity in which large segments of the population leave their permanent villages for extended periods to hunt and forage in distant areas. This practice has been documented in the Amazonian rainforest (Werner 1983).

A specific study regarding Olmec sustenance patterns revealed that, toward the end of the Early Formative Period and into the Middle Formative (ca. 1000 BC), people in the Tuxtlas became more sedentary and altered the faunal subsistence practices away from aquatic resources and toward terrestrial mammals (Vanderwarker 2006, 195).

The description provided in the Book of Ether for the “game preserve” in the land southward is completely consistent with the Olmec situation, both in time and in practice. The exact location of the “south wilderness” is discussed later.

Post-Jaredite Events and Commentary from the Book of Mormon

Tail End of the Jaredite Calendar

We do know that the last Jaredite king, Coriantumr₂, visited the people of Mulek and stayed for nine moons, so a look at the time constraints of the people of Mulek and at the end of the Jaredite culture is in order. Brant Gardner places the arrival of the people of Mulek in the New World at around 580 BC (based on the dates of King Zedekiah’s reign in Jerusalem) and the merger with Mosiah’s people at 162 BC. Gardner also places the end of the Jaredites at “around 200 BC” and the beginning of the Jaredites at “about 1100 BC” (Gardner 2015, 216, 390–92).

John Sorenson (2013) conjectured a date of 2500 to 2800 BC for the arrival of the Jaredites and around 570 BC for the end of Jaredite culture (27, 31), with the arrival of the people of Mulek around 575 BC. Sorenson (1990) indicates that a long period of overlap between the Jaredites and the people of Mulek was not likely. He also suggested that the final destruction of the ruling line could have occurred as early as 580 BC or as late as 400 BC (Sorenson 1985, 119).

If the chronology identified in the Caractors Document is correct, then the Nephites arrived in Zarahemla in 209 BC (Grover 2015, 205). It is clear that the discovery of Coriantumr₂ by the people of Zarahemla (Omni 1:21) and the “burial by them” (Ether 13:21) must have occurred sometime before 209 BC. This tail-end chronology is discussed in more detail later.

Chronological Information Provided by Recovery of the Jaredite Plates

Based on information in the Book of Mormon and the Caractors Document, we know that a large stone stela discussing Coriantumr₂ was recovered around 198 BC and that the Jaredite plates were recovered around 130 BC. A complete analysis of the chronology and geography of these events is discussed elsewhere.

“Dry Bones” as a Chronological Indicator

The Limhite expedition which recovered the Jaredite plates encountered “a land which was covered with dry bones” and was “covered with the bones of men, and of beasts.” Certain online publications have made the case for a chronological period of 100 years or less from the death of the Jaredites to the discovery of the bones in the neighborhood, based on bone decomposition rates (www.moriancumr2.blogspot.com 2016):

In a humid, wet, semi-tropical environment (*sic*) bones left on the surface of the ground tend to decompose rather quickly. If there are a lot of predators and scavengers, they tend to accelerate the process. If the soil is of volcanic origin, and therefore acidic, this also accelerates the decay. Many taphonomic studies (this is the science that studies biological decomposition) have been conducted to determine among other things the rate of decay of dead tissue. One of the experts in this field, Ann Behrensmeyer, has observed the disintegration of bones exposed on the surface in Kenya for at least 30 years. She has broken the process down into five stages: stage 1 (1–3 years) the bone exhibits fine cracking; stage 2 (3–5 years) the surface of the bone begins to flake off; stage 3 (5–10 years) the fibrous interior bone is exposed; stage 4 (10–15 years) deep cracks develop in the bone; stage 5 (15–30 years) the bone disintegrates into splintered fragments.

Once again, this is for bone lying on the surface and exposed to animals, bugs, and the elements. This was the case with the Jaredite bones that the Limhites found. Bone size is also a factor with smaller bones disintegrating first and larger bones lasting longer. But the thing to note is that within 30 years the bones are all decomposing. We can safely assume that within one hundred years all evidence of the Jaredite bones which had been on the surface would have disappeared.

The Behrensmeyer study referenced (Behrensmeyer 1978), however, was not done in a humid, wet, semitropical environment; it was completed in the Amboseli National Park, where the climate is actually hot and dry, positioned in the rain shadow of Mount Kilimanjaro. In fact, bone weathering in a tropical environment is much slower. Tappen (1994) conducted a study in 1994 in the Ituri rainforest in Zaire. That study observed 118 elephant bones with known or estimated death dates. After seven years of exposure, the bones were still at stage 0 (no weathering). A second site indicated bones still at stage 0 after 16 years (no weathering), while a third site with remains greater than 15 years old indicated stages 1 to 3 of weathering. The study indicated that heavy vegetation cover protects the bones and blocks the sun, significantly slowing the speed of bone weathering. Other subsequent studies have confirmed these findings and also determined that buried flesh or skeletal tissue takes roughly eight times longer to degrade (Ross et al., 2011).

While there is no discussion of burial, it is probable that for much of the final Jaredite war, which lasted at least eight “years” (six years under the Olmec Calendar Round calendar), battle casualties were buried. It was only in the very last stage of the war that bodies were mentioned to have remained on the surface (Ether 14:21–23). It is possible that after hundreds of years that some of these burials may have become exposed or scavenged.

In addition, it is curious that the Limhites described the land as also being covered with the bones of “beasts.” There is no mention of the final Jaredite war entailing the killing of beasts. It’s possible that some of the dry bones they observed may have been the result of the deaths of subsequent people and animals resulting from a volcanic eruption. There were two possible eruptions of the San Martín volcano within the potential intervening timeframe (400–130 BC) (Smithsonian 2016), which could have resulted in the deaths of both humans and beasts. After 200 years, fully preserved skeletons, covered by volcanic eruptive material, were excavated in 2008 from deposits of the 1811 eruption of the Tambora volcano (Johnston 2012). It is noteworthy that the early editions of the Book of Mormon, up until 1920, rendered this verse as “the bones of men, and of beasts, etc.” (Skousen 2005a, 574), so the likely interpretation of the “etc.” would be bones of other vertebrates (birds, reptiles, and fish), which would certainly be indicative of remains within a volcanic eruption.

If the dry bones observed on the surface were, in fact, from unburied bodies left in a wet, semitropical environment, one might expect dry bones (up to stage 5) to be present from at least a minimum of 150 years and perhaps several hundred years after death, based on extrapolations of the above-listed studies. If the bodies were initially buried by purposed burial or by volcanic material and then exposed to the surface, the time would be much longer. If one considers the Limhite expedition encountering dry bones at approximately 130 BC, the Jaredites’ demise at 350–400 BC is certainly very reasonable based on the “dry bones” chronological criteria.

Bones scattered in the land northward were noted by Amaleki (Omni 1:22), who it seems obtained that knowledge when a large stone (presumably from the land northward) containing information about Coriantumr₂ was brought to Mosiah₁ (Omni 1:20). This event would have had to occur after the Zeniff party left Zarahemla (Limhi had no knowledge of these bones, thinking they were from the people of Zarahemla, who he thought had been destroyed). The bringing of the large stone would have had to have been sometime prior to Mosiah’s death and so would have been approximately 430 years after Lehi left Jerusalem, or 170 BC. Amaleki does not mention that the bones were “dry,” but they may have been (Limhi didn’t mention that the bones were “dry” on his first recounting of the bones either [Mosiah 8:8]). The time period between the large stone being brought to Mosiah₁ and the Limhite expedition is approximately 40 years, and bones were observed by both groups, which is fair proof that the decomposition of

the bones was much slower than some have asserted. Trying to place the Jaredites' demise after 280 BC would be suspect, since the remaining bones would not have reached a dry state in the semitropical climate.

Timber Deforestation Chronological Criteria

The chronological correlation of the post-Jaredite era is further corroborated in statements made by Mormon regarding the repopulation of the land northward over time.

Helaman 3:3–11

3 And it came to pass in the forty and sixth, yea, there was much contention and many dissensions; in the which there were an exceedingly great many who departed out of the land of Zarahemla, and went forth unto the land northward to inherit the land.

4 And they did travel to an exceedingly great distance, insomuch that they came to large bodies of water and many rivers.

5 Yea, and even they did spread forth into all parts of the land, into whatever parts it had not been rendered desolate and without timber, because of the many inhabitants who had before inherited the land.

6 And now no part of the land was desolate, save it were for timber; but because of the greatness of the destruction of the people who had before inhabited the land it was called desolate.

7 And there being but little timber upon the face of the land, nevertheless the people who went forth became exceedingly expert in the working of cement; therefore they did build houses of cement, in the which they did dwell.

8 And it came to pass that they did multiply and spread, and did go forth from the land southward to the land northward, and did spread insomuch that they began to cover the face of the whole earth, from the sea south to the sea north, from the sea west to the sea east.

9 And the people who were in the land northward did dwell in tents, and in houses of cement, and they did suffer whatsoever tree should spring up upon the face of the land that it should grow up, that in time they might have timber to build their houses, yea, their cities, and their temples, and their synagogues, and their sanctuaries, and all manner of their buildings.

10 And it came to pass as timber was exceedingly scarce in the land northward, they did send forth much by the way of shipping.

11 And thus they did enable the people in the land northward that they might build many cities, both of wood and of cement.

Verses 3 and 4 discuss an initial specific migration and settlement to a land that was at “an exceeding great distance,” where there were “large bodies of water and many rivers.” This location has been postulated by others to be the Valley of Mexico, which is the only place that reasonably meets the description given (Gardner 2015). Also provided in the above passage of scriptures is a more general discussion of the spreading of the population from the land southward into the land northward (verses 5–11). The text does not indicate that all of this migration and population spreading into the land northward occurred in the 46th year—it is just an indication of the initial migration and the general population expansion that occurred, presumably, up until Mormon's day.

Verse 6 does indicate that, at least initially, portions of the land northward were not settled and that portions were “without timber, because of the many inhabitants who had before inherited the land.” The first migration occurred in the 46th year of the reign of the judges, which is equivalent to 48 BC. The word *timber* has no official definition, but it is indicated that houses of wood could not be built without it and that “tents” and “houses of cement” were able to be built even though timber was lacking. In addition to wooden houses, “their cities, and their temples, and their synagogues, and their sanctuaries, and all manner of their buildings” were unable to be built without timber.

Because of the timber deficiency, a special forest-preservation program had to be implemented (verse 9) to guarantee that the trees to be used for timber reached maturity. In addition to the tree-preservation program, it was necessary to import timber from the land southward (verse 10).

Mormon's Statements on Structural Timber and Cement in the Land Northward

The statement that tents and some small cement houses could be built without timber squares with Mesoamerican practices. Although the preferential practice for manufacturing cement in Mesoamerica involves the burning (at high temperatures) of lumber (typically softwood pine), other sources of fuel (e.g., bound brush limb faggots) could have been used to manufacture cement. A "tent" in the Book of Mormon context would be assumed to be some sort of thatched lean-to (Sorenson 2013, 322–23).

A typical Maya house (which is assumed to be representative of other Mesoamerican wood houses) requires a lashed timber skeleton frame that is then covered with a thatched roof and wattle walls (see figure 13).

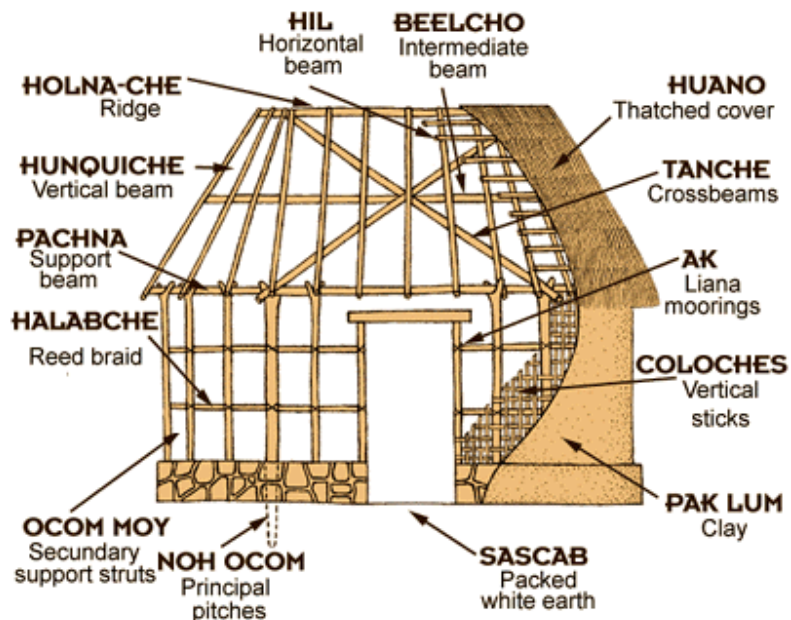


Figure 13. Typical Maya house and structure. (clio.missouristate.edu 2015)

The use of cement has been documented in Central Mexico and corroborates the date provided by Mormon (Sorenson 2013, 322 and references cited there). Charcoal found in mounds at Teotihuacan radiocarbon dates between 50 BC and 110 AD (Millon et al. 1961). This same date range was reconfirmed by radiocarbon dating of charcoal that was found under concrete slabs under the Temple of the Sun (Sload 2007). Maya builders were knowledgeable of the process for fabricating hydraulic cement prior to 300 BC and were using it in building projects (O’Kon 2012, 139). The term for cement in the Book of Mormon could also reasonably be interpreted to include structural mortar, plaster, and stucco.

The statement by Mormon that “their cities, and their temples, and their synagogues, and their sanctuaries, and all manner of their buildings” were unable to be built without timber also squares with Mesoamerican practice. High-strength structural timber from tropical hardwoods were used in the construction of larger buildings where high-tensile strength was needed in features such as lintels and beams.

Specifically, the Maya arch was a basic building tool used in the construction of large building projects because it had multifaceted capabilities and could span between supports to create interior spaces in buildings, span a gateway, create large vault-like interior spaces, or be vertically positioned to form multistory vaulted buildings. As a structural mechanical element, the Maya arch is not a true structural arch, in that it requires additional structural, tensile truss elements in order to be self-supporting. It was necessary for the Maya to use high-strength timber trusses in their arches to make them self-supporting.



Figure 14. Maya arch structure showing cross-timber structures in Ti'kal, Guatemala. (www.maya.nmai.si.edu 2015)

High-strength timber was used in other structural applications that would certainly qualify as “cities, and their temples, and their synagogues, and their sanctuaries, and all manner of their buildings”:

High strength tropical timber was used by Maya engineers for spanning bridges, roofs, and floors. Examples of these structures include the bridge at Pusilha, the palace tower at Palenque, and the sweat house at Piedras Negros. In several cases, the timber beams were used with a concrete topping. This system then became a composite structural material, and the total strength exceeded the sum of parts. (O’Kon 2012, 163)

It is interesting that temple structures placed on top of solid Mesoamerican pyramid piles (made from mass fill of rubble encased with precast concrete) do not require timber. It is thought that the principle use of the word *tower* in the Book of Mormon is the word used for these pyramids, so Mormon's failure to mention the word *tower* supports this interpretation, since Mesoamerican pyramids, or "towers," do not require timber.

Aside from the structural support provided by high-strength timber, the ability to build larger cement/stone projects would also be inhibited if cement production was scarce due to lack of timber, a fact that also supports Mormon's description.

Mormon's Statements on Prior Deforestation in the Land Northward

Since the primary purpose of this particular discussion is to better tie in the chronological tail end of the Jaredite era, and one of Mormon's statements potentially pertains to the Jaredite era, namely, Mormon's assertion that "the many inhabitants who had before inherited the land" had rendered parts of the land "desolate and without timber." Mormon clarifies what was meant by "desolate" here, namely that the land had vegetation but lacked timber. Mormon further indicates that the name for the land itself was called "desolate" because of "the destruction of the people who had before inhabited the land." The land is referred to elsewhere in the Book of Mormon as the land of "Desolation," so the description here is consistent. There is no specific reference to the Jaredites here, so the reference to prior inhabitants may include others besides (and perhaps after) the Jaredites.

There are scientific techniques to determine events of ancient deforestation. The primary method involves obtaining cores of sediment from historically stable soils (ones that would reliably accumulate soil layers as opposed to ones that sporadically accumulate or experience periods of soil loss). These locations would typically be sediment columns in stable lakes or marshlands. Once the cores are obtained, layers are then evaluated for the presence and types of pollen present. Also of interest are any layers of charcoal that may indicate forest burning (typical of the slash-and-burn agriculture that was practiced anciently) or layers of volcanic ash indicative of volcanic eruptions, which could, of course, have caused deforestation within the range of the eruption.

There are two studies of this sort that have taken place within what would reliably be considered to have occurred within the land northward. The first study took place in 1998, core studies were completed from the lake sediments of Laguna Pompal, which is a small lake four miles east of Lake Catemaco on the western flank of the Volcan Santa Marta in the Tuxtla Mountains. This study is also corroborated by an earlier 1989 study of cores taken from Lake Catemaco.

These studies showed that circa 650 BC, arboreal (tree-derived) pollen started to drastically decrease and by 500 BC (+/- 70 years), pollen from individual-measured species of trees (*Ulmus*, *Alchornea*, and *Liquidambar*) were nearly nonexistent (Goman et al. 1998; Byrne et al. 1989). These studies showed that arboreal pollen stayed low until circa 650 AD and that the largest driver of the deforestation was agriculture, evidenced by the increase in agriculturally based pollen and charcoal. Based on later data, following a decrease or cessation in agriculture, the tropical forest recovery was fairly rapid, with arboreal pollen peaking within 300 years. The studies also indicated a large increase in grass and weed pollen during the timeframe when the forest pollen was low.

In 2006, an additional pollen core study, of the area north on the Veracruz coastal plain, north of the city of Veracruz, was published. It showed a similar drop in arboreal pollen that started circa 800 BC (Sluyter et al. 2006).



Figure 15. Location of pollen core studies.

With three data points, more research is still needed to establish certainty about deforestation in the complete region, since pollen counts may reflect only the condition of a more localized region. Although tree pollen has been measured to travel hundreds and even thousands of miles, the majority of pollen is deposited closer to the pollen source. In light of the data so far, Mormon's statement is entirely accurate with respect to the existence of deforestation in 48 BC that continued up through his time in portions of the land northward. He is also accurate in stating that the land was "desolate" with respect to trees but not "desolate" in regard to other vegetation; in fact, the other types of vegetation increased.

Gardner (2015) makes a case that Mormon is primarily talking about Teotihuacan in the passages cited above, based on historical recitation technique (328–33). Part of the error made in this approach is that it appears to be based on the widely held beliefs that the use of cement in Teotihuacan must have caused the deforestation, since wood would have been needed as fuel, and that deforestation in Teotihuacan at the time of Mormon is all that has apparently been documented on the matter. While the use of cement for large-scale structures in the land northward may have been contributing factor later in time closer to Mormon's time, the pollen core studies indicate that the deforestation started much earlier and was primarily caused by agricultural practice and populations, although cement/plaster manufacture may have also played a role.

The large Jaredite populations that were clearly in the land northward prior to their demise rendered a reasonable explanation for the deforestation, which is consistent with an extended civil war, which may have contributed to the conflict by creating competition for limited resources.

The Book of Mormon text indicates that the location of the Jaredites' initial migration is the Valley of Mexico, but the rest of the passage is a summary of the continued growth and migrations from the land southward into the land northward that occurred up and through Mormon's time.

Chapter 6

A More Exact Jaredite Chronology

Having established a basic chronology above, we can further refine it by estimating the lengths of the reigns of the various Jaredite kings, based on the information given about them in the Book of Ether. The resulting chronology can then be confirmed and further developed by comparing it with major developments in Olmec settlement, as detailed by the archaeological record.

In the Book of Ether, the passing of kingship from father to son appears to follow the pattern of the last-born son receiving the kingship. This pattern began with the first generation, when Jared₁ and his brother approached old age; none of the sons of the brother of Jared would accept the role, which was also rejected by all of Jared's sons, except the youngest, Orihah (Ether 6:14, 21–27). Further in the record of Ether, there were six older sons who rebelled against their predecessors (Ether 7:4, 14–16; 8:2–3; 10:3, 13–14; 11:4) and 10 sons, who were born in the king's "old age," who replaced their fathers (Ether 7:3, 7, 10, 26; 8:1; 9:14, 23–25; 10:4, 13–16; 11:4).

Another factor affecting the ages of the youngest sons in relation to the father is polygyny (one man with multiple wives). Jared₁ had 12 children, and his brother had 22 children (Ether 6:20). Orihah had 31 children, 23 of whom were sons (Ether 7:2). Many kings are said to have had "many sons and daughters" (Ether 7:12, 14; 9:21; 10:17). King Riplakish had "many wives and concubines" (Ether 10:5), and Jaredite men in general had "wives and children" (Ether 14:2).

Given this information, it is possible to at least estimate the chronology of the two separate Jaredite time periods, with a few assumptions. In order to attempt an estimate, the following assumptions will be made:

1. A descendant king takes the throne at an average age of 15 (if he were much younger than that, he may not have been capable of retaining the throne, given the Jaredite propensity for violent usurpation by older brothers).
2. The death ages of the kings are assumed as follows unless otherwise indicated in the text:
 - a) Unless otherwise indicated, the age of death is 70.
 - b) When the terms "good old age" or "old age" are used, the age of death is 80.
 - c) When the term "exceedingly old" is used, the age of death is 90.
 - d) If an individual was held entirely in captivity (which could cause a shortened lifespan based on poor treatment) or there was reference to a shorter life, then a "reign" of 35 years is assumed. An exception was made for Coriantor, since a variety of events occurred while he was in captivity.
3. On average there are no time elapses between the death of the old king and the ascendancy of the new king.
4. Where any age or reign is listed in the text, the years are adjusted to the 260-day calendar
5. For Seth, since the text indicates his days were short, it is assumed he died at 55.
6. Jared₁ and the brother of Jared were assumed to be 45 years old when they departed; the actual departure date is approximately 2650 BC

These initial date assumptions are not out of line with known ages of Maya kings:

Elites tended to have longer life spans because they had access to better quality food and they didn't wear their lives out with physically taxing work the way non-elites did. We only have data for both the birth dates and death dates of 17 Classic period Maya rulers, and their average age at death is 64.7 years. Some of the longest lived Maya kings were

Itzamnaaj B'alam II of Yaxchilan was between 94.8 and 98.5 years old when he died, Calakmul's king Yukno'om the Great lived to be 85, Chan Imix K'awiil of Copan was about 83 when he died, a ruler of El Cayo named Chak Lakamtun lived to 82, K'inich Janaab' Pakal from Palenque was 80, Aj Wosal of Naranjo was at least 78, and K'an Joy Chitam (also from Palenque) lived until he was 74. (Wright 2016)

One permutation of these assumptions is that, often, the “kings” listed were in captivity, so it would not be necessary for their offspring to be of sufficient age to defend the throne. This would provide for a longer term for that particular king. That may be offset by the death of a king earlier than the estimate.

With the parameters establishing that the Jaredites departed prior to 2500 BC, and the radiometric dating of the Heth and Shiblom volcanic events and other corollary evidence and events discussed elsewhere, it is possible to establish a reasonable Jaredite chronology. Given these parameters, table 3 identifies the Jaredite calendar timeline, showing the years passed to the end of a particular king's reign.

Table 3. Calculated Jaredite Chronology Framework

<u>King/Ruler</u>	<u>Length of Reign</u>	<u>Calendar Dates</u>	<u>Significant Correlative Event(s) during Reign</u>
<i>First Chronological Period</i>			
Jaredite Departure		2651 BC	
Jared	55 years	2651–2596 BC	Great tower, arrival in the New World
Orihah	65 years	2596–2531 BC	“days were exceedingly many”
Kib	75 years	2531–2456 BC	“exceedingly old”; land of Moron and city of Nehor first mentioned
Shule	55 years	2456–2401 BC	Shule was begat in Kib's old age; land of first inheritance first referred to; idolatry mentioned; swords made by Shule at hill of Ephraim
Omer	65 years	2401–2336 BC	“began to be old”; begat Emer in old age; anointed Emer king and died two years later; secret oaths/combinations first mentioned; population reduced to 30 persons plus the house of Omer
Emer	55 years	2336–2281 BC	In 62 years (44 years adjusted), people prospered; Coriantum anointed and died two years later; elephants, cureloms, and cumoms; saw Son of Righteousness
Coriantum	86 years	2281–2195 BC	“exceedingly old”; lived 142 years (101 years adjusted), did build many mighty cities
Com	35 years	2195–2160 BC	Reigned 49 years (35 years adjusted)
Heth	30 years	2160–2130 BC	Great dearth; serpents died in famine; multiple volcano eruptive events (2070–2130 BC)

Shez	75 years	2130–2055 BC	Lived to an exceedingly old age; built up many cities on the face of the land; people began to spread all over the face of the land.
Riplakish	30 years	2055–2023 BC	reigned 42 years (30 years adjusted), then driven out

Gap years		2023–1420 BC	“space of many years”
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Second Chronological Period

Morionton	75 years	1420–1345 BC	Was at an exceedingly old age and then begat Kim; died eight years after Kim was installed; there are “many cities” when Morionton took power; Morionton then built up many cities.
Kim	65 years	1345–1280 BC	In old age begat Levi
Levi	65 years	1280–1215 BC	In captivity 42 years (30 adjusted years); lived to “good old age”
Corom	65 years	1215–1150 BC	“saw many days”
Kish	55 years	1150–1065 BC	
Lib	65 years	1065–1000 BC	Lived many years; built a “great city” near narrow neck; poisonous serpents destroyed; preserved the land southward as wilderness for hunting game; whole face of land northward covered with inhabitants; ore; cast up heaps of earth; tools to till the earth; made tools to work their beasts
Hearthom	45 years	1000–955 BC	Reigned 24 years (17 adjusted years), then served many years in captivity
Heth	35 years	955–920 BC	In captivity
Aaron	35 years	920–885 BC	In captivity
Amnigaddah	35 years	885–850 BC	In captivity
Coriantum	35 years	850–815 BC	In captivity
Com	65 years	815–750 BC	Reigned half the kingdom 42 years (30 adjusted years); took the rest of the kingdom; lived to a “good old age,” then begat Shiblom

Shiblom	35 years	750–715 BC	Calamity in the land; great destruction such a one never had been known in all the land; famines and pestilences; Shiblom slain; multiple volcano eruptive events
Seth	35 years	715–680 BC	In captivity
Ahah	20 years	680–660 BC	“few were his days”
Ethem	55 years	660–605 BC	
Moron	55 years	605–550 BC	
Coriantor	55 years	550–495 BC	In captivity
Ether	55 years	495–440 BC	

Gardner (2015) has argued for a shorter timeframe for the Jaredites—a total of 900 years, with an average reign of 30 years—based on the length of reigns of some known Maya kings, with no gap years between Riplakish and Morionton. Sorenson has indicated a span of 2,000 to 2,300 years (Sorenson 2013). Sorenson did not provide the methodology behind his most recent estimation, so comparisons of his method in that work is not possible. In a previous work, he did identify a Jaredite chronology starting in 3100 BC and extending to 570 BC (Sorenson 1969). In that 1969 work, he included a gap period of 100 years and, of necessity, gave many kings lifespans well beyond 100 years. Palmer (1982) also proposes a Jaredite chronology, extending from 2700 BC to 600 BC, assuming reigns of 70 years and a gap period of 130 years.

It is important to note that the chronology in table 3 is a calculated framework based on known volcanic events as well as a known departure date range.

Discussion of Mesoamerican Archaeological Correlation with the Calculated Jaredite Chronology

The First Jaredite Chronological Period

The first Jaredite chronological period in the New World is 2600–2023 BC. Based on the description given for the founding Jaredite group, consisting of 24 individuals (Ether 6:16), it is not likely that there would be any archaeological evidence found for this initial group. If one assumes a standard annual population growth rate for ancient peoples of 1.25 percent per year, within 200 years, a population of 287 people would be expected. After 200 years (2400 BC), there is mention of a couple of “lands,” one city, and an “army” raised by an individual dissident exile (Ether 8:6). The word “army” is not mentioned again in the Book of Ether until the time of Morionton (Ether 10:9), which was in 1420 BC.

While one should not read too much into this terminology in relation to size (an early city may just be an agricultural village or hamlet, and an army could be only 100 people or so), it does seem very probable that the Jaredite group at this point was involving other native populations, since an “army” was raised by an exiled dissident.

According to our timeline, in 2401–2336 BC, the Jaredite population was reduced through warfare to 30 persons, plus Omer and his family with whom he escaped, so perhaps 50 to 60 people were left. Shortly thereafter, from 2336–2281 BC, the “house of Emer” prospered agriculturally and utilized some domesticated or semi-domesticated animals. From 2281–2195 BC, “many mighty cities” were built as the people began to spread over “all the face of the land.” Again, using average population growth rates, over roughly 120 years, a population that started with 60 people would be expected to grow to 266 people. As indicated previously, the reference made to population

growth and population centers indicates there was an increase in the local indigenous population, over which the Jaredites maybe exerted some political influence. Again, these areas were likely agriculturally based hamlets or villages.

In 2160–2130 BC, there was a severe famine in which the “inhabitants were destroyed exceedingly fast” (Ether 9:30). No mention is made of the surviving population after the famine, however, and from 2130–2055 BC, many cities were built up “on the face of the land,” and people “began to spread all over the face of the land.” The fairly short period of recovery time in which cities were built indicates again that the size of a city from the perspective of the Jaredite record-keeper was quite different from modern perceptions or even later Jaredite perspectives. The text itself is indicative of limited population centers.

From 2055–2023 BC, during Riplakish’s reign, he built an “exceedingly beautiful throne,” levied taxes, and built many tax prisons (Ether 10). The people rebelled and waged war, and Riplakish was killed and his descendants driven “out of the land.” Though there was some higher level of cultural sophistication in the beginning, it appears that the ensuing war was still a tribal family affair. To this point in the Book of Ether, the only lands mentioned were Nehor and Moron, so it can be assumed that the geographic area was still quite limited, probably encompassing or in close proximity to the area of the Tuxtla Mountains.

In Mesoamerican archaeology this period falls into the Archaic Period (ca. 3500–2000 BC). During the Archaic Period agriculture was developed in the region and permanent villages were established. Late in this era, use of pottery and loom weaving became common and class divisions began to appear. Many of the basic technologies of Mesoamerica such as stone-grinding, drilling, pottery making, etc., were established during this period.

In the area of the Olmec, excavations at San Andres (near later La Venta) indicate domestication of manioc in 4600 BC, and in 2500 BC, people were practicing a mixed economy of foraging and farming, with the domestication of maize, sunflowers, and cotton; they presumably used canoes, weapons, digging sticks, net baskets, and ritual objects fashioned from wood or other objects (Diehl 2004, 24). Although this archaeological period is largely ignored, in the Tuxtlas, pollen of plants indicative of agriculture has been dated to 2880 BC. The Mesoamerican archaeological record is generally consistent with the limited description found in the Book of Ether.

Gap Period

The gap in the Jaredite record occurs in the time period encompassing 2023–1420 BC. All that is known about this period is that no primary king was in power (at least none is mentioned) and that at the end of the period there existed “many cities.” The Olmec archaeological record indicates, depending on the archaeologist consulted, that the Olmec culture started between 1450 BC and no later than 1250 BC.

In the Coatzacoalcos River basin, 105 sites have been identified with Ojochi and Bajío ceramic phases (ca. 1750–1450 BC). The earliest occupation identified at San Lorenzo was 1800 BC (Cyphers et al. 2014, 73). More than three-quarters of these sites are clustered within 90 kilometers of San Lorenzo (Pool 2007, 125).

The Second Chronological Period

1420–1065 BC

In the Jaredite chronology, the period of 1420–1065 BC starts with Morionton and an army of outcasts giving battle “unto the people.” Morionton gained power over many cities, and then, over the space of many years, gained power over all the land and made himself king (Ether 10:9). During this period many cities were built, and the people became rich in buildings and other worldly goods, and the people “did prosper in the land” (Ether 10:16). During this period there continued familial vying for political control by force.

The archaeological evidence in the Olmec heartland for this period mirrors the Book of Mormon description. San Lorenzo grew from 1400 BC until its demise in 1000 BC (Cheetham and Blomster 2017, 16), as did the regional settlements, with the total area of permanent settlement increasing 10 fold (Pool 2007, 126). At Laguna de los Cerros and the Upper San Juan Basin, prior to 1400 BC, settlement was sparse. Laguna de los Cerros was founded sometime between 1400 BC and 1200 BC. Settlement densities increased drastically after 1400 BC, reaching 35 settlements by 1200 BC and 153 settlements by 1000 BC (Pool 2007, 128). Some local settlements also existed in the La Venta area as well.

1065–750 BC

In the Jaredite chronology, the period of 1065–750 BC starts with Lib₁ building a “great city” near the narrow neck where the sea divides the land. By some mechanism, poisonous serpents that had infested the area for a thousand years were killed, opening up a hunting area in the adjacent land southward. Initially the whole face of the land northward was covered with inhabitants. There were a variety of products manufactured including “all manner of fine work,” “all manner of cloth,” agricultural tools, and “all manner of work of exceedingly curious workmanship.” During the latter part of this period there was conflict, war, robbers, and changes in kingship.

The archaeological evidence in the Olmec heartland for this period mirrors the Book of Mormon description. The florescence of the city of La Venta is dated from 1000 BC to 400 BC (Pool 2007, 158). The city of Tres Zapotes was founded sometime in the centuries before 1000 BC and emerged as a regional center early in the Middle Formative Period, perhaps 900–800 BC, roughly coinciding with the decline of San Lorenzo Tenochtitlan. San Lorenzo experienced its serious demise around 1000 BC, as did the San Juan River Basin, where Laguna de los Cerros was located, which continued through the end of the Middle Formative Period (1000–400 BC). All that remained of San Lorenzo was a medium-sized village, and the regional population fell by nearly 92%. In the adjacent San Juan River Basin, the number of identified inhabited sites fell by 63% (Pool 2007, 152). Military conflict is one of the suspected causes of the decline of San Lorenzo (Diehl 2004).

750–400 BC

In the Jaredite chronology, for the period of 750–400 BC, the first decades included an “exceedingly great war,” followed by pestilence, famine, and a “great destruction.” The next three centuries included ongoing political and military conflict within and between kingdoms, which resulted in the final great civil war, which led to the destruction of the Jaredite nation. A king named Moron arose during the middle of this period, whose name perhaps makes reference to the early land of Moron.

The archaeological evidence in the Olmec heartland for this period mirrors the Book of Mormon description. San Lorenzo continued its demise, as did the San Juan River Basin. During the middle of the period, the population migrated to the outskirts of Tres Zapotes and La Venta. At the end of the period, La Venta (along with San Lorenzo and the rest of the Olmec heartland area) was also essentially abandoned. Tres Zapotes is not abandoned in 400 BC, but over the next few centuries, cultural changes result in the Olmec remnant Epi-Olmec culture.

The calculated Jaredite chronology outlined in table 3 corresponds well with the Olmec archaeological chronology.

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 ($20 \times 13 = 260$); 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.

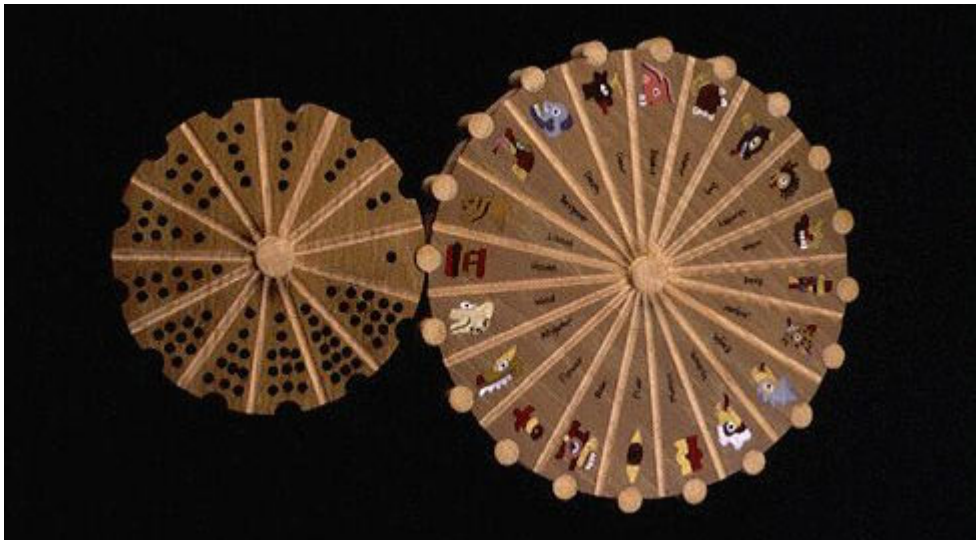


Figure 16. The *tonalpohualli* calendar with two interlocking wheels. (Hollaway 2014)

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 Girsu 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.

Chapter 8

Near Eastern History and Archaeology Consistent with the Description of the Jaredite Departure

This chapter parallels chapter 4 in that it seeks to place the beginning of the Jaredite chronology using evidence outside the Book of Mormon, in this case by anchoring that chronology to its founding event, the “confounding” of language.

Any discussion of Jaredite chronology will necessarily have to deal with the Jaredite origin in the Old World. The Jaredites initially originated from the “great tower, at the time the Lord confounded the language of the people, and swore in his wrath that they should be scattered upon all the face of the earth” (Ether 1:33). The Book of Mormon does not specifically identify the great tower as the biblical tower of Babel; however, Moroni² indicates that the account of Adam to the great tower is “had among the Jews” (Ether 1:3), so there is at least some implication that the great tower is the tower of Babel, or at least a similar tower from that timeframe.

It is generally accepted that the best candidate for the biblical tower of Babel is a ziggurat, a rectangular stepped tower sometimes surmounted by a temple located in ancient Mesopotamia. In order to try to better understand the potential event involving the great tower, it will be necessary to look at events that took place in Mesopotamia that involve both population dislocation and language transitions or difficulties, all of which are consistent with Jaredite chronology constraints.

With regards to the confounding of language, it seems doubtful that each individual began speaking a different language; there are other possible reasonable explanations.

Brant Gardner (2007) reads the biblical story of the tower of Babel as a remembrance of an event of ancient temple building, not as the true origin of multiple languages (6:164). Gardner summarizes: “In this reading of the text, the confounding of languages is related to the mixing (confounding) of different peoples in creating this great tower in Babylon. From such a mixing of people who were attempting to build a temple to the heavens, Yahweh removed some of His believers [e.g., the Jaredites and, at some point, Abram] for His own purposes.” (6:164)

Since Sumerian has been identified as the language of the original Jaredites, it is helpful to look there for some possibilities. In this regard, a segment of a Mesopotamian epic entitled *Enmerkar and the Lord of Aratta* is of special interest. *Enmerkar and the Lord of Aratta* is a legendary Sumerian account from preserved, early post-Sumerian copies, composed in the Neo-Sumerian Period (ca. 21st century BC).

The account speaks of a time when there are no predators and there is peace between nations and rulers. The section ends with a statement about people speaking the same language. Jacobsen (1992) translated it as referring back to a past event: “In those days . . . did Enki . . . estrange the tongues in their mouths as many as were put there. The tongues of men which were one.” (194). B. Batto agrees with the translation in the past, but considers it a description of an inchoate, primitive, uncivilized condition rather than an idyllic or paradisiacal one (Bradshaw 2014).

If Jacobsen is correct, this section of the epic may stand as a parallel to the Babel account in providing an account of the disruption of languages. It would not be out of character, however, for Genesis to have a far different assessment of language diversity than that encountered in the rest of the ancient Near East. Just as paradise was a

negative condition in the ancient Near East and a positive one in the Bible, so the unified language is positive in the Bible and negative in the ancient Near East.

The departure of the Jaredites in the 2500–2600 BC timeframe falls within the Early Dynastic Period. The entire Early Dynastic Period is generally dated to 2900–2350 BC according to the Middle Chronology, or 2800–2230 BC according to the Short Chronology. The chronology of this Early Dynastic era is particularly uncertain due to difficulties in our understanding of the text, our understanding of the material culture of the Early Dynastic Period, and a general lack of radiocarbon dates for sites in Iraq. Also, the multitude of city-states makes for a confusing situation, since each had its own history.

Looking to other possibilities to explain the confounding of language, from a scientific standpoint, there are diseases that might alter speech, such as insect-borne Lyme disease that can result in facial palsy, or various viruses that can cause Bell's palsy. In addition, the confounding of language may be referring to the written language, not the spoken language. When the brother of Jared received the interpreter stones, it is clear that the reference to a confounding of language refers only to written language.

Ether 3:22–24

22 And behold, when ye shall come unto me, ye shall write them and shall seal them up, that no one can interpret them; for ye shall write them in a language that they cannot be read.

23 And behold, these two stones will I give unto thee, and ye shall seal them up also with the things which ye shall write.

24 For behold, the language which ye shall write I have confounded; wherefore I will cause in my own due time that these stones shall magnify to the eyes of men these things which ye shall write.

This being the case, if the language being referred to as being confounded is the written script, one plausible explanation from within the timeframe when the Jaredites departed, in 2500–2600 BC, is the haphazard transition from the Elamite or Sumerian proto-cuneiform to the cuneiform script.

Although more research is needed here, there is at least a plausible likelihood, based on the Mesopotamian archaeological record, that the Jaredites left their Sumerian homeland around 2600–2700 BC.

Section II: Geography

This second section deals with Jaredite geography. Though “Jaredite geography” principally refers to the Jaredite events in Mesoamerica, Jaredite events begin before those events and extend after them. The first geography relevant to understanding the Jaredites is the Old World geography of their journey from “the great tower” to their point of departure on their ocean voyage to the New World. We will trace the various stages of this Old World journey, beginning at Sumer (chapter 9).

To understand the geography of New World Jaredite events, it will be necessary to first take our bearings from previous work on Book of Mormon geography and look at the directional system implicit in the text (chapter 10). From there, we can determine early Jaredite geographical locations in the Olmec heartland by taking a novel approach—assessing the Sumerian meanings of Jaredite proper names and comparing these with geographical indicators in the text (chapter 11). This approach can also be applied to the middle period of Jaredite history, with particular attention to how natural phenomena in the narratives of these periods correlate with various Olmec locations (chapter 12). And the same method can be extended to the final period of Jaredite history by comparing descriptions of various battles and the meanings of their associated locations to the topography of the region (chapter 13). Chapter 13 also takes up the curious idea that emerges in the Book of Mormon of the Jaredites as giants and explains how this idea emerged and what its relationship is to the location Ogath.

As mentioned above, for our purposes here, “Jaredite geography” extends beyond the timeframe of the Jaredite nation. Building on the geographical framework established in our analysis of Jaredite history, we can also shed light on the “afterlife” of Jaredite lands—what role those places played in narratives after the Jaredite civilization fell. First, we will investigate the geography of Nephite events in the Jaredite “land northward” (chapter 14). In doing so, we will find that Nephite directional descriptions are rooted in the older, Jaredite directional system.

Next, we will explore the discovery of Jaredite ruins and remains by the Limhite expedition (chapter 15). Where did this expedition travel? Where did they encounter the remains of Jaredite civilization? Were there still Jaredite remnant populations there at the time? Also discussed in this chapter is the “sacred bundle” discovered by the Limhites, which included Jaredite sacred swords.

We then explore another question of geography after the fall of the Jaredite civilization, that of where other Jaredite relics described in the Nephite narrative—the interpreters, the brother of Jared’s plates, and the Coriantumr₂ stela—were discovered (chapter 16).

Book of Mormon texts identifying the geography of the people of Mulek in the Jaredite land northward are scarce. But analysis of the meaning of the name “Mulek” allows us to correlate Mulek’s original place of settlement with archaeological ruins at La Venta. And the available Book of Mormon texts allow us to trace the movements of Mulek’s people from there to the land of Zarahemla (chapter 17).

This section ends with a discussion of three major population reductions among the Jaredites described in the Book of Ether (chapter 18). An attempt is made to assess the size of these reductions. Any effort to place the Jaredites in Olmec lands should take into account these drastic reductions in the Jaredite population.

Chapter 9

Travel Path of the Jaredites

No book about the Jaredites would be complete without a discussion of the probable travel route from Sumer and its environs to Mesoamerica. The description of the route in the Book of Ether is very brief. The intent of this book is to provide new information, discuss known information, and add some new insights that I believe provide a more plausible and accurate route description, especially since we know from linguistics and other information that the departure is from Sumer.

The first leg of the journey took the Jaredites “down into the valley which was northward”—said valley “was Nimrod, being called after the mighty hunter” (Ether 2:1). Since the main Sumerian plain is relatively flat, the Jaredite group likely originated from the eastern highland boundary area adjacent to or overlapping with Elam. We don’t know exactly where the valley of Nimrod was from this description, other than it was northward; however, Nimrod is a known king in Mesopotamia, and Genesis says that the “beginning of his kingdom” was the towns of “Babel, Erech, Akkad and Calneh in the land of Shinar” (Mesopotamia) (Genesis 10:10). Erech is the city of Uruk, which is a Sumerian city with Uruk name of the city in Sumerian. The valley of Nimrod is still somewhere in Mesopotamia, probably in the northern area.

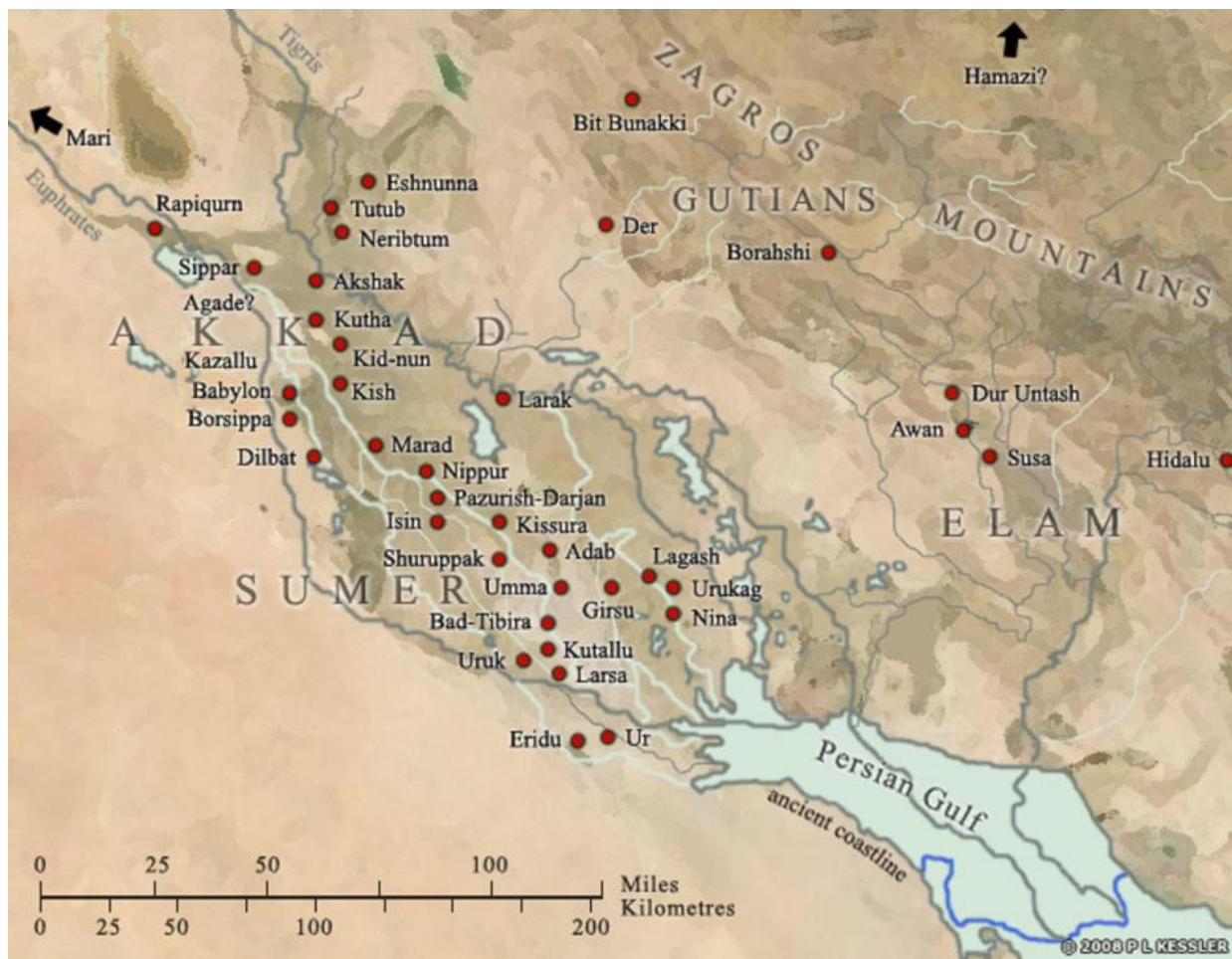


Figure 20. Sumer and Elam boundary area. (Ancient History Encyclopedia 2017)

At this point, an important clue can be derived from the text in the Book of Ether. Specifically, as I discussed in *Geology of the Book of Mormon*, in the Book of Mormon there are many instances of God communicating with or in the midst of a cloud, often accompanied by earthquakes and thunder and sometimes fire, indicative of volcanic activity (Mosiah 27:11; Helaman 5:27–28, 34, 36; 3 Nephi 8:10). Although not an exclusive rule of thumb, as there may be other Biblical theophanies involving a cloud that are non-volcanic, this potential interpretive clue may be helpful in determining the route of the Jaredites. Some scientists who have looked at the elements of Exodus agree that Mount Sinai, with its description of smoke, fire, and earthquake, was a volcano and the pillar of cloud by day and fire by night was a column of volcanic eruption (Humphreys 2004), indicating Mount Bedr in northwestern Saudi Arabia is the likely Sinai.

Exodus 13: 21–22

And the Lord went before them by day in a pillar of a cloud, to lead them the way; and by night in a pillar of fire, to give them light; to go by day and night: He took not away the pillar of the cloud by day, nor the pillar of fire by night, from before the people.

While many do not support this interpretation, the various elements of the description are consistent. When an individual, such as Moses, approaches or ascends a volcano and encounters a “cloud,” that would be indicative of only minor volcanic activity, which can be ongoing at many volcanoes; on the other hand, something sufficient to lead people and be seen from a distance would require a major eruption (which often lasts over months and even years). Of course, the appearance or description of a cloud as part of communication with God may not refer to natural phenomena, but the approach here will be to assume such and see what it indicates regarding the Jaredite travel path.

The Lord instructed Jared₁ to “go at the head of them down into the valley which is northward. And there will I meet thee, and I will go before thee into a land which is choice above all the lands of the earth” (Ether 1:43). It is notable that the Lord promised to “go before” the group in some form or fashion, leading them all the way to the promised land in the New World. As indicated in Exodus with the same language, in that instance, the Lord went before the Israelites in a “pillar of cloud” and by a “pillar of fire.” Ether 2:5 indicates the method in which the Lord “did go before them,” namely, that he “stood in a cloud.”

After the Jaredites arrived at the Valley of Nimrod, the Lord came down in a cloud to the brother of Jared, who “saw him not” (Ether 2:4). There is only one volcano that shows activity at that time in Mesopotamia, and it is located at the northern extent of ancient Assyria. The name of the volcano is Nemret Dagi, and it is located on the southern end of Lake Van and is adjacent to some small valleys. The name of the volcano, ironically, means Mount Nimrod, although the naming of the volcano appears to be relatively modern, dating back to the Middle Ages. In Armenian legend, Hayk defeated the biblical king Nimrod and buried him in these mountains, so the name may correlate to this ancient reference.

Identifying the second leg of the Jaredite journey is critical because if they went east, they would have traveled over the Pacific Ocean, and if they went west, they probably crossed the Mediterranean Sea and Atlantic Ocean. Some have postulated that they could have also gone south to the Red Sea, which would still indicate a Pacific crossing. One argument against a Red Sea departure, just from a matter of logic, is that if their starting point was already on or in close proximity to the Persian Gulf, why would they travel a long distance on land to access the Pacific Ocean when they had direct access to the Pacific through the Persian Gulf right from the beginning?

With its internal geographic correlations, the Book of Mormon indicates an Atlantic side arrival in the Isthmus of Tehuantepec (Sorenson 2013). For the second leg of the journey, the Jaredites were to first, “go forth into the wilderness” “into that quarter where there never had man been”; then, for the third leg of the journey, they “did build barges, in which they did cross many waters” (Ether 2:5-7). Some have assumed that “many waters” must

indicate that they were crossing a series of lakes or swamps, somehow portaging their barges across dry land. However, in the Book of Mormon, “many waters” is used to mean a large body of water such as a sea or ocean (see 1 Nephi 13:10, 12, 13, 29; 1 Nephi 17:5). Finally, the language describing the end of the third stage of the journey is curious: the Lord “would not suffer that they should stop *beyond the sea in the wilderness*, but he would that they should come forth even unto the land of promise” (Ether 2:7, emphasis added). This indicates that the end of the third stage of the journey was “beyond the sea in the wilderness.”

There is no previous indication that the Jaredites abandoned their boats; in fact, the Sumerian meaning of the name of the place where they pitched their tents by the seashore indicates that it was both the landing and departure point for their barges/boats. It also indicates that they landed on an “earth pile,” which would seem to indicate an island, since known Sumerian currently does not have a word for “island.”

Ether 2:13

And now I proceed with my record; for behold, it came to pass that the Lord did bring Jared and his brethren forth even to that great sea which divideth the lands. And as they came to the sea they pitched their tents; and they called the name of the place Moriancumer; and they dwelt in tents, and dwelt in tents upon the seashore for the space of four years.

Sumerian

ma: ship or boat

ma'u: barge

mar-ru: storm or wind

muru: rainstorm

ri: to lay down, cast, set in place, to lead away, to release

Ri-a-na (form of *ri*)

a-Ri-ni (form of *ri*)

ana: wooden object

ku: to place, lay down

uma: triumph, victory

kamar: wood

a: water

a-ni (form of *a*)

a-na (form of *a*)

u: type of land

u: earth pile

u: earth

Constructed Compound Word: **Moriancumer**

During the second leg of the journey, across the barren quarter, the Jaredites were led by the Lord who “did go before them, and did talk with them as he stood in a cloud, and gave directions wither they should travel.” Later, at the place that marked the end of the third leg of their journey, the Lord again talked with the brother of Jared and “stood in a cloud” (Ether 2:14).

Guided by the Cloud

In applying the premise that volcanic eruptions served as a navigational guide, it should not be assumed that the Jaredites were leapfrogging from one volcano to another, since it is clear that they were “being directed continually by the hand of the Lord” (Ether 2:6) and were traveling at times through areas where no volcanoes were located or

active. Volcanic activity would have been principally useful in offering navigational guidance in areas that might not have had populations or trade routes and when maintaining a specific direction was necessary, such as in barren territory or open sea/ocean, as is indicated by the fact that they traveled in “that quarter where there never had man been.”

For the second and third legs of the journey, an examination of all volcanoes or volcanic fields and their history of eruption to the east of Mesopotamia and easterly through and beyond the Mediterranean indicates only two volcanoes had eruptions during the departure timeframe of the Jaredites (2600–2700 BC); the Harrat Ash Shamah volcanic field (eruption in 2670 BC +/- 200 years), in current northwestern Saudi Arabia near the Jordanian border, and the Tenerife volcano in the Canary Islands (eruption approximately 2650 BC). There were no volcanic eruptions of any sort east of Mesopotamia, again confirming that the Jaredite journey moved west through the Mediterranean Sea.



Figure 21. Approximate route of the first three legs of the Jaredite journey. (Google Earth, 2016, modified by the author)

The approximate route shown in figure 21 indicates that the Jaredites crossed a portion of the Syrian Desert, using the volcanic cloud as a guide and that the third leg of the trip took them to a spot in the ocean where another volcanic cloud would have been extremely useful as a directional navigational guide, especially if one is aiming to arrive at a small island. Figure 21 should not be viewed as an exact route, since the Jaredites may have launched at

a slightly different point in the eastern Mediterranean and probably stopped at various locations along the way for supplies. The arrival at the Canary Islands would have required a bit of open-water travel in the barges, since the islands are located 60 to 70 miles offshore, but in calm weather this would not have been much different from sailing the Mediterranean Sea.

The Canary Islands as the preparation place before the Jaredites' final haul to Mesoamerica makes a lot of sense, since it puts them directly into the Trade Winds that blow toward Mesoamerica. After all, the last leg of the journey would require a "furious wind to blow upon the face of the water" (Ether 6:5). This is the route that Columbus took on his initial voyage (see figure 22), which took him 5 weeks to arrive in the Caribbean. Also, interestingly, the Canary Islands is the only other Pre-Columbian place in the world that anciently utilized a 260-day calendar like the Olmecs. It is not known if there were inhabitants on the Canary Islands at the time of the Jaredite landing, so that interesting link will remain a bit speculative for the time being.

One question that arises regarding the departure point is whether there was sufficient quality wood for the Jaredites to construct their ships. The Canary Islands are home to the Canary Island pine (*P. canariensis*), a large, evergreen tree native and endemic to the outer Canary Islands (Gran Canaria, Tenerife, Hierro and La Palma). *P. canariensis* wood is strong and serviceable. It has excellent durability and is classified among the best grades of pine wood. Objects built of the heartwood have remained sound under full exposure to weather for 200 years (Gravano 2002).

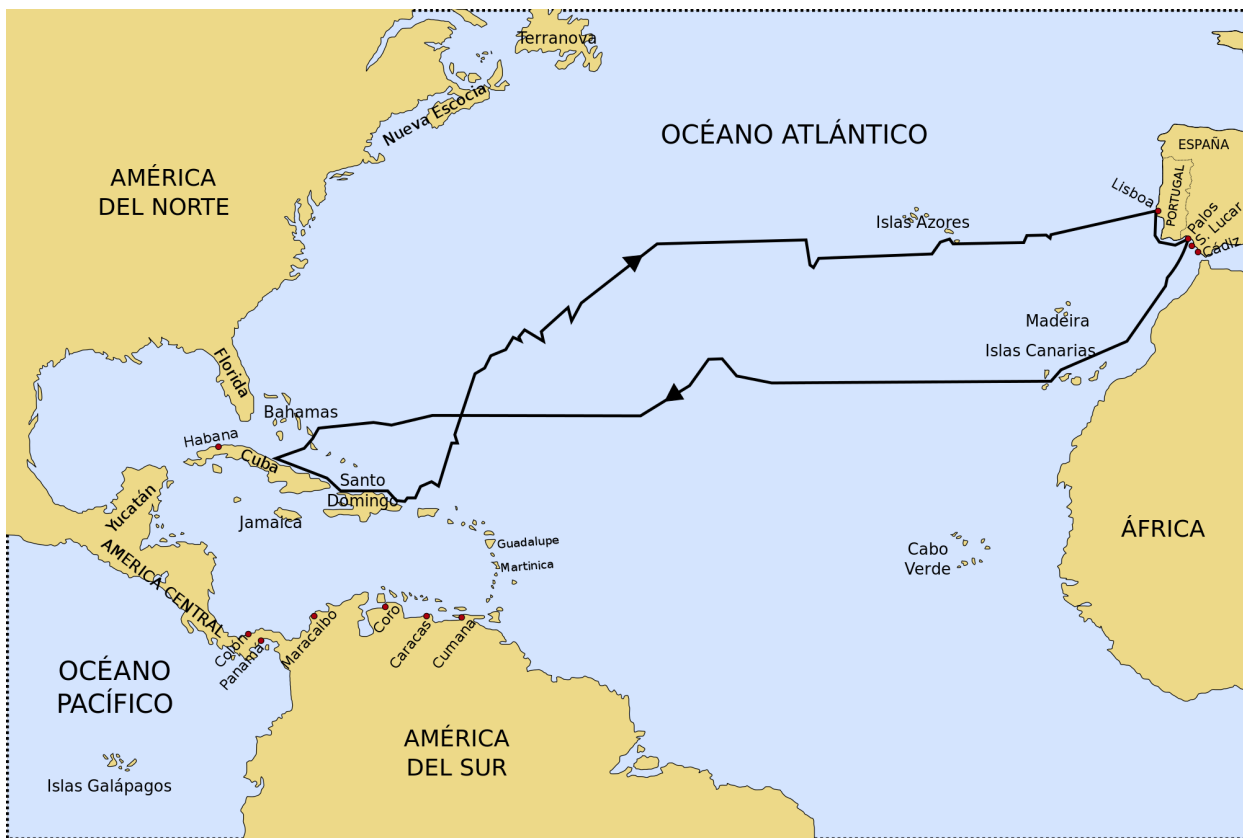


Figure 22. The route of Columbus's first trip, using the Trade Winds. (Wikipedia.org, 2015b)



© 2005 Brooks/Cole - Thomson

Figure 23. Zone of North Atlantic Trade Winds. (Brooks/Cole – Thomson 2005)

For the final leg, leaving the Canary Islands, there are two volcanoes that erupted during the right period and in the right place and would have worked perfectly in conjunction with the trade winds and the Atlantic Ocean currents to direct the Jaredites from the Canary Islands to Mesoamerica at critical junctures. Starting from the Canary Islands, the Jaredite group was positioned to catch the Canary Current off of Africa (see figure 23). The current would have taken them into the North Equatorial Current and zone of the favorable Trade Winds (see figure 23). Continuing along the North Equatorial Current, the group would have needed to stay to the south and catch the Caribbean Current where it splits off. The volcano Mount Pelée on the Caribbean island of Martinique could have served as a navigational guide to make sure that the group caught the Caribbean Current since it had eruptions during the proper timeframes (eruptions in 2460 BC +/- 100 years and 2660 BC +/- 200 years). On the way to their final landing place (somewhere near current Veracruz, Mexico), the Jaredites could have been led by the Pico de Orizaba volcano, which is just inland of Veracruz and is the tallest volcano in Mexico and the third highest peak in North America. It also erupted during the right timeframe (2780 BC +/- 75 years and 2500 BC +/- 75 years) and would have served as a final directional target for the Jaredite group.

The length of the journey would have been in the neighborhood of 5,500 miles, and utilizing the upper end of the current speeds, shown in figure 24, the travel time based on the ocean current alone (with no consideration of wind assist) would have been 290 days from the Canary Islands. Using the average current speed, it would have taken 432 days. The Book of Ether indicates that the Jaredites were “driven forth before the wind” and were “three hundred and forty and four days upon the water” (Ether 6:6–11), which is a reasonable timeframe from the Canary Islands to Mesoamerica based on the current alone. It is also possible that they could have stopped at the Cape

Verde Islands and/or somewhere in the Caribbean for a short period to resupply, which may have lengthened the journey a bit and could mean that the 344 days “upon the water” refers to the total time on the water, minus the time spent making stops on land.

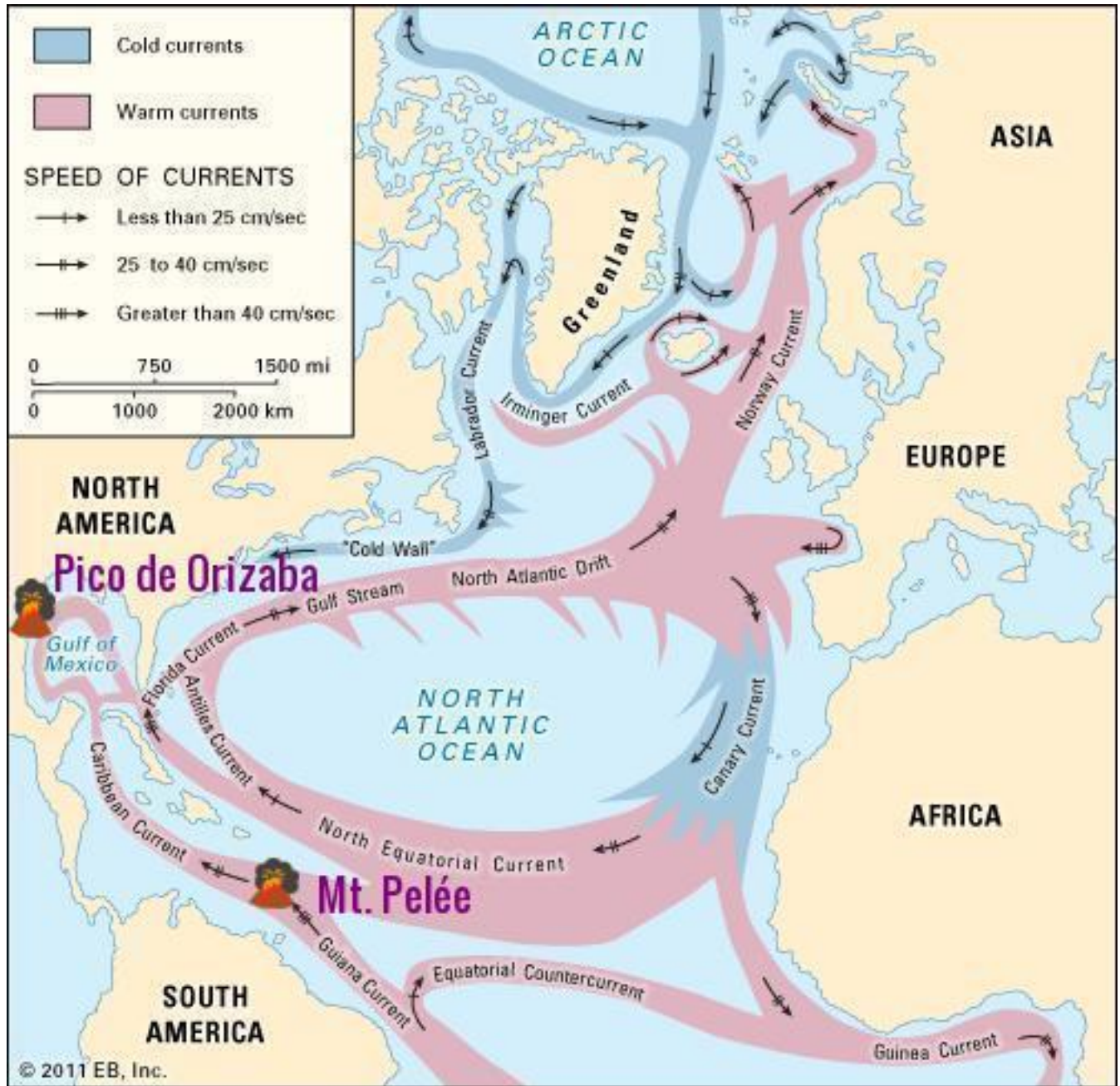


Figure 24. North Atlantic Ocean currents and locations of Mount Pelée and Pico de Orizaba volcanoes. (EB, Inc., 2011, modified by author)

The nature of the vessels and a plausible construction design based on the description given has been evaluated with some detail by Captain Richard Rothery (1999) and so will not be repeated here. Captain Rothery assumed a route across the Pacific, but the features of the boat as described would be the same. Some Book of Mormon illustrations have erroneously shown these boats to look like submarines, but there is no indication given in the text that there was a different exterior design other than the ships had sealed decks.

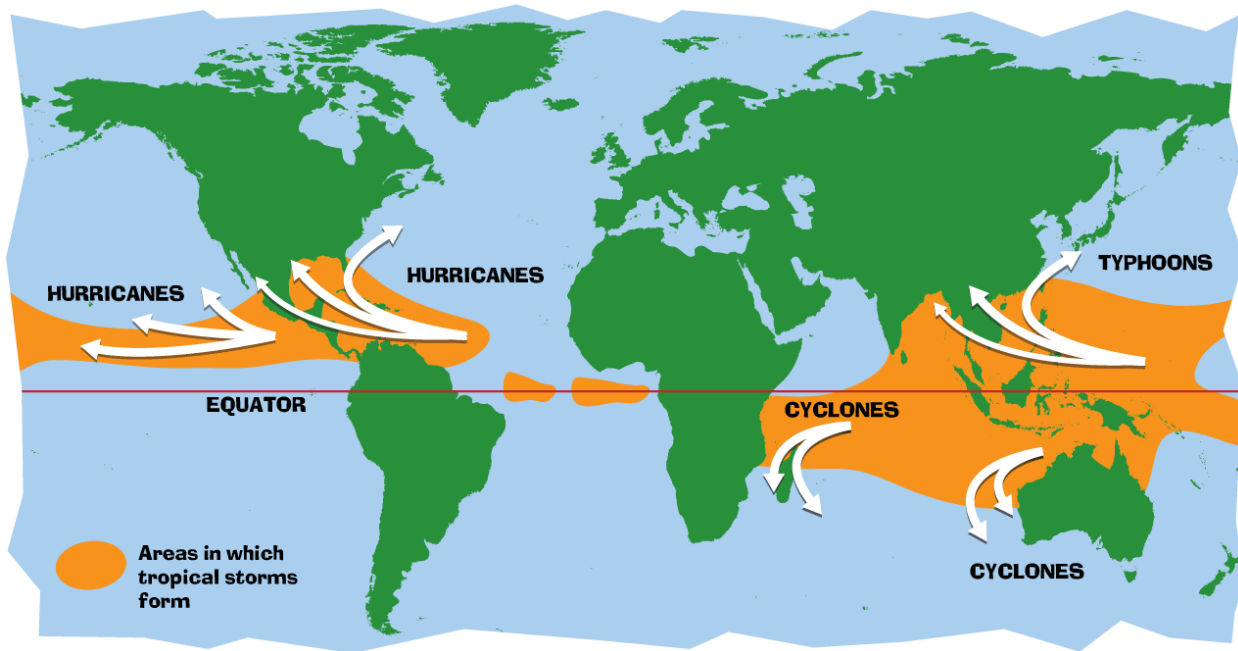


Figure 25. Tropical Storm and Hurricane pathways. (NASA 2016)

Other indicators in support of the route identified here are the likely references to a tropical storm or hurricane in Ether 6. Ether 6:5 reads, “The Lord God caused that there should be a furious wind blow upon the face of the waters, towards the promised land,” and verses 6 and 8 mention that there were “great and terrible tempests” and that the “wind did never cease to blow towards the promised land.” The only route consistent with the tropical storm or hurricane pathways described (see figure 25) and the trade winds that would have pushed them to Mesoamerica is the Canary Island route. In general, a Pacific crossing runs counter to the prevailing winds.

The 16 Stones

While in the Canary Islands, not long before their departure, the brother of Jared was concerned about having light in the boats they had constructed and presented to the Lord (who again spoke from a cloud) 16 stones (one for each end of each of the eight boats); he “went forth unto the mount, which they called the mount Shelem, because of its exceeding height” and “did molten out of a rock” stones that “were white and clear, even as transparent glass” (Ether 3:1; 6:2). The Lord then touched the stones, so they were then “prepared” to give “light unto the vessels” (Ether 3:6, 6:2). There are multiple volcanoes in the Canary Islands. Individual islands within the Canary Islands that could be the location of Shelem, based on volcanic activity, are Isla dell Palma, Villa di Valverde, Tenerife, Gran Canaria, and Lanzarote. In regards to current elevation, Tenerife is by far the highest.

Before an attempt can be made to identify the geologic source of the stones, it is necessary to evaluate the word *molten*. The word *molten* that is found in current editions of the Book of Mormon had a different spelling in the Printer’s Manuscript of the Book of Mormon (we don’t have the Original Manuscript for this portion of Ether). The word was spelled “moulton” and appeared in various earlier editions of the Book of Mormon. Royal Skousen (2009) has evaluated this word, noting the spelling is not an error, and observes that the exact verb is not listed in the Oxford English Dictionary. Through some biblical comparisons, he indicates that an appropriate meaning is “to cast (metal)” (3754). However, the text in the Book of Mormon is not necessarily supportive of such a narrow definition.

In a previous publication *Ziff, Magic Goggles, and Golden Plates* (2016), I evaluated the word *ore* in the Book of Mormon, determining that it was used interchangeably with the final metal product, indicating that complex

smelting is not required to be taking place in the Book of Mormon but could be limited to just hot working and forming of an existing metal.

While Nephi₁ was still in the Old World, the word “moulton” was used twice involving the production of iron tools used to make a ship (1 Nephi 17:9, 17:16). In one instance, he sought “ore to moulton that I may make tools,” and in the second he “did make tools of the ore which I did moulton out of the rock.” In one case, Nephi’s intent was to moulton the ore, and in the other, he apparently moultoned the rock. It is not known where or in what fashion he obtained the “ore”—whether it was through trading or finding it himself. He definitely used heat in the process since the text mentions he made “bellows wherewith to blow the fire.”

Iron has a melting point too high for primitive furnaces to have extracted it in pure form from its ore. The best that could have been achieved is a cluster of globules of iron mixed with sludgy impurities. This unpromising substance can be turned into a useful metal by repeated heating and hammering, until the impurities are literally forced out, making what is referred to as “wrought iron.” This was the state of metallurgy at the time of Nephi; furnace designs capable of melting pure iron were not achieved until 513 BC by the Chinese. The addition of carbon to iron could sometimes lower its melting point to just the upper temperature limits of the primitive furnaces but would also make the final product brittle.

The meaning of *moulton*, based on Nephi’s metallurgical use of the term, would not be “casting metal” from a liquid form, but would be what is better described as hot working (pounding and removal of gangue material) from softened metal.

In fact, the word *moult* as a verb is found in the Oxford English Dictionary with one definition and attestation of the metallurgical use of the word applied to metalworking, specifically ironworking:

1612 S. STURTEVANT *Metallica* xiii. 94 Freestone . . . in continuance of time . . . moultheth, or crometh away.

According to the OED, a *freestone* is a “stone that can be sawn in any direction and readily shaped with a chisel, such as fine-grained sandstone or limestone.” And *crome* means to remove with a hook.

The full title for the metalworking treatise *Metallica* indicates the scope of the book:

Briefly comprehending the doctrine of diverse new metallical inventions, but especially how to neale, melt and worke all kinde of mettles ores, irons and steeles with sea-coale, pit-coale, earth-coale and brush sewell. (Sturtevant 1612)

In a metallurgical context, the more exact meaning of *moulton* in the Book of Mormon derives not from *molt*, meaning to cast (metal), but from *moult*, involving the working of metal (or other material) typically in the presence of heat. When one moultons “out of a rock,” it means that the rock is worked to cause the removal or shedding of impurities or gangue material with the assistance of heat.

Some have supposed that the “stones” must be glass, criticizing the description based on the premise that the technical ability to make transparent glass did not occur until the first century AD, not recognizing that; non-transparent glass, however, was made as early as 3500 BC in Mesopotamia.

The description given in Ether says the objects were “stones” and were “as transparent glass,” not that they were actually glass. The stones were taken out of the rock by removing the gangue material around the “stones.” The removal process could have involved heat in the form of heating and quenching the rock, which was a known and ancient technique to crack or break rocks. Some may object that “transparent glass” was not a type of material that would have been recognized; however, there actually was transparent glass anciently, and it occurred naturally.

Although most people think of glass as a man-made material, it is found in many forms in the natural world. Natural glass can occur when volcanoes spew molten rock, lightning strikes desert and beach sands, and meteorites pound the earth and by formation as skeletal structure of some sea organisms.

In nature, glasses are formed when sand and/or rocks, often high in silica, are heated to high temperatures and then cooled rapidly. Obsidian or volcanic glass, for example, is molten rock that has quickly cooled, becoming rock in a glassy state. Tektites and Libyan Desert Glass are other forms of glassy rock created by the intense heat and force of meteoritic impacts on the earth millions of years ago. Fulgurites, which are glass made when lightning strikes sand, are brittle tubes of melted sand. Some marine creatures, such as microscopic algae and sea sponges, have siliceous (silica) skeletons, which are also a form of natural glass. Some of these forms can be transparent, such as Libyan Desert Tears (see figure 26).



Figure 26. Naturally formed Libyan Desert Glass (aka Libyan Desert Tears). (www.dragonsreverie.com 2016)

Natural glass has been identified in the Canary Islands, so it might be a candidate for the material constituting the 16 stones. A search and review of the mindat.org (2016) worldwide mineral database indicates that the following minerals or materials, which have been found in the Canary Islands, can occur in both a white and transparent or translucent form:

- Albite
- var: Oligoclase
- Albite-Anorthite Series
- Analcime
- Apatite
- Apophyllite
- Aragonite
- Baryte
- Britholite-(Ce)

Britholite Group
Calcite
Celestine
Chabazite
var: Phacolite
Chabazite-Ca
Chabazite-Na
Clinocllore
Clinoptilolite-Ca
Cowlesite
Diamond
Diopside
Dolomite
Edenite
Enstatite
Epistilbite
Erionite
Faujasite-Ca
Faujasite-Na
Fluorapatite
Forsterite
Gismondine
Glass
Gmelinite
Gonnardite
Gypsum
Halite
Haüyne
Heulandite
Kaolinite
K Feldspar
var: Adularia
Laumontite
Lévyne
Merlinoite
Mesolite
Mica Group
Mogánite
Mordenite
Natrolite
Nepheline
Nordstrandite
Offretite
Opal
var: Opal-AN
var: Precious Opal
Phillipsite
Phillipsite-K
Phillipsite-Na

Phlogopite
Quartz
var: Chalcedony
Quartz-beta
Salammoniac
Sanidine
Scolecite
Sodalite
Sulphur
Thomsonite
Thomsonite-Ca
Wairakite
Wüstite
Zircon

Since it is not known exactly what the divine modification of the stones was, some of the above-listed minerals were included even though they normally would not have sufficient durability to serve the purpose needed by the Jaredites. While science has been able to explain many ancient miracles, others (such as the resurrection of Christ) are beyond our current scientific understanding.

Contrary to modern LDS artists' illustrations of the event, the Book of Mormon does not say that the stones began to produce light when they were touched one by one by the finger of the Lord. The text indicates only that they produced light much later, when a stone was placed in each end of the vessels (Ether 6:2). It is possible that they were placed in each end of the boats because the light was generated utilizing the kinetic energy of the upward and downward movement of each end of the boat, similar to the light generated by today's mechanically powered "shake" flashlights. All that the text says about what was done to the stones was that the "Lord had prepared the stones."

If one is looking for some sort of "solid state" answer to the light from the stones, the principle of light being able to emanate from some forms of rock has long been known in the form of the oxidation of white phosphorus (known as chemiluminescence) however the brightness is low and thus probably does not fit the description given in Ether. Incidentally, one of the white transparent minerals listed above is apatite, which contains 18.2% phosphorus; perhaps some chemical reaction converting it to white phosphorus might have been involved.

Other known forms of natural luminescence are:

- Chemiluminescence, a result of a chemical reaction
- Bioluminescence, emission as a result of biochemical reaction by a living organism
- Electrochemiluminescence, a result of an electrochemical reaction
- Crystalloluminescence, produced during crystallization
- Electroluminescence, a result of an electric current passing through a substance
- Cathodoluminescence, a result of a luminescent material being struck by electrons
- Mechanoluminescence, a result of a mechanical action on a solid
- Triboluminescence, generated when bonds in a material are broken as it is scratched, crushed, or rubbed
- Fractoluminescence, generated when bonds in certain crystals are broken by fractures
- Piezoluminescence, produced by the action of pressure on certain solids
- Sonoluminescence, a result of imploding bubbles in a liquid when excited by sound
- Photoluminescence, a result of absorption of photons

- Fluorescence, photoluminescence as a result of singlet–singlet electronic relaxation (typical lifetime: nanoseconds)
- Phosphorescence, photoluminescence as a result of triplet–singlet electronic relaxation (typical lifetime: milliseconds to hours)
- Radioluminescence, a result of bombardment by ionizing radiation
- Thermoluminescence, the re-emission of absorbed energy when a substance is heated
- Cryoluminescence, the emission of light when an object is cooled

Perhaps one or a combination of these methods somehow operated within the mineral or stone.

The Interpreter Stones

At the time the Lord prepared the 16 stones, he also provided to the brother of Jared on Mount Shelem two additional stones (Ether 3:23), which were passed down and referred to in the Book of Mormon as “interpreters.” Moroni² sealed up the interpreters (Ether 4:5) with the golden plates. Doctrine and Covenants 17:1 verifies that the interpreters (by then referred to as the “Urim and Thummim”) that Joseph had were those delivered to the brother of Jared on Mount Shelem. Since it is unknown where the two stones originated, it is not really possible to conjecture what material they were made of. Joseph Smith described them as “transparent” (Smith 1842), and Martin Harris described them as being “white, like polished marble, with a few gray streaks” (Harris 1859), although this latter description sounds more like Joseph Smith’s seer stone than the interpreters. Based on this description, the stones are similar in appearance to the 16 stones, and if they did come from a local source in the Canary Islands, they could have come from the minerals and materials listed above.

Chapter 10

Background to Jaredite Geography

One purpose of this book is to build on prior work and provide new insights into Jaredite geography. Currently, there is virtually no specificity to Book of Mormon Jaredite geographic sites in the land northward, since the Book of Ether is not extensive and contains few directions or overt indications of geographic features that are easily discernable. Sorenson, in his model in *Mormon's Codex*, provides conjectured locations, but he acknowledges that most of the locations that are known to be in the land northward are just based on reasonable inference, since the text contains only few specific details regarding geography. The conceptual geography in Sorenson's model, as extracted from previous publications, is identified in figure 27, which is followed by a legend of locations. A map of uniquely Jaredite locations as applied to the Isthmus of Tehuantepec was extracted from previous publications and is shown in figure 28.



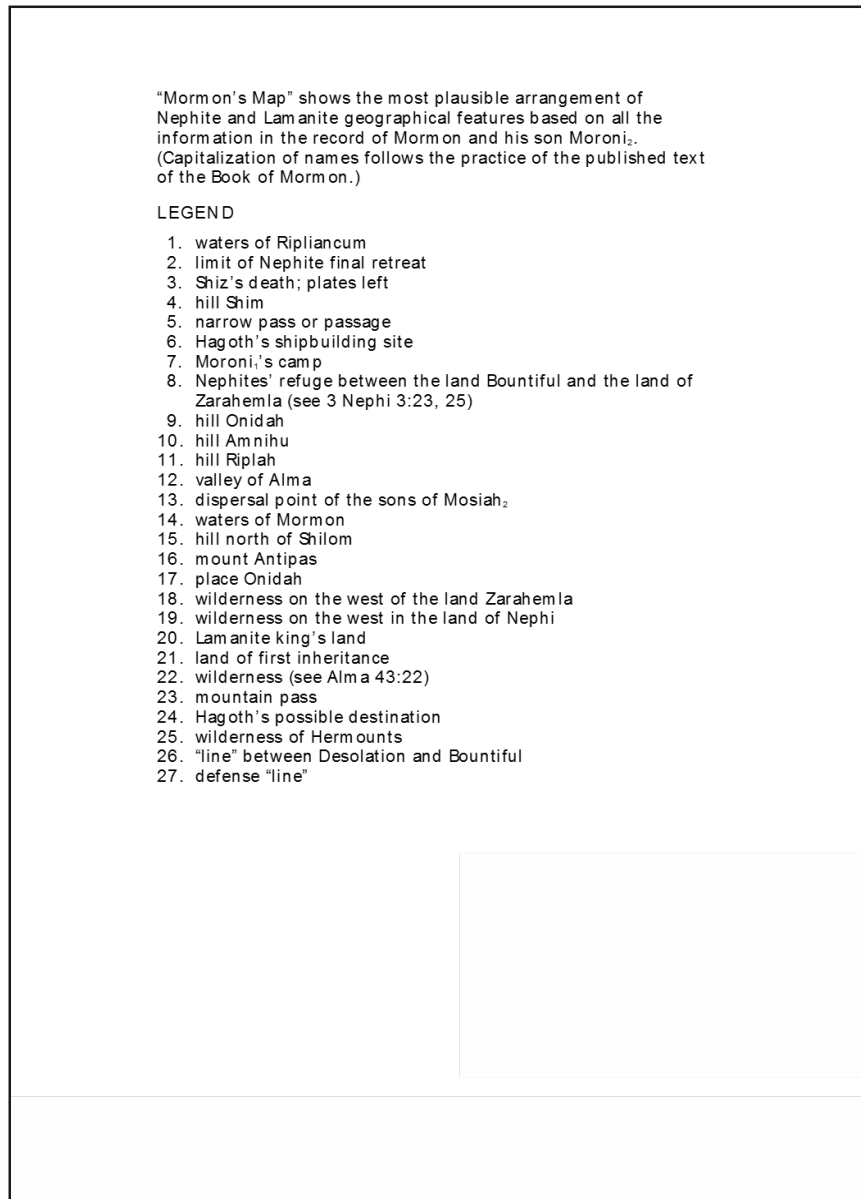


Figure 27. Conceptual Book of Mormon geography from *Mormon's Map* and legend. (Grover, 2014)



Figure 28. Conceptual Jaredite geography from *Mormon's Codex*. (Grover, 2014)

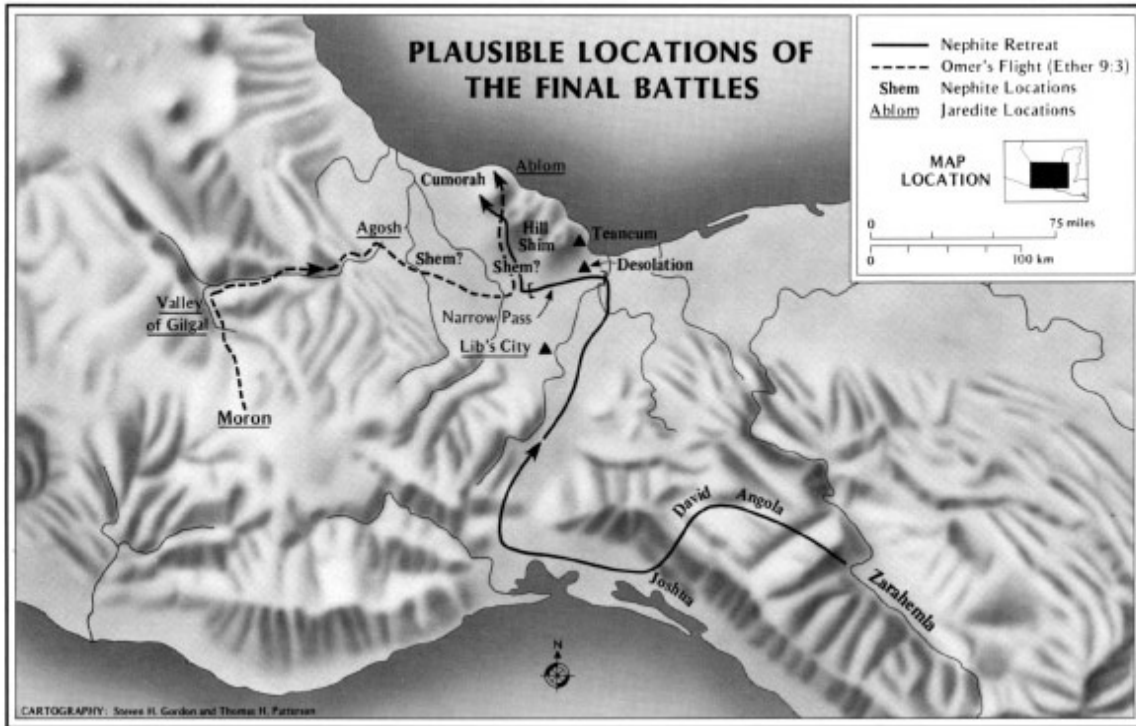


Figure 29. BYU Studies map of some locations in the land northward. (BYU Studies 2015a)

Jaredite Directions

The issue of directions and the relative skew of Mesoamerican models has confused some readers of the Book of Mormon. In the Jaredite area, the terms *northward* and *southward* are relatively easy to accommodate *northward* essentially means “in a northwesterly cardinal direction” and *southward* is “in a southeasterly cardinal direction.” The term *north countries* is different but is consistent with the general terminology of the *land northward* and the *land southward*. The term *eastward* is used twice in the book of Ether, with both journeys eastward ending up at the sea. There is no mention of a west direction in the book of Ether. The directional system used in the Book of Mormon utilizes, at least in part, a form of the Egyptian system, which relied on the directional flow of the river system to determine north and south (Grover 2015). Since the Jaredite plates were translated during the Nephite period where the river utilized was the upper Grijalva River as the River Sidon (according to the Sorenson model), the “east sea” is consistent with the Gulf of Campeche (Gulf of Mexico), and so the translation into the Nephite language of traveling eastward would also be consistent.

Chapter 11

The Early Jaredite Geographic Correlations

Initial Jaredite geographic locations in the vicinity of the Olmec heartland can be determined by utilizing the Sumerian meanings of place names and personal names in conjunction with some geographical indicators from the text. This is a new approach that will assist in determining more exact geographical locations. Unlike most proposed Book of Mormon maps, here we will provide a detailed discussion of the underlying geographic references. The initial Gulf of Mexico landing gives little information, other than that the Jaredite landing group “went forth upon the face of the land” and later “spread upon the face of the land” (Ether 6:13, 18). It is worth pointing out that in addition to place names being toponyms, places in the Book of Mormon also take their names from founding kings or other founding leaders (2 Nephi 5:8, Mosiah 18:4). On at least one occasion, a leader took the name of the existing place name:

Alma 24:3

Now the king conferred the kingdom upon his son, and he called his name Anti-Nephi-Lehi.

This practice may be more indicative of the Nephites than of the Jaredites, but is important to remember. Also, it is recognized that in order for any geographical construction to be defensible, the geography must be consistent with *all* geographical references in the Book of Mormon.

Corihor and Omer

Ether 7:4–5 indicates that the rebel son Corihor “went over” to the land of Nehor (from the land of Moron) and then gathered an army, returned, and then “went up” to the land of Moron. In Ether 7:6, Moroni₂ adds an editorial comment saying that the land of Moron was “near the land which is called Desolation by the Nephites.” Moron was identified as “where the king dwelt” and has a West Semitic etymology derived from *mr'*, “lord,” with the attenuation (softening) of the aleph, as in *mrn*, “our lord,” (Book of Mormon Onomasticon 2016).

Without concerning ourselves with the later Nephite location of Desolation at this point, there is some geographic information we can derive here. First, there must be two ways to arrive at the land of Moron from the land of Nehor—one by going back “over,” as Corihor initially came, and the other by going “up,” as he did with his army. Second, the word *Nehor* has a variety of possible meanings in Hebrew and can be potentially derived from the Hebrew *nāhār* meaning “stream” or “river” (Strong’s Concordance 2016, No. 5104). The masculine noun נהר (*nahar*) means “river” or “stream” (Genesis 2:10, Numbers 24:6, Isaiah 48:18). This word is applied to rivers such as the Euphrates and the rivers of Eden but, curiously, never to the Jordan or the Nile. *Nehor* also contains the Hebrew word *hor*, meaning “hole” or “cavern.” In addition, the Hebrew word *nahar* means “snorting,” and the Hebrew word *hori* means “a burning.” The masculine noun חור (*hur*) means “something white,” or “white stuff.” Abarim Publications (2016) provides another potential Hebrew etymology related to “snorting”:

A certain grammatical form of the verb חרר (*harar* ו, or so it is assumed) also leads to נחר (*nhr*). This happens in three places in the Bible:

In Psalm 69:3, where Green translates it with scorched and NAS with parched.

Ezekiel 15:4, where Green and NAS both translate with charred.

Jeremiah 6:29, where Green translated with blow, and NAS has blow fiercely.

(www.abarim-publications.com 2016)

Another derivation from Abarim Publications provides the meaning of “ground between two hills” and “hollow”:

The root חור (*hwr II*) is not used in Biblical Hebrew but in cognate languages it means to bend or turn, or as a noun it means hollow or depressed ground between hills. Its sole derivative is the masculine noun חר (*hor*), meaning hollow. This noun occurs only once in Scriptures, in Numbers 33:32.

Thus, Nehor would contain at least one significant river, situated between two hills and containing a volcanic vent(s), such as a fumarole (hole, snorting, burning, charred, blow fiercely, white stuff [steam/off-gas]).

Later, in Ether 7:8–10, Shule “came to” the hill Ephraim and “did moulten out of the hill.” He then made swords and armed men, and “he returned to the city of Nehor” and defeated Corihor and “obtained the kingdom,” restoring it to his father. At this point in time (approximately 2425 BC), the kingdom appears to consist, at a minimum, of the land of Moron and the land of Nehor.

In Ether 7:15–16, Noah₁ rebels against Shule and obtains “the land of their first inheritance” and becomes king “over that part of the land.” In Ether 7:16, Noah₁ takes Shule and “carried him away captive into Moron.” From this, it is clear that Moron (no mention of whether it is a city or a land here) is part of the “land of their first inheritance.”

From this point, the kingdom remained divided into two kingdoms (Ether 7:20), with one kingdom going to Cohor, Noah₁’s son. *Cohor* contains the element “-hor” and so would share some of the same meanings as *Nehor*, listed above. In Sumerian, *KU*, the equivalent of “Co-,” means “hole.”

After Cohor’s reign, his son Nimrod united the kingdom (Ether 7:22). Sometime later, Jared, the son of the then king Omer, rebelled and “came and dwelt in the land of Heth” (Ether 8:2). The land of Heth is thus presumably outside of the lands of Nehor and Moron. The following summarizes possible Hebrew roots of *Heth*:

The root-verb חתה (*hata*) means to seize or snatch up, usually of fire or coals. It occurs four times: Psalm 52:5, Proverbs 6:27, Proverbs 25:22, Isaiah 30:14. This verb’s sole extant derivative is the feminine noun מחתה (*mahta*), meaning fire pan or censer (Exodus 25:38, Leviticus 10:1).

(www.abarim-publications.com 2016)

By flattery, Jared₂ then gained control of half of the kingdom (Ether 8:3). Although not overtly stated, the land of Heth would likely have been adjacent to either the land of Nehor or the land of Moron. It was most likely adjacent to Nehor: since Jared₂ was able to gain control of half of the kingdom, Heth must have been in direct contact with half the kingdom, and since the place of the king was typically Moron and Omer the king was not at that point deposed, it would seem likely that king Omer’s half of the kingdom would be primarily the land of Moron.

Later, in response to a secret plot to murder him, king Omer “departed out of the land” with his family and “traveled many days, and came over and passed by the hill of Shim, and came over by the place where the Nephites were destroyed, and from thence eastward, and came to a place which was called Ablom, by the seashore” (Ether 9:3). Since the land of Moron was the place where the king dwelt (if possible), it is reasonable to assume that Omer departed from Moron. It is not clear if the “many days” travel also included the time taken for the “departure from the land,” but it more likely describes the entire journey. On the journey, it is clear that there were two ascents and descents, one as they “came over” and passed by the hill Shim, and the other when they “came over” by the place where the Nephites were destroyed. In Sumerian, the word *shim* means a type of basin. Sumerian roots for *Ablom* are:

ab: sea

bal: to unload (a boat)

ba-al-la, *ba-al-la₂*, *ba-al-me*, *ba-al-la-me*, *ba-al-um* (forms of *bal*)

bala: to cross; to transfer (boats over weirs, etc., blocking a stream)

bal-a-am₆, *bal-a-me*, *bal-am₃*, *bal-am₆* (forms of *bala*)

lam: to flourish; to make grow luxuriantly

(Grover 2017)

Ablom does not appear to have been previously settled since it is only identified as a “place,” not a “city” or “land.” A subsequent prince, Nimrah, with a small number of men, “fled out of the land” and “came over” to join Omer (Ether 9:9). Different from Omer’s route, Nimrah’s route indicates only one general ascent and descent. Sumerian roots for *Nimrah* are *nim*, which means “(to be) high, elevated” and “easterner,” and *ra*, meaning “(to be) pure; (to be) clear.” Nimrah occurs as a place name in the Bible:

The name Nimrah occurs only once in the Bible. It belonged to a place on the east side of the Jordan, which was a land good for grazing livestock, which was why the people of the tribes of Gad and Reuben chose to settle there instead of west of the Jordan (Numbers 32:3).

Because the land directly east of the Jordan was Moab, most scholars assume that Nimrah was the same as the Moabitic town called Nimrim and the one called Beth-nimrah. The name Nimrim occurs twice in the Bible, both times in a prophetic passage directed at Moab, and each time connected to proverbially clear waters, which both Isaiah and Jeremiah foresee turning turbid (Isaiah 15:6, Jeremiah 48:34).

(www.abarim-publications.com 2016)

It is not clear where Nimrah lived or where he departed from. It is likely that his father, as king, was located in Moron, but based on the etymology and biblical reference of *Nimrah*, it is equally likely that he lived or originated from a place on the east side of the river in the land of Nehor (*Nehor* having the Hebrew designation of “river”). Nehor as the initial base for Nimrah seems most likely, and it is not too far to Ablom—Nimrah knew where Omer was and found him without much difficulty.

Shortly after, a civil war began that eventually reduced the entire population of the kingdom to 30 persons plus those that were residing with Omer. Omer was then “restored again” to “the land of his inheritance” (Ether 9:13). It is not clear if this land refers to the land of Moron or to the entire kingdom. According to the timeline worked out earlier, this event would have occurred around 2300 BC.

At this juncture, it is possible to begin constructing the Jaredite geography in the Olmec heartland. Certain features are obvious, namely, that there is a sea in an eastward direction where Omer went. One had to ascend and descend at least once to get to the eastern sea, as Nimrah did, so there must be some significant elevation (hills or mountains) adjacent to the sea. The only place in the Olmec heartland where this geographic situation is found is the Tuxtla Mountains (see figure 30).

The next step is to use the geographic meanings embedded in the various names to identify their locations. Summarizing the discussion above, the following places and their associated geographic features need to be located:

Shim: A significant hill located in a basin

Ablom: A location on the eastern sea where boats can be navigated and loaded and unloaded (a harbor)

Nehor: A location with a river, with at least one hot, burning, snorting, smoking hole (volcanic vent)

In the entire Tuxtla Mountain area, there is only one significant hill that is located in a relatively enclosed basin. It is located approximately 2.4 miles south of the town of Tecolapán, on the northwestern extremity of the Tuxtla Mountains. I have been unable to locate a local name, so the hill will be referred to here as the Tecolapán Hill.

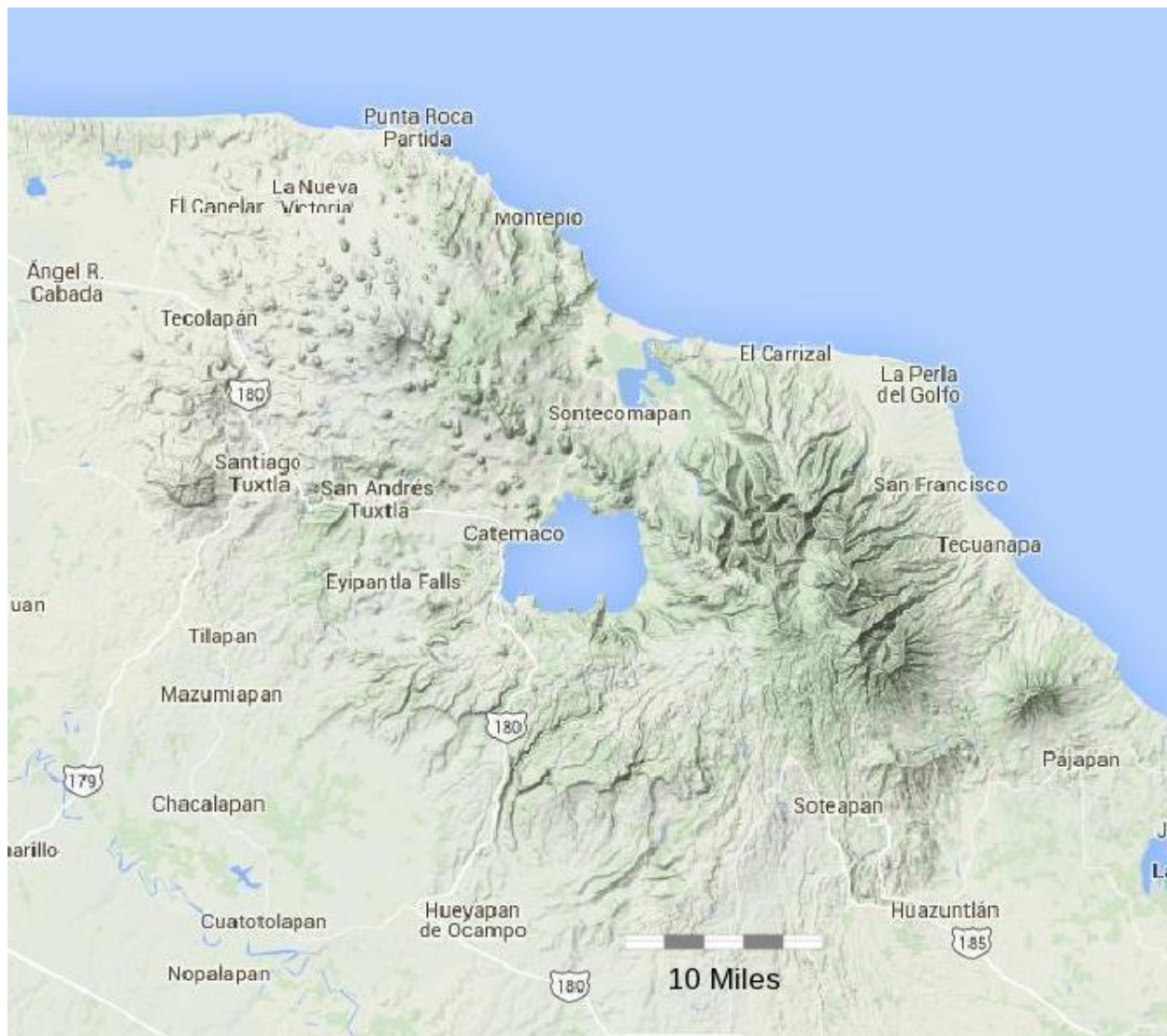


Figure 30. Map of the Tuxtla Mountains area.

The only reasonable harbor located adjacent to the Tuxtla Mountains is the Laguna Sontecomapan. There is another harbor possibility at the discharge point of the Coatzacoalcos River, but it is some 20 miles south of the Tuxtlas, and there would be virtually no scenario where one would “come over” the Tuxtlas to get there.

As for the rivers in the land of Nehor, the Tuxtlas are crisscrossed by hundreds of waterways, ranging from tiny arroyos to clear mountain streams and mud-laden giants. There is also an indication that the land of Nehor contained volcanic vents, which indicates an upland river closer to the volcanic activity and rules out much of the southern Tuxtlas, which do not have much volcanic activity. Also, since Ablom was a place of refuge that one had to go over to get to, the river associated with Nehor would be expected to be on the backside (southern side) of the Tuxtla Mountains.

Since we know the location of Shim and Ablom, it is possible to reconstruct the flights of Omer and then Nimrah on a map. Given the location of Tecolapán Hill is almost directly west of the Laguna Sontecomapan (Ablom) and given that there are no ridgelines or elevations north of the Tecolapán Hill, Omer and his party must have been traveling from north to south (remember that there were two ascents and descents prior to arriving at Ablom) when they “came over” and passed by the hill Shim. After the first ascent and descent, passing the hill Shim, Omer and his

group then “came over by the place where the Nephites were destroyed” and went eastward and “came to” Ablom (see figure 31).



Figure 31. Map of Omer’s route to Ablom.

Omer’s journey took “many days” traveling “with his family.” Sorenson estimates that a group of people such as Omer’s would probably move about 11 miles per day, given that they were moving with women, children, and probably flocks, etc. (Sorenson 2000, 56). The modern Highway 180 runs from the current town of Tapalapan (likely within the land of Moron) to Catemaco, and a local road runs from there over to La Barra de Sontecomapan (in the Ablom locality), for a total distance of approximately 50 miles. Thus the journey would have taken a minimum of four or five days, and probably a few more if one considers possible differences in the terrain (there are rougher routes than the highway route) and the additional time it would have taken if they attempted to travel covertly, which may have been the case. This route satisfies the criteria of “many days” of travel specified in the Book of Mormon.

Nimrah appears to have taken roughly the same route (or the latter part of the route), but since he “came over” only once, he either came from the Santiago Tuxtla/San Andrés Tuxtla area, or he came from Moron and stayed higher up on the slope of the San Martín volcano before descending to Ablom. Given the meaning of his name is associated with water and rivers, he likely came from the land of rivers found in the Santiago Tuxtla/San Andrés Tuxtla area.

Since the land of Moron has now been identified, it is now possible to definitively identify Corihor’s movements. Since Corihor “went over” to the land of Nehor (from the land of Moron), the only place he could have come over to reach a place with significant rivers is the Santiago Tuxtla/San Andrés Tuxtla area (see figures 32 and 33).

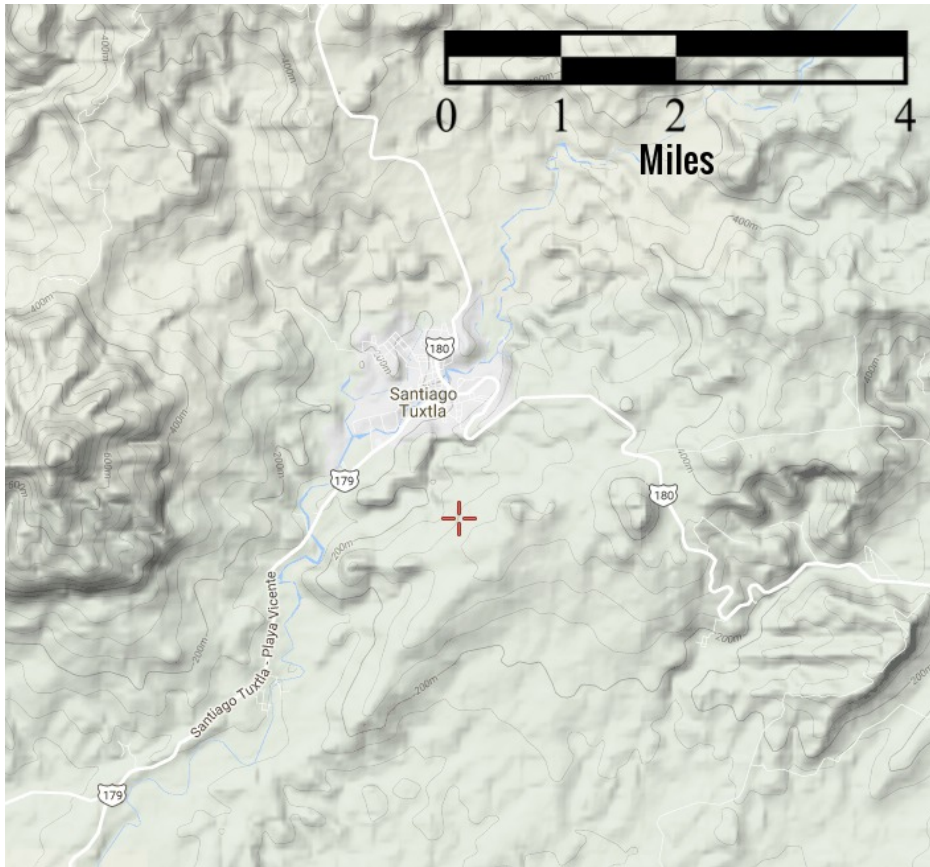


Figure 32. Map of Pixixiapan/Tuxtla River.

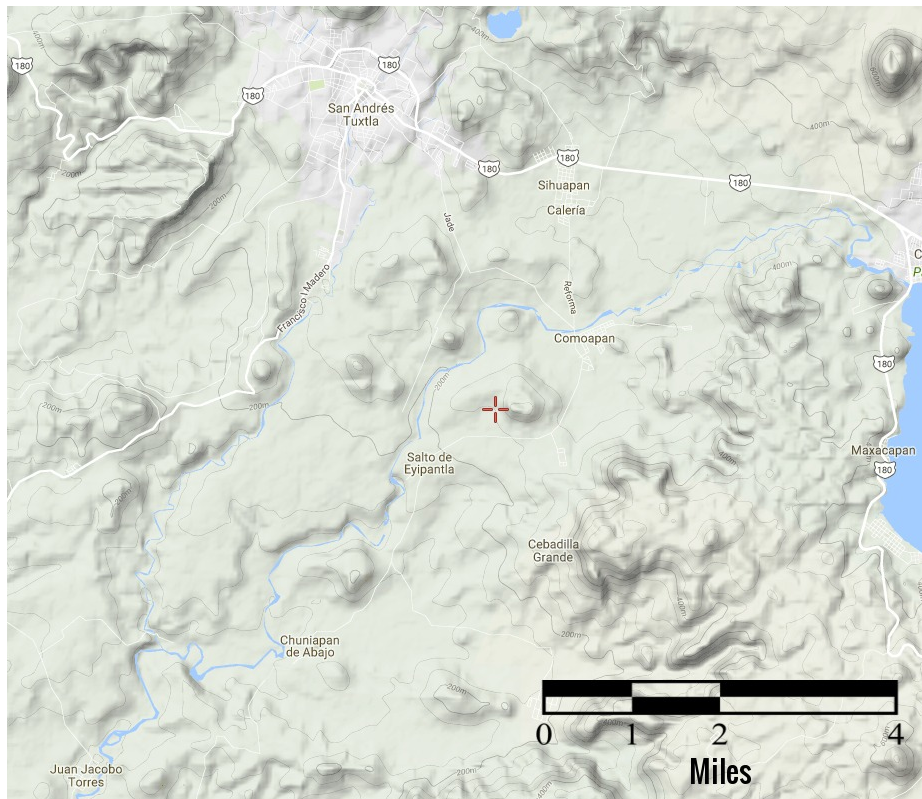


Figure 33. Map of San Andrés/Catemaco Rivers.

The meaning of *Nehor* being “river” and with the principal river in the Tuxtlas being located there (Catemaco River and Rio Tepango branch through San Andrés Tuxtla) verifies this area as at least part of the land of *Nehor*.

This area is also consistent with the military movement back to Moron where the army returned and then “went up” to the land of Moron by going around to the south of the elevated terrain thus avoiding going “over.” The etymology of *Nehor* indicates it is positioned between hills, which could be the hill El Vigia (Ramah), located on the northwest, and the hill area west and south of Lake Catemaco. Finally, further upslope to the northeast, on the San Martín volcano, are some geologically identified volcanic vents, which may have been active in recent times. This satisfies the etymological indicator that the land of *Nehor* contained volcanic vent(s), such as a fumarole (see figure 48).

The extent of the land of Moron at this early point in Jaredite time appears to consist of the gently sloping elevated terrain on the northwestern side of the Tuxtla Mountains, somewhere around 600 feet above sea level.

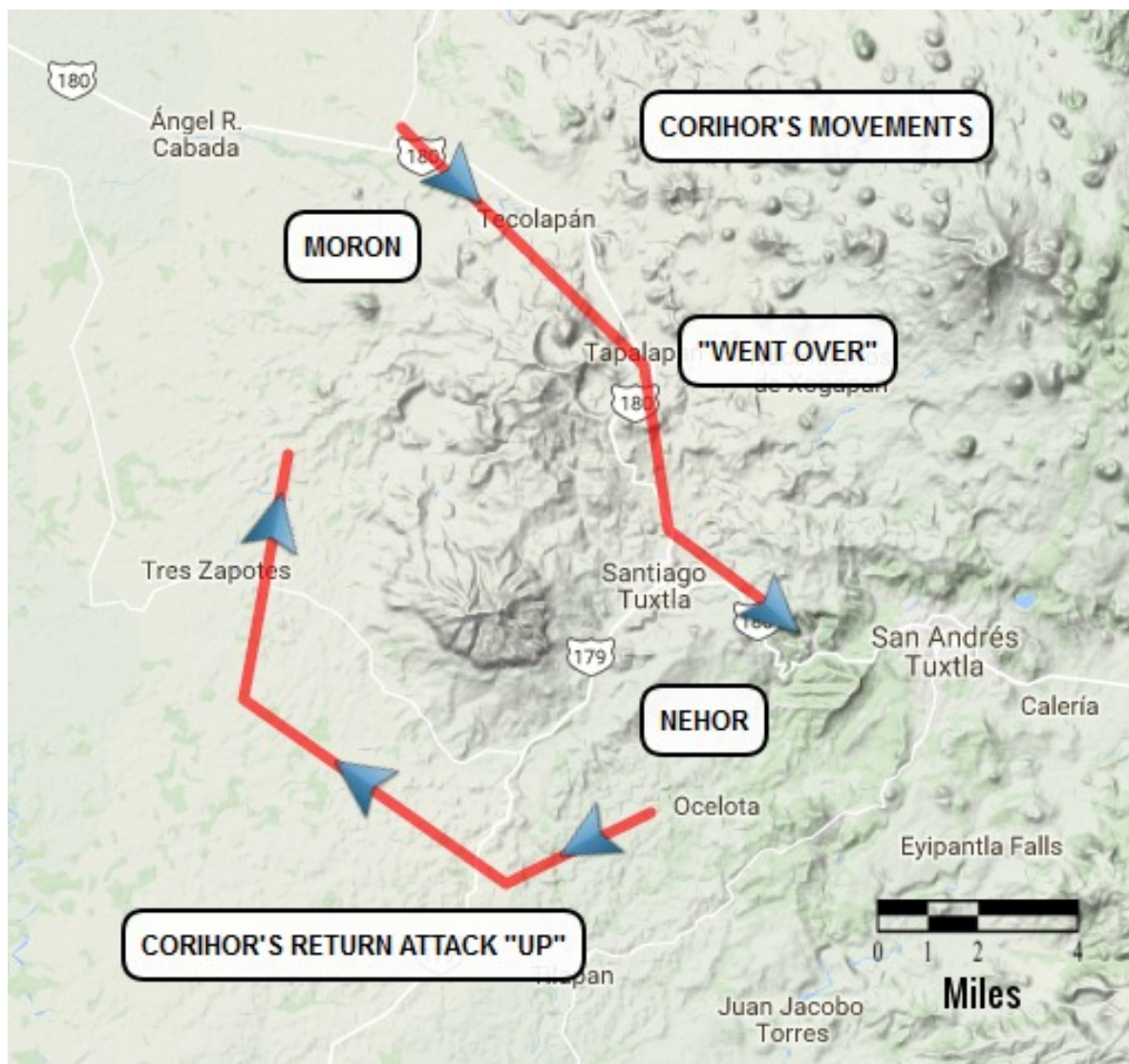


Figure 34. Map of Corihor's movements from and to Moron.

The Land of Heth and the Hill Ephraim

As previously discussed, the Hebrew etymology for Heth is:

hata: to seize or snatch up, usually of fire or coals

mahta: fire pan or censer

As indicated, Heth is likely in a volcanic area. The active volcanic area that is adjacent to the land of Nehor and to Moron is shown in figure 48. Since Jared₂ left and dwelt in the land of Heth, yet at the same time was able to gain control of half the kingdom, he must have been within “flattering distance” to Nehor, which would mean the land of Heth was adjacent to the land of Nehor.

The Tuxtla Mountains are considered a volcanic complex in that there are multiple volcanoes. Some have been long inactive, and the principal volcano that is still active is the San Martín volcano. The San Martín volcano has historically exhibited large, explosive volcanic events. Other, much smaller cinder cones volcanoes which are abundant from the summit of the San Martín volcano extend southeast to Lake Catemaco. The land of Heth would contain, at a minimum, the cinder cone volcano area but likely also included the larger San Martín volcano (see figure 35).

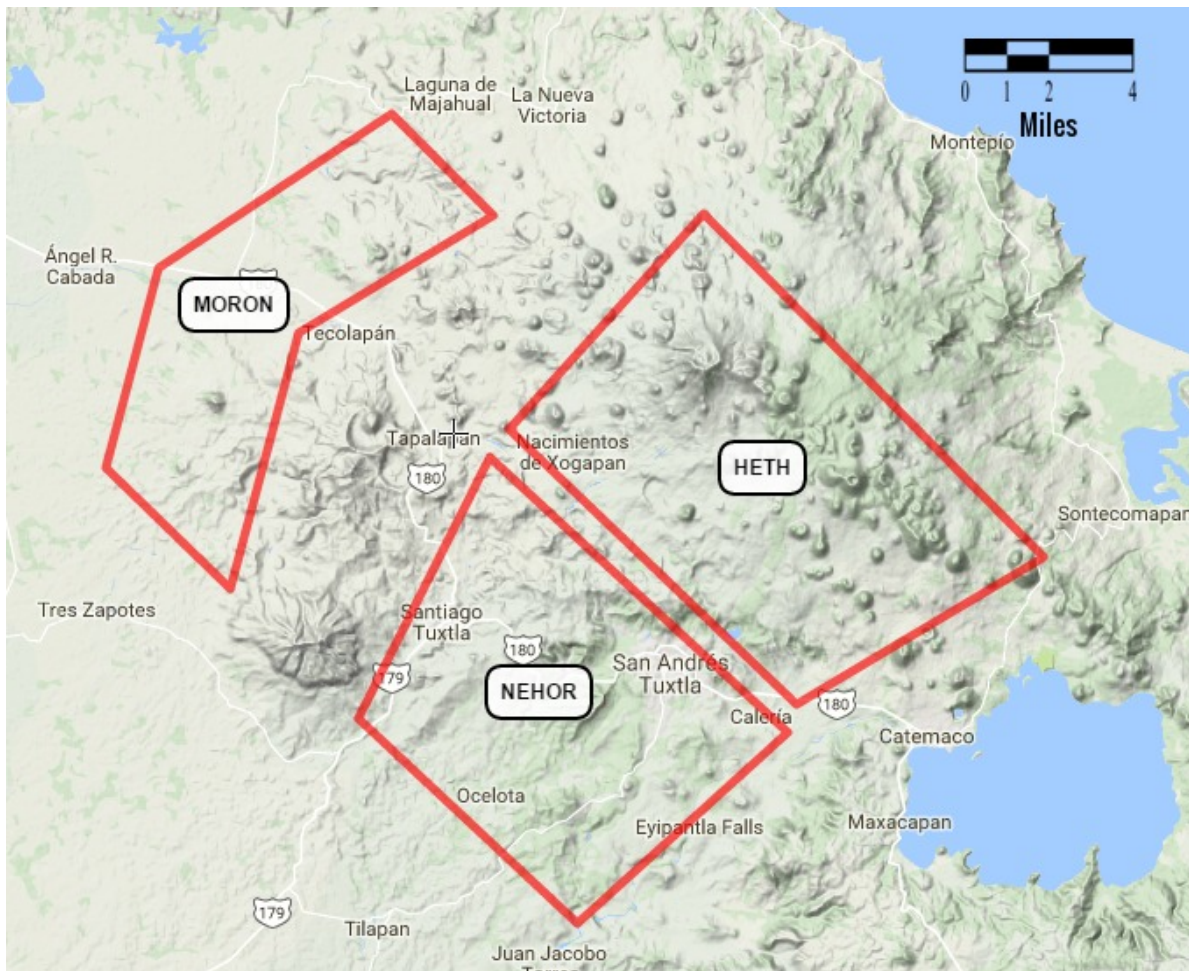


Figure 35. Map of the lands of Moron, Nehor, and Heth.

Etymologically, the name *Ephraim* in Hebrew can be derived from:

parur: boiling pot

pur: casting lots, such as casting pebbles up in the air

paras: to break (through); causes life to cease and turns a living body into dust

paras and *parash*: to spread out

paras: to break in two or divide

Given that the meanings of *Ephraim* include “boiling pot,” “casting lots” such as casting pebbles up in the air, “to break (through)” -- causing life to cease and turn a living body into dust, “to spread out,” and “to break in two or divide,” the obvious match for the hill called Ephraim is a volcano and, more specifically, a cinder cone volcano.

Cinder cones are so named because they consist of pyroclastic debris formed by explosive eruptions consisting of gas charged lava bubbling or lava fountains from a vent. When gas-charged lava is blown into the air, it breaks into small fragments that solidify and fall as either cinders, clinkers, or scoria around the vent forming a circular cone.

During the waning stage of a cinder-cone eruption, the magma has lost most of its gas content. This gas-depleted magma does not fountain but rather oozes quietly into the crater or beneath the base of the cone as lava. Lava rarely issues from the top (except as a fountain during the initial eruption) because the loose, uncemented cinders are too weak to support the pressure exerted by molten rock as it rises toward the surface through the central vent. Because it contains so few gas bubbles, the molten lava is denser than the bubble-rich cinders. Thus, the lava often burrows out along the bottom of the cinder cone, lifting the less-dense cinders like a cork on water, and advances outward, creating lava flow around the cone’s base (Colorado Geological Survey 2015). Cinder cones can erupt over long periods of time; the Paricutin volcano, which is located 200 miles west of Mexico City and came out of a farmer’s cornfield in 1943, experienced an eruption that lasted nine years.



Figure 36. Molten lava spews into the air outside of a cinder cone in a new eruption at Kilauea Volcano on the island of Hawaii on July 24 and 25, 1983. (Associated Press 1983)

The activity of a cinder cone volcano mirrors exactly the etymological description of the hill Ephraim. First, the bubbling gas-charged eruption matches the “boiling pot” etymology. Second, the discharge of small fragments up into the air matches the meaning of casting pebbles into the air. Finally, its description as a hill is consistent with the smaller size relative to the adjacent San Martín volcano. Because there are many cinder cones in the Tuxtla volcanic complex, it is probably not possible to identify the exact hill Ephraim (it may also have been destroyed or covered by subsequent volcanic activity); however, since Tuxtla cinder cones are confined to a fairly specific zone, we can identify a fairly restricted area as the location for the hill Ephraim (see figure 37).

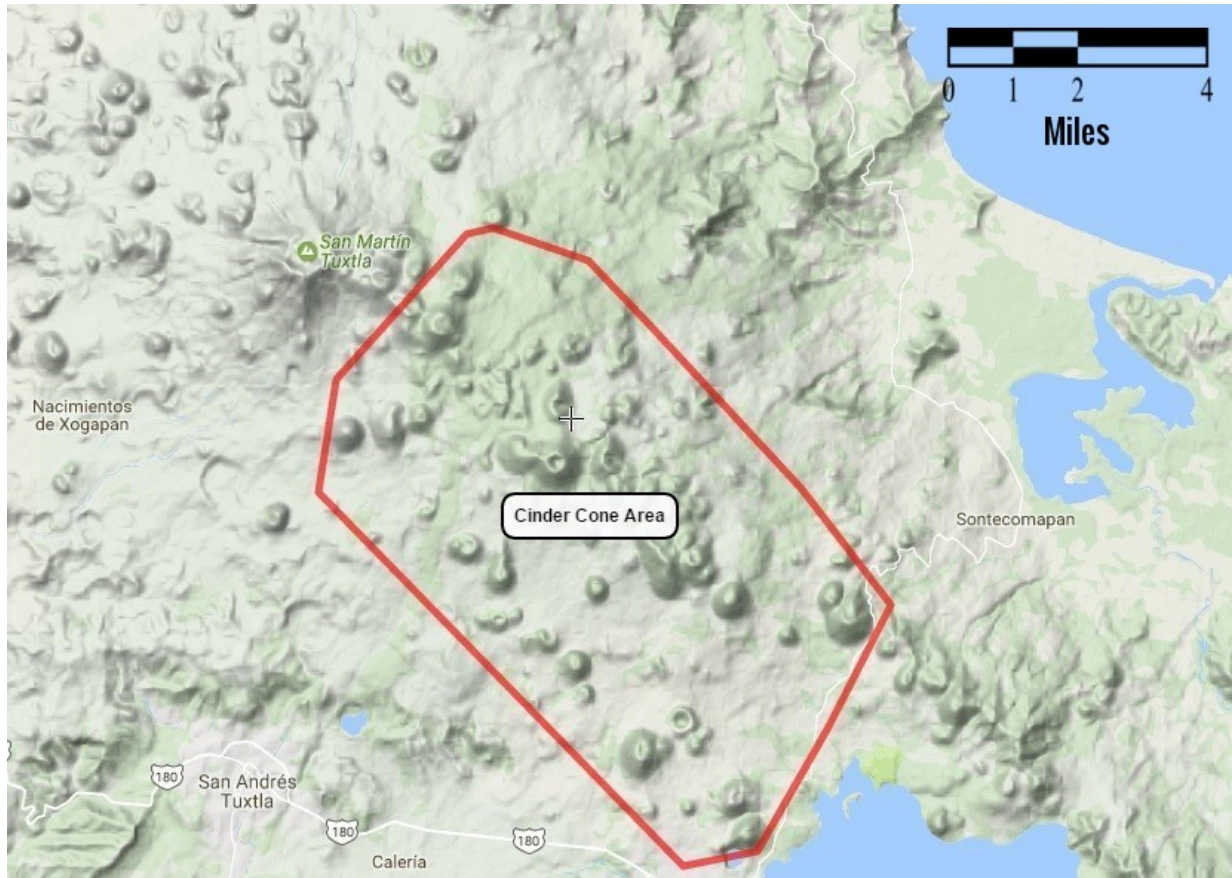


Figure 37. Map of active cinder-cone area and location of the hill Ephraim.

Chapter 12

Geographic Correlations in the Jaredite Middle Period

Our method in the previous chapter of identifying early Jaredite locations by correlating Jaredite lands with their Sumerian meanings and with natural events in the Book of Ether narrative can be extended to identifying locations in the middle period of Jaredite history. However, it must be recognized that a Jaredite geographic name could, in fact, be a name known among or actually given later by the Nephites. A name given later by the Nephites would not be surprising, given that they occupied the Jaredite area for a long period of time. In addition, because the Jaredite plates were interpreted or translated, the name form and its underlying meaning could also have been modified to reflect Nephite meaning or etymology.

After Omer was restored to the throne, a few generations passed with little discussion related to geography except that the “people had spread again over all the face of the land” (Ether 9:26). Under king Heth, there was a great dearth, which, as previously discussed, was likely related to volcanic activity. As part of this dearth, there was a migration of snakes and animals “towards the land southward, which was called by the Nephites Zarahemla” (Ether 9:31). The snakes stopped at a certain point and hedged “up the way so that the people could not pass” (Ether 9:33). It has been postulated that the likely location where the serpents blocked passage is the “narrow pass” or passage discussed later in the Book of Mormon (Sorenson 1992, 324; see figure 42).

Moroni₂ writes that after the repentance of the people, “there began to be fruit in the north countries, and in all the countries round about” (Ether 9:35). The “north countries” appears to be a description of political polities and geography at the time of Moroni₂, not at the time of the Jaredites, since Moroni₂, at the time he was making the abridgement, indicates that he was present in the “north country” (Ether 1:1). Because a similar reference to “north country” appears during Nephite times (Helaman 4:7), this book will discuss this term in conjunction with the geography of the land northward during Nephite timeframes.

“Great City” by the Narrow Neck, Nehor, and Moron

Ether 10: 19–20, 29

19 And it came to pass that Lib also did that which was good in the sight of the Lord. And in the days of Lib the poisonous serpents were destroyed. Wherefore they did go into the land southward, to hunt food for the people of the land, for the land was covered with animals of the forest. And Lib also himself became a great hunter.

20 And they built a great city by the narrow neck of land, by the place where the sea divides the land.

29 And it came to pass that Lib did live many years, and begat sons and daughters; and he also begat Hearthom.

Many Mesoamerican models and authors postulate that the most likely candidate for the “great city by the narrow neck” is the Olmec city of San Lorenzo, principally because it is located directly in the narrow neck of land (Stoddard et al. 2011; Norman 2005). Various arguments are made that the Coatzacoalcos River, upon which San Lorenzo sits, can have seasonal flooding that would make it and the surrounding adjacent area appear as a “sea.” While this argument may have some merit, it does not square with the Book of Mormon description in two respects: First, the Book of Mormon states that it was “by” the narrow neck, not *in* the narrow neck. Second, San Lorenzo sits fairly close to the Coatzacoalcos River, and when the seasonal flooding occurs, it is surrounded by swamps and water,

placing it *in* the sea, not “by” the sea, as the text requires. In addition, there is no indication anywhere in the Book of Mormon that a freshwater river or lake is considered a “sea.” The other assumption made in support of San Lorenzo is that the land being divided by the sea is the land northward and the land southward. The text, however, does not say that; in fact, the land southward and the land northward are never described in the Book of Mormon as one land that is divided—they are always referred to as discrete lands.

Those who support San Lorenzo as the city of Lib₁ also assume that a “great city” in the Book of Mormon refers to population size, and San Lorenzo, at least according to current data, appears to have had a much larger population base. As with any Book of Mormon question, instead of making assumptions, the best place to start to determine the meaning of a term is to look at the text.

A careful look at the “great cities” in the text of the Book of Mormon provides evidence that this term probably has nothing to do with population. First, there are other adjectives used that might more aptly refer to population, such as “large” (Mosiah 27:6, 7) and “mighty” (Ether 9:23). The cities identified in the text as a “great city” are Jerusalem (Old World), Jerusalem (New World), Zarahemla, Moronihah, Moroni, Jacob-Ugath, city of Lib₁, and Ammonihah (self-declared by the residents). There is a general reference to “great cities which are round about, which are in the land of our possession” (Helaman 7:22). These cities are not always referred to as great cities:

City	Approx. Date	Great City (Yes or No)	Scriptural Reference(s)
Jerusalem (Old World)*	600–587 BC	Yes	1 Nephi 1:4; 2:12
	600 BC–420 AD	No	1 Nephi 1:4; 1:7; 1:13; 1:18; 2:12; 3:2; 3:17; 3:29; 4:1; 4:4; 4:30; 5:4; 7:3; 7:13; 7:15; 10:3; 10:4; 11:13; 16:36; 17:20; 19:8; 19:13; 19:20; 22:4; 2 Nephi 1:4; 1:24; 5:8; 6:8; 9:5; 10:5; 25:4; 25:5; 25:6; 25:10; 25:14; 25:19; 30:4; Jacob 1:1; 2:25; 7:26; Enos 1:25; Omni 1:15; Mosiah 1:6; 2:34; 6:4; 28:20; 29:46; Alma 9:9; 11:4; 18:36; 18:38; 28:2; 54:23; Helaman 8:20; 8:21; 8:22; 16:11; 3 Nephi: preface; 1:1; 1:2; 2:6; 4:11; 5:15; 10:5; 10:7; 15:14; 16:4; 17:8; 21:26; 4 Nephi 1:31; Ether 13:5; 13:8; 13:11; Moroni 10:31
Zarahemla	83 BC	No	Alma 6:1; 7:3, 5
	65 BC	No	Alma 56:25
	63 BC	No	Alma 60:1
	52 BC	Yes	Helaman 1:18
	22 BC	Yes	Helaman 7:22
	30 AD	No	3 Nephi 8:8
	30 AD	Yes	3 Nephi 8:24
	30 AD	Yes	3 Nephi 9:3
36 AD	Yes	4 Nephi 1:8	

Ammonihah	82 BC	No	Alma 8:6, 13
	82 BC	No	Alma 9:1
	82 BC	Yes	Alma 9:4
	81 BC	No	Alma 14:28
	81 BC	No	Alma 15:1
	81 BC	No	Alma 16:2-3
	78 BC	Yes	Alma 16:9
	rebuilt 72 BC	No	Alma 49:3, 10, 11, 14, 15
	30 BC	No	Helaman 5:10
Moroni	72 BC	No	Alma 50:13
	62 BC	No	Alma 59:5
	30 AD	No	3 Nephi 8:9
	30 AD	Yes	3 Nephi 9:3
Moronihah	30 AD	No	3 Nephi 8:9
	30 AD	Yes	3 Nephi 9:3
Jacob-Ugath	30 AD	Yes	3 Nephi 9:9
Jerusalem (New World)	90 BC	Yes	Alma 21:2
	90 BC	No	Alma 21:4
	30 AD	No	3 Nephi 9:7
City of Lib	pre-400 BC	Yes	Ether 10:20
Great cities "round about"	22 BC	Yes	Helaman 7:22
	22 BC	Yes	Helaman 8:5-6
Great cities that have fallen	30 AD	Yes	3 Nephi 10:5

* If neither the city nor land is identified, then the city of Jerusalem is presumed. Does not include biblical citations of Jerusalem. New Jerusalem is not included.

It is clear that the term "great" in conjunction with a city is not a formal part of the name, such as the "Great City of Moroni," because the term is not used exclusively to describe any of the specific cities that have multiple mentions. For example, in the exact same timeframe, Moroni is referred to without the term "great," but when the Savior describes the city of Moroni, he calls it "great." Old World Jerusalem is referenced as a "great city" and just a "city," all in the same verse (1 Nephi 1:4; 2:12).

While "great" can be defined in English as having a large population, it is again advisable to consult the text of the Book of Mormon to determine the definition of "great" in the usage "great city." The New World city of Jerusalem

gives us a clue that “great” is not related to population. Aaron, one of the missionary sons of Mosiah₂, traveled to the “great city” of Jerusalem, which had been built by the people of Amulon, the Amalekites, and the Lamanites. It was the first city that he visited, and since we know that he left on his mission before the start of the reign of the judges in 91 BC, he likely left sometime in the neighborhood of 95 BC. The Lamanites obviously existed long before that, and we don’t have a date of formation of the Amalekites (probably during the time of Mosiah₁, long before the existence of the people of Amulon [Grover 2017a]). However, we can approximate the earliest date of formation of the people of Amulon.

Zeniff was still king in approximately 158 BC (Grover 2015), and Limhi sent out the exploration party around 125 BC. Between that time period, king Noah₂ was put into power, fled, and then killed. One of his priests who also fled was Amulon, and the earliest that could have reasonably taken place was around 140 BC. Without going into all the details, considering the time that had to pass for the people of Amulon to form as a recognized group, the earliest a people of Amulon could have existed and be in a position to help create Jerusalem would be around 130 BC. That leaves only 35 years from the creation of Jerusalem to Aaron’s arrival for Jerusalem to become a “great city.” Sorenson (2015) also identifies the inundated city of Samabaj in Lake Atitlan as the likely candidate for the city of Jerusalem. Samabaj was an island city that was principally used as a ceremonial center and has been estimated to have a population of not much more than 100 people, with the entire island covering an area of approximately 35 acres (Medrano 2013, 10–11).

The time span of the city of Moroni, from its foundation to its reference as a “great city,” is around 100 years, which is likely a short period for the formation of very populous city. Interestingly, at the time of destruction, the Nephite record identifies Moroni as only a “city” (3 Nephi 8:9), while, contemporaneously, Christ refers to it as a “great city.” Ammonihah was never referred to as a “great city” by the Nephites at large, only by its own residents, which indicates that a “great city” did not refer to an objective population level, but rather has to do with something else.

One thing every so-called “great city” in the Book of Mormon has in common is that each one was either imminently or later destroyed. Where a reason is given, the destruction is a result of some form of wickedness. The first “great city” mentioned is Jerusalem in the Old World. Other generic references to “great cities” in the Book of Mormon are mentioned in the context of them being ready for destruction (Helaman 13:12–14, 21; 7:22). The word “great” in relation to a city in the Book of Mormon appears to have a literary meaning related to the degree or nature of its pride or wickedness.

The Oxford English Dictionary (2015) provides other meanings of “great,” which match the textually defined Book of Mormon meaning of “great” in the term “great city”:

- Of the heart, soul, speech, etc.: (orig.) full of emotion or an emotional quality, as courage, anger, or pride; angry, grieved; proud, arrogant; (now) filled or bursting with emotion, significance, etc.
- Of things, places, actions, events, etc.: 1) Of considerable importance, significance, or distinction; important, weighty; distinguished, prominent; famous, renowned; impressive, 2) Of a nation, city, etc.: important, powerful, famous.
- Most important of its kind; pre-eminent; chief, main.
- Relating to a high social or official position; conferring high status or considerable power.
- Distinguished or grand in appearance; imposing.
- Arrogantly, presumptuously, proudly.

Thus, a “great city” in the Book of Mormon is a city that serves as an important ceremonial center, generally one that is wicked, and that will be destroyed in the future. It may or may not have a large population.

A major Olmec city that actually fits well with the Book of Mormon’s textual criteria for the “great city” of Lib₁ is La Venta (San Lorenzo would also qualify under this definition). La Venta has been considered primarily a religious

ceremonial center, and thus fits within the just-described definition of a “great city.” Though the city’s description as being “by the place where the sea divides the land” may have variable interpretations, it seems to indicate the presence of barrier islands or other islands cut off by means of the sea or extensions of the sea, such as saline lagoons or saline estuaries. While the paleo environment of hydrological features in the area has a large amount of uncertainty with regard to ancient river courses and shoreline features (which change over time), La Venta is located 8 miles from the Gulf of Mexico and has a current elevation of 74 feet above sea level; it is within proximity to existing lowland lagoons along the sea.

The concept of the “sea dividing the land” is consistent with the use of the Egyptian directional and boundary system shown to exist in the underlying reformed Egyptian glyphs in which rivers were used as boundaries and referred to as “lines.” The Caractors Document indicates that the Egyptian system was utilized for directions in the original reformed Egyptian glyphs (Grover 2015). Examples of the Egyptian system are shown in figure 38.

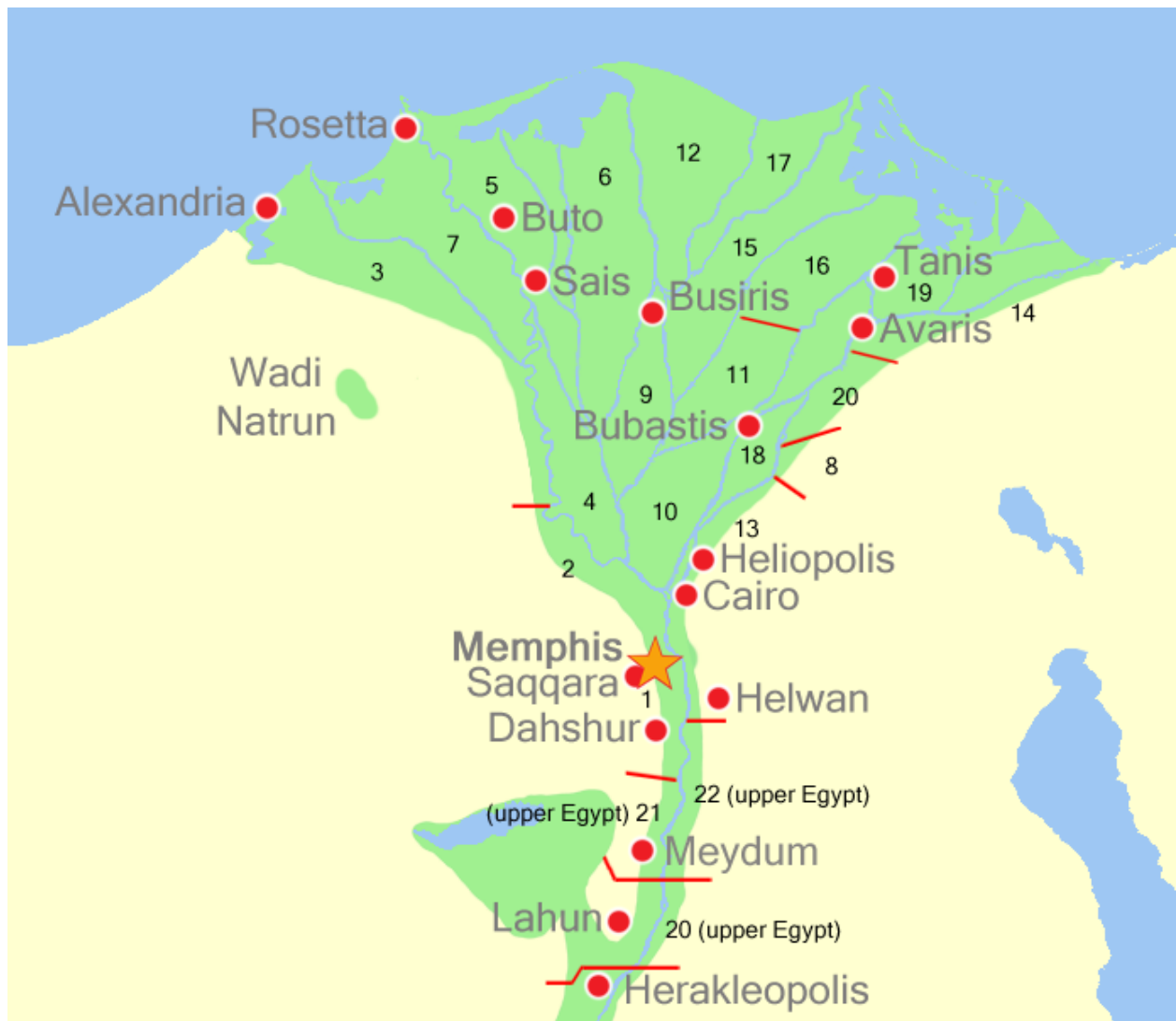


Figure 38. *sepat* provinces, or districts, in Egypt utilizing rivers or points along the river as boundaries. (www.commonswiki.org 2015)

In the particular case of the city built by Lib₁, the boundary between the land is provided by some extension of the sea. The extension of the sea in the area of La Venta would have been an estuary. The estuary could have been the

saline estuary at the end of an active river system or an estuary lacking an active river system (typically left when a river changes course). In an estuary where there is an active river, a portion of the water is still saline because of the influence of sea water, so it would still qualify as the place where the sea divides the land as opposed to a river (see figure 39).

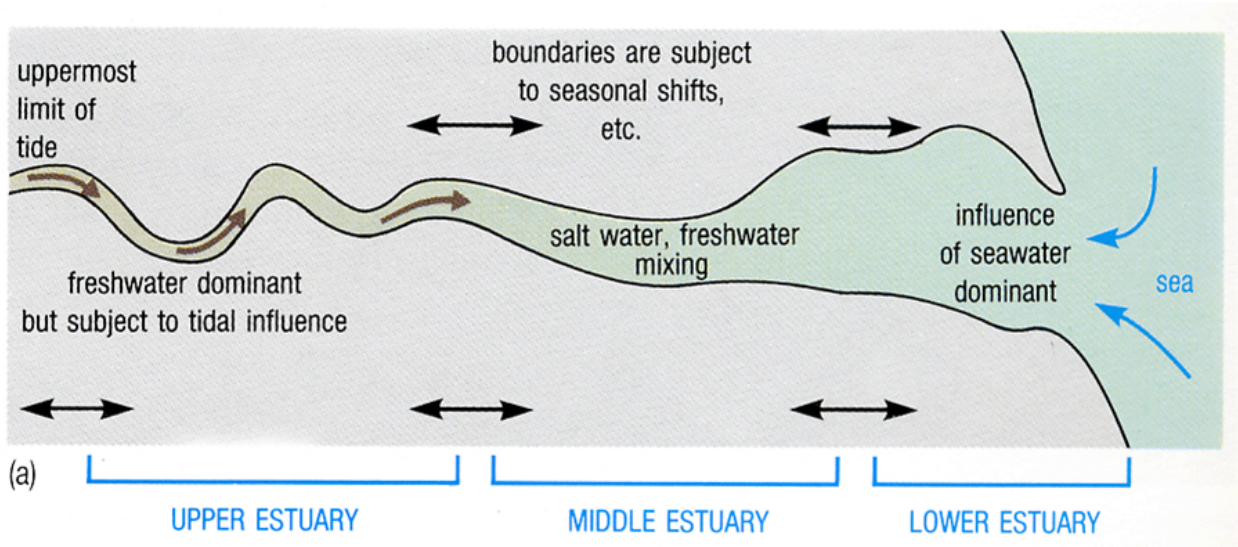


Figure 39. Typical estuary system showing salt water presence.

An example of this estuary feature is demonstrated by the salinity gradient found in the estuarine system of Sydney Harbour, Australia (see figure 40).

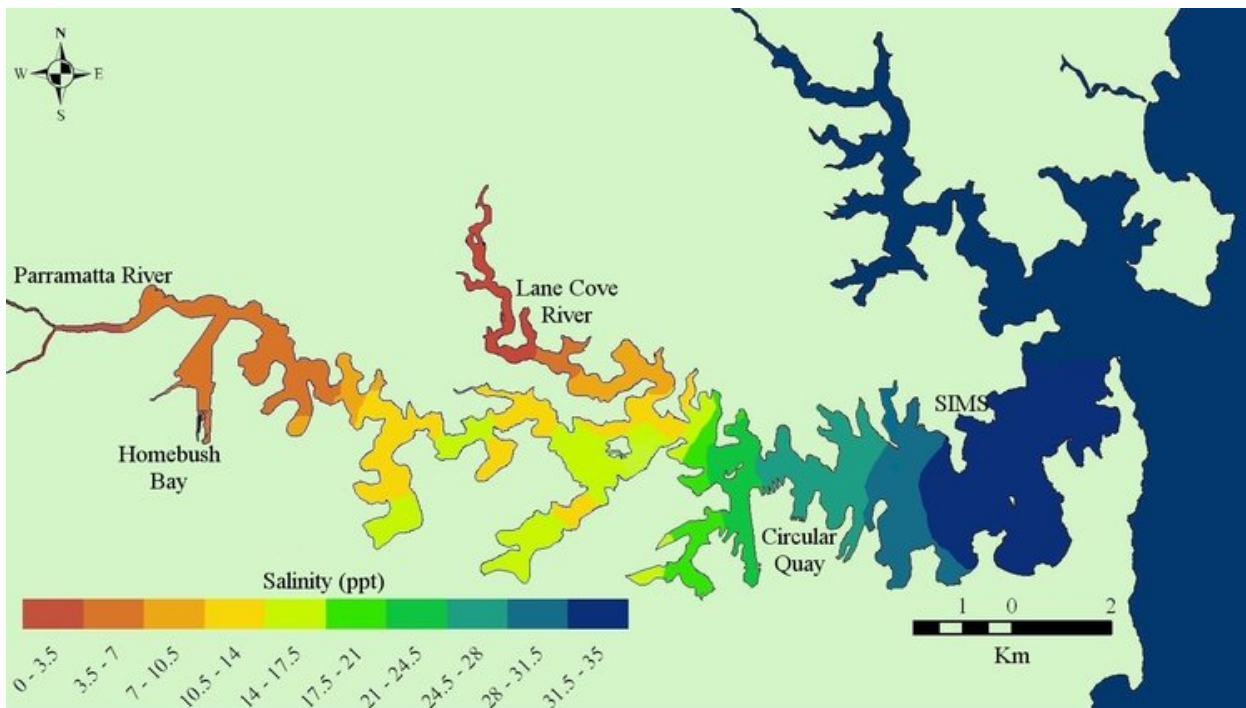


Figure 40. Salinity of Sydney Harbour estuary, Australia. (www.sydneyharbourobservatory.org 2016)

If an estuary was left because a river moved, the entire estuary would consist of salt water. La Venta was located in the area where the ancient Bari River (a ancient branch of the Grijalva River) flowed into the Gulf of Mexico (see figure 41).

Fig. 1. Map showing the location of the Olmec center of La Venta and the adjacent study site of San Andrés. Indicated are cores SAV2, 3, 4, and LV2 and the ancient channel of the Bari River (dashed line). Hatched lines demarc boundaries between the Grijalva deltaic plain of Tabasco and the Tertiary hills found in Veracruz and at La Venta. The map is based on Landsat Thematic Mapper satellite imagery.

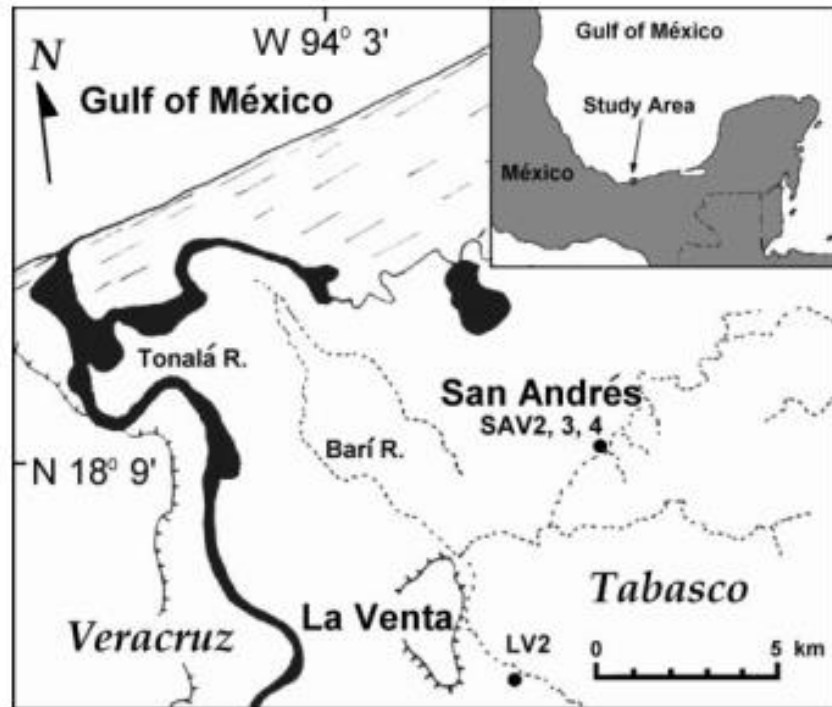


Figure 41. Location of La Venta in relation to ancient estuary channels. (Pope et al. 2001)

Archaeological evidence indicates that the Bari River at this location was a semi-saline estuary established during the Early Preclassic Period (1750–1150 BC) and continued through the life of La Venta (Rust et al. 1988). An initial layer of occupation at La Venta dates to 1200 BC, but La Venta did not reach its apogee until after 900 BC. After 500 years of preeminence, La Venta was all but abandoned by the beginning of the fourth century BC (Diehl 2004).

The “great city” was not identified with being in any particular land, but because it was located along a river, it is a reasonable possibility that it could be part of the land of Nehor, which, as already mentioned, means “river.”

Another fact that supports La Venta as the location of the city of Lib₁ is the indication that the area adjacent and south of the “great city” was in the land southward and was “covered with animals of the forest,” with the area designated as a wilderness “to get gain.” It has been noted that:

Because they are so extensive, the upland savannas to the southeast of La Venta merit additional comment. White-tailed deer, cottontail rabbits, and bobwhite quail frequent their margins, where both food and forest cover are abundant. West et al. (1969:83) speculate that these were important prehispanic hunting grounds, which may have been burned to drive animals and maintain the habitat. (Pool 2007, 85)

Since Lib₁ likely lived in the “great city” that he built and was a “great hunter,” proximity to an area where there was large game to be hunted is a requirement for the city.

The ancient city of La Venta, although adjacent to a hunting area, was in a location where mammals other than howler monkeys are uncommon (Pool 2007, 85). There is evidence of various large-game mammals in San Lorenzo;

however, it does not have the geographic advantage that would allow the driving of game, as does the upland savannas to the southeast of La Venta.

In addition, the Book of Mormon indicates that the location of the venomous serpent infestation provided access to the land southward and that the city of Lib₁ was built near the boundary to the land southward. It has been postulated by Sorenson (1992) that a reasonable geographic location for the poisonous serpent infestation is the “narrow pass” referred to later in the Book of Mormon. The Sorenson model locates the narrow pass within reasonable proximity of La Venta (see figure 42). In figure 42 the location of the city of Mulek corresponds to the location of La Venta.



Figure 42. Sorenson model location of the narrow passage. (Sorenson 2013)

Ancient Grijalva River Channels

Since the Bari River was an ancient channel of the Grijalva River delta complex, it is appropriate to discuss the changing location of the Grijalva throughout Book of Mormon times. Historically, the Grijalva River has moved and has had multiple branches or mouths, with many of the branches existing at the same time, as is typical in river delta systems. Research on the historical locations of the various mouths of the Grijalva is limited. Kirk Magleby has published an electronic map of the historical course of the Grijalva River (see figure 43), based on various discussions with and resources of local Mexican engineers and hydrologists (Magleby 2016).



Figure 43. Historic course of the Grijalva, created by Kirk Magleby. (Magleby 2011)

Research by Christopher von Nagy (2003) provides additional information about the historical path of the Grijalva River. The Grijalva, like other delta-forming rivers, is constantly making minor course changes in how it meanders and loops over time. These changes generally take place in a discrete geographic band or belt however, generally after long periods of time; sediments deposited by the river raise the general elevation of the discrete meander belt, forcing the river to make a major shift, which is called an avulsion. These avulsions are not always all-or-nothing propositions, and the river may continue going down the existing drainage route, while at the same time partially rerouting to the new drainage. In the case of the Grijalva, a major avulsion occurs roughly every 150 years. There are often more than two drainages on delta-river systems that run at the same time. The discrete belts of areas that von Nagy mapped for the Grijalva are shown in figure 44, with one additional band labelled by the author.

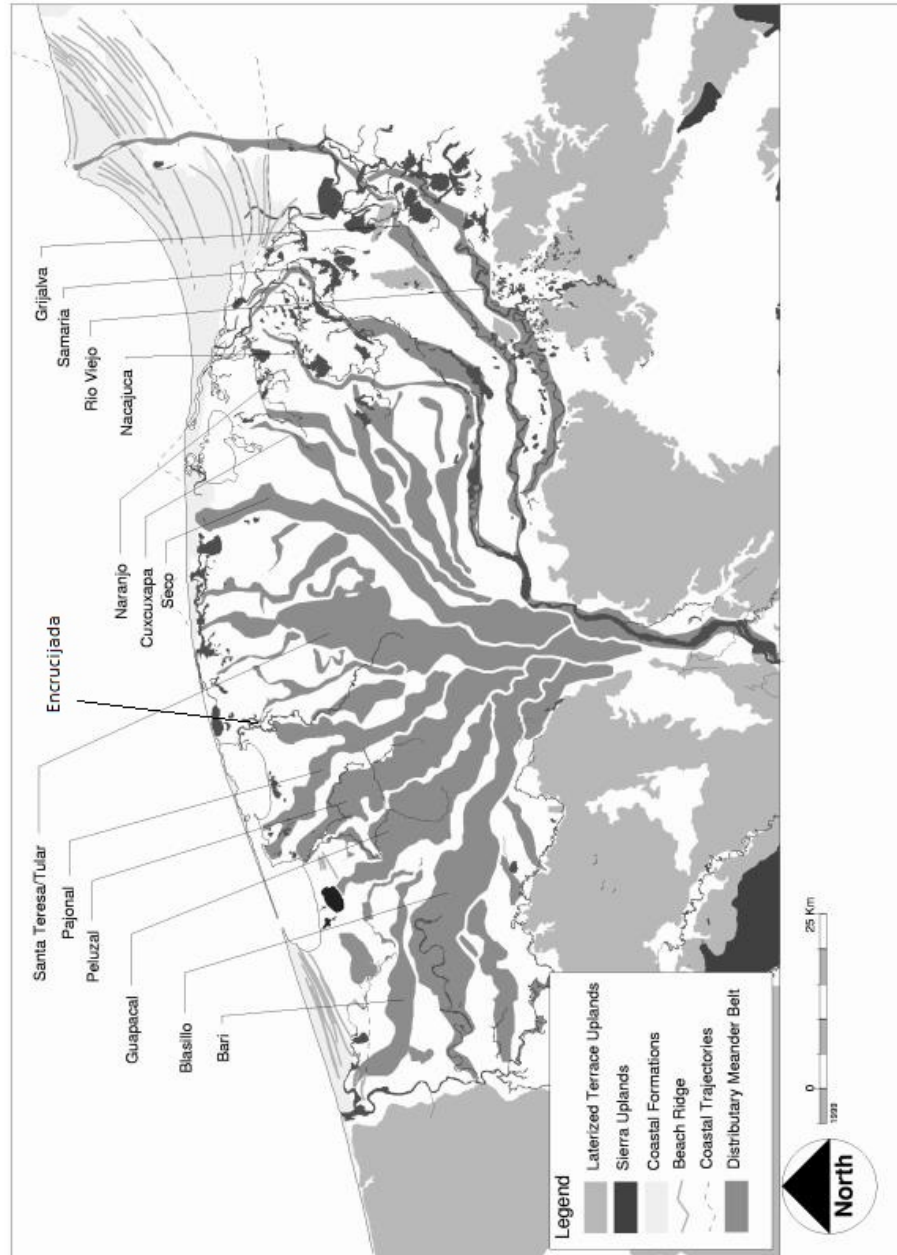


Figure 44. Grijalva River paleo meander belts. (von Nagy 2003, 54; modified by author)

Drawing on von Nagy's analysis, my own study, and other archaeological literature, the ages (where it can be determined) of the various channels are approximated and placed in chronological order as follows:

Encrucijada Paleo channel: earliest formation, 4000 BC

Bari: ancient estuary transition to river; river dominated from 1130 BC to 400 BC.

Guapacal: earliest formation, 1380 BC

Peluzal: earliest formation, 1100 BC

Pajonal: earliest formation, 1000 BC

Encrucijada: earliest formation, 900 BC (Peluzal and Pajonal still existed)

Blasillo: earliest formation, 700 BC

Mecoacan (Cuxcuxapa): unknown, but formed after Pajonal and before Santa Teresa

Santa Teresa: 250 to 700 AD

Tular: 700 to 900 AD

Rio Seco/Dos Bocas: 700 to 900 AD

Grijalva: earliest formation, 1675 AD

For purposes of the Book of Mormon timeframes, the branches of the Grijalva that might be boundaries or otherwise mentioned are the Encrucijada Paleo, Bari, Guapacal, Peluzal, Pajonal, Encrucijada, Blasillo, Mecoacan, and Santa Teresa. The Bari would have only existed during Jaredite timeframes, and the Santa Teresa, during late Nephite timeframes.

An interesting potential linguistic correlation that supports La Venta as the "great city" built by Lib₁ is the name of Lib₁'s son, Hearthom, who served as king before being dethroned (Ether 10:29–30). "Hearthom" appears to be derived from the Sumerian *a-ra-ah-[tum]* (George 1992, 351; Reiner 1974, 40) or the Akkadian *E-ur-tum* (Gelb 1973, 8), which is the name for the Arahtu River, the westernmost branch of the Euphrates River in Sumer. The Bari River that was adjacent to the ancient city of La Venta was also the westernmost branch of the Grijalva River at that time.

Chapter 13

The Final Stage of Jaredite Geography

The same method used in previous chapters can also be applied in identifying the locations at the end of the Jaredite narrative, particularly those of the final Jaredite battles.

It is a fairly simple process of deduction to determine that the area of the Tuxtla Mountains is the primary area of the geographical locations mentioned also in the final stage of the Jaredite narrative, which is concerned mostly with the final battles of the Jaredites. First, it is the only significantly elevated area in the Olmec heartland—an elevated area is required to satisfy the terms “came up” and “went over.” Most of the descriptions of the subject areas either mentions or implies the proximity of the sea. Finally, the mention of hills is also consistent with the area of the Tuxtla Mountains. The Tuxtla Mountain area is displayed in figure 45.



Figure 45. Tuxtla Mountains.

Archaeological evidence does not show that the Tuxtlas were heavily populated during the late Olmec/Jaredite timeframes. The Jaredite record of the battles mentions no cities by name and only implies cities that were likely to the southeast, in the area of Laguna de Los Cerros. Yet, similar to the analysis of the early Jaredite geography, there are a few locations in the final era of Jaredite geography that can be identified based on known information.

Valley and City of Gilgal

The location of Gilgal (Ether 13:27–29) can be determined using a few different parameters. In the *Geology of the Book of Mormon* (2014), it was determined that the city of Gilgal (3 Nephi 9:6), which was destroyed through the sinking and burial mentioned in 3 Nephi, was located within a certain area of destructive influence near the Veracruz Fault system. The potential area in which the city of Gilgal would be located is shown in figure 46.

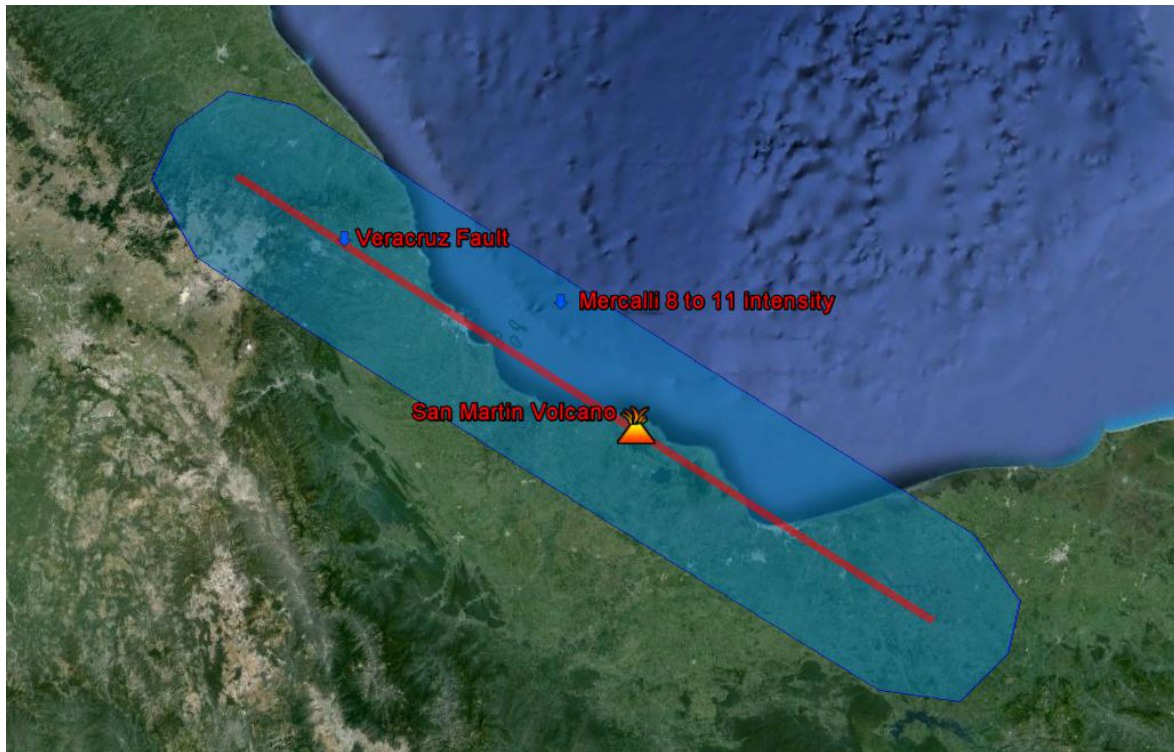


Figure 46. Areas subject to a Mercalli intensity rating of 8 or higher for an 11 intensity earthquake at the fault line, where most fissuring, subsidence, lateral spreading, liquefaction, and earthquake-induced landslides would be expected. (Grover 2014)

In the Book of Mormon, when a city maintains the same name as a geographic area, the text consistently locates the city within that geographic area. As a result, it is fairly certain that the city of Gilgal would be located within or in proximity to the valley of Gilgal.

Etymologically, in Hebrew, Gilgal means “bowl, basin, circle, or wheel,” with *-gal* also potentially meaning “heap” or “pile,” which would indicate a mountain valley of circular shape (Book of Mormon Onomasticon 2017; www.abarim-publications.com 2015a). In examining all of the valley forms within the previously identified seismic zone, there is primarily one potential valley that is circular in configuration. It is located at the south end of the Tuxtla Mountains and is a small caldera structure of the extinct Santa Marta volcano. It is also a mountain valley. The upper mountain valley is uniformly round and forms a geographic basin or bowl. There is a basin valley adjacent and just to the north that may also meet the criteria since it forms a basin and has a generally circular shape (see figure 47).



Figure 47. Primary and secondary location for the valley of Gilgal.

This location is also consistent with the 3rd Nephi destruction—a major strike slip fault passes through the valleys identified here (see figure 48).

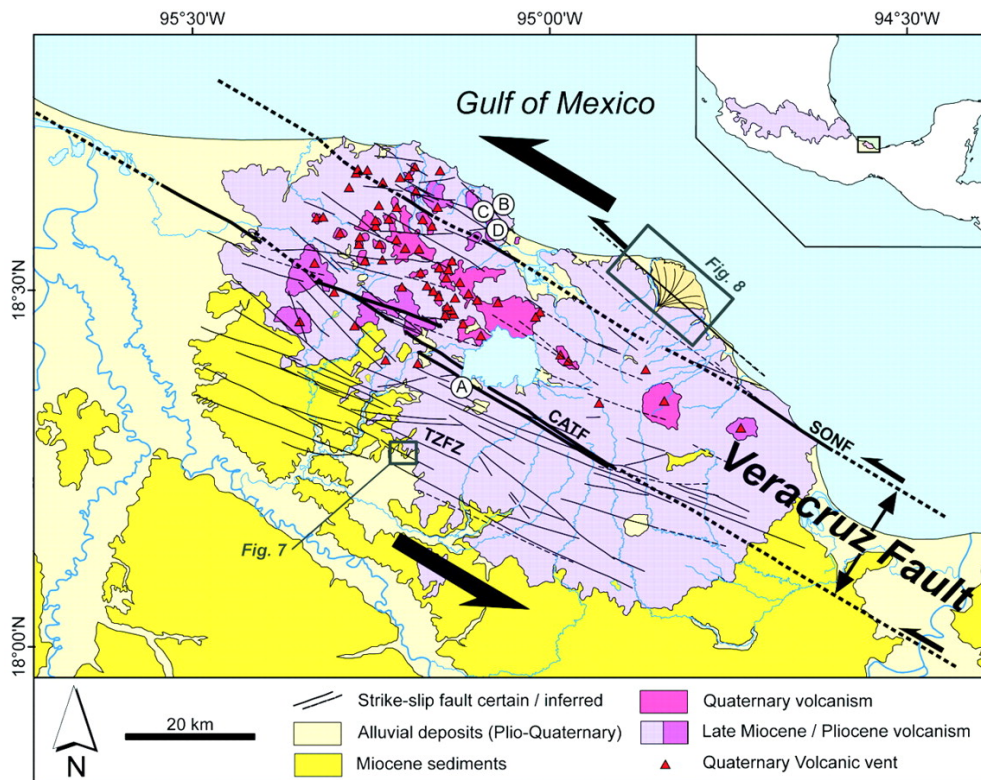


Figure 48. Detail of geologic structure of the Tuxtla Volcanic Field. (Andreani et al. 2008)

The Land and Valley of Corihor

We know from the descriptions in Ether that the land and valley of Corihor is not too distant from the sea (Ether 14:26–28). The etymological elements potentially found in a geographical association of Corihor also seem to involve potential features that may have existed in the land or valley of Corihor:

Sumerian

kar: to harbor, quay

kar-ra, kar-re, kar-e, kar-a (forms of *kar*)

kar: to blow, to light up, shine

kur: to burn, to light up

kur-a-a (form of *kur*)

kur: mountain(s), underworld, land, country, east, easterner

kur-ra, kur-re, kur₂-ra, kur-re₂, kur-a, kur-e (forms of *kur*)

ku: to place, lay (down); to spread, discharge

KU: hole

KU: plough?

u: earth

u: hole

u: emery

u: type of land

u: load

u: earth pile

u: pitfall

u: planking

u: plant

u: food; grass, herb; pasture, plants

u₂-ra (form of *u*)

u: shepherd

U: type of stone

a: water

ur: to drag; to raise a boat

ur₃-ra, ur₃ (form of *ur*)

ur: keel

ur: fish

ur: harness

ur: to pluck, to gather, to collect; to harvest

ur₄-ra, ur₄-a, ur₄-ra-a, ur₄-ur₄-re, ur₅-e (forms of *ur*)

uri: a fish

uri: a vessel

urri: a designation of sheep

harra: dug?

hur: ever (again)

hur: to scratch, draw

i₃-hur (form of *hur*)

Constructed Sumerian Compound Word: **Corihor**

Hebrew*hori*: a burning*hara*: to burn or ignite*hur*: something white or white stuff

Because of the multiple meanings of Sumerian “u,” there are a lot of potential geographical characteristics tied to the etymology of the land and valley of Corihor. It will be useful to look for other corresponding meanings outside of “u” in order to be more definitive. In looking at all the possible features, Corihor seems to be a mountainous land with timber located to the east; it supports agriculture involving grain and livestock. There appears to be some aquaculture (multiple “fish”), as well as some sort of mining (“hole,” “earthpile,” “pitfall,” “to scratch,” “dug,” “type of stone,” “emery”), with heavy overland transport (“to drag,” “to place,” “to lay [down],” “planking,” “to pierce with a spindle,” “harness,” “ring”) and water transport (“to harbor,” “to quay,” “ship’s captain,” “water,” “keel,” “a vessel,” “to raise a boat”). In addition, the presence of volcanic activity as part of the mountains within the land of Corihor is indicated with “burning,” “to burn or ignite,” “to blow,” “to light up,” “white stuff.”

The etymology for Corihor as a “mine” is extremely helpful in determining the location since the principal mining product known from the Olmec was basalt from the Tuxtla Mountains. The majority of the basalt for the Olmec monuments and the massive heads at La Venta and San Lorenzo (see figure 49) come from the volcanic basalt deposits of the area of Cerro Cintepec, which consists of the volcanic deposits located on the southern slope of the Tuxtla Mountains south of Lake Catemaco (Hazell 2013). One significant valley in the area runs from the southeast side of Lake Catemaco near Agayata up into the Santa Marta Volcano Complex (see figure 50).

The description of the land of Corihor fits the southern Tuxtlas as it supports agriculture, has timber and mining, has potential aquaculture, and harbor in Lake Catemaco and/or the Gulf of Mexico.



Figure 49. Olmec head from San Lorenzo. (whosworld.org 2014)

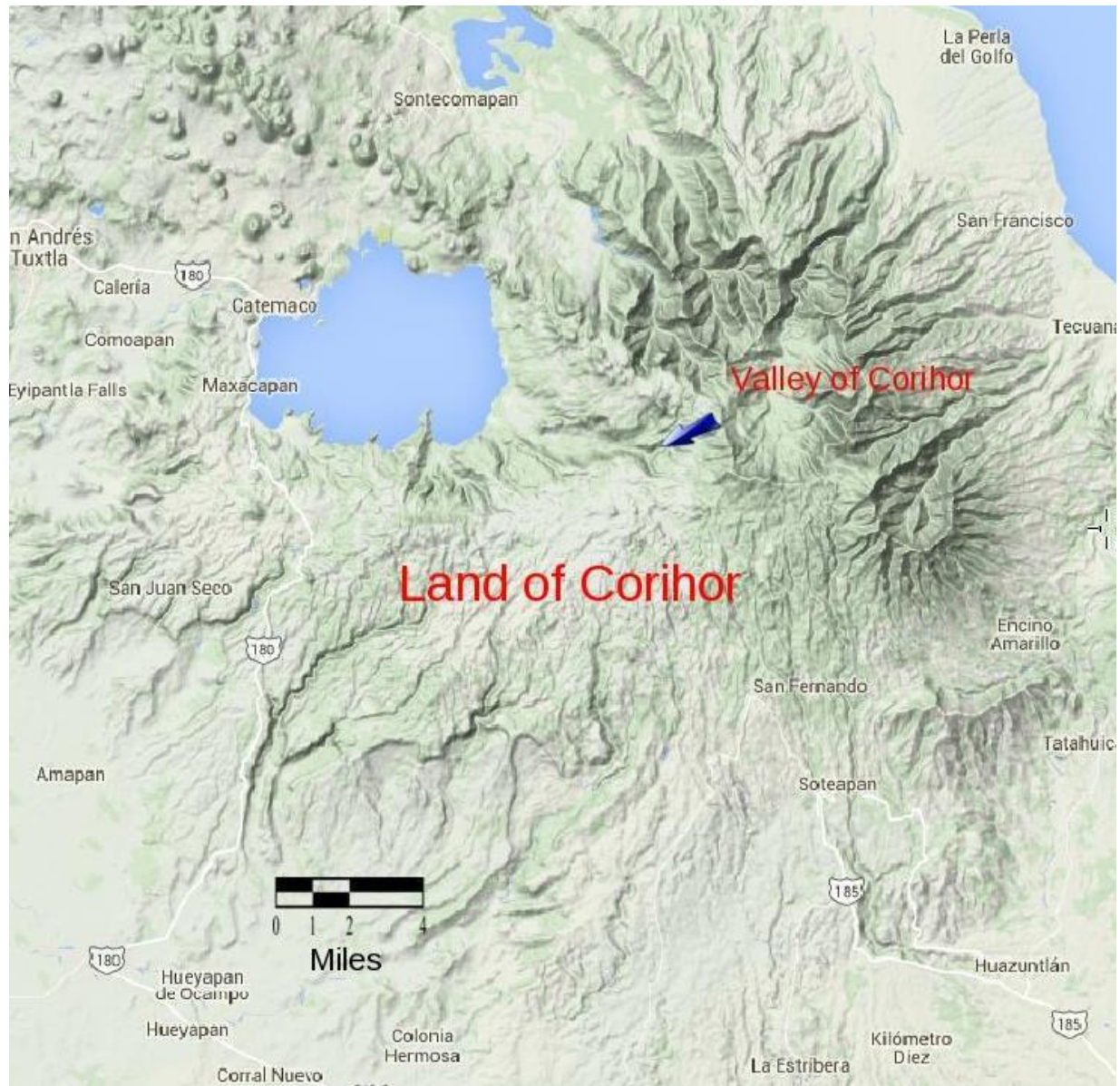


Figure 50. Land and Valley of Corihor.

With the locations previously identified in early Jaredite geography and by using the meanings of the place names, it is now possible to construct the late Jaredite geography that is discussed in relation to battles involving Coriantumr₂. It should be noted that the early Jaredite land of Nehor is no longer mentioned in a geographic context, though it has a prominent role in an order of priestcraft called Nehor and as a personal name later chronologically in the Book of Mormon narrative. The early Jaredite land of Heth is not mentioned either except as a personal name. The absence of these names may indicate that these lands were names for early lands that were no longer existent, although it is also possible that they existed but were not mentioned in the Book of Ether narrative. The early land of Moron is mentioned again in the late stages of Jaredite history, although it is likely that by that time its borders would have expanded, with 2,000 years of intervening population growth.

Ether's Base

One initial criteria for the final battles is that Ether was able to observe them within a limited geographic area and likely from various vantage points.

Ether 13:14

And as he dwelt in the cavity of a rock he made the remainder of his record, viewing the destructions which came upon the people, by night.

Although there is no indication that Ether returned to the cave every morning, he did have a home base and, from the records, seems to have been able to observe troop movements and battles directly, though they may also have been recounted to him. The phrase "cavity of a rock" has an Olmec cultural meaning, which will be discussed later. The Tuxtla Mountain area is approximately 50 miles long and 10 miles wide, has centrally located mountains with many cave possibilities, and provides numerous mountains and hills for vantage points, and so meets the criteria of being a limited geographic area suitable for Ether's base of operations.

Coriantumr₂ versus Shared

It should be pointed out that initially Coriantumr₂ was king "over all the land" (Ether 12:1) and was "studied" "in all the arts of war and all the cunning of the world, wherefore he gave battle unto them who sought to destroy him" (Ether 13:16). One verse also could be reasonably interpreted to be indicative of geographical land divisions at the time of Coriantumr₂:

Ether 13:17

But he repented not, neither his fair sons nor daughters; neither the fair sons and daughters of Cohor; neither the fair sons and daughters of Corihor; and in fine, there were none of the fair sons and daughters upon the face of the whole earth who repented of their sins.

The term "fair sons and daughters" is a literary term intriguingly used elsewhere in the Book of Mormon to describe a people that had recently been catastrophically slain because of wickedness (Mormon 6:19; 3 Nephi 9:2), which fate was soon in store for the Jaredites, so the phrase should not be interpreted to mean actual offspring. In addition, the verse seems to indicate that the people under Coriantumr₂, as well as those of Cohor and Corihor, constituted "the face of the whole earth," indicating these three people or areas constituted the total land of the Jaredites at that time. While one interpretation of this verse could be that Cohor and Corihor are leaders of some sort, that would not be consistent with the statement that Coriantumr₂ was "king over all the land." Gardner (2007) suggests that the names Cohor and Corihor are citations of historic figures as opposed to actual leaders (308).

A more consistent interpretation is that these names refer to lands, of which the land of Corihor has already been identified (Ether 14:27). Cohor would be another land and, together with the land of Corihor, is probably where Coriantumr₂'s rivals and their followers came from. Since Moron was "the land where the king dwelt" (Ether 7:5) and the throne of Coriantumr₂ was located in Moron (Ether 14:6), the third land that made up the full kingdom at that time was the land of Moron. When secret combinations initially challenged Coriantumr₂'s throne, Coriantumr₂'s army was referred to as the "sons of Coriantumr" (Ether 13:12–25), which is consistent in terminology with the military leader Helaman and his "sons" (Helaman 56:46).



Figure 51. Possible lands at the time of the final Jaredite wars.

The land of Cohor, based on its etymology, would have likely laid in the center volcanic area of the Tuxtlas and could include the main volcano of San Martín. The Sumerian and Hebrew etymological units of *Cohor* are listed as follows:

Sumerian

KU: hole

u: earth

u: hole

u: type of land

u: earth pile

u: totality, world

he: be it, be he

ur: to be convulsed

ur₄-a, ur₄ (forms of *ur*)

Constructed Sumerian Compound Word: *Coh(e)or*

Hebrew*hor*: hole or cavern*hori*: a burning*hara*: to burn or ignite*hwr*: hollow or depressed ground between hills

There are clearly at least two lands at this time in Jaredite history: the land of Moron and the land of Corihor. The boundaries of any of these lands on the west are not able to be defined, and the land of Corihor to the south is not defined and could perhaps extend as far as to include the ancient city of La Venta.

Coriantumr₂ had a series of conflicts with Shared, who initially defeated him and placed him in captivity until he was freed four years later (Ether 13:23–24). Ether 13:27–30 describes a continuing conflict with Shared and includes some geographic information:

Ether 13:27–30

27 And it came to pass that Coriantumr was exceedingly angry with Shared, and he went against him with his armies to battle; and they did meet in great anger, and they did meet in the valley of Gilgal; and the battle became exceedingly sore.

28 And it came to pass that Shared fought against him for the space of three days. And it came to pass that Coriantumr beat him, and did pursue him until he came to the plains of Heshlon.

29 And it came to pass that Shared gave him battle again upon the plains; and behold, he did beat Coriantumr, and drove him back again to the valley of Gilgal.

30 And Coriantumr gave Shared battle again in the valley of Gilgal, in which he beat Shared and slew him.

The location of the valley of Gilgal has been previously identified. Remembering that Coriantumr₂ was studied “in all the arts of war,” the location is a perfect defensive military position with regards to ancient warfare. It is a circular valley with only one entrance point, and the outside slopes of the valley are fairly steep, making the valley easier to defend. The valley is an elevated valley, so any army attacking it would be facing an enemy that has the superior high-ground position. In addition, the entrance to the valley is a military “pinch point,” where an army of superior numbers loses its advantage because only a limited number of people can engage in the area; plus, the attacking force ends up being surrounded on three sides.

Coriantumr₂ appears to have utilized this defensive tactic, since he initially defeated Shared in the valley, but once he pursued him out into the open on the plains of Heshlon, he was driven back and retreated to his defensive position, where he again defeated Shared and slew him (see figure 52).

The location for the battle on the plains of Heshlon is an educated guess; it could have happened anywhere on this area of flatter terrain and could be further to the southeast. The Hebrew etymology of *Heshlon*, as indicated by the Book of Mormon Onomasticon (2016), is a “place of exhaustion; place of crushing.” Bowen and Olavarria (2015) add some insight into the Hebrew etymology of the word, which has the meaning “to furbish, forge, or hammer.” The interpretation for the toponym by Bowen and Olavarria reflects the defeat of Coriantumr₂. This meaning also comports with the Sumerian etymological construction:

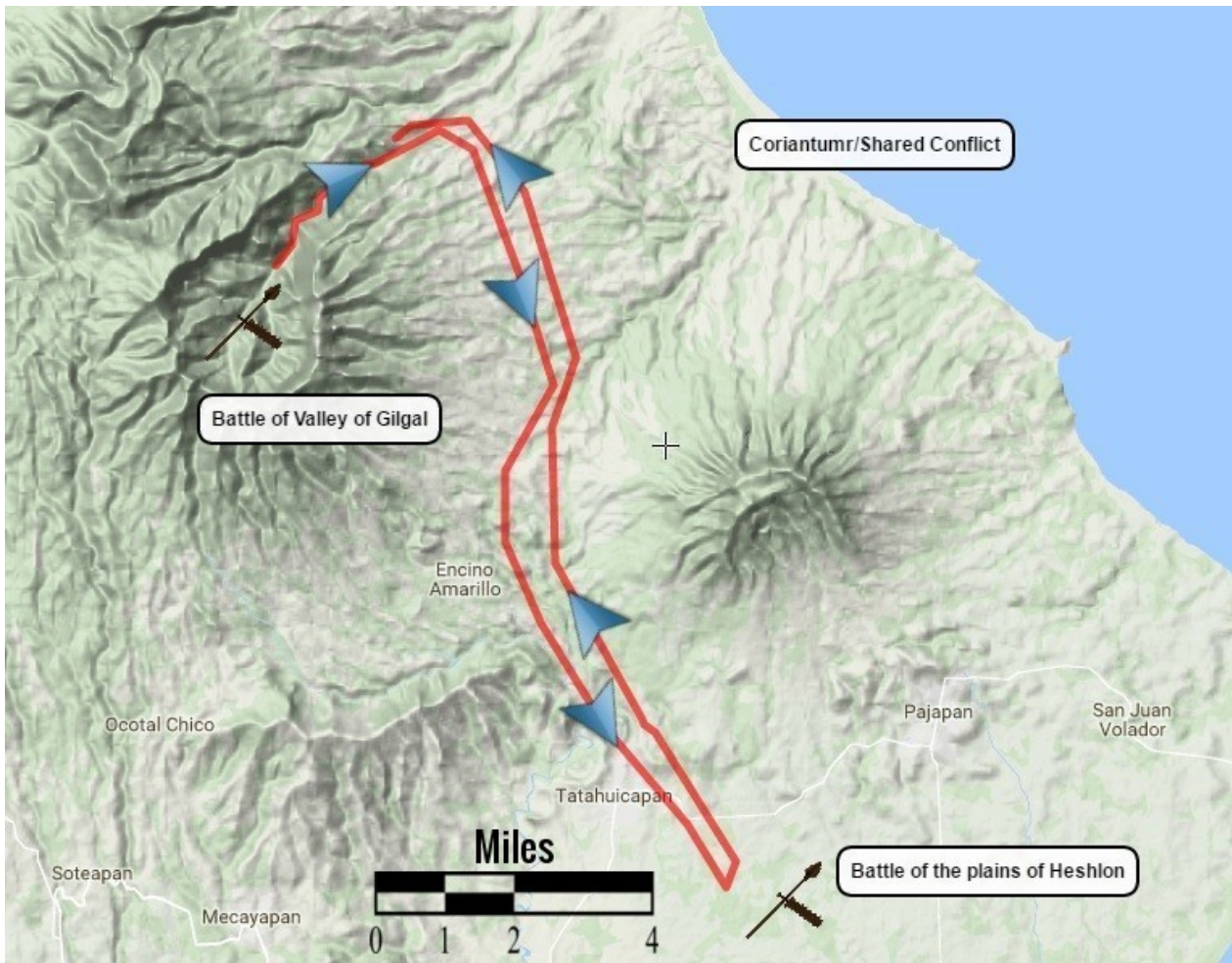


Figure 52. Battle movements in conflict between Coriantumr₂ and Shared.

Sumerian

he: be it

e: to take away; to bring out; to leave

*e*₃-*a*-*še*₃, *e*₃-*še*₃ (forms of *e*)

eš: three

*eš**la*: a trap

lah: to beat

u: defeat

u: type of land

u: grass, herb; pasture, plants

*u*₂-*ni*, *u*₂-*ne*, *u*₂-*na* (forms of *u*)

un: to arise; (to be) high

Constructed Compound Word: **Heshlon**

While this interpretation has validity, there is a geographic reason why these particular plains are called “Heshlon,” which also has an additional Sumerian meaning and construction:

Sumerian*he*: be it*e*: to take away; to bring out; to leave*e₃-a-še₃, e₃-še₃* (forms of *e*)*eš*: rope, thong, string*eš*: shrine; an establishment*eš₂la*: (to be) bound*eš₂la*: bond; band, belt*eš₂la*: a bucket*eš₂la*: a stick?; a tool*šil*: a piece of equipment*la*: to bind; binding, (yoke-)team; to carry*la₂-e, la₂-a-ni, ša-la-ni, ša-la-a, la₂-a-na* (forms of *la*)

This particular Sumerian etymology is consistent with hauling and dragging and utilizing ropes, bands, and other mechanical mechanisms.

This particular area, or the “plains of Heshlon,” is one of the potential routes that was used by the Olmecs in which they had to drag or otherwise transport the massive basalt blocks used in the massive Olmec heads and other monuments from Cerro Cintepec to the sea, where they were then floated upriver to be finished at San Lorenzo and La Venta (and probably other Olmec locations) (Hazell 2013; Velson and Clark 1975). The map below is one projected route to the ocean postulated by Hazell, but there may be a more favorable route to the ocean to the north of what she indicated that would be closer to the valley of Gilgal (see figure 53). This strenuous, manual hauling activity would certainly also comport with the Hebrew etymology of the plains of Heshlon as a “place of exhaustion” and perhaps even “crushing,” since people may have worked the basalt stone preliminarily by hammering at this location.



Figure 53. Potential hauling routes of large Olmec basalt blocks. (Hazell 2013)

Coriantumr₂ versus Gilead and Lib₂

Two years after the death of Shared, Gilead, the brother of Shared, battled Coriantumr₂ (presumably in the land of Moron) and beat him and pursued him to the wilderness of Akish, where they engaged in battle. Coriantumr₂ laid siege to the wilderness, and Gilead marched forth out of the wilderness by night and slew a part of Coriantumr₂'s army while they were drunk. Gilead then "came forth to the land of Moron" and placed himself on the throne of Coriantumr₂. Coriantumr₂ remained in the wilderness with his army. Gilead and his predecessor were both murdered, and Lib₂ took control of the kingdom. Coriantumr₂ then "came up" into the land of Moron and battled Lib₂. Lib₂ fled to "the borders upon the seashore," where there was a battle "upon the seashore." Lib₂ was victorious, and Coriantumr₂ fled again to the wilderness of Akish; Lib₂ pursued Coriantumr₂ until he came to the plains of Agosh and Coriantumr₂ had gathered all the people with him from "that quarter of the land" whither he fled. Lib₂ was killed by Coriantumr₂ at the plains of Agosh. The brother of Lib₂ was named Shiz, and he pursued Coriantumr₂ eastward to the "borders by the seashore" (Ether 14:3–26).

The first step in identifying the potential location of the wilderness of Akish and the plains of Agosh is to look at the etymologies of each. The etymology of *Akish* provides some decent clues as to its location.

Sumerian

a: water

ki: place, lower, down below

iš: mountain(s)

Constructed Compound Word: **Akish**

The wilderness of Akish looks to be on the lower part of a mountain or mountain(s), with water.

Agosh has Sumerian etymologies that match the event, but they provide only a few geographic clues:

Sumerian

aga: rear

a-ga-aš, *a-ga-še₃* (forms of *aga*)

gu: bank, side; neck

gu₂-uš, *gu₂-še₃* (forms of *gu*)

uš: a fish

The geographic clues would place the plains of Agosh on the rear side of something, near the bank of a river.

The second step is to look at the geographical requirements of each location. The wilderness of Akish is likely adjacent to the land of Moron, and its elevation relationship with the land of Moron is that part of the wilderness of Akish must be equivalent in elevation with Moron, since Gilead "came forth" from there to Moron. Part of the wilderness of Akish must be lower in elevation to Moron since Coriantumr₂ then "came up" from there to Moron to battle Lib₂. The wilderness of Akish is likely not far from the seashore as Coriantumr₂ retreated there after being defeated at the seashore battle.

The word "wilderness" in at least some other places in the Book of Mormon is indicative of some sort of rough or hilly terrain. The Sumerian etymology indicates it was in a "lower" place on the "mountain." In the context of the Tuxtlas, if the wilderness was somewhere in proximity to the land of Moron and the sea, it would involve the lower slope of the San Martín volcano. The area identified in figure 54 as the wilderness of Akish has variable elevations such that one can "come forth" to Moron and also go "up" to Moron.

The location of the plains of Agosh as identified in figure 54 is the most plausible because it is located on the “rear” of the Tuxtla Mountains and is adjacent to the San Juan River. The proposed route of Coriantumr₂ also passes through or near some populated areas in the Santiago Tuxtla and San Andrés Tuxtla areas. Since these areas are adjacent to Moron, perhaps they were more inclined to side with Coriantumr₂. It is also possible that the route of Coriantumr₂ from the wilderness of Akish to the plains of Agosh was further to the northwest and went through the land of Moron, which would be more consistent with “taking all the people with him as he fled” (Ether 14:15). In addition, the next military movement from this location involves the overthrow and burning of cities, and this location is adjacent to the Olmec population center of Laguna de Los Cerros (this movement is not depicted on the maps). The next movement also involves Coriantumr₂ being pursued eastward to the seashore, so of necessity, it must be somewhat westward of the seashore (Ether 14:26).

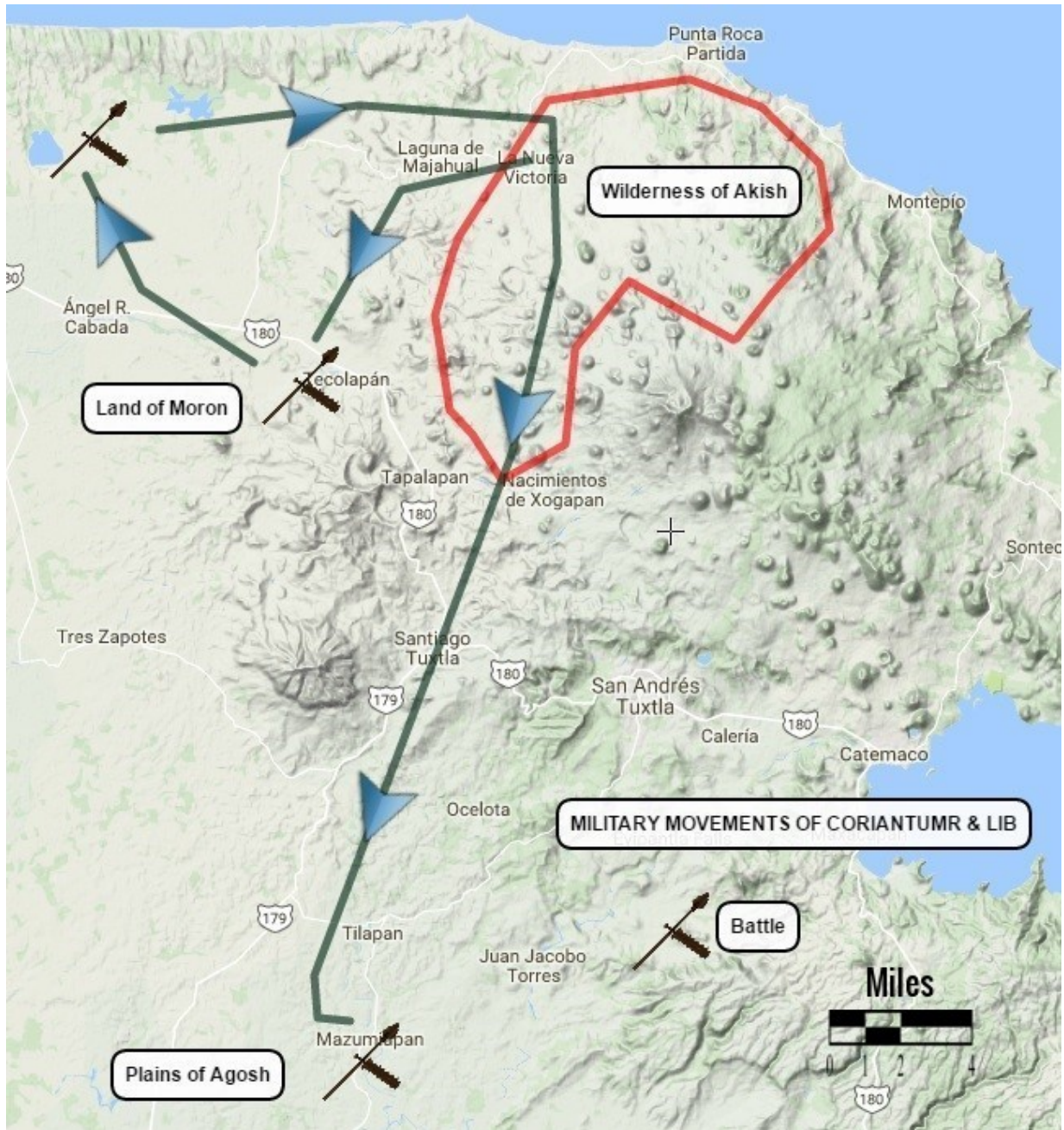


Figure 54. Map of military movements of Coriantumr₂ and Lib₂.

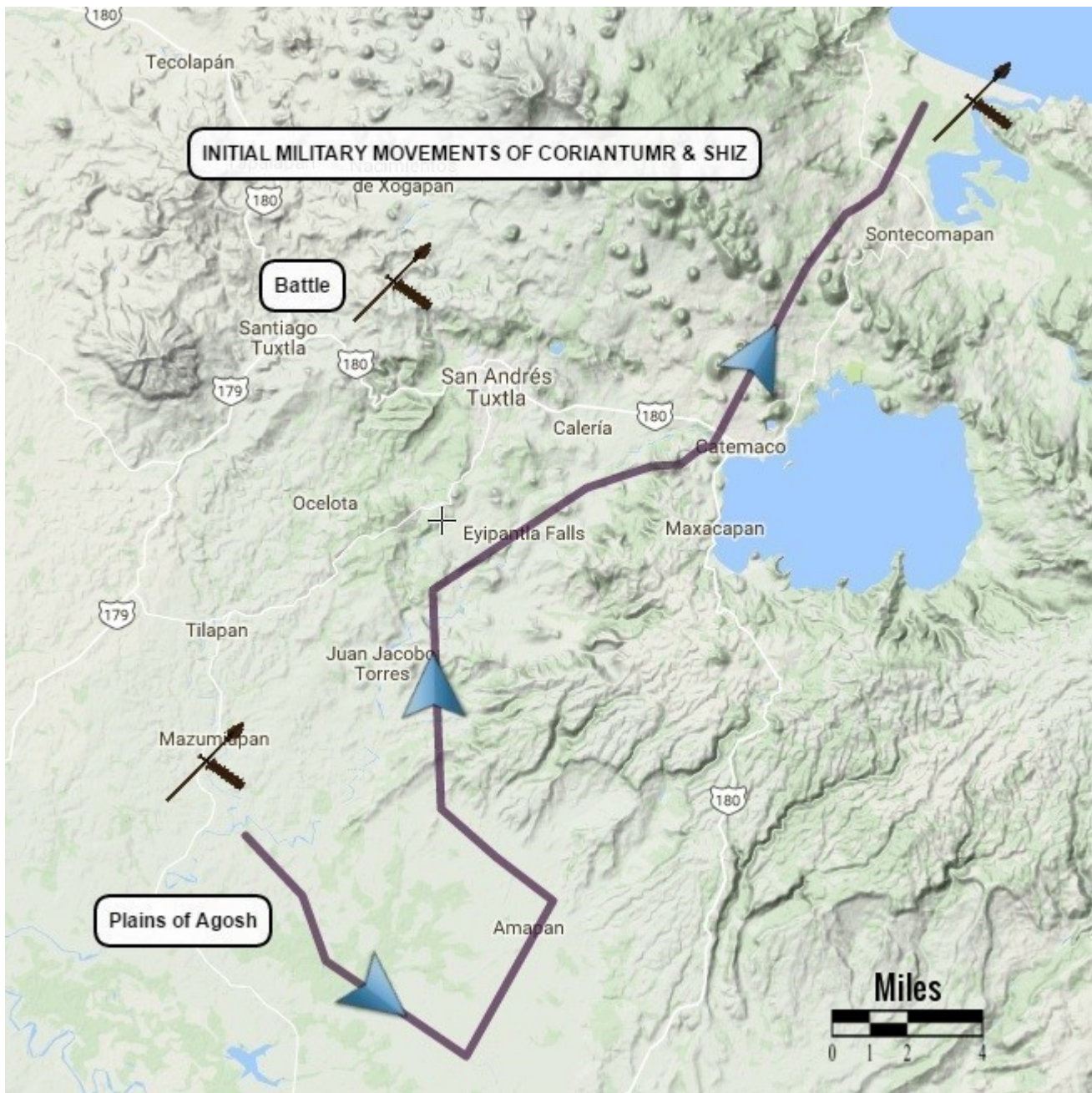


Figure 55. Map of initial military movements of Coriantumr₂ and Shiz.

Coriantumr₂ versus Shiz

After defeating Coriantumr₂ on the plains of Agosh and the burning of cities, Shiz pursued Coriantumr₂ “eastward,” ultimately to the seashore. Figure 55 depicts one path to the seashore; there are other paths to the seashore that lie in a more easterly direction and are also suitable. After a three-day battle and a “terrible destruction among the armies” of Shiz on the seashore, he retreated to the land of Corihor, collected more to his armies, killed all those who would not join him (Ether 14:27), and ended up in the valley of Corihor.

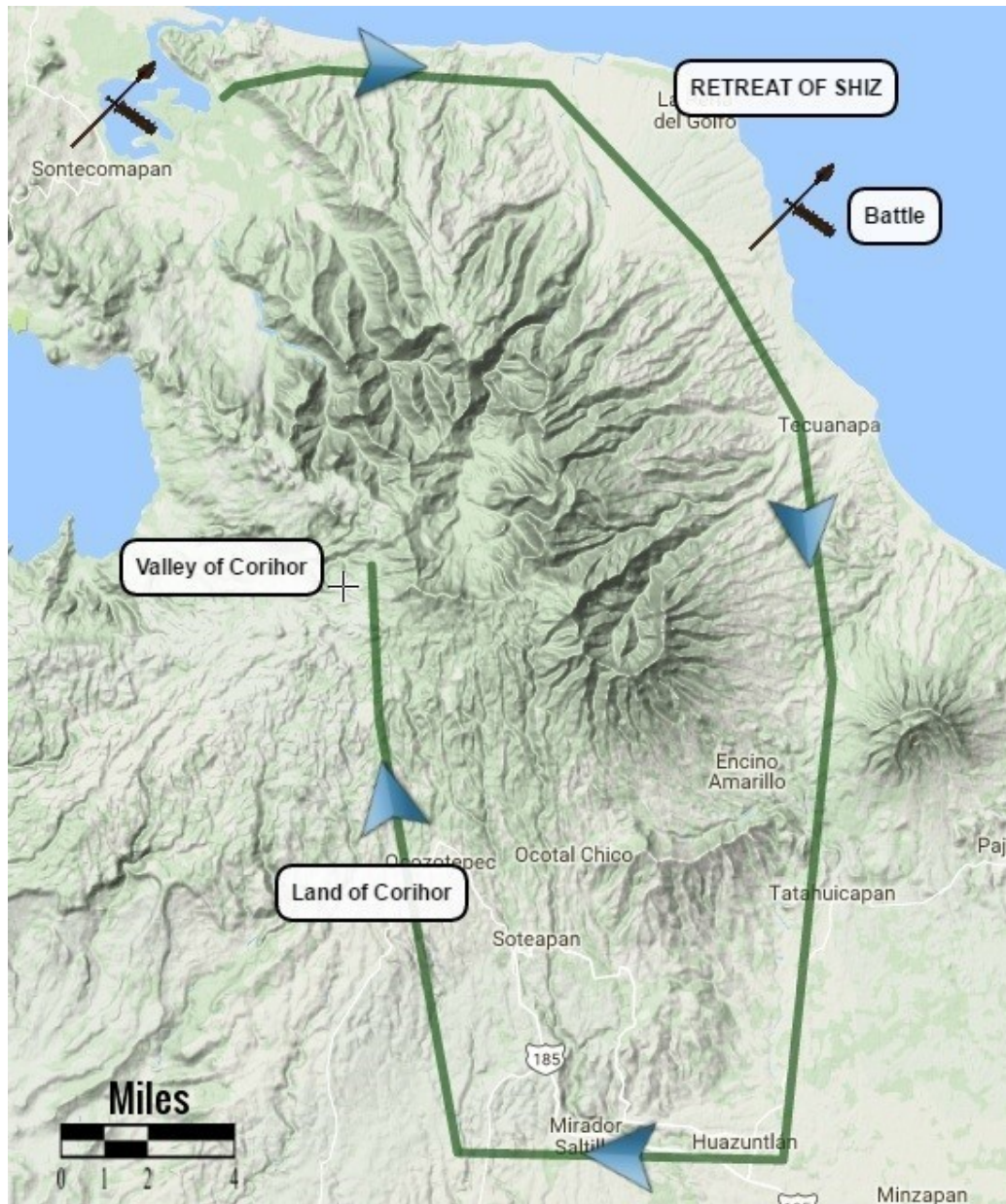


Figure 56. Map of retreat of Shiz.

While the armies “began to flee” before the armies of Coriantumr₂, there is no mention (as there is in other descriptions of this battle) of Coriantumr₂ “pursuing” Shiz. Thus, there is no indication that Coriantumr₂ followed Shiz; in fact, if Shiz was stopping to kill persons not willing to follow him, it seems likely that Coriantumr₂ was not in direct pursuit and perhaps not likely that he followed Shiz at all. The depiction in figure 56 of Shiz’s retreat may have been further to the south or west into more populated areas. There is no indication, however, that Shiz sacked any cities; he only dealt with “the inhabitants.” Yet Coriantumr₂ ended up in the valley of Shurr, which was adjacent to the valley of Corihor. The valley of Shurr was near the hill Comnor, where Coriantumr₂’s armies sounded a trumpet to invite the army of Shiz to battle, so the hill Comnor was adjacent to both the valley of Corihor and the valley of Shurr (Ether 14:31).

A valley of Shur is found in relation to the Exodus of the Jews from Egypt, with the Hebrew meaning of *Shur* being “wall” or “barrier,” (*šûr*) (Genesis 16:7; 20:1; 25:18; Exodus 15:22; 1 Samuel 15:7). *Šûru* is a Sumerian loanword in

Mari and Nuzi texts (Book of Mormon Onomasticon 2016) that refers to some kind of geographic feature. Recent scientific inquiries into the biblical Shur identified a valley (wadi) with steep-sided “walls” that drains into the northern end of the Gulf of Aquba (Humphreys 2004).

With regards to the name of the hill Comnor, the spelling of this name in the current Book of Mormon is most likely erroneous: In the two instances where the name appears in the Printer’s Manuscript (the Original Manuscript is not extant for this passage), the name is spelled “Comron.” The typesetter for the 1830 edition reversed the last two consonants to produce the 1830–1981 reading of Comnor. The likely correct spelling of “Comron” is used for this analysis.

The Sumerian etymology for Comron is:

kum: (to be) hot

ra: (to be) pure; (to be) clear

rah: to flood

mu-rah₂-ni, *mu-rah₂*, *um-rah₂*, *rah₂-a-ni*, *a-rah₂-a*, *rah₂-a₂-na* (forms of *rah*)

un: to arise; sky; (to be) high

an: sky, heaven; upper; crown (of a tree)

an-na, *an-ne₂*, *an-na-ke₄*, *an-e*, *an-na-ka*, *an-na-kam*, *an-kam* (forms of *an*)

Constructed Sumerian Compound Word: Comron

Features of the hill Comron one would look for is a high point, high rainfall that might precipitate flooding, and a volcanic element in that it is hot.

There is a valley that has very steep sided walls and whose head ends in one of the highest hills in the southern Tuxtla and empties into the Gulf of Mexico near the small town of Los Arrecifes Veracruz. The hill is part of the Santa Marta Volcano Complex and has had recent volcanic events on the hill. The top of the hill is one of a few in the area that maintains a tropical rainforest due to extremely high precipitation rates in excess of 6000 mm (236 inches) per year (see figure 57).

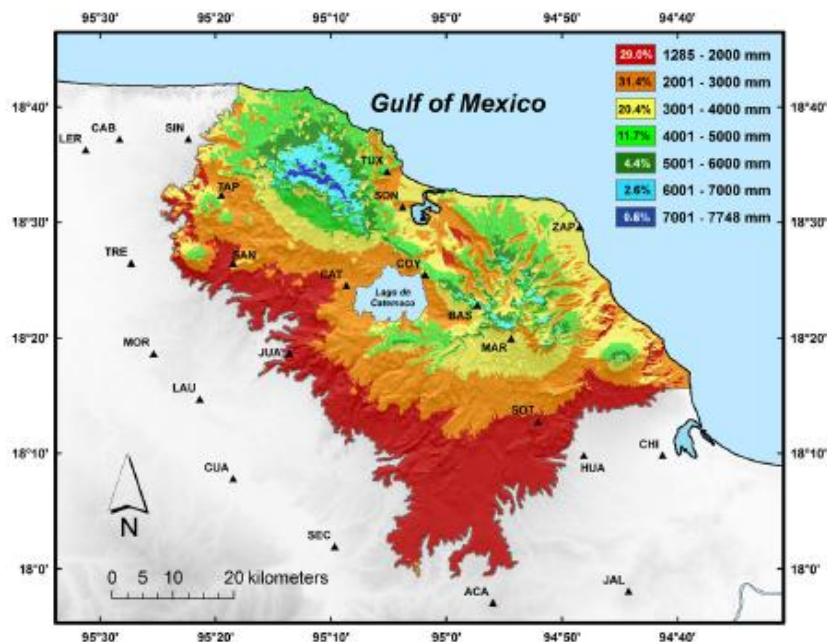


Figure 57. Average annual precipitation rates for the Tuxtla Mountains. (Gutiérrez- García 2011)



Figure 58. Forest classifications for the Tuxtla Mountains. (Gutiérrez- García 2011)

The location of the valley of Shurr and the hill Comron are shown in figure 59. In this battle, Coriantumr₂ shows he is studied “in all the arts of war” as he strategically approaches Shiz from an adjacent valley, takes the high-ground position, and invites Shiz to battle.

After two unsuccessful attacks up the hill, Shiz was finally somewhat successful on the third attempt but suffered such a loss of life that he did not pursue the armies of Coriantumr₂. Coriantumr₂ was gravely wounded in the battle and carried away. The Book of Mormon does not say where Coriantumr₂ was taken away to recover, but the text seems to indicate it was Moron, since he sent an epistle to Shiz saying he was willing to give up the kingdom for the sake of the lives of the people. His throne has been identified as being located at Moron (Ether 14:6), and in order to actually be able to give up the kingdom, he most likely would have had to have been on the throne in Moron.

He was unsuccessful at placating Shiz, so Shiz attacked again, and Coriantumr₂ had to flee again, this time to the “waters of Ripliancum, which by interpretation, is large, or to exceed all” (Ether 15:8). Sumerian provides an etymology that nearly exactly matches the descriptions given in the Book of Mormon, with additional related terms:

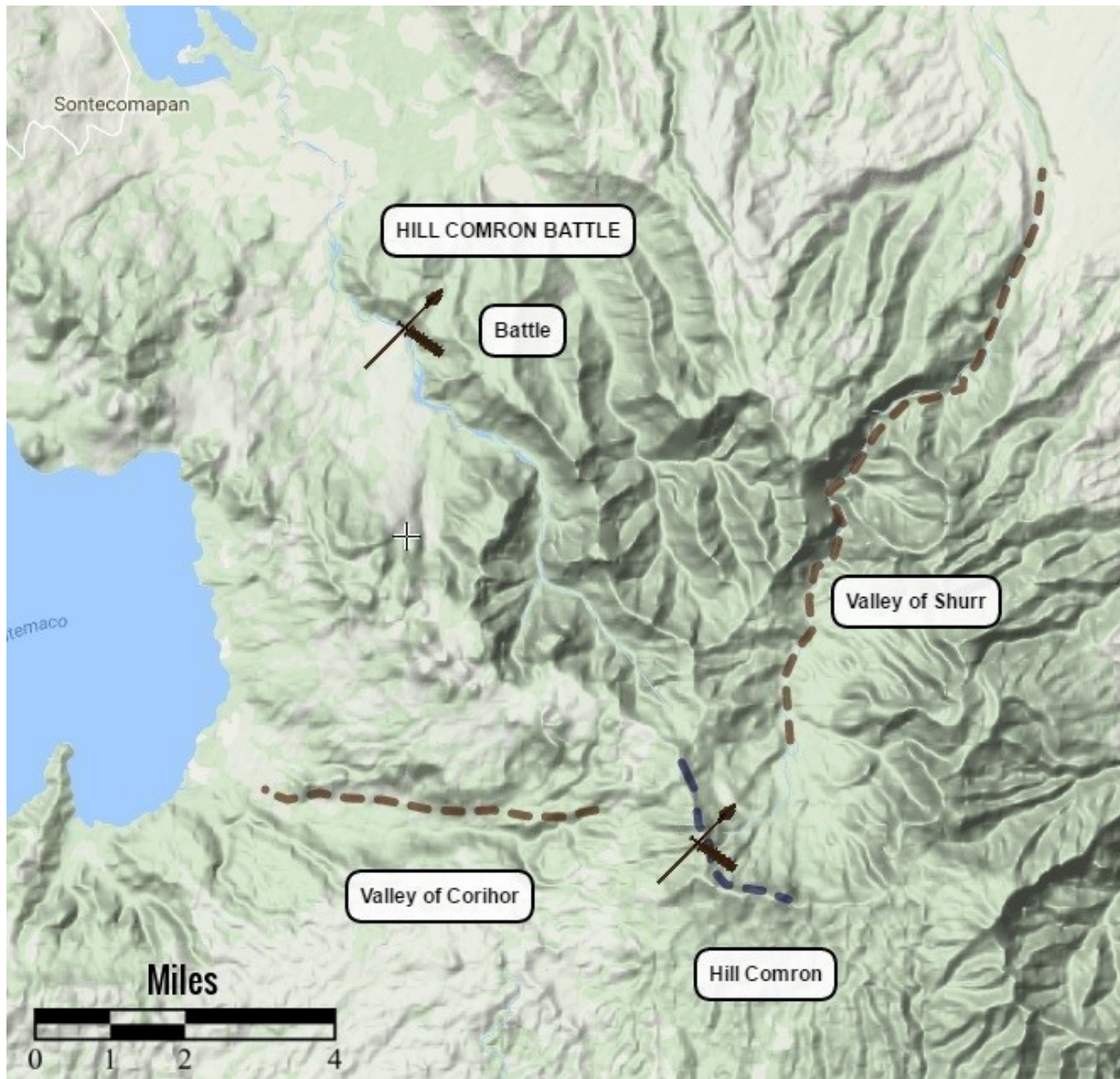


Figure 59. Map of battle at hill Comron.

ri: to be distant

ri-a (form of *ri*)

ri, Ri: to pour out

Ri-a (form of *ri*)

rib: (to be) surpassing, outstanding; (to be) strong, massive

li: branch

la: flooding

la: to stretch out

a: water

a-ni, a-na, a-ka, a-ke₄ (forms of *a*)

an: upper

an-na, an-ne₂, an-na-ke₄, an-e, an-na-ka, an-na-kam, an-kam (forms of *an*)

ana: upper
ana: as much as
 a-na, a-na-a (forms of *ana*)
ku: to spread, discharge
ku-um (form of *ku*)
kam: to alter
kaman: irrigation work

Constructed Compound Word: **Ribliancum**

Based on all the elements contained in the Sumerian, from a geographic context, it would seem that the type of water feature contemplated here involves water discharge from a river that extends into large riverine lagoons and swamplands, probably located at the boundary of the Jaredite (and perhaps Nephite) lands. The only place that meets these criteria with any proximity to Moron is the large lagoon and swamp complex where the Papaloapan River discharges into the Gulf of Mexico.

Coriantumr₂ was here successful against Shiz (although he was wounded again and fainted with loss of blood) and caused Shiz and his armies to “flee southward” before them, with Shiz pitching their tents at a place called Ogath. Sumerian etymology of Ogath does provide a description of the situation of Shiz and his armies (Grover 2017) but does not provide any geographical clues. One can surmise that since they were fleeing southward, that Ogath was somewhere south of where the armies of Coriantumr₂ stopped and pitched their tents, which was the hill Ramah, which the Nephites called Cumorah (Ether 15:9–12). Since Coriantumr₂ was wounded, it is unlikely that the hill Ramah would be a great distance from the waters of Ripliancum. In addition, it is likely that Ramah was adjacent or part of the land of Moron, Coriantumr₂’s kingdom, which allowed him to more successfully gather friendly armies to himself (Ether 15:13–14). Similarly, Ogath would be expected to be located some distance to the south, in the area favoring Shiz, since during the next four-year period, both Coriantumr₂ and Shiz gathered all of the people to their armies (Ether 15:12–13). While “Ogath” does not appear to have a Sumerian etymology that provides geographical clues, clues from the biblical Hebrew do indicate the likely location as San Lorenzo, which will be discussed later.

Some elements of the Hebrew and Sumerian etymologies of Ramah have some generic geographical applicability since the Sumerian etymology mostly is indicative and descriptive of the final great battle that occurred near Ramah.

Sumerian

rah: to beat, kill; to break, crush
 rah₂-am₃, a-rah₂-a, (forms of *rah*)
a: arm; horn; side; strength; wage; power
 a₂-mu (forms of *a*)
A: a weapon or a leather holder for a weapon
ama: chamber; cell (location of storage for records)
a mah: to strengthen
mah: (to be) great
 mah-a, ma-ha, mah-ra (forms of *mah*)

Constructed Compound Word: **Ra(h)mah**

Additional geographical etymological units would be:

Sumerian*ra*: (to be) pure; (to be) clear*a*: water*a-a, a-mu, a-am₃* (forms of *a*)Hebrew*ramah*: height

“Cumorah” provides a Sumerian etymology consistent with the use of the hill, but nothing clearly that would indicate a geographic clue. One logical parameter involving the hill is that it was utilized as a record repository (as was Shim), so it is not likely that it would be a hill that had volcanic eruptions—the Jaredite and Nephite history is long enough that they would likely have known which areas, hills, and mountains were volcanically active. Neither the hills Shim or Ramah identified in this work have any known recent volcanic eruptions. Palmer (1982) and others have proposed the location of Cerro Vigia as the hill Ramah. Mormon 6:4 indicates that the land of Cumorah (of which the hill Cumorah is a part) was a land of many waters, rivers, and fountains, which describes the northwest side of the Tuxtla Mountains. Cerro Vigia is also consistent with the analysis here and so is the most likely candidate for Ramah.

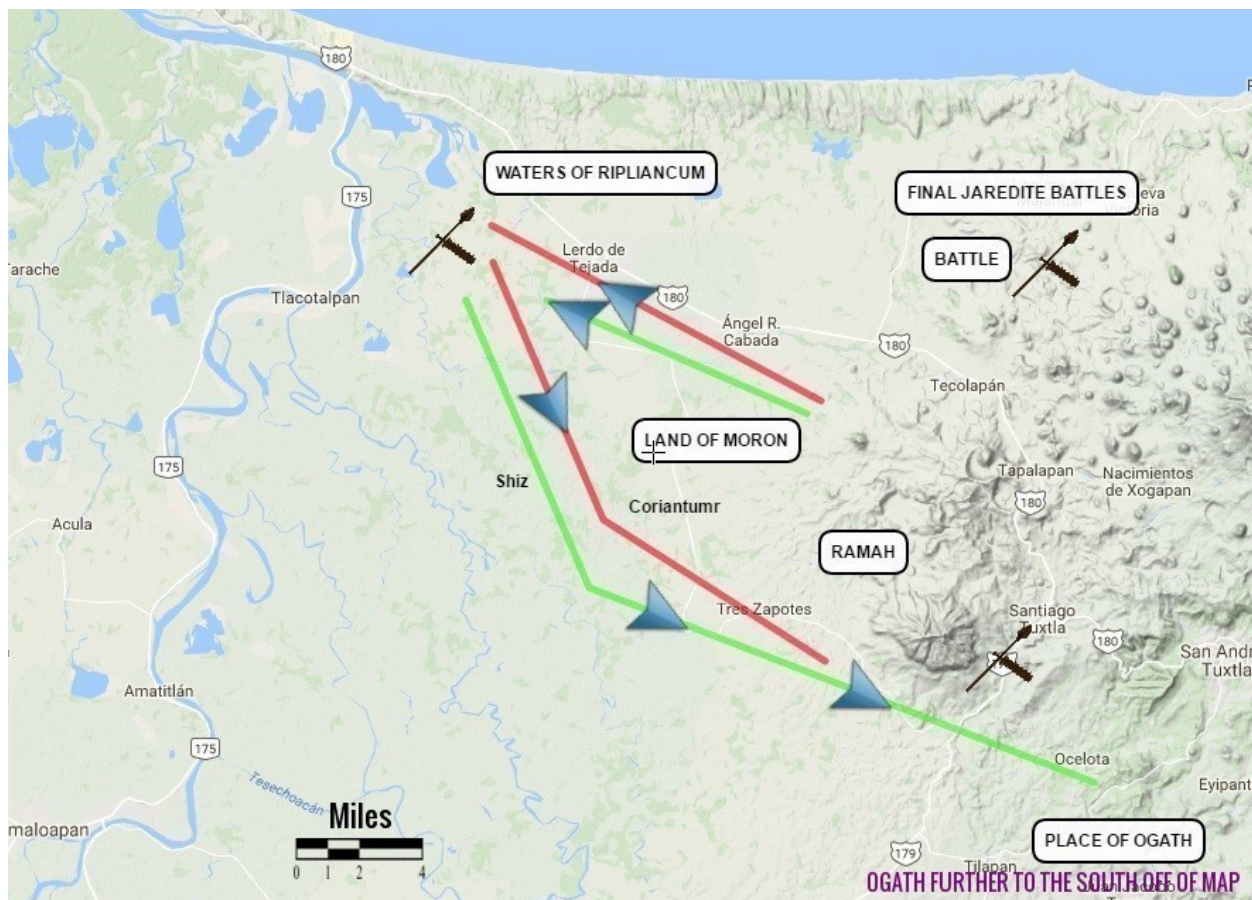


Figure 60. Map of final Jaredite battles.

Having completed maps based on the geographic information given about the Jaredites in the Book of Mormon, a good question is whether there were other areas outside of the Tuxtlas during the time period of the final battles where the Jaredites may have lived. The answer is likely yes, since during the period of the final battles, there were

numerous stoppages that lasted years, during which time additional people were gathered to armies. Also, it appears that the Tuxtlas were likely more of a home area for Coriantumr₂. While he was in the wilderness of Akish for two years, he “did receive great strength to his army” (Ether 14:7). After the battle on the plains of Agosh, Shiz “did overthrow many cities, and he did slay both women and children, and did burn cities” (Ether 14:17). This area that Shiz attacked clearly sounds like an area with allegiance to Coriantumr₂. During the flight to the land of Corihor, Shiz and his armies “swept off the inhabitants before them, all them that would not join them” (Ether 14:27). This also sounds as if most of the inhabitants here were allies of Coriantumr₂ or at least not big fans of Shiz. Shiz clearly must have had a base of support somewhere, so it appears that his tribal alliance was in the south, likely from La Venta and the population adjacent to the Coatzacoalcos River. This situation may indicate that when there were historical splits in the kingdom (at least in later Jaredite times), they were likely based on a north/south kingdom alignment. This explanation is also consistent with Shiz going to the south to gather strength to his army.

The Giants of Ogath

In determining the location of “a place which was called Ogath” (Ether 15:10), breaking down the constructed name “Ogath” provides geographic clues and reveals some interesting cultural insight as to how the later Nephites viewed the Jaredite culture. While the Sumerian and Hebrew etymologies don’t provide much help in locating Ogath, a construction of the name “Ogath” using information from the Bible provides a great deal of insight.

The first part of the place name “Ogath” is “Og.” According to the Hebrew Bible, Og was an Amorite king of Bashan who, along with his army, was slain by Moses and his men at the battle of Edrei. Og is first discussed in the Bible in the book of Numbers:

Numbers 21:31–35

31 Thus Israel dwelt in the land of the Amorites.

32 And Moses sent to spy out Jaazer, and they took the villages thereof, and drove out the Amorites that were there.

33 And they turned and went up by the way of Bashan: and Og the king of Bashan went out against them, he, and all his people, to the battle at Edrei.

34 And the LORD said unto Moses, Fear him not: for I have delivered him into thy hand, and all his people, and his land; and thou shalt do to him as thou didst unto Sihon king of the Amorites, which dwelt at Heshbon.

35 So they smote him, and his sons, and all his people, until there was none left him alive: and they possessed his land.

A further discussion of Og is found in Deuteronomy 3:1–6, 11:

1 Then we turned, and went up the way to Bashan: and Og the king of Bashan came out against us, he and all his people, to battle at Edrei.

2 And the LORD said unto me, Fear him not: for I will deliver him, and all his people, and his land, into thy hand; and thou shalt do unto him as thou didst unto Sihon king of the Amorites, which dwelt at Heshbon.

3 So the LORD our God delivered into our hands Og also, the king of Bashan, and all his people: and we smote him until none was left to him remaining.

4 And we took all his cities at that time, there was not a city which we took not from them, threescore cities, all the region of Argob, the kingdom of Og in Bashan.

5 All these cities were fenced with high walls, gates, and bars; beside unwallled towns a great many.

6 And we utterly destroyed them, as we did unto Sihon king of Heshbon, utterly destroying the men, women, and children, of every city. . . .

11 For only Og king of Bashan remained of the remnant of giants; behold, his bedstead was a bedstead of iron; is it not in Rabbath of the children of Ammon? Nine cubits was the length thereof, and four cubits the breadth of it, after the cubit of a man.

The biblical Hebrew word for “giant” in verse 11 is actually *hā·rā·pā·ʾim*, commonly known as the Rephaim; thus, Og is known as the last of the Rephaim.

Amos 2:9 in the Bible likely refers to Og as “the Amorite” whose height was like the height of the cedars and whose strength was like that of the oaks. “Edrei,” where Og’s final battle took place, means “mighty” and “strength” in biblical Hebrew (Easton 1897).

In the Hebrew Bible and other non-Jewish ancient texts from the region, Rephaim refers to a people of greater-than-average height and stature, to the places where these individuals were thought to have lived, or to dead ancestors who are residents of the Netherworld.

Rephaim have also been considered the residents of the Netherworld (Sheol in the Hebrew Bible) in more recent scholarship. Possible examples of this usage appear as “shades”, “spirits” or “dead” in various translations of the Bible. See: Isa 14:9, 26:14, 26:19; Ps 88:11; Prov 2:18, 9:18, 21:16; Job 26:5, and possibly 2 Chron 16:12, where we may read Repha’im as “dead ancestors” or “weakeners”, as opposed to Rophe’im, “doctors.” The Heb. root רפא means “heal,” and thus the masculine plural nominalized form of this root may indicate that these “deceased ancestors” could be invoked for ritual purposes that would benefit the living.

Various ancient Northwest Semitic texts are also replete with references to terms evidently cognate with Rephaim as the dead or dead kings. Lewis (1989) undertakes a detailed study of several enigmatic funerary ritual texts from the ancient coastal city of Ugarit. Lewis concludes that the “Ugaritic Funerary Text” provides important evidence for understanding Ugarit’s cult of the dead, wherein beings called rapī’uma, the long dead, and malakuma, recently dead kings, were invoked in a funeral liturgy, presented with food/drink offerings, and asked to provide blessings for the reign of the current king. The many references to repha’im in the Hebrew Bible in contexts involving Sheol and dead spirits strongly suggests that many ancient Israelites imagined the spirits of the dead as playing an active and important role in securing blessings, healing, or other benefits in the lives of the living. (www.wikipedia.org 2017)

The similarities of the personage and story of Og and the personage and story of Shiz are quite clear and striking:

- 1) Both battles involved the death of the leader (Og and Shiz) and the complete destruction of their respective armies, with no survivors.
- 2) Og’s battle involved the death of “all men, women, and children, of every city” on his side. In the case of Shiz, “every one” and all of the “men, women and children” were killed. (Ether 15:14–15).
- 3) Og is the last of the Rephaim, the dead ancestors or dead kings; Shiz is the last of the Jaredites (excepting Coriantumr₂), who are the dead ancestors of the Nephite/Mulekite polity.
- 4) Og is large in stature; his final battle occurred at a place meaning “mighty.” Shiz is one of those referenced in Ether 13:15 “who rose up, who were mighty men and sought to destroy Coriantumr” (others would be Shared, Gilead [brother of Shared], and Lib₂ [brother of Shiz]). In the final days of the final battle, Shiz and his 32 remaining men were described in Ether 15:26 as “large and mighty men as to the strength of men.”

The second part of the place name “Ogath” is “Gath.” The correlation to Gath and giants is of course most well-known in the Bible story of David battling Goliath of Gath.

Gath in the Bible is a Philistine city, one of the Famous Five listed in Joshua 13:3 as part of the area that still remained to be conquered at the end of Joshua's life: Gaza, Ashdod, Ashkelon, Gath, Ekron, and Avva (which are actually six names, so we may assume that two of them belong together somehow). But the city of Gath is remembered mostly for being the birthplace of the giant Goliath of Gath, who was famously slain by young David of Judah (1 Samuel 17:4). Goliath was not the only giant from Gath, since he had at least one huge brother and four huge sons: Ishbi-benob, who was killed by Abishai; Saph, who was killed by Sibbecai; Goliath the Second, who was killed by Elhanan, who also killed Lahmi, the brother of Goliath the First (1 Chronicles 20:5); and an unnamed giant who was killed by David's nephew Jonathan (2 Samuel 21:15–22).

Gath was the location for giants known as the last of the Anakim (named after Anak). Anak and his descendants, the Anakim, were a tall and numerous people, reckoned among the Nephilim (also a race of giants) (Numbers 13:33) and the Rephaim (Deuteronomy 2:10). The story of Goliath being struck down by a sling and then beheaded by David is well-known. It is surmised that, like Og, Goliath was one of the last of the Anakim since "there was none of the Anakim left in the land of the people of Israel. Only in Gaza, in Gath, and in Ashdod did some remain" (Joshua 11:22).

The similarities of the personage and story of Goliath of Gath and the personage and story of Shiz are fairly obvious:

1) Goliath was beheaded; so was Shiz.

2) Goliath is large in stature. In the final days of the final battle, Shiz and his 32 remaining men were described in Ether 15:26 as "large and mighty men as to the strength of men."

3) Goliath is one of the last of the Anakim, with Gath as their final location; Shiz is the last of the Jaredites (excepting Coriantumr₂), with Ogath as his final location.

Size of the Jaredites

Many who have written regarding the Jaredites have made the erroneous conclusion that the Jaredites were all larger in height or size than the Nephites, with some persons even referring to the Jaredites as "giants." The word "giant" is never used in the Book of Mormon. The Book of Mormon does describe a few individuals as having a greater "stature" (likely referring to height). There are various terms to describe the physical attributes or capabilities of individuals in the Book of Mormon, and it is useful to look at these terms and to whom they are applied. I have not listed descriptions of people described as only being "strong" since there are many references that did not imply a large size or even physical strength.

1. "Mighty men": The men who rose up to destroy the Jaredite king Coriantumr₂ (Ether 13:15); "two millions of mighty men" were killed in the final Jaredite battles (Ether 13:15).

2. "Mighty man": Laban (1 Nephi 3:31); an unnamed iniquitous man arose to challenge the Jaredite king Moron (Ether 11:15); an unnamed "mighty man" who was a descendent of the brother of Jared (Ether 11:17) and successfully overthrew the Jaredite king Moron.

3. "Mighty to the strength of men": The Jaredite king Shule (Ether 7:8).

4. "Mighty hunter": Nimrod of the Old World (Ether 2:1).

5. "Strong and mighty": Moroni₁ the Nephite military leader (Alma 48:11); the unnamed leader of the aborted mission to return to the land of Nephi (Omni 1:28); Ammon₁, who went to find those who had returned to the land of Nephi—he was a "descendant of Zarahemla" (Mosiah 7:3); Nehor, who was "large and noted for his much strength" (Alma 1:2); Amalickiah, who was a "large and a strong man" (Alma 46:3).

6. “Large and mighty”: Brother of Jared (Ether 1:34); the final warrior groups who were “large and mighty as to the strength of men” in the final days of battle between Shiz and Coriantumr₂ (Ether 15:26); Coriantumr₃, who did great battle damage to the Nephites—he was a “descendant of Zarahemla” (Helaman 1:15–16).

7. “Large stature”: Nephi₁, the Nephite founder (1 Nephi 2:16); Mormon, the final Nephite general and a “pure descendant” of Lehi (Mormon 2:1; 3 Nephi 5:20).

8. “Great stature”: The Jaredite king Lib₂ (Ether 14:10).

The description of the breastplates that were recovered with the 24 Jaredite gold plates also implies a larger size for certain Jaredite individuals to whom the breastplates originally belonged:

Mosiah 8:10

And behold, also, they have brought breastplates, which are large, and they are of brass and of copper, and are perfectly sound.

As mentioned elsewhere, these breastplates were part of a Mesoamerican “sacred bundle” and would have likely represented the exception, not the rule, of warrior size. They could have belonged to Shiz and Coriantumr₂ and represented in the “sacred bundle” the final tribal power of the Jaredites. It should also be noted that there is no definitive standardized measurement of what a large stature might be, and a person reported as being taller by a population is taller only in relation to the height of the population reporting it; therefore, a person of “large stature” in early Mesoamerica might be someone of average height today.

The term “mighty men” is also found in the Bible, describing some of David’s warriors (2 Samuel 23:8). They are not described as being larger in size, just valiant warriors. So, assuming that the term “large” could perhaps also include someone of extraordinary height, the only Book of Mormon persons identified that would possibly equate to biblical giants would be the brother of Jared, the final Jaredite warrior groups including Shiz and Coriantumr₂, Coriantumr₃, Nephi₁, Nehor, Amalickiah, Mormon, and Lib₂.

There is no indication that more than a few of the Jaredites (or Nephites) were of exceptional height or size.

Giants in Mesoamerica

The Book of Mormon does not indicate that the Jaredites as a group were larger than others in Mesoamerica, yet it does indicate *–gath* as a place of giants. Thus, the origination of the name Ogath likely represents more than the larger physical size of Shiz and his final battle group. The wicked Nephite great city of Jacob-Ugath, which was destroyed in the 3rd Nephi destruction, also contains *–gath* and thus also indicates a place of giants, even though there is no indication that Jacob was large in stature.

In one line of Mesoamerican lore referred to as “The Loss of the Ancients,” giants were considered to be the “first race” (Bierhorst 1990, 172), which would be consistent with the source of that particular line of legend originating from the Olmec, the first Mesoamerican civilization.

There are other various vanished giant stories in Mesoamerican lore that may also have some correlation with the early Mesoamerican civilization, perhaps the Olmec. In Aztec mythology, the Quinametzin Giants populated the world during the previous era of the Sun of Rain (Nahui-Quiahuitl). The construction of the pyramid of Cholula and the City of Teotihuacan (The Place Where Men Become Gods) was attributed to the Quinametzin Giants (Editorial Universo México 1981). Bernardino de Sahagún (1499–1590 AD), in the Florentine Codex, documents the Mesoamerican legend that pyramids of the Sun and Moon in the city were constructed by a vanished race of giants

(Sahagún 1950–82, 10:29) and identifies them as the Toltecs. Torquemada, in 1615 AD, also confirms much the same story, with a few variations (Torquemada 1969).

Since, as a group, the Jaredites/Olmec do not appear to be physically a “race of giants,” why would later civilizations have perceived the Olmec to be such? In theory, the legend could have been generated by stories of the few Jaredite individuals described as being larger in stature, but the legends don’t seem to be based on battle stories or one or two specific individuals. The primary theory by anthropologists and folklorists is that giant legends are metaphorical and based on geologic formations or natural oddities that appear to depict the form of giants (Varner 2007, 38). In the case of the Jaredites/Olmec, the most obvious source that would be present for later civilizations to observe are the colossal Olmec heads. These heads are consistent with the likelihood that the Toltecs were considered giants of legend based, at least in part, on the massive Toltec statues at Tula (see figure 61).



Figure 61. Toltec statues at Tula. (www.farhorizons.com 2017)

Ogath is San Lorenzo

Because of the giant myth criteria with respect to the cities where the colossal Olmec heads are found, the possible locations for Ogath are Tres Zapotes, San Lorenzo, or La Venta. Since Ogath was south of Ramah, Tres Zapotes is not a possibility. Tres Zapotes is, however, a direct match for Jacob-Ugath, which will be discussed later. In order to determine whether Ogath referred to San Lorenzo or La Venta, it is helpful to look at the utilization of the word “place” in the Book of Mormon when referring to a specific geographic location.

When a geographic location refers to a “place” in the Book of Mormon, it refers to a location that was previously unpopulated (or not sufficiently populated to be considered a named location), and the name is typically given to the place by the founders. The place of Shazer (1 Nephi 16:13–14) was in the wilderness; the place of Mormon was in a previously uninhabited area (Mosiah 18:7, 16, 30); the place of first inheritance was likely sparsely populated (Alma 22:28); the place of arms was apparently not part of a city (Alma 47:5); Ablom was not described as a previously populated place (Ether 9:3); neither were Bountiful (1 Nephi 17:6), Nephi (2 Nephi 5:8), Shemlon (Mosiah 20:1), Amulon (Mosiah 23:3), “place of their first landing” (Alma 47:5), Onidah (Alma 47:5), Moriancumr (Ether 2:13), nor even the New Jerusalem (Ether 15:10).

The one possible exception may be Nahom, which is referred to as a “place which was called Nahom” (1 Nephi 16:34). Nahom has been located in the Arabian Peninsula, with altars as part of a temple complex. The location does appear to have been populated at the time Lehi’s group passed through the area, with the area having been named by others prior to the arrival of the Lehite group.

Thus, “a place which was called Ogath” is indicated as more lightly populated, which was the case with San Lorenzo, since it was anciently abandoned as a population center prior to Shiz. In addition, the great city that Lib₁ built (La Venta) was not named, and if it was Ogath, it likely would have been identified as such when referred to in the Book of Mormon. San Lorenzo is thus the best candidate for Ogath. It also correlates with the *Rephaim* meaning of “dead kings” since the Olmec colossal heads were figures of dead kings.

The great city that Lib₁ built does not have a name indicated in the text, so it may have had *–gath* in its name, a notion that is inferred based on the fact that his apparent namesake Lib₂ is the only Jaredite and only person in the Book of Mormon described as being of “great stature.”

Further evidence that Ogath is San Lorenzo comes from the etymology of the king “Riplakish.” Under the Jaredite chronology, Riplakish’s place of residence matches well only with San Lorenzo. The Hebrew derivative of “Riblakish” is *Riblah*— which has a root meaning of “fruitful; fertile”; and *–Akish* (Achish; אַכִּישׁ), which is a name used in the Hebrew Bible for two Philistine rulers of Gath. It is likely only a general title of royalty, applicable to the Philistine kings (1 Samuel 21:11–15, 1 Kings 2:39–46). Riplakish carried the title of king of Gath in his very name.

Jacob-Ugath

As mentioned, Tres Zapotes is the only candidate city that meets the requirements for being Jacob-Ugath. It is the only location north of Ramah/Cumorah that has colossal Olmec heads. Jacob-Ugath was identified as the location of king Jacob. The spelling of “Jacob-Ugath” with a hyphen is based on the original spelling from the Printer’s Manuscript.

3 Nephi 9:9

And behold, that great city Jacobugath, which was inhabited by the people of king Jacob, have I caused to be burned with fire because of their sins and their wickedness, which was above all the wickedness of the whole earth, because of their secret murders and combinations; for it was they that did destroy the peace of my people and the government of the land; therefore I did cause them to be burned, to destroy them from before my face, that the blood of the prophets and the saints should not come up unto me any more against them.

Jacob was a king and leader of a secret combination that migrated to the “northernmost part of the land”:

3 Nephi 7:9-10, 12

9 Now this secret combination, which had brought so great iniquity upon the people, did gather themselves together, and did place at their head a man whom they did call Jacob;

10 And they did call him their king; therefore he became a king over this wicked band; and he was one of the chiefest who had given his voice against the prophets who testified of Jesus.

12 Therefore, Jacob seeing that their enemies were more numerous than they, he being the king of the band, therefore he commanded his people that they should take their flight into the northernmost part of the land, and there build up unto themselves a kingdom, until they were joined by dissenters, (for he flattered them that there would be many dissenters) and they become sufficiently strong to contend with the tribes of the people; and they did so.

Based on the description of the method of destruction of Jacob-Ugath in 3rd Nephi, it was located within relatively close proximity to the San Martín volcano (Grover 2014) (see figure 62).

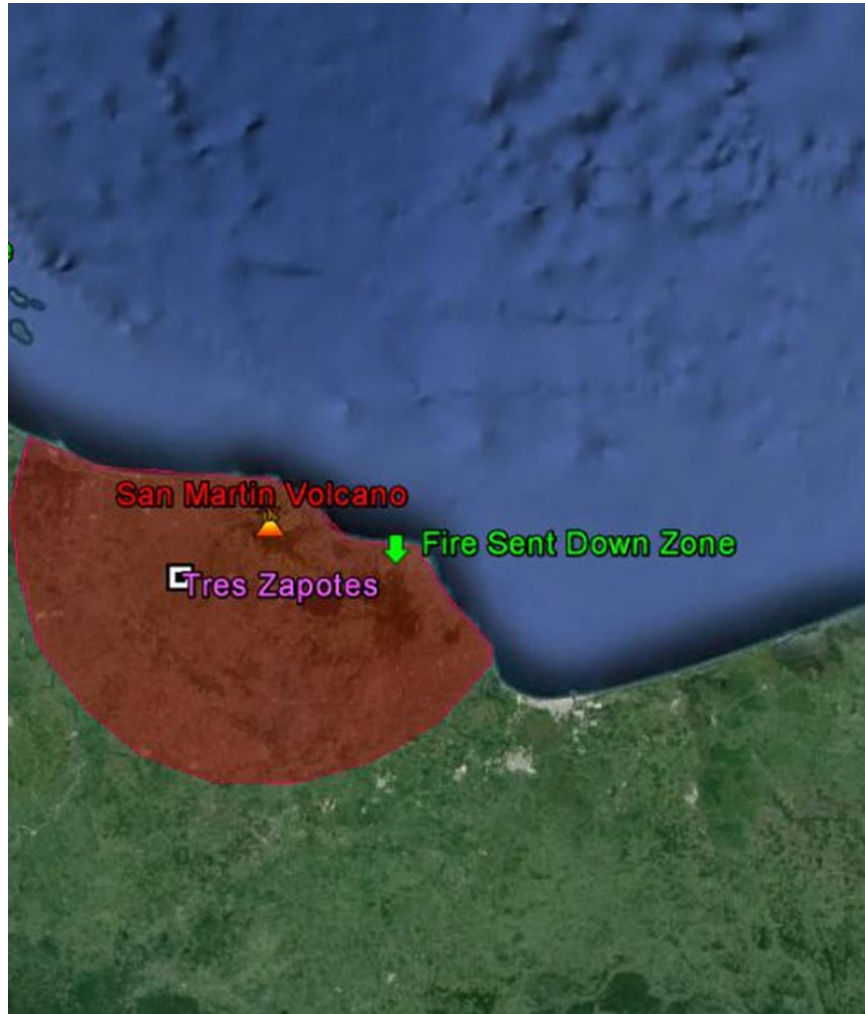


Figure 62. Location within which Jacob-Ugath must be located based on the description of destruction in 3rd Nephi. (Grover 2014)

The name Jacob-Ugath contains the *-gath* element that is indicative of a place of giants or colossal heads, but instead of *Og-* as in Ogath, it contains *Ug-*. In Sumerian, *ug* means “lion; a mythical lion; a large cat” (Pennsylvania Sumerian Dictionary 2006). At the time Jacob-Ugath was destroyed, it was essentially ruled by a secret society. The secret society which had arisen at this time was described as being of “ancient date” and was “handed down” (3 Nephi 3:9), so the clear origination of the society is indicated from the Olmec. Tres Zapotes at the time of the death of Christ was considered part of the Epi-Olmec culture, which, although not Olmec, contained significant vestiges of the Olmec that would have been considered “handed down.”

One of the principal gods of the Olmec was the were-jaguar (Diehl 2004). The actual practice of Olmec shamans has been documented with Olmec figurines depicting the shamans undergoing a transformation from humans to jaguars through a series of steps:

The sequence opens with a kneeling human who proceeds through the motions of rising on one knee while assuming were-jaguar characteristics and ends with a completely jaguarized creature who stands in a highly charged, combative human stance. This sequence appears to recapitulate the actual transformation living shamans experienced after ingesting hallucinogens such as native tobacco (*Nicotiana rustic*) or the psychoactive venom found in the parathyroid gland on the marine toad *Bufus marinus*. (Diehl 2004, 106–7)

A relationship between the jaguar being and a combative secret society among the Olmec has been proposed by Whitney Davis (1978), who suggests that the depictions of so-called human-jaguar copulation in these monuments show instead the beginnings of a jaguar cult or are representative of conquest in battle rather than a sexual conquest. Davis sees the jaguar, or man in jaguar pelts, as an aggressor toward a defeated opponent.

Evidence of an ancient *nahualista* savage secret society featuring the jaguar has been found; the society is from the time of the Spanish conquest in Mesoamerica and extends far back into Pre-Columbian history, perhaps to the Olmec (Sorenson 1985, 301–2).

Feline figures or motifs (likely jaguar or were-jaguar) are prominently featured on Stela D and Stela A, which are both from the Late Formative period (300 BC–100 AD), at Tres Zapotes. Stela C from Tres Zapotes, which bears the Long Count date of 32 BC on its back side, depicts a leftward-facing human head amid curved, upward-radiating lines above the cleft brow of an abstract were-jaguar mask (see figure 63).

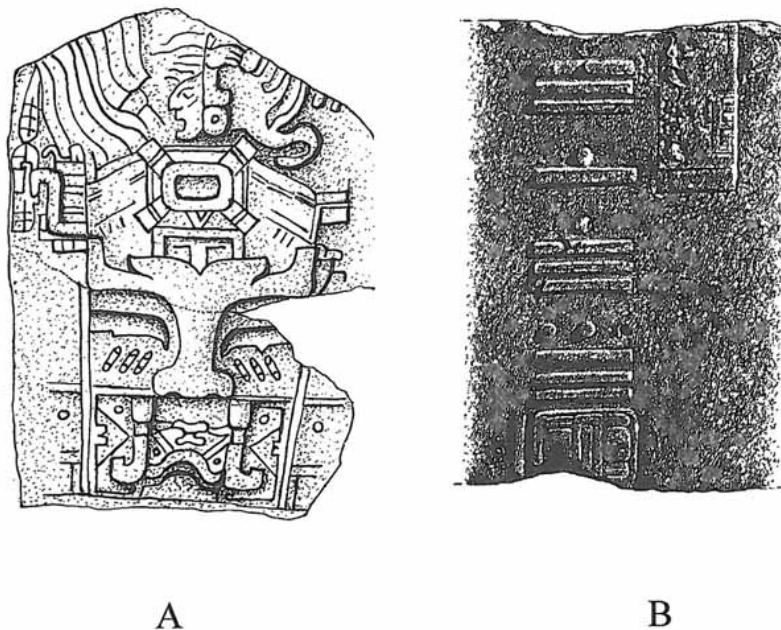


Figure 63. Stela C, from Tres Zapotes. (www.famsi.org 2017)

Based on all of the parameters discussed above, the location of Jacob-Ugath is the Epi-Olmec city which is modernly referred to as Tres Zapotes.

Chapter 14

Land Northward Geography in the Nephite Timeframe

Although the previous chapter already identified the locations of the final events of Jaredite civilization, “Jaredite geography” extends beyond the time of the Jaredites themselves and into subsequent times when the Nephites used their land, “the land northward.” Etymology will prove to be a particularly useful tool in identifying Nephite locations in the former Jaredite lands.

Moron, Shim, Cumorah, Jashon, Shem, and Antum and Mapping the Northern Extent of the Land of Desolation

The land northward also is a part of Nephite history, although for much of their history the Nephites were limited to the land southward. It is apparent that the Nephites created their own geographical names for lands and places in the land northward since the Nephite lands were not identified by the Jaredite names. The Nephites were aware where at least some of the Jaredite lands had been located since they identified the hill Ramah (under its Jaredite name) as the same as the hill Cumorah. The Jaredite land of Moron was identified as being near the land of Desolation. It is also clear that many of the Nephite names for geographic features in the land northward were derived or borrowed from the Jaredite language and held some descriptive meanings in their originating etymology and meaning.

The general location of the land of Moron (at least the southern part) was previously identified early on in Jaredite history, as was the location of the hill Shim. It is likely that the extension of the land of Moron gained in size as the population increased throughout Jaredite history. Mormon and Moroni² indicated the following:

Mormon 1:3

Therefore, when ye are about twenty and four years old I would that ye should remember the things that ye have observed concerning this people; and when ye are of that age go to the land Antum, unto a hill which shall be called Shim; and there have I deposited unto the Lord all the sacred engravings concerning this people.

Ether 7:6

Now the land of Moron, where the king dwelt, was near the land which is called Desolation by the Nephites.

Mormon 6:6

And it came to pass that when we had gathered in all our people in one to the land of Cumorah, behold I, Mormon, began to be old; and knowing it to be the last struggle of my people, and having been commanded of the Lord that I should not suffer the records which had been handed down by our fathers, which were sacred, to fall into the hands of the Lamanites, (for the Lamanites would destroy them) therefore I made this record out of the plates of Nephi, and hid up in the hill Cumorah all the records which had been entrusted to me by the hand of the Lord, save it were these few plates which I gave unto my son Moroni.

Land of Antum

We know, based on the location of the hill Shim and the prior identification of the land of Moron, that the land of Antum likely included some or all of the land of Moron. We also know from Jaredite geography that Omer, when

traveling south past the hill Shim, “came over by the place where the Nephites were destroyed, and from thence eastward” (Ether 9:3).

We also know that the land of Desolation took its name from the location of the destruction of the Jaredites and from at least some observation of the remaining ruins left by the Jaredites.

Helaman 3:6

And now no part of the land was desolate, save it were for timber; but because of the greatness of the destruction of the people who had before inhabited the land it was called desolate.

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

* *The original Book of Mormon text has “was” instead of “is.”*

At this juncture, we probably have enough information to determine reasonable boundaries for the lands of Antum, Jashon, and Cumorah, as well as the northern boundary of the land of Desolation. The etymology of *Antum* will also be helpful in establishing some reasonable boundaries.

Reasonable geographical etymological units for *Antum* are:

Sumerian

a: water

a-ni, a-ni-ta, a-na (forms of *a*)

an: sky, heaven; upper; crown (of a tree)

an-ta, an-na-ta (forms of *an*)

anta: upper

tum: to be suitable

nu-tum₂, in-tum₃ (forms of *tum*)

tum: wild dove

tum: a fish

u: grass, herb; pasture, plants

u₂-am₃, u₂-mu, u₂-um (forms of *u*)

Constructed Compound Word: **Antum**

An alternate Sumerian etymology of *Antum* suggests kingship and indicates that the Nephite-derived name of Antum likely corresponds with the Jaredite name of Moron, which was “where the king dwelt.”

Sumerian

a: strength; power

a₂-na, a₂-ni, an-na, an (forms of *a*)

an: sky, heaven; upper; crown (of a tree)

an-ta, an-na-ta (form of *an*)

tu: to beat

tu: leader

tu: priest

um: reed rope

Constructed Compound Word: **Antum**

It would also be reasonable to assume that Antum was a land with significant water bodies, since the Egyptian etymology provides the following meaning:

Egyptian

**n.tm(w)*, “many waters, 10,000 waters”

Thus, consistent with the known Jaredite geography, Antum likely included the waters of Ripliancum within its boundaries. Antum is mentioned near the end of the Book of Mormon as being a land north of Desolation and where the hill Shim is located (Mormon 1:3). Generally, it appears that the land of Antum was at least partially in an elevated area, was fertile with many waters and fish, and encompassed the hill Shim and the waters of Ripliancum.

The Land of Jashon

The land and city of Jashon are mentioned as part of the final struggle of the Nephites (Mormon 2:16, 17). The land of Jashon was a place to where the Nephites fled (and were pursued) during a retreat; it was there that they were able to successfully stop their retreat. They “came to” the “land of Jashon,” indicating that the land was somewhat north. The city of Jashon was near the hill Shim, where Ammaron had deposited the records to the Lord. Thus, the land of Jashon was near the hill Shim.

A look at the etymology of *Jashon* provides additional clues as to its location. As previously noted, Sumerian lexicons and dictionaries do not identify a letter *j*, even though one was present originally. Etymological units that help us construct the name *Jashon* and that are clues to its location are:

Sumerian

ašša: clamor, uproar, voice, cry, noise

aš: a boil (on skin)

šun: to shine

uh: to make paste

an: sky, heaven; upper; crown (of a tree)

un: to arise; sky; (to be) high

Constructed Compound Word: **Jasho(h)n**

Hebrew

יָשָׁן *shen*: sharp tooth; noun may be used to describe the teeth of humans (Exodus 21:27, Proverbs 10:26); of animals (Deuteronomy 32:24, Job 41:6); and even of a fork (1 Samuel 2:13) or a cliff (1 Samuel 14:4).

shana: color scarlet, color of blood

(www.abarim-publications.com 2016)

Jashon appears to be a land that included volcanoes, with some resemblance to teeth. Given the other parameters, this land looks to be the land just south of Antum and east of Cumorah; this area includes the San Martín volcano and the cinder cones to the south of it and roughly corresponds to the ancient Jaredite land of Heth. By process of elimination, the land Jashon had to allow for the land Desolation to extend to the east sea because a battle likely within the proximity of the city of Desolation (within the land of Desolation) was near enough to the sea that the dead Lamanites were able to be cast into the sea (Mormon 4:7–8). Thus, the land Jashon was bounded on the southeast by the land of Desolation.

The Land of Shem

Shem is a land mentioned in Mormon 2:20–22; the Nephites were again driven northward until they came to the land of Shem. Shem is also the name of a Nephite military leader slain in the final battles with the Lamanites, along with his “ten thousand” (Mormon 6:14). The city of Shem, prior to that point in time, had apparently not been fortified.

It is easy to assume that the land Shem must have lain to the north of the land of Jashon, simply because the flight to the land Jashon occurred prior to the flight to Shem and because the text mentions that there was a movement northward to the “land which was called Shem.” However, in the discussion of these events, Mormon indicates that “they,” “the Nephites,” fled to Jashon, whereas “we,” “the people of Nephi,” were “driven forth” to the land of Shem. Both of these movements happened in the same year (Mormon 2:16–21). While the terms “Nephite” and “people of Nephi” sometimes refer to the same group, the “people of Nephi,” especially as prophesied at the time of Mormon, are distinguished from the general body of the Nephites in that the “people of Nephi” were more righteous (Alma 45:11–14). Based on this language, Mormon was clearly not part of the group of Nephites driven to the land of Jashon, but rather was a part of the group driven to the land of Shem.

One additional factor that indicates the land of Shem is not north of the land of Jashon is the fact that Mormon made no attempt at that time to remove the records from the hill Shim and doesn’t do so until more than 25 years later. Because the hill Shim was located near Jashon, it would be logical that a further drive north would have precipitated Mormon to make an attempt to recover the records before the adjacent area was completely overrun by Lamanites/Gadiantons. The land of Shem was also not proximate to the area of the land of Jashon, since Mormon was not apparently in that battle theater, which is near the east side of the land northward.

The last battle location before the Jashon and Shem advances where Mormon fought was on the borders west by the seashore in the land of Joshua (Mormon 2:6), so the likely place for Shem is on in the west (southern by our directions) area of the Isthmus of Tehuantepec, northward (west by our directions) of the narrow neck and the land of Desolation, which appears to have had an extension all the way to the west sea. The location of Mormon in the west and other Nephites in the east is consistent with a battlefront attempting to hold the line all the way across the narrow neck into the land northward; this is a standard defensive strategy throughout Nephite history. The fact that Shem was not fortified prior to this point in time indicates that it was a bit north (west) of the previous fortified lines, which were on the western further extremities in the southern (eastern) portion of the “small neck,” which also led into the land northward on the west.

It is theoretically possible that the land Shem may have been in the land southward, but since we know that Bountiful was in the northern area of the land southward and ran from the east sea to the west sea, this location is not very likely. The boundaries of the land of Desolation were primarily established by the abandoned ruins of the Olmec/Jaredites, so this area can be excluded. By process of elimination, the area on the west sea just north of the “small neck” is the most likely location for Shem; in addition, the “small neck” is also a militarily strategic location.

The etymology of *Shem* also supports this location because of the location’s unique meteorological feature.

Sumerian

šem: a drum

e: tube

Constructed Compound Word: Shem

Hebrew

שמה *shmh*: root for the common word for heaven, the natural sky, or the abode of God

(www.abarim-publications.com 2016)

The meaning of *Shem* is along the nature of “a tube shaped drum in the sky.” The shape of a drum as a tube or cylinder is consistent with a type of Mesoamerican drum (see figure 64).



Figure 64. Teponaztli Aztec slit drums from Colima, Mexico, Postclassic, ca. 1200–1520 AD. (Wikipedia Commons 2007)

Each year, localized windstorms, known as Tehuano Winds, blast the Gulf of Tehuantepec with dust. The formal recognized name for this phenomenon is *Tehuantepecer*. The topography of the Isthmus of Tehuantepec, the narrow strip of land separating the Gulf of Mexico from the Pacific, plays an important role in these windstorms. Directly north of the Gulf of Tehuantepec is an approximately 40 kilometer-wide gap in Mexico's Sierra Madre Mountains, called Chivela Pass. When a high-pressure ridge from the Arctic moves southward across the central United States and Gulf of Mexico, the resulting northerly flow of cold air becomes blocked by the Sierra Madre Mountains. This accumulation of cold, dense air combined with warm, humid air over the tropical waters of the Pacific create a strong north-south pressure gradient across the isthmus. The enhanced pressure gradient forces northerly winds to be funneled through the narrow Chivela Pass and persist up to several hundred kilometers offshore, giving rise to Tehuano Winds. In addition, a "rope cloud" (i.e., an arced line of cumuliform clouds) often marks the leading edge of the Tehuano Winds once an event is underway (See figure 65).

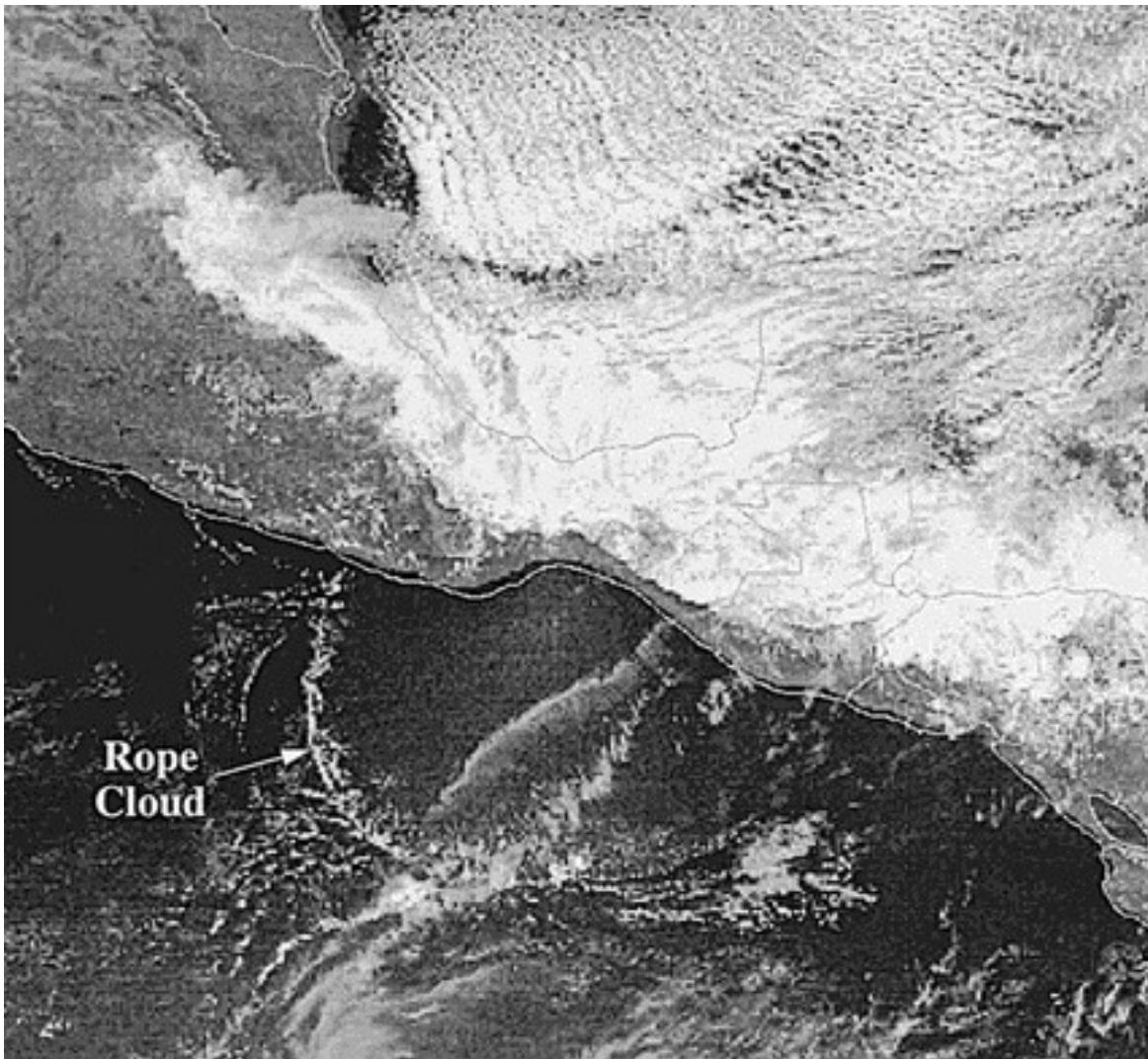


Figure 65. Satellite image of a Tehuano wind event. Note the "rope cloud" west and south of the Gulf of Tehuantepec. (Steenburgh et al. 1998)

The shape of this leading rope cloud can vary but may at times appear to be a tube or roll (see figure 66).



Figure 66. A roll cloud formed at Uruguay's Las Olas beach in January 2009. (NASA 2009)

The sound of drums is an apt description of the Tehuantepecer thunderstorms. Tehuantepecer winds reach 20 knots (40 kilometers/hour) to 45 knots (80 kilometers/hour) and on rare occasions 100 knots (200 kilometers/hour). The winds move from the north to the north-northeast; they lead to a localized acceleration of the trade winds in the region and can enhance thunderstorm activity when they interact with the Intertropical Convergence Zone. The effects can last from a few hours to six days.

Mesoamerican drums were combined with strings or rasps and can generate a variety of sounds, and so perhaps they could also imitate the sounds of the roaring Tehuantepecer winds.

Cumorah

The land of Cumorah also was in a “land of many waters, rivers and fountains,” which is descriptive of a portion of the Tuxtla Mountains.

Mormon 6:4

And it came to pass that we did march forth to the land of Cumorah, and we did pitch our tents around about the hill Cumorah; and it was in a land of many waters, rivers, and fountains; and here we had hope to gain advantage over the Lamanites.

Cumorah appears to have two etymologies—one is likely applicable to the land, and the other to the events of the hill itself:

Land of Cumorah

Sumerian

ku: to discharge

ku-um (form of *ku*)

kum: (to be) hot

kum₄-ma, kum₂-ma, kum₂-a (forms of *kum*)

mah: (to be) great

mah-a, ma-ha, mah-ra (forms of *mah*)

mahra: foremost

a: water

a-a, a-ur₂ (forms of *a*)

mu: a fish

mu: good, beautiful

ah: foam

uh₃-a (form of *ah*)

he: be it, be he

Constructed Compound Word: **Cumo(h)rah**

This etymology indicates that the land of Cumorah likely contained a large active volcano and a lake.

Hill Cumorah

Sumerian

ku: to place, lay (down)

ku-um (form of *ku*)

u: defeat

ma: a siege engine?

mah: (to be) great

mah-a, ma-ha, mah-ra (forms of *mah*)

mahra: foremost

mu: to crush, mangle

arah: storehouse, storeroom

ar: fame

ar₂-ra (form of *ar*)

ar: ruin

rah: to beat, kill; to break, crush

u₃-mu-ra₂, u₃-ma-rah₂, mu-rah₂ (forms of *rah*)

Constructed Compound Word: Cumorah

The most important parameter in evaluating potential borders of the land of Desolation is to determine the Olmec cities and the dates of their abandonment and demise, since the Book of Mormon indicates that this information is the basis for the description of the land. In order to apply this parameter, it is important to determine when the desolation was observed. Based on Alma 22:29–31, the first landing of the people of Zarahemla occurred in the

southern confines of the land of Desolation, which they are said to have discovered. From a careful reading of verse 30, it is clear that the land itself was discovered at that time—there is no direct indication that the destruction and bones were discovered at that time since “was” is singular and as such presumably refers to “land” and not “bones” and reflects the discovery of the land, not the bones and destruction.

Alma 22:30–31

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

* *The original Book of Mormon text indicates “was” instead of “is.”*

The “they” in the “they called” clause refers to the later Nephites, who called the land “Desolation,” not the people of Zarahemla (Alma 22:30). It is not specifically known when the people of Zarahemla arrived, but based on the identity of Mulek as one of the sons of Zedekiah (Helaman 8:21), a likely arrival date would be circa 580 to 560 BC. The text does not indicate how long the people of Mulek remained in the land that would later be called Desolation since Mulek then came up into the “south wilderness,” which was later called the land of Bountiful. Mosiah 25:2 seems to indicate that not all of the people that landed with Mulek came up into the south wilderness at that time:

Mosiah 25:2

Now there were not so many of the children of Nephi, or so many of those who were descendants of Nephi, as there were of the people of Zarahemla, who was a descendant of Mulek, and those who came with him into the wilderness.

The text does not mention that Mulek himself moved to the south wilderness, so based on a reasonable lifespan for Mulek, the people of Zarahemla would still have been in the area later known as Desolation in 540 BC. Based on the Book of Mormon readings so far, there is no clear indication that the people of Zarahemla observed the ruins and destruction for which the land of Desolation was named. The Book of Mormon does indicate that the last king of the Jaredites, Coriantumr₂, visited the people of Zarahemla for a period of nine “moons” but does not say exactly when that occurred, although it was likely while they were in the south wilderness since they may have moved to avoid the Jaredite conflict. Ether 13:21 does indicate that Coriantumr₂ would receive a burial by “another people receiving the land for their inheritance,” indicating that he died at the end of the nine-moon period with the people of Zarahemla.

It is clear from later references in the Book of Mormon that the land of Zarahemla was not part of the land Bountiful. The people of Zarahemla had moved from the south wilderness to the land of Zarahemla sometime before 209 BC, when they were joined by Mosiah₁ and his people. Mosiah₁ died in approximately 164 BC, so we know that sometime between 209 and 164 BC, a large stone was brought that was engraved with the description of Coriantumr₂ and the “slain of his people” (Omni 1:21). Amaleki, who recounts this story and then indicates that he had a knowledge that the “bones” of Coriantumr₂’s people “lay scattered in the land northward.” It is not clear if that knowledge came from what may have been on the stone, if those that brought the stone had observed something, or if he had knowledge from some other source.

A later group sent out by the Limhites from the land of Nephi in about 128 BC also observed the bones and destruction but initially thought that they belonged to the people of Zarahemla and apparently had no knowledge

of the ruins and bones of the Jaredites, which indicates that Amaleki's knowledge of the bones postdated the departure of Zeniff (the founder of the Limhites) in about 179 BC. So the earliest date for knowledge by the Nephites and the people of Zarahemla regarding the destruction of the Jaredites was around 180 BC. By way of note, the source of the various dates during this timeframe were determined by the dates provided in the Caractors Document (Grover 2015; there is an erratum in this source that corrects the date of arrival of the large stone). More details of the Coriantumr₂ stone chronology are discussed later.

So what is the purpose of this discussion (other than having a more exact understanding of chronology)? It was to determine the point in time beyond which the Olmec cities were known to be abandoned so as to better define the boundaries of the land of Desolation. At this point, the date abandonment was observed is around 180 BC.

Some Olmec cities and other locations, with the periods of their formation and abandonment, are:

El Manatí, 1700–1200 BC

La Merced, 1510–1200 BC

San Lorenzo, 1750–400 BC (final population was gone sometime between 300 BC–50 BC)

Las Limas, 1200–1000 BC

Laguna de los Cerros, 1400–1000 BC

Llano de Júcaro, 1400–1000 BC

La Venta, 100–400 BC

Tres Zapotes, 1000 BC–1000 AD

Tuxtla Mountains

Rio Catemaco Drainage (Vanderwarker 2006)

Matacapán, 1400–1000 BC

La Joya, 1400 BC–300 AD

Chiuniapan de Abajo, 400 BC–300 AD

Overall Olmec Abandonment

By 400 BC most sites in the eastern Olmec area were abandoned (Pool 2007, 243–46). During the Late Formative period, starting in 400 BC, beginning a few kilometers north of Laguna de los Cerros, the number of occupied sites increased dramatically. In the central Tuxtla Mountains, the population dipped only slightly after 400 BC. On the western margin of the Tuxtla Mountains, the settlement sites and patterns became larger and more numerous after 400 BC, although as part of a modified culture called the Epi-Olmec. The population centers of the Epi-Olmec are shown in figure 67.



Figure 67. Epi-Olmec population centers. (www.wikipedia.org 2016b)

Also of local effect during the Late Formative period, 400 BC–100 AD, there were also volcanic eruptions noted north of Lake Catemaco, with ash deposition to the central Tuxtlas which affected La Joya and Maticapan, some of which occurred prior to 180 BC (Santley et al. 2000). That the description of the destruction includes the bones of beasts and other animals such as birds and reptiles indicates burial by volcanic eruption and may be of some help in drawing the northern boundary of the land of Desolation. Ether 7:6 indicates that the Jaredite land of Moron was near the land Desolation.

The scope of this work is limited to the land northward and its close environs; however, it is necessary to look at various boundaries at the southern extent of the land northward and also somewhat into the land southward in order to determine the probable boundary between the land northward and the land southward, as well as the southern boundary of the land of Desolation.

The following boundaries and features are important to determine:

1. Southern extent of the Olmec/Jaredite civilization
2. The narrow neck
3. The boundary between the land Bountiful and the land Desolation
4. Location of the line (river) Bountiful

Southern Extent of the Olmec/Jaredite Civilization

The geographical extent of the Olmec/Jaredite civilization is important in determining the northern extent of the land Bountiful. Bountiful “came into the land which had been peopled and been destroyed,” so at least part of the Bountiful boundary lies within that area. In addition, since the land of Desolation apparently takes its name from the presence of abandoned Olmec/Jaredite sites, the Olmec boundary will be helpful in delimiting the boundary of the land of Desolation.

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

Figure 68 shows a map of the principal sites that are clearly Olmec. In trying to draw a line on the map, it is clear that there is no line that can be drawn that will be a precise cultural boundary; it will always be an approximate zone where one culture grades into another or peters out. On the Gulf of Mexico side of the Isthmus of Tehuantepec, somewhere just east of La Venta, would be an approximate line. On the Pacific side of the Isthmus of Tehuantepec, two sites, Tepalcate and Laguna Zope, are included as Olmec. Most do not consider them fully Olmec; however, they are considered to have the same cultural tradition as the Olmec (Winter et al. 2017, 193). These sites were also not abandoned at the time of the Olmec demise, so this very western boundary is considered tentative, lacking other correlations. The area to the southwest of Laguna Zope, along the Pacific coast, is called the Soconusco, and although there were some Olmec influence and enclaves in the area, the predominant cultures in this region are considered distinct entities with significantly different lifestyles and material culture (Clark and Pye 2011, 33).



Figure 68. Olmec cultural boundaries.

The Narrow Neck

On the east, based on the description in Ether of the opening of the land southward as a hunting preserve, the great city of Lib₁ (La Venta) was “by” the narrow neck (Ether 10:20):

Ether 10: 19–20

19 And it came to pass that Lib also did that which was good in the sight of the Lord. And in the days of Lib the poisonous serpents were destroyed. Wherefore they did go into the land southward, to hunt food for the people of the land, for the land was covered with animals of the forest. And Lib also himself became a great hunter.

20 And they built a great city by the narrow neck of land, by the place where the sea divides the land.

On the west, Hagoth launched ships by the “narrow neck” into the west sea, which launching place is on the borders of the land Bountiful and “by” the land Desolation.

Alma 63:5

And it came to pass that Hagoth, he being an exceedingly curious man, therefore he went forth and built him an exceedingly large ship, on the borders of the land Bountiful, by the land Desolation, and launched it forth into the west sea, by the narrow neck which led into the land northward.

The most reasonable location for the “narrow neck” is the narrowest point on the Isthmus of Tehuantepec. The term “small neck” appears once in the Book of Mormon and appears to be in proximity to the “narrow neck” since it is also located near the border between the land northward and the land southward. The reference to the “small neck” occurs at the tail end of a discussion of the boundaries of the Nephite polity:

Alma 22:29–32

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus the land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (was)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

** The original Book of Mormon text has “was” instead of “is.”*

32 And now, it was only the distance of a day and a half’s journey for a Nephite, on the line Bountiful and the land Desolation, from the east to the west sea; and thus the land of Nephi and the land of Zarahemla were nearly surrounded by water, there being a small neck of land between the land northward and the land southward.

Remembering that a line is a river, verse 32 requires, (since the Nephite polity is described as being bounded by water), that the “small neck” is the only area that is not considered to be “water.” The punctuation of the Book of Mormon was not original, and removing the comma after “Nephite” renders the passage “a day and a half’s journey for a Nephite on the line (river) Bountiful and the land Desolation,” which indicates travel on a significant river through much of the isthmus and then the remainder through a portion of the land Desolation.

The location of this measure begins at the east sea (at least that is a reasonable interpretation), proceeds on the River Bountiful and then at some point through a portion of the land Desolation, and then ends at the west sea. The natural fit at the narrowest point of the Isthmus of Tehuantepec that matches the Book of Mormon is the River Bountiful (interpreting “line Bountiful” as the Coatzacoalcos River). Starting on the east sea (Gulf of Mexico) at the mouth of the Coatzacoalcos River, “a Nephite” would proceed upriver to its headwaters. The “small neck” would be up in the higher elevation of the Chivela Pass, along the ridgeline that divides the Pacific-side hydrological drainage from the Gulf of Mexico side (see figure 69) after the tributary headwaters of the Coatzacoalcos River are reached. This ridgeline constituting the “small neck,” which runs east and west, is located approximately two miles south of the small town Santiago Izaltepec. Proceeding down from the ridgeline, toward the Pacific Ocean, one reaches the west sea (Pacific Ocean).

This distance journey down from the pass can also utilize a river passage or route (following tributaries of the Chicapa River) to arrive at the west sea. This path is consistent with the notion that the “small neck” consisting of the pass’s ridgeline is the only section that does not involve a water boundary. That the passage beyond the River Bountiful is described as being in the land of Desolation further delineates where the land of Desolation sits west of the headwaters of the River Bountiful.

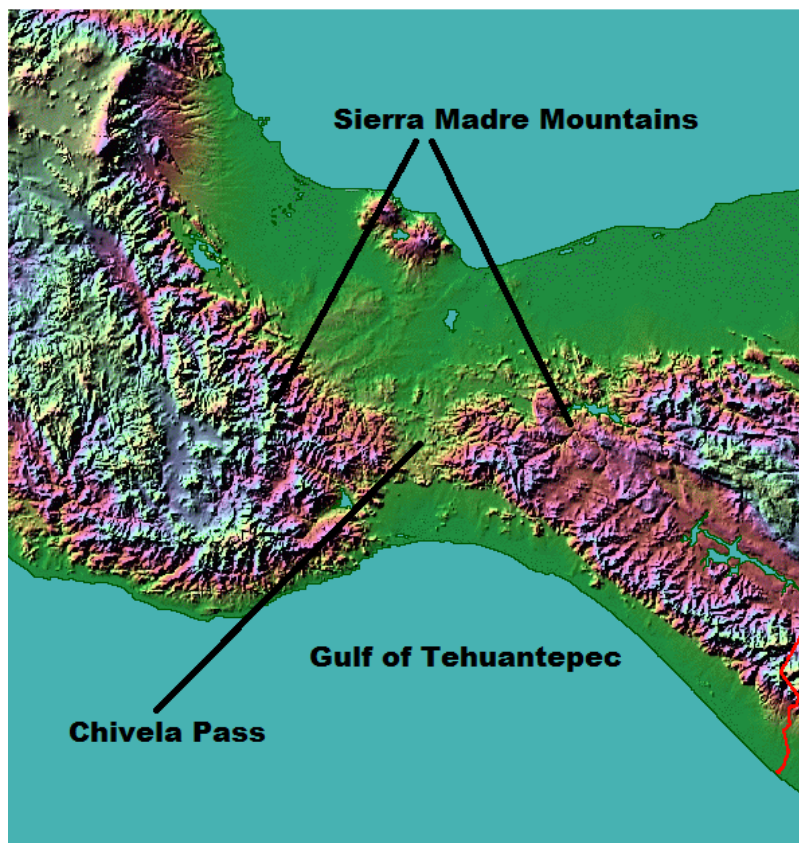


Figure 69. Diagram showing Chivela Pass.

Figure 70 shows the path to go from one side of the “narrow neck” to the other that was a day and a half’s journey for a Nephite. The location of Hagoth’s launch area, shown in figure 70, at the lagoon complex (although it likely had a different configuration in his day) is also consistent with the description that it was within the land of Bountiful, specifically “on the borders of the land Bountiful” but still “by the land Desolation” and “by the narrow neck which led into the land northward.”



Figure 70. Path across the “narrow neck” along the River Bountiful (blue) and through a portion of the land of Desolation (green) and through the “small neck” (orange).

The Boundary between the Land Bountiful and the Land Desolation and the River Bountiful

Assuming the River Bountiful is the Coatzacoalcos River and serves as a portion of the northwestern boundary of the land Bountiful is consistent with the text, which describes the boundary as a river between the land Bountiful and the land Desolation:

3 Nephi 3:23

And the land which was appointed was the land of Zarahemla, and the land which was between the land Zarahemla and the land Bountiful, yea, to the line which was between the land Bountiful and the land Desolation.

This boundary is also consistent with the description that a portion of the Olmec/Jaredite territory was contained in the land Bountiful, which the text indicates was “so far northward that it came into the land which had been peopled and destroyed”:

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

As can be seen in figure 70, some of the abandoned Olmec sites (La Venta, Arroyo Pesquero, Los Soldados, and El Manatí) are located east and southeast of the River Bountiful and are thus in the land of Bountiful, just as is indicated in the scripture.

Alma 22:29–30 also reiterates what is indicated in 3 Nephi 3:23: the land of Desolation and the land of Bountiful border each other. Alma 22:33 identifies another important parameter of the boundary of the land Bountiful—that the land of Bountiful extends from the east to the west sea:

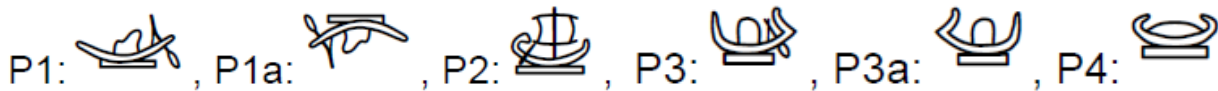
Alma 22:33

And it came to pass that the Nephites had inhabited the land Bountiful, even from the east unto the west sea, and thus the Nephites in their wisdom, with their guards and their armies, had hemmed in the Lamanites on the south, that thereby they should have no more possession on the north, that they might not overrun the land northward.

Before proceeding further, it is useful to look more in detail at the distance identified across the narrow neck.

Rivers as Lines

As has already been mentioned, “line” in the Book of Mormon is a reference to a river; the word is mentioned only four times in the Book of Mormon, all in reference to rivers. The River Sidon is not mentioned as a “line,” and it is fairly obvious what the difference is: there is no indication that the River Sidon ever served as a boundary between nations or lands, while the other two rivers called “lines” did. In addition, it is clear from the river directional glyphs found in the Caractors Document (Grover 2015) that the descriptor of “line” is perfectly appropriate, since a river is represented by a line in the Caractors glyphs. In all Egyptian hieroglyphs involving boats, the river is also represented as a line, even for capsized boats:




Finally, there is no mention of a “line” when dealing with the west side of the land Bountiful, in the land of Desolation, or otherwise in the land northward.

The interpretation of the word “line” as a river resolves the long debate surrounding Alma 22:32, which indicates that “a Nephite” can traverse the narrow neck in a day and a half.

Some have tried to calculate the average running speed of a Nephite needed to traverse the 140-mile or so neck of land across the Isthmus of Tehuantepec. What everyone has ignored is that the Book of Mormon doesn’t say that he ran—it says that he traveled and specifically journeyed (for a portion of the trip) “on the line,” or on the river. It also doesn’t say he traveled alone; he could have taken a boat going downriver or upriver, depending on the direction being traveled. There is mention of cargo ships in the Book of Mormon, so there were probably boats available on the River Bountiful. At 4–5 miles per hour in a flatwater canoe, half the distance could be traversed in 16 hours, accounting for river meanders, and if timed right, a Nephite could even sleep all night in the boat and then traverse the remaining 60 miles during the next 20 hours at a rate of 3.5 miles per hour, not an unreasonable brisk walking speed; this scenario also assumes that there is no need to go from beach to beach. A portion of the travel down the west slope of the isthmus could also be made by going downriver in a canoe at a much faster pace than walking or running.

Anciently, Egypt was divided into administrative districts, or provinces, called *sepat* (*spʒt*). Rivers were almost exclusively used as the boundaries between *sepats*, or points along the main Nile River (see figure 38).

The hieroglyph known as Gardiner Number Aa-8 is the primary hieroglyph that constitutes the word *sp3t* in its simplest form, and it is nearly identical to this form in the hieratic:

Aa8: 

The form is itself a line and so is consistent with the Book of Mormon translation of a river as a “line.” It also is the primary glyph in the Egyptian word for “desert edge,” *ḏ*, and would be a probable candidate, because of its simplicity, for the originating glyph for the word “borders” in the Book of Mormon.

“Line” would also be an appropriate translation into English for a “river that serves as a boundary,” since “line” in the Oxford English Dictionary (2015) is defined in part as “track, course, direction” and gives as an example a “river line,” describing a defensive military boundary.

Discussion of Units of Distance

It is tempting to jump to the conclusion that the term “day’s journey” is a standard unit of measured distance instead of a time-unit of distance, a time-unit being dependent on the time it takes for the individuals traveling to cover the given distance (e.g., a large group of men, women, and children crossing a distance versus an individual Nephite soldier delivering critical dispatches). There are many mentions of travel in relation to days in the Book of Mormon: 1 Nephi preface, 2:6, 16:13, 16:15, 16:17, 16:33, 18:9, 18:13, 18:14, 18:15, 18:23; 2 Nephi 5:7; Mosiah 7:4, 7:5, 8:8, 9:4, 22:13, 22:16, 23:3, 23:30, 24:20, 24:24–25; Alma 2:19, 8:6, 17:9, 22:32, 56:4; Helaman 4:7; and Ether 6:11, 9:3. Of all these passages, only five contain the term “day’s journey” or its equivalent (1 Nephi preface; Mosiah 23:3; Alma 8:6, 22:32; and Helaman 4:7). One would expect consistent use of the term “day’s journey” if it was a standard unit of distance, but that is not the case. In addition, the term was used in the 1 Nephi preface, and later in the text, the exact same trip is recounted as they “traveled three days” (1 Nephi 2:6), which does not support a distance-unit term. All of the references for day’s journeys in the Book of Mormon except for two (Alma 22:32; Helaman 4:7) refer to specific individuals and groups of people actual traveling on a specific trip. These two descriptions of boundary lengths do not involve the actual travel of specific individuals or groups and include the term “for a Nephite”—this reference to a single, individual traveler indicates a time period of travel distance unique to the particular traveler(s), not a standard unit of distance.

Narrow Pass

The “narrow pass” is identified by Sorenson as a geographic feature (see figure 42) that consists of a raised ridge or series of small connected hills that commences just west of the Coatzacoalcos River and runs in a generally western direction through the town of Chinameca and on westward. The narrow pass is described as being within the “borders of the land of Desolation” (Alma 50:34). This geographic location is reasonable and conforms with the verses that mention it (Alma 50:34, 52:9; Mormon 3:5).

Alma 50:34

And it came to pass that they did not head them until they had come to the borders of the land Desolation; and there they did head them, by the narrow pass which led by the sea into the land northward, yea, by the sea, on the west and on the east.

The last phrase is a bit confusing, but remembering that there was virtually no punctuation in the original dictation of the Book of Mormon, this verse could be interpreted to mean that the narrow pass was by the sea and ran in an east-west direction or, alternatively, that they were “headed” at both ends of the narrow pass.

A “narrow passage” is referred to in Mormon 2:29. While it may be an alternative term for the “narrow pass,” it is also a workable possibility that the term referred to access across the “small neck” in the southern portion of the Isthmus of Tehuantepec.

The Boundary between the Land Northward and the Land Southward

Having defined the Olmec/Jaredite cultural boundary, the “narrow neck,” and the boundary between the land Desolation and the land Bountiful, the question still remains as to what is the boundary line between the land northward and the land southward. Could it be either of these or something different? Many people just assume that the “narrow neck” divides the land northward from the land southward. Instead of making this kind of an assumption, it is necessary to go to the Book of Mormon text, and there is nothing there that indicates the “narrow neck” to be the boundary.

The only land mentioned south of the land of Desolation is the land of Bountiful. The land Bountiful was previously known as, or was at least part of, the wilderness referred to in Jaredite times as the land “covered with animals of the forest” (Ether 10:19), where the Jaredites at the time of Lib₁ hunted for food and preserved “the land southward” for the hunting of game, which is likely the reason it was named Bountiful. Alma 22:31 mentions that the animals had migrated from the land northward to the land southward to get food, which seems to be consistent with what happened anciently in Jaredite times under king Heth when there was a famine (and poisonous serpents) and when the flocks of the Jaredites “fled into the land southward” (Ether 9:32).

This discussion, and the discussions surrounding the location of the great city built by Lib₁ as La Venta and the land southward as a preserve, plausibly indicate that La Venta was at or just inside the land northward boundary.

Starting on the east sea, the description of the great city of Lib₁ (La Venta) places it in the land northward, just on the boundary with the land southward, adjacent to the game preserve (discussed earlier). At least on the east sea, the boundary between the land northward and the land southward does not align with the “narrow neck” or the River Coatzacoalcos but looks to be the Olmec cultural boundary approximately at the outfall of the old River Bari. There is one set of scriptures that better establishes the boundary between the land northward and the land southward and is also consistent with the Olmec/Jaredite cultural boundary line:

Helaman 4:5–8

5 And in the fifty and seventh year they did come down against the Nephites to battle, and they did commence the work of death; yea, insomuch that in the fifty and eighth year of the reign of the judges they succeeded in obtaining possession of the land of Zarahemla; yea, and also all the lands, even unto the land which was near the land Bountiful.

6 And the Nephites and the armies of Moronihah were driven even into the land of Bountiful;

7 And there they did fortify against the Lamanites, from the west sea, even unto the east; it being a day's journey for a Nephite, on the line which they had fortified and stationed their armies to defend their north country.

8 And thus those dissenters of the Nephites, with the help of a numerous army of the Lamanites, had obtained all the possession of the Nephites which was in the land southward. And all this was done in the fifty and eighth and ninth years of the reign of the judges.

These verses establish a Nephite defensive position or line. One important element is the statement that, with the Nephites having retreated to this defensive position, the Lamanites “obtained all the possession of the Nephites which was in the land southward.” It is possible that perhaps some minor areas of the land northward had fallen as well; however, the verses don’t say that, and the language that says they were defending their “north country,” indicates that the land northward was still in Nephite hands. At a minimum, determining the location of this line and the area northwards of it will determine area that would not be considered to be in the land southward.

Details of this defensive position include, first, that the defensive position went from the west sea all the way to the east sea (at least under the most common textual interpretation). This is also the interpretation that would probably be required if the Nephites were to leave no defensive gap for the Lamanites to cross to attack the land northwards. Second, the defensive line was at least substantially within the boundaries of the land Bountiful since the armies “were driven *even into* the land Bountiful.” Third, the defensive position involved, at least in part, a “line,” or river, that covered a distance of a “day’s journey for a Nephite.” It is tempting to try to interpret this verse to the effect that the entire defensive line from the east sea to the west sea was a day’s journey, but that is an impossible reading since the narrowest point, the “narrow neck,” is a day and a half’s journey. Since we do have an approximate distance of 140 miles for the “narrow neck,” equal to a day and a half’s journey, a reasonable distance for the river involved in the defensive line, listed as a day’s journey, would be approximately 90–95 miles.

The only real candidate for a portion of a river of that length in the land of Bountiful is the Rio Uxpanapa. The defensive line could have likely included part of the Bari River (Tonala), so more as the crow flies the length would be approximate the 90-95 miles, or just the section of the Uxpanapa River that is part of the defensive line, considering that the river, including twists and turns, also is approximately that distance. Under the premise that a preferred military defensive line would have involved rivers and/or elevated terrain, and also considering that a reasonable boundary for the lands northward and southward would be the same as the Olmec/Jaredite cultural boundary, the location of this Nephite defensive boundary is identified in figure 71.



Figure 71. Nephite line of defense along rivers (red) and overland (purple).

With these boundaries identified, it is now possible to construct a consistent map of the land northward showing the Nephite lands and the boundary between the land northward and the land southward, as determined by the Nephites (see figure 72).

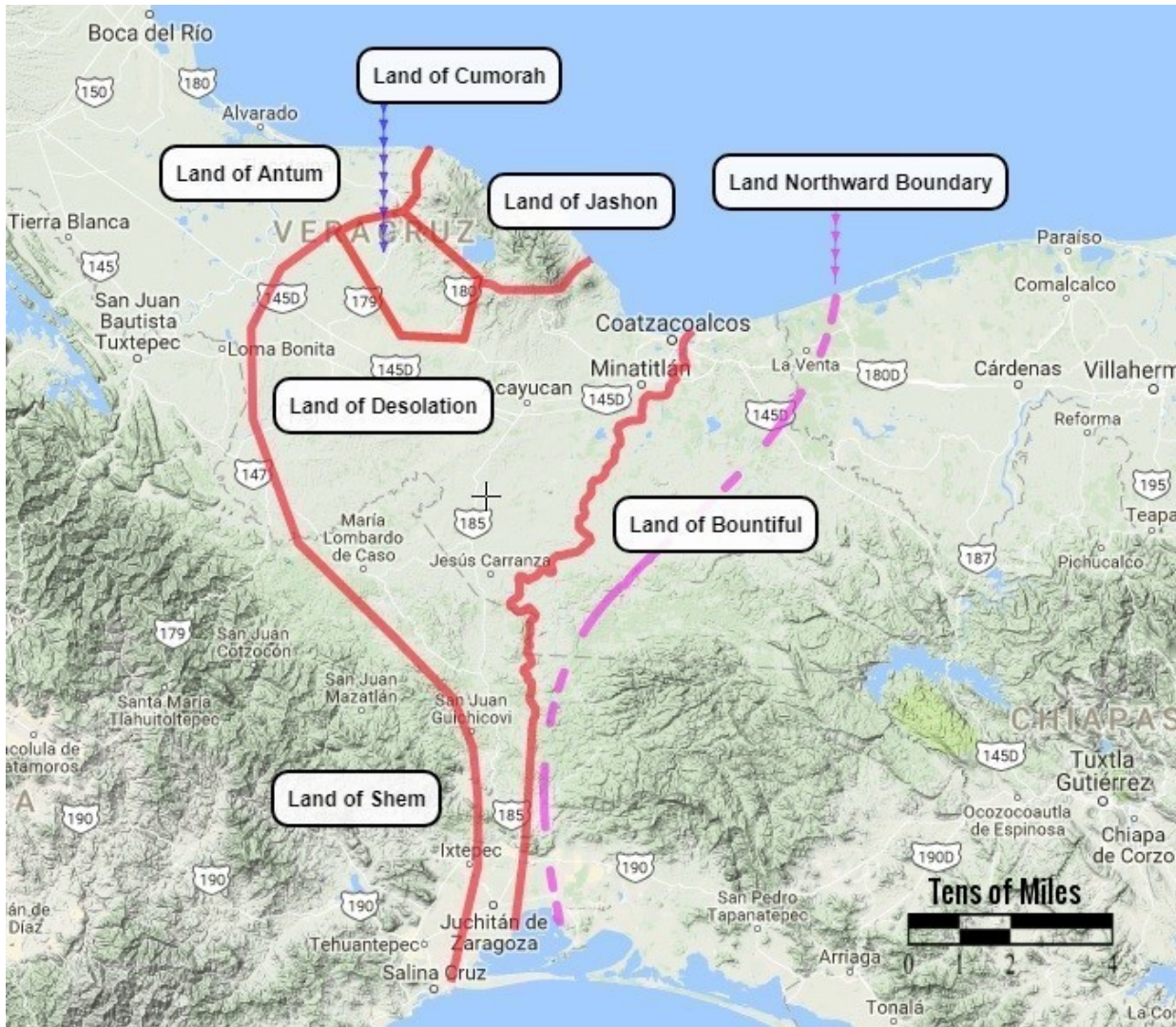


Figure 72. Nephite lands in the land northward and the land northward boundary.

Alma 22:29–31

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus the land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

** The original Book of Mormon text has "was" instead of "is."*

Alma 50:34

And it came to pass that they did not head them until they had come to the borders of the land Desolation; and there they did head them, by the narrow pass which led by the sea into the land northward, yea, by the sea, on the west and on the east.

Mormon 3:5, 7–8

5 And it came to pass that I did cause my people that they should gather themselves together at the land Desolation, to a city which was in the borders, by the narrow pass which led into the land southward.

7 And it came to pass that in the three hundred and sixty and first year the Lamanites did come down to the city of Desolation to battle against us; and it came to pass that in that year we did beat them, insomuch that they did return to their own lands again.

8 And in the three hundred and sixty and second year they did come down again to battle. And we did beat them again, and did slay a great number of them, and their dead were cast into the sea.

Mormon 4:1–3

1 And now it came to pass that in the three hundred and sixty and third year the Nephites did go up with their armies to battle against the Lamanites, out of the land Desolation.

2 And it came to pass that the armies of the Nephites were driven back again to the land of Desolation. And while they were yet weary, a fresh army of the Lamanites did come upon them; and they had a sore battle, insomuch that the Lamanites did take possession of the city Desolation, and did slay many of the Nephites, and did take many prisoners.

3 And the remainder did flee and join the inhabitants of the city Teancum. Now the city Teancum lay in the borders by the seashore; and it was also near the city Desolation.

North Country and North Countries (and South Countries)

As part of a dearth among the Jaredites, there was a migration of snakes and animals "towards the land southward," which was called by the Nephites Zarahemla" (Ether 10:31). The snakes stopped at a certain point and hedged "up the way so that the people could not pass" (Ether 9:33). It has been postulated that the likely location where these snakes could have effectively blocked passage of the people is the "narrow pass" or passage discussed later in the Book of Mormon in Jaredite times (Sorenson 1992, 324; see figure 42). Moroni₂ discusses that after the people repented, "there began to be fruit in the north countries, and in all the countries round about" (Ether 9:35).

So what are the "north countries?" Sorenson (1992) indicates it was Moroni₂'s unique way of referring to the land northward (307). However, Moroni₂ does use the term "land northward" in Ether 10:21, so it may be something different; likely the "north country" (Ether 1:1) or "north countries" is a subset of the "land northward," but perhaps not. This is a good point to try to determine, if we can, what is the dividing line (if there was a defined one) between the land northward and the land southward around the narrow neck.

We know that the Jaredites were destroyed on the face of the "north country" (Ether 1:1). In a later Nephite/Lamanite battle account, the line defining the "north country" is also defined:

Helaman 4:5–8

5 And in the fifty and seventh year they did come down against the Nephites to battle, and they did commence the work of death; yea, insomuch that in the fifty and eighth year of the reign of the judges they succeeded in obtaining possession of the land of Zarahemla; yea, and also all the lands, even unto the land which was near the land Bountiful.

6 And the Nephites and the armies of Moronihah were driven even into the land of Bountiful;

7 And there they did fortify against the Lamanites, from the west sea, even unto the east; it being a day's journey for a Nephite, on the line which they had fortified and stationed their armies to defend their north country.

8 And thus those dissenters of the Nephites, with the help of a numerous army of the Lamanites, had obtained all the possession of the Nephites which was in the land southward. And all this was done in the fifty and eighth and ninth years of the reign of the judges.

1. From this we can infer that the “north country” must be located in the land northward since all of the Nephite-controlled area in the land southward was lost, yet the Nephites were still defending the “north country,” so, by default, the north country has to be in the land northward.
2. We can also determine that at least a portion of the land Bountiful is considered part of the land northward, since the defensive line was established “into the land of Bountiful.” The portion of Bountiful being defended was not part of the land southward, since all of the land southward was lost.
3. We can also determine that at least a portion of Bountiful is likely in the “north country,” since the final defensive line established “even into the land of Bountiful” was somewhere within the land Bountiful on a “line” (river). The text seems to indicate that the defensive line was the boundary line of the “north country,” which included a part of Bountiful, although it is possible that the “north country” lies further into Nephite territory and the defensive line is in advance of the borders of the north country.
4. The text also indicates an unnamed land adjacent to (likely south of) the land of Bountiful; this land likely lies between the land Zarahemla and the land of Bountiful.

The conclusion that can be reached is that the “north country” is at least a subset within the “land northward.” Based on the boundary lines established here, the defensive line looks to be entirely within the land Bountiful, so the singular “north country” being discussed here is the land of Bountiful. The side of Bountiful that falls within the land northward would constitute the “north country.”

The “north countries” that Moroni₂ refers to in the Jaredite context is a geographical subset of the land northward, since the term “land northward” is used in the Book of Mormon as encompassing the extreme northward migrations to the valley of Mexico and Teotihuacan, which, as previously discussed, were clearly well beyond the northern boundary of Nephite-controlled lands or “countries.” *Country* or *countries*, as used by Mormon and Moroni₂, refer to the land or lands (or portions of a land in the case of Bountiful). The north countries of the Nephites would constitute the following lands:

- the portion of Bountiful in the land northward
- Desolation
- Cumorah
- Jashon
- Shem (questionable)
- Antum

Moroni₂ appears to be using his Nephite definition of these same north countries when referring to the Jaredite timeframe but states “north countries, and in all the countries round about,” which would indicate there are some

areas that were subject to Jaredite/Olmec control that fell outside of the Nephite lands enumerated above, which would indicate that the lands of Antum, Desolation, and perhaps Shem had northern boundaries south of areas with northern Olmec influence or control. The fact that a land is considered a “country” is also a clue as to Moroni₂'s whereabouts when he abridged the Book of Ether:

Ether 1:1

And now I, Moroni, proceed to give an account of those ancient inhabitants who were destroyed by the hand of the Lord upon the face of this north country.

This verse indicates Moroni₂ was writing from a singular land (country), either the land of Desolation or the north portion of the land of Bountiful, since these are the areas where the Jaredites were destroyed. While quite speculative, it is mentioned that Moroni₂ was ministering to some group of righteous people (Moroni 8:1) when pretty much all the Nephites were wicked, so it might be conjectured he was ministering to the descendants of the Lamanite people of Ammon who had migrated into the land northward.

One relatively straightforward observation from the previous geographical analysis is that the terms “land northward” and “land southward” derive from a Jaredite/Olmec directional system. Their boundary corresponds with a Jaredite/Olmec cultural boundary and does not correspond with the Nephite land boundaries. While not within the scope of this work, it follows that the Book of Mormon directional system likely consists of layers of directional systems incorporated from prior cultures, as well as a Nephite system that appears to be partially based on the Egyptian directional system that utilized upriver and downriver. At least with regard to the Jaredite/Olmec system, the only directions attributable from the Jaredite recounting are northward, southward, and eastward. Moroni₂ mentions the “north country(ies)” but that terminology is from his times, not from Jaredite times.

The Caractors Document confirms differences in the underlying directional system as it contains terms for “east” and “west” and also contains a term for “west” that is referring to the land of Desolation. It also contains Egyptian directional glyphs derived from the river Nile system, where the directions are akin to “upriver” (south in Egypt) and “downriver” (north in Egypt) (Grover 2015, 151–52).

The first mention of a “land northward” was after the Nephites had encountered the people of Mulek who had originated from the land northward (ca. 170 BC) (Omni 1:21). Excluding obvious commentary by Mormon no mention is made of the “land southward” until after the land northward began to be populated with Nephites (circa 48 BC, Helaman 3:8) and we are also told at this juncture that the Nephites named a “land north” Mulek, and a “land south” Lehi, however the terms “land northward” and “land southward” continue to be used for the rest of the history of the Book of Mormon. The land of Mulek is not referred to in any other place in the Book of Mormon, perhaps this is synonymous with Moroni₂'s “north country(ies).”

Mentioned concurrently with the “north countries” are the “south countries”:

Mormon 6:15

And it came to pass that there were ten more who did fall by the sword, with their ten thousand each; yea, even all my people, save it were those twenty and four who were with me, and also a few who had escaped into the south countries, and a few who had deserted over unto the Lamanites, had fallen; and their flesh, and bones, and blood lay upon the face of the earth, being left by the hands of those who slew them to molder upon the land, and to crumble and to return to their mother earth.

Mormon 8:2

And now it came to pass that after the great and tremendous battle at Cumorah, behold, the Nephites who had escaped into the country southward were hunted by the Lamanites, until they were all destroyed.

There is no specific geographic orientation identified for the “south countries.” Similar to the north country designation, it may be that Mormon 8:2 indicates that there is a single country that is part of the larger “south countries.” Thus, it is not clear if all the Nephites referenced in Mormon 6:15 who fled to the “south countries” are completely accounted for with those that were hunted down and killed in the “country southward.”

“Land North” and “Land South”

Another location related to the “land northward” and the “north countries” is the “land north” and the related “land south.”

Helaman 6:9–10

9 And it came to pass that they became exceedingly rich, both the Lamanites and the Nephites; and they did have an exceeding plenty of gold, and of silver, and of all manner of precious metals, both in **the land south and in the land north**.

10 Now the **land south** was called Lehi and the **land north** was called Mulek, which was after the son of Zedekiah; for the Lord did bring Mulek into the **land north**, and Lehi into the **land south**.

Helaman 6:12

They did raise grain in abundance, both in the north and in the south; and they did flourish exceedingly, both in the north and in the south. And they did multiply and wax exceedingly strong in the land. And they did raise many flocks and herds, yea, many fatlings.

3 Nephi 1:17

And they began to know that the Son of God must shortly appear; yea, in fine, all the people upon the face of the whole earth from the west to the east, both in **the land north and in the land south**, were so exceedingly astonished that they fell to the earth.

3 Nephi 4:1

And it came to pass that in the latter end of the eighteenth year those armies of robbers had prepared for battle, and began to come down and to sally forth from the hills, and out of the mountains, and the wilderness, and their strongholds, and their secret places, and began to take possession of the lands, both

which were in **the land south** and which were in **the land north**, and began to take possession of all the lands which had been deserted by the Nephites, and the cities which had been left desolate.

3 Nephi 6:2

And it came to pass that they had not eaten up all their provisions; therefore they did take with them all that they had not devoured, of all their grain of every kind, and their gold, and their silver, and all their precious things, and they did return to their **own lands** and their possessions, both on the **north and on the south**, both on the land northward and on the land southward.

Other verses that may refer or correlate to the land north and land south division are Mosiah 27:6; Alma 22:33, 46:17, 50:15, 52:15, 56:22; and Helaman 1:23. There is little information as to the location of the dividing line between these geographical entities, although it does appear, based on 3 Nephi 6:2, that they are different geographical entities from the land northward and the land southward. Complicating this further is the name of what appears to be a local “land” named Lehi (Alma 50:26–27).

There is also likely an additional “country” located in the land northward. After the final battle, some Nephites had escaped into the “country southward” (Mormon 8:2). Moroni₂ does not choose to call it the land southward. Since the land southward was apparently full of Lamanites at this point in time, a flight of escape there does not make sense. The country that was southward would be a location southward from the final battle, so could presumably still be in the land northward. Based on the final battle location they may have fled into the mountains in Zapotec-held territory south of the Gulf Coast lowlands. It was not exactly a safe haven, as there is evidence of Gadiantons (Teotihuacanos) in Monte Alban during that time, but it did not appear that there was the ongoing militarism as there was at the time with the Maya. Since they were to be “hunted” by the Lamanites, it seems that it had to be a culture area that was not teeming with Lamanites. It may have been a mountainous wilderness area, but the fact that it is referred to as a “country” and not “wilderness” seems to indicate there was a population of some sort there.

Enumerated Nephite Cities and Features in the Land Northward

The Tower of Sherrizah

The “tower of Sherrizah” and “Sherrizah” are mentioned in an epistle from Mormon to Moroni₂ and are mentioned in context of battle with the Lamanites (Moroni 9: 7, 16–17).

In Hebrew, *Sherrizah* is derived from the biblical name *Sherezer* or *Sharezer*; the Hebrew *shar-eh 'tser* means “prince of fire.” For the word *tower*, some of the potential meanings in Hebrew are *o'fel*, meaning “hill,” or *bakh'an* (also corresponding with the Egyptian *bekhen*, *bakhun*, and *bekhat*), meaning “outlook or tower built on a hill” (Fallows 1922, 1563, 1574, 1674).

Sherrizah also is a constructed compound word from Sumerian. Sherrizah is mentioned at the end of the Book of Mormon in relation to the last battles but is not identified as being a “land” or a “city,” so is likely some sort of geographic feature. One description identifies “the tower of Sherrizah” from which men, women, and children were taken prisoner by the Lamanites. Mormon indicates there were many widows and daughters who remained in Sherrizah who wandered withersoever they could for food, with many old women fainting and dying by the way. This was caused by the carrying away of provisions by the Lamanites and later the Nephite army of Zenephi. Mormon indicates later that the armies of the Lamanites were “betwixt Sherrizah and me” (Moroni 9: 7, 16–17).

Reasonable Sumerian etymological units related to the geography of Sherrizah are:

- še: to call by name
- še: a geometric shape
- šer: reddening, sunburn(?); (to be) bright; brilliance, ray
sir₂-ra, sir₂-re (forms of šer)
- ere: to press, throttle
- ri: to cast, place; to release, let go; to pour out
e-ri (form of ri)
- ri: to be distant
- za: property, estate
- ah: a paste; foam (equivalent to lava)
uh₃-a (form of ah)

Constructed Compound Word: **Sherrizah**

The tower of Sherrizah, which has the Hebrew etymology of a high hill and the “prince of fire,” along with the Sumerian etymological roots, is another fairly straightforward reference to a volcano. The correlation of “prince of fire” with a volcano is a known Mesoamerican concept:

In Aztec mythology, Xiuhtecuhtli [ʃiɪmˈtekˈwt̪i] (“Turquoise Lord” or “Lord of Fire”), was the god of fire, day and heat. He was the lord of volcanoes, the personification of life after death, warmth in cold (fire), light in darkness and food during famine. He was also named Cuezaltzin (“flame”) and Ixcozauhqui and is sometimes considered to be the same as Huehuetēotl (“Old God”), although Xiuhtecuhtli is usually shown as a young deity. His wife was Chalchiuhtlicue. Xiuhtecuhtli is sometimes considered to be a manifestation of Ometecuhtli, the Lord of Duality, and according to the Florentine Codex Xiuhtecuhtli was considered to be mother and father of the Gods, who dwelled in the turquoise enclosure in the center of earth.

The Nahuatl word xihuitl means “year” as well as “turquoise” and “fire”, and Xiuhtecatl was also the god of the year and of time. In the 260-day ritual calendar, the deity was the patron of the day Atl (“Water”) and with the trecena 1 Coatl (“1 Snake”). Xiuhtecuhtli was also one of the nine Lords of the Night and ruled the first hour of the night, named Cipactli (“Alligator”). Xiuhtecuhtli was the patron god of the Aztec emperors, who were regarded as his living embodiment at their enthronement. The deity was also one of the patron gods of the pochteca merchant class. (www.wikipedia.org 2017c)

Since the scope of this book concentrates on the land northward, it is incumbent to determine if the tower of Sherrizah is in the land northward or the land southward—there are volcanos in both. This epistle from Mormon does not identify any other known geographic locations; it does mention Moriantum, where Lamanite daughters were imprisoned, tortured, raped, murdered, and eaten by Nephite warriors (Mormon 9:9).

The epistle does place a Lamanite army led by Aaron as “betwixt” Sherrizah and Mormon (Mormon 9:17). At this point in time, there are at least two battlefronts because Mormon mentions that after the Lamanites plundered Sherrizah, they left survivors of women and children; the army of Zenephi, presumably a separate force of Nephites, also plundered the remaining people of Sherrizah for provisions, leaving many to die of starvation. The concept of at least two battlefronts is supported in that Mormon received this information indirectly from Amoron (presumably a military courier) (Mormon 9:7). It also explains why Mormon would allow anyone under his command to plunder his own people. The fact that he was completely separated and pinned down defensively is the best explanation for the Zenephi plundering.

Prior attempts have been made to chronologically place this epistle from Mormon; Spencer (2016) concluded that 375–80 AD was the likely timeframe, and Miner (1994) concluded 375–76 AD. A variety of factors were considered by each; however, they did not consider the fact that some element of the conflict must have been an offensive battle and taken place in a location with an established Lamanite population where Lamanite daughters could be taken captive. Utilizing these two sources for analysis, it is noted that the active battle periods that could have involved Mormon (Mormon declined to fight for a period of time [Mormon 3:11]) were 326–30 AD, 345–50 AD, 361–62 AD, 375–80 AD, and 384 AD.

Since Mormon was writing to his son Moroni₂, and since Mormon was born in 310 or 311 AD, the 326–30 AD timeframe can be ruled out; Mormon would have been only 16 to 20 years old during that time, and Moroni₂ would not have been born or have been too young to write to. The only battle period that could have involved fighting in Lamanite-held territories was 345–50 AD and is thus the timeframe of the Moroni 9 epistle. The battles after 375 AD were all completely defensive battles in Nephite territory (Mormon 4:16–18). The 361–62 AD battles were all defensive battles at or near the city of Desolation, which was not in Lamanite territory.

So why were Spencer and Miner incorrect in dating the Moroni 9 epistle? Spencer relies solely on Mormon's indication that Mormon had sacred records to deliver to Moroni₂ (Mormon 9:24), and Spencer assumes these records, without any commentary, were the full set of Nephite records retrieved by Mormon in 375 AD. However, there is nothing that indicates that the records referred to in the epistle were the full set of Nephite records. Mormon obtained the large plates of Nephi when he was 24 years of age (Mormon 1:3), in approximately 335 AD. The text indicates that Mormon was afraid he would be killed and needed to pass on the records he was keeping and continue to write the Nephite history. This fact is more consistent with the 345–50 AD timeframe. Mormon may not have even known at this point of his divine task to abridge these plates. As will be discussed later, the large plates of Nephi are referred to in the plural as “records” and so is consistent with Mormon's reference to “records” in Moroni 9:24.

Miner links the epistle of Moroni 8 to the Moroni 9 epistle chronologically, based on the preface of Moroni 9 (which is part of the Original Manuscript of the Book of Mormon) which refers to itself as the “second epistle.” Interestingly, Spencer lists that the Moroni 8 epistle may have occurred during the 345–50 AD timeframe. Miner also identifies a series of parameters extracted from the Moroni 9 epistle that are also consistent with the 345–50 AD timeframe: Mormon was personally involved in battles (Moroni 9:2); the battle was one in which the Nephites “did not conquer” (Moroni 9:2); and Aaron was in charge of a Lamanite army (Moroni 9:17). Miner also requires that Mormon's actual record match his exact language in the Moroni 9 epistle in that there had to be a citation of a “sore battle” and “many prisoners” held by the Lamanites. While not mentioned in these specific terms, there were severe battles and also victory and losses over the Lamanites, potentially to generate prisoners on both sides, during the 345–50 AD battles.

Miner also makes the argument that likely only at the late stage of the battles were the Nephite prisoners of the Lamanites slain and treated inhumanely (Moroni 9:8) and were the Nephites making inhumane sacrifices of their own (Moroni 9:9–10). In fact, the last stages of battle do not indicate any possibility that Nephites took any Lamanite prisoners since the Nephites had no offensive victories. On the Lamanite side, they were practicing genocide—they weren't taking any prisoners or leaving any survivors, as mentioned in Moroni 9. For example, the Nephites whose “flight did not exceed the Lamanites' were swept down and destroyed” (Mormon 5:7). During the 345–50 AD timeframe Mormon states:

Mormon 2:18

And upon the plates of Nephi I did make a full account of all the wickedness and abominations; but upon these plates I did forbear to make a full account of their wickedness and abominations, for behold, a continual scene of wickedness and abominations has been before mine eyes ever since I have been sufficient to behold the ways of man.

It is fairly clear here that the depravity of the Nephites and Lamanites was extensive. In fact, since one would not have expected the epistles of Mormon to be censored as his abridgement was, the depravity mentioned in the Moroni 9 epistle is exactly consistent with the timeframe of Mormon 2:18. Also inconsistent with the final battles is the fact that after the Lamanites left Sherrizah, a Nephite force entered the area (however, no mention is made of a battle). This implies a Lamanite retreat and a Nephite advance, which did not occur in the later battle periods.

Like Spencer, Miner also subscribes to the “all records” theory, adding that there is no record of Moroni₂ receiving any records and that Mormon's intent to deliver records was just before the final battles, implying that the “sacred records” would not have been the large plates of Nephi from that earlier point in history. Miner also reasons that it must have been at a later date since Mormon laments that he “cannot any longer enforce [his] commands” (Moroni 9:18). The earlier battle description in 345–50 AD actually does indicate that he had difficulty getting the Nephites to stand and follow his commands (Mormon 2:23–24). This argument by Miner is in fact an argument against a later

date for the epistle because when Mormon returned to defend his people, they actually were anxious to follow his commands, “for they looked upon me as though I could deliver them from their afflictions” (Mormon 5:1).

At this point, we must return to the question of whether the tower of Sherrizah is in the land northward or in the land southward. The only possibility in the land southward is the El Chichón volcano, but it does not appear to be a good candidate since it is not located near the land northward and land southward border, and thus the area is not consistent with a Lamanite retreat and a Nephite advance. There is no mention of any Nephite advance into the land southward in the description of the 345–50 AD battles (Mormon 2:16–29). Also, under the Sorenson model, the El Chichón volcano would sit within “narrow strip of wilderness,” not a likely place to expect significant populations.

So that leaves us to look at the land northward. As previously mentioned, the Tuxtla Mountains are considered a volcanic complex. Some of the volcanoes there have been long inactive; the principal volcano that is still active is the San Martín volcano. The San Martín volcano has historically exhibited large explosive volcanic events. Other, much smaller cinder-cone volcanoes are abundant from the summit of the San Martín volcano to Lake Catemaco to the southeast. Cinder cones are so named because they consist of pyroclastic debris formed by explosive eruptions consisting of gas-charged lava bubbling or lava fountains from a vent.

The only real possibility in the land northward for Sherrizah is the San Martín volcano, since all other active volcanoes lie too far to the north to be a geographical location in the last battles of the Nephites. It does not appear that any of the cinder cones south of San Martín would be large enough to be considered a “tower.” The San Martín volcano has a central cone, which towers above 5,700 feet. The volcano is also known as Titépetl, which in the Nahuatl language means “fire mountain.”

This location is also consistent with the description given of the Lamanite advance that penetrated the land northward to the land of Jashon, since the San Martín volcano sits within the land of Jashon. While there is no discussion of the Lamanite retreat from the land of Jashon consistent with the description given at Sherrizah, the Lamanites surely did retreat because at the end of the battle period of 340–50 AD, there were no Lamanite-controlled areas within the land northward (Mormon 2:29).

This location is also consistent with the two battlefronts, since Mormon was battling in retreat, finally defending the city and land of Shem near the west sea, while the Lamanite advance occurred adjacent to the east sea. The Moroni 9 epistle states that Mormon had a “sore battle” in which he “did not conquer,” which is consistent with his battle during the retreat to the city of Shem (Mormon 2:20). The location also is consistent with the statement by Mormon that there were Lamanites between him and Sherrizah; in fact, it would be exactly consistent with Mormon just arriving at the city of Shem holed up in a defensive position against surrounding Lamanites. It also explains why Mormon was unable to attempt to remove the records from the hill Shim, even though the Lamanite advance on the east had nearly penetrated to the hill Shim (Mormon 2:17).

Moriantum

The city of Moriantum, since it was a Lamanite settlement, was likely not in the land northward but was probably in the area closer to the east sea since it was involved in the northern (east) front of the 345–50 AD battles.

Cities of Desolation, Teancum, and Boaz

These three cities would appear to be in proximity of each other since they are mentioned in a series of battle sequences, involving Lamanite attacks and Nephite retreats (Mormon 4). Based on the invasion sequence, the city of Desolation lies to the south of both Boaz and Teancum. The first invasion of the Lamanites went through the city

of Desolation and then onto the city of Teancum, which was captured. The second invasion of the Lamanites again came against the city of Desolation, with a battle fought in the land of Desolation. The Nephites were defeated there, then fled to the city of Boaz where they initially had success but were eventually overrun. At this point it appeared to Mormon that the Lamanites “were about to overthrow the land,” so he went to the hill Shim and took up all of the hidden records.

City of Desolation

Under the Sorenson model, the city of Desolation is placed immediately northward of the “narrow passage,” which strategically would seem to be the likely place for the city of Desolation. It is possible that it was situated in the narrow passage or south of the narrow passage. The name itself doesn’t provide any further geographical clues, so the location under the Sorenson model is reasonable.

City of Teancum

The city of Teancum was within the borders by the seashore near and presumably northward of the city of Desolation but was also “near the city Desolation.” It is indicated that the Lamanites “marched forward” to the city of Teancum, implying a northward direction. Unlike Boaz, which by the description of the battle sequence lies outside of the land of Desolation, textually, Teancum is still within the land of Desolation.

The city would probably be assumed to be named after the military leader Teancum, but the name has some geographical etymological clues found within the name, which indicate it is not only by the sea but also may be elevated and be in some proximity to hot springs or other volcanic features:

Sumerian

te: a part of a boat

a: water

a-ni (form of *a*)

an: sky, heaven; upper

an-na-ke_a, *an-na-ka*, *an-na-kam*, *an-kam* (forms of *an*)

KU: hole

kum: (to be) hot

Constructed Compound Word: **Teancum**

Based on these parameters, Teancum is most likely located on the slopes of the San Martin Pajapan mountain. This location would be considered to be on the borders of the sea, is still within the land of Desolation, and is northward of the city of Desolation. The mountain is also an extinct volcano and has a volcanic vent that had some activity in the Quaternary period (see figure 48), which may indicate the possibility of some minor volcanic activity during Book of Mormon times.

City of Boaz/Beaz

The city of Boaz is mentioned in the final Nephite struggle against the Lamanites. The Nephites fled from defeat in the city and land of Desolation to the city of Boaz, where they made a successful defensive stand against the Lamanites; however, they were not so fortunate in the second attack by the Lamanites, where they were driven and slaughtered. Their women and children were again sacrificed unto idols:

Mormon 4:20–22

20 And they fled again from before them, and they came to the city Boaz; and there they did stand against the Lamanites with exceeding boldness, insomuch that the Lamanites did not beat them until they had come again the second time.

21 And when they had come the second time, the Nephites were driven and slaughtered with an exceedingly great slaughter; their women and their children were again sacrificed unto idols.

22 And it came to pass that the Nephites did again flee from before them, taking all the inhabitants with them, both in towns and villages.

It is likely that the correct spelling of *Boaz* is actually *Beaz* since it was originally written as *Beaz* in the Printer's Manuscript before being changed to *Boaz*. The 1830 edition compositor also set it as *Beaz* (Skousen 2009a, 3622).

Beaz is likely the correct spelling considering the events that occurred in relation to the city (as a place for the Nephites to withdraw to a safe place of refuge) and the etymological meaning of the name in biblical Hebrew and Sumerian:

Sumerian

be: to remove; to diminish, reduce; to withdraw

e: to leave, to go out; to remove, take away; to bring out

e₃-a-za, e₃-a-zu (forms of *e*)

Constructed Compound Word: **Beaz(a)**

Hebrew

The particle **ב** (*be*) basically means in, either in a spatial sense, or temporal (within a time frame), and even conditional, predicative and causal (in, as, because of). The verb **בָּא** (*'uz*), meaning to rush or bring into refuge or to seek safety, is possibly related to the verb **אָזַז** (*'azaz*), meaning strong. It occurs a mere half a dozen times (Exodus 9:19, Isaiah 30:2, Jeremiah 4:6). (www.abarim-publications.com 2016)

Since the city of Teancum is not mentioned as part of the second invasion, it is reasonable to assume that *Beaz* was not located in the same direction as Teancum. In addition, since the fall of *Beaz* precipitated the perception that the land where the hill Shim was located was going to fall into Lamanite hands, it would be reasonable to assume that the hill Shim lay in a fairly direct path from the city of *Beaz*. A reasonable location for the city of *Beaz* would be somewhere in the region of the land of Jashon (or perhaps Cumorah) on the southwest side of the Tuxtla Mountains.

City of Jordan

The Jordan River in Israel is mentioned early in the Book of Mormon (1 Nephi 10:9; 2 Nephi 19:1). The Nephite city of Jordan (Mormon 5:3–4) is discussed as a place where the Nephites fled during one of the battles in the final Nephite/Lamanite war. The Nephites were able to successfully defend the city at least twice. The etymology of *Jordan* provides information as to its location:

Hebrew

The Jordan is the famous river of Canaan, which flows from the Sea of Galilee south to the Salt Sea (Genesis 13:10).

The name Jordan comes from the common verb ירד (*yarad*) meaning to go down:

The root-verb ירד (*yarad*) is a very common verb expressing a downward motion: to decline, descend or to go down towards some lower location or to sink into something, etcetera. This root seems to be related to the verb רדה (*rada*), meaning to rule or have dominion.

It's used in all expected ways, from a going down a mountain (Exodus 19:14) to the falling of hail (Exodus 9:18). But it also means a going away from a place of prominence, such as a palace (2 Samuel 11:9). Since one "goes up" to Jerusalem, going away from Jerusalem is described as a "going down" (Judges 1:9).

The final letter *nun* upon which this name ends may be a remnant of the common *waw-nun* extension that personalizes or localizes a root. (www.abarim-publications.com 2016)

Remembering that the letter *j*, while existent in Sumerian, is not transliterated in the current dictionaries, reasonable etymological units for Jordan are:

Sumerian

a: water

a-ur₂, *a-ni*, *a-na* (forms of *a*)

ur: (to be) abundant

ur₃-ra (form of *ur*)

ur: to shut; protection

ur₃-ra, *ur₃-re₂*, *ur₃-re* (forms of *ur*)

da: line, edge, side

da-ni (form of *da*)

dan: (to be) pure, clear; to clean

Constructed Compound Word: **Jordan**

It is fairly straightforward to surmise that the city of Jordan is located on a river that descends from a mountain. In addition, the description of the military situation when Mormon and his army were able to successfully defend the city of Jordan is that the Lamanites were unable to be successful because there were other Nephite "strongholds," which cut off the Lamanites from getting into what Mormon indicated was "the country which lay before us." This would indicate that the city of Jordan was some distance into the land northward, since there were other intervening Nephite cities. The phrase "lay before us" seems to indicate that the city of Jordan is at least at some elevation such that there was a view of the land that was subject to invasion.

A reasonable location for the city of Jordan is adjacent to the Catemaco River, which flows down from Lake Catemaco and eventually makes its way into the saline lagoons south and east of Alvarado, which is also a biblical type to the biblical River Jordan, which flows from the freshwater Sea of Galilee to the saline Dead Sea. There are also higher elevations just south of the river that provide a wide view of nearly the entire land of Desolation, so this location also meets that criteria.



Figure 73. Cities and geography at the time of Mormon.

Nephite Cities from Previously Discussed Geographies

The location of certain cities have been previously discussed. In addition, a number of cities existed in the land northward whose only mention in the Book of Mormon is in the 3rd Nephi destruction. Some of these cities were able to be located to a specific area in the land northward based on the nature of their destruction, which was discussed in a previous book, *Geology of the Book of Mormon* (2015), by the author. Sections of that book are adapted and included here as well.

The City of Gilgal and the City of Shem

The city of Gilgal is mentioned as part of the Nephite destruction that occurred when Christ visited the Nephites (3 Nephi 9:6). Because it was sunk and buried, it is likely located within the valley of Gilgal (see figure 47). The city of Shem is likely located strategically in the land of Shem, in some proximity to the “small neck” but is not specifically shown on any map.

Cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno

The cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno are described as being “sunk and made hills and valleys in the places thereof,” with their inhabitants being “buried up in the depths of the earth.” The subsidence element places them within the area shown in figure 46. “Hills and valleys” is a perfect description of the uniquely hummocky deposits of many volcanic debris avalanches and some volcanic pyroclastic flows (see figure 74). These were not really recognized as unique identifying landforms of volcanic deposits until after the 1980 Mount Saint Helens eruption.



Figure 74. Hills and valleys (hummocks) formed by the 1980 Mount Saint Helens eruption debris avalanche and pyroclastic flow. (USGS 1999)

Hummocks and mounds have been identified as features in some non-volcanic, large earth landslides, but they are most common in volcanic landslides and pyroclastic flows. The cities mentioned here were probably somewhat near each other, since volcanic landslides and pyroclastic flows are very directional. A typical volcanic eruption with pyroclastic flows will erupt in one direction, sometimes two. The tectonic setting of the volcano may influence the direction of collapse, and in some cases, faulting may trigger collapse.

The locations for the cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno, considering the reference to the “hills and valleys,” are within the range of a pyroclastic flow or volcanic debris avalanche of a volcano. The volcano that best fits these criteria is San Martín; Pico de Orizaba is not within a best-fit area of subsidence along a fault system, whereas the San Martín volcano is located directly on the Veracruz fault system. The report from the 1793 eruption of San Martín indicated that the fallout was at least three to six yards thick, located in a circle around the volcano with a diameter of 11.1 kilometers (Moziño 1869). Assuming that one could bury a city with a minimum of approximately 2 to 2.5 meters of material, and accounting for a potentially larger volcanic eruption than the 1793 eruption, a much greater distance than five kilometers from the volcano cone would be possible for city burial.

Based on archaeological excavations at Tres Zapotes (Jaime-Riverón and Pool 2009; Santley 2007) and Lake Catemaco (Santley et al. 2000) that identified volcanic deposits within the timeframe of 3rd Nephi, a reasonable extent of these deposits would be 26 kilometers from the San Martín cone.

Without a more detailed mapping of volcanic deposits, it is necessary to consider that the eruption could have gone in any direction when identifying where Gadiandi, Gadiomnah, Jacob, and Gimgimno might have been located. In addition, the inactive volcano south of San Martín called San Martín Pajapan has a crater that opens to the east with debris avalanche deposits extending 20 kilometers to the Gulf of Mexico, and the Santa Marta Volcanic Complex adjacent to San Martín Pajapan has two craters opening to the south with debris avalanche deposits (Capra et al. 2002), so lacking more exact mapping and dating of the debris avalanche deposits, these areas must be considered as a possible areas of “hills and valleys,” since these structures also sit in the earthquake zone of subsidence. Therefore, it would be reasonable for the cities Gadiandi, Gadiomnah, Jacob, and Gimgimno to be in the area identified in figure 75, with the likelihood that some or all of them are located near each other.



Figure 75. Zone of “hills and valleys” deposition either from volcanic eruption deposits (within 26 kilometers of cone) or debris landslides.

Cities of Jacob-Ugath, Laman, Josh, Gad, Kishcumen

The location of Jacob-Ugath as Tres Zapotes has been previously discussed, with the volcanic proximity being used as part of that analysis. The description in 3rd Nephi given of the method destruction of Jacob-Ugath is identical to that of the cities of Laman, Josh, Gad, and Kishcumen in that that they were “caused to be burned with fire”: and Jesus Christ “did cause them [the inhabitants] to be burned” and “did send down fire and destroy them.” As discussed with Jacob-Ugath, the most obvious explanation for this method of destruction is ignition of the cities by volcanic fallout. No mention is made of these cities sinking, so they may or may not have been within the zone of potential earthquake subsidence. Also this is obviously a different description than the destruction of Zarahemla, which merely did “take fire.” It seems pretty clear that the city and the individuals in the cities and the cities themselves were directly burned by the fire that came from the sky, not by a secondary conflagration caused by a lightning strike or an earthquake-triggered event.

There are no real studies that model the maximum distance that can be covered by incendiary material from a volcanic eruption. Clearly the closer to the volcano, the higher chance there is of hotter fallout occurring. Meteorological patterns can also be influential as the cooling of volcanic material is a function of the time elapsed since ejection from the volcano. The best information for a maximum area of incendiary material probably comes from the eruption of Krakatoa, where ash fallout 70–80 kilometers from the volcano was still hot enough to burn holes in clothing and vegetation (Bryant 2005, 233). Using the 70-kilometer distance, the San Martín volcano area identified in figure 76 is the most probable area in which the cities Jacob-Ugath, Laman, Josh, Gad, and Kishcumen were located.



Figure 76. Zone of raining of fire for the San Martín volcano (within 70 kilometers of the cone)

Chapter 15

The Remnants of the Jaredites and the Limhite Expedition

Around 128 BC a party of Limhites was sent to find Zarahemla, but the party became lost in the wilderness. Where did this expedition travel? Where did they encounter the remains of Jaredite civilization? And were there still Jaredite remnant populations there at the time?

Many who support the Book of Mormon geography model with the Grijalva River as the River Sidon have evaluated the text of the Book of Mormon (Poulsen 2016; Gardner 2015), concluding that the party mistakenly traveled down the Usumacinta River instead of the Grijalva River, where the land of Zarahemla was located (see figure 77). Many who support the Usumacinta River as the River Sidon have the counter interpretation that the party mistakenly traveled down the Grijalva River instead of the Usumacinta River, where the land of Zarahemla was located. The Caractors Document does not mention where the party initially traveled, but it does indicate that they returned via the Usumacinta River, which by default indicates the Usumacinta/Sidon theory cannot be correct, otherwise the party would have encountered Zarahemla on their return. The Caractors Document does mention that Mosiah₁ fled the land of Nephi from the east to Zarahemla, so the Grijalva River is the only possibility for Zarahemla, since the Zarahemla of the Usumacinta would not have Mosiah₁ fleeing from the east.

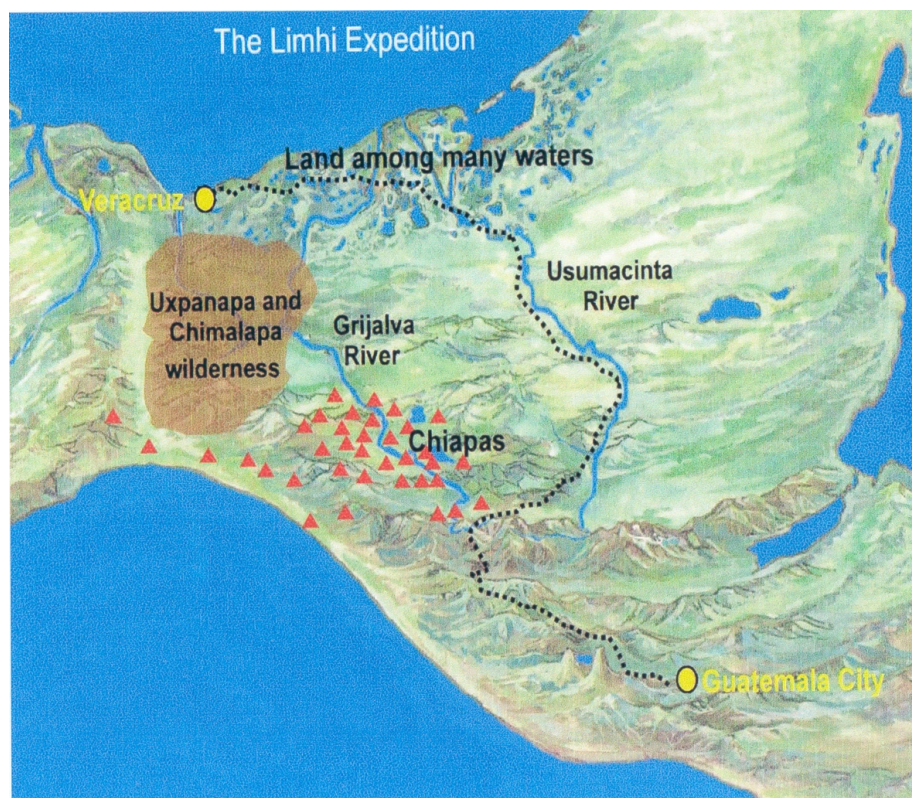


Figure 77. Limhite party's route according to the Usumacinta scenario (triangles are Preclassic sites present in 100 BC in the Grijalva basin). (Allen et al. 2009)

Instead of reaching Zarahemla, they “were lost in the wilderness for the space of many days” and traveled “in a land among many waters” and also discovered a “land which was covered with bones of men, and of beasts, etc., and was also covered with ruins of buildings of every kind, having discovered a land which had been peopled with a people who were as numerous as the hosts of Israel” (Mosiah 8:8 [Original Manuscript version]). It is not textually specific as to the whether the “land among many waters” was encountered prior to discovering the land covered with ruins and bones. Later in the Book of Mormon this event is again recounted, where it is described that:

they could not find it (the land of Zarahemla) and they were lost in the wilderness. Nevertheless they did find a land which had been peopled, yea, a land which was covered with dry bones; yea a land which had been peopled and which had been destroyed. (Mosiah 21:26.)

No mention is made here of the “land among many waters.”

Although this is primarily an issue of land southward geography, because it does involve the land northward, it is appropriate to evaluate the various theories. In looking at both theories, the only way that either theory is possible is to assume that the carefully selected group of Limhites were all incapable of knowing that the sun came up in the east and set in the west.

The party had at least some idea of the direction that they were to take to find Zarahemla and probably at least had information that it was on a river, probably knowing the general direction that the river essentially flowed, at least on the portion where Zarahemla was located. They likely had some idea of the time that it took to arrive at Zarahemla. If one subscribes to the Grijalva/Sidon model, the Limhite party would have known to head west but then encountered the Usumacinta, and then they mysteriously headed entirely northward instead of going west. In the Usumacinta/Sidon model, they would have known to go north but then mysteriously headed entirely west instead.

The only scenario that makes sense without assuming total incompetence of the Limhite party is that the party generally headed in the right direction, but they slightly missed the River Sidon and the associated valley. At some point they recognized that they had gone awry (probably by having traveled a known period of time), and because of wilderness terrain, they probably did not know how exactly how far they had gone. At some point they still came to a location that was sufficiently similar to the description of Zarahemla they knew (settlements along an east-flowing river for the Grijalva model) that they thought they had found Zarahemla.

Under the Usumacinta/Sidon model, the party would have either missed Zarahemla by heading north, veering either slightly west or east from the route, but in either case they would have ended up at the ocean (or clear up into the Yucatán Peninsula) and would not have ended up anywhere close to the abandoned Olmec areas.

Jaredite Remnant Possibilities

The Limhite party also obtained the 24 plates and other items. With regard to the plates, King Limhi told Ammon that he was “desirous that these records should be translated; for perhaps they will give us a knowledge of a remnant of the people who have been destroyed, from whence these records came; or perhaps they will give us a knowledge of this very people who have been destroyed” (Mosiah 8:12). Mormon indicates (with the benefit of hindsight after the record was translated) that the records obtained “a record of the people whose bones they had found” (Mosiah 21:27).

The people encountered by the group of Limhites and identified as “a remnant” of the Jaredites are identified in the archaeological record as either the light populations documented at La Venta and San Lorenzo, or the Epi-Olmec, with Tres Zapotes being the primary Epi-Olmec population center.

La Venta Population and San Lorenzo Remnant Populations

Since the Limhite party encountered “a land covered with ruins of buildings of every kind” (Mosiah 8:8), it is likely that they visited one or more of the main abandoned Olmec cities. There were light populations in La Venta after 400 BC. Diehl (2004, 60–61) describes them as “squatters camped in the ruins.” San Lorenzo was also lightly occupied during what is classified as the Late Formative Remplás phase (ca. 300–50 BC). Laguna de los Cerros has not been sufficiently investigated to determine if there were populations there.

The Epi-Olmec

According to the chronology identified in the Caractors Document, the group of Limhites recovered the Jaredite plates in approximately 128 BC. The known locations of the Epi-Olmec culture are shown in figure 67. The Epi-Olmec culture lasted from roughly 300 BCE to roughly 250 CE (Diehl 2004, 181). It is not known precisely how the Jaredite records were obtained, only that Ether “hid them in a manner that the people of Limhi did find them” (Ether 15:34). Also recovered were “breastplates, which are large, and they are of brass and of copper, and are perfectly sound” (Mosiah 8:10). It has already been established that Ether’s operation area was the Tuxtla Mountains, so the Limhi party would definitely have been in the right area in which to find the Jaredite plates. It is possible that the knowledge of where they were hidden was passed down through Ether’s posterity, with instructions from Ether to provide them to the Limhites who would come. (That of course would be just one reasonable possibility.)

The “Land among Many Waters”

There are two likely possibilities for this area described by the Limhite party. The first is the series of lagoons, swamps, and rivers along the north coast as depicted in figure 77. The land of Cumorah is also similarly described in the Book of Mormon as “a land of many waters, rivers, and fountains” (Mormon 6:4).

Length of Time

No timeframe is found in the Book of Mormon for the total time the Limhite party was gone. The text only states that the period of time they were initially lost in the wilderness was “the space of many days” (Mosiah 8:8). However, the Caractors Document does provide dates of departure, so the calculated period of time, knowing that the party returned shortly before the arrival of Ammon, puts the length of the journey in the neighborhood of five to six years.

Religious “Sacred Bundle” Items Obtained

In addition to the breastplates obtained by the Limhite party, the text indicates that “and again, they have brought swords, the hilts thereof have perished, and the blades thereof were cankered with rust” (Mosiah 8:11). This statement is a bit curious because of the clause “and again.” The phrase may just mean “also,” but it could imply that there may have been a previous discussion by Mormon involving these swords that was included in the lost 116 manuscript pages of the Book of Mormon.

In the context of Mesoamerica and similar to the sword of Laban, these swords were most likely the Swords of Shule. The ancient Near East culture that existed at the time of the Jaredite departure recognized the symbolism and pattern of swords as an element of the symbols of royal and divine sanction. Gilgamesh, the hero-king, according to Akkadian myths, had a sword with which he killed the Bull of Heaven and the Wilderness Monster (Pritchard 1969). Divine beings bearing swords are found in Akkadian iconography (Hendel 1985). Eannatum, the

king of Lagash, is shown on a Sumerian stele from 2500 BC equipped with a sickle sword, and royal tombs in Ur and Anatolia from the same period contained ornamental short swords (Yadin 1963).

For the Nephites, the sword of Laban was recognized as a symbol of divine authority and kingship and was passed down along with the Book of Mormon plates, the Urim and Thummim (which included a breastplate), and the Liahona as a collection of sacred relics (Holbrook 1993).

With space on the gold plates at a premium, the discussion by Moroni² of the swords and the manner of their making by Shule would be an anomaly if it did not pertain to something else in the Book of Mormon. It must be remembered that the party of Limhites, who recovered the Jaredite plates, breastplates, and swords, at the time thought that they had in fact discovered Zarahemla destroyed (they “supposed it to be the land of Zarahemla” [Mosiah 21:26]). They brought back the Jaredite plates as a “testimony that the things they had said were true.” It is not specifically clear from the text whether the bringing back of the swords and breastplates was also part of the “testimony” or if they were received from the “remnant” people, but it does seem to be implied based on the text.

Similar to the ancient Near East, Mesoamerica also has a long-standing tradition of passing down sacred and royal relics. This is done in the form of “sacred bundles.” This practice of passing on royal relics and the presence of the sacred bundles (which are typically wrapped with sacred cords and cloth) has been indicated back to at least the Olmec Middle Formative period (1200–400 BC). In Mesoamerica, sacred bundles are considered to contain a “secret and invisible energy” and are closely associated with migration narratives. Claims of rulership and authority are related to the possession, preservation, or taking care of sacred bundles (Guernsey et al. 2006, vi). There is not much evidence in Olmec times of all the items contained in a sacred bundle, but known Aztec bundles did contain a wide variety of objects, including weapons, such as arrows and fire sticks and brightly polished mirrors (which by themselves constitute an important symbol of power in Mesoamerica).

Among the Aztecs, the sacred bundle, which was called a *tlaquimilolli*, established a direct communication with god. The sacred bundle of Tezcatlipoca, which consisted of a wrapped mirror, guided the forefathers of the Tetzcocans by “talking to them in a human voice.” The *tlaquimilolli* had a military function; the Tlaxcalans used the arrows in the sacred bundle to foretell the result of battle. Conquered peoples were made to hand over their sacred bundles to conquerors. The *tlaquimilolli* served a role in the acquisition of power, which was also evidenced in the Maya with their sacred bundles (mentioned in the chronicles of the Quiche Maya from Guatemala as the *Pisom C’ac’al* [Bundle of Flames or Shrouded Glory]) (Olivier 2006). Aztec and other pre-Columbian Mexican groups had sacred bundles that contained flint knives, religious documents, and pyrite mirrors (Olivier 1995). These pyrite mirrors have been found as offerings among the Olmec at La Merced (Diehl 2004, 44). Olmec figurines show these mirrors worn upon their chests, consistent with the breastplates found by the Limhites (Diehl 2004, 70, 94).

Although the objects brought back by the Limhite party were not specifically mentioned as being part of something specifically akin to a sacred bundle, all of the items are consistent with sacred and royal relics and certainly would have been an impressive “testimony,” including the unusual ancient steel swords of Shule that would have come through Ether’s royal line along with Ether’s record. It would seem unlikely that a few ordinary rusted swords and abandoned breastplates would really add much to a testimony of the relative extinction of an entire culture and people unless they were somehow unusual. The word *testimony* makes sense in that the Limhite party was trying to establish that what they had found did represent the end of a people, since it would not have been given up if the tribe that maintained it still existed.

The “Testimony” of the Sacred Relics

The Limhite party believed that they had found a “testimony” that the destroyed people were the Nephites and people of Zarahemla in the form of a set of bright metal engraved plates, breastplates, and metallic iron (or steel)

swords. Bradley (2012) has compared the items in the Ark of the Covenant with the Nephite sacred relics. These items would be an effective testimony of the extermination of the Nephites, since the Limhite party believed they were the unique sacred relics of the Nephites—namely the swords correlated with the sword of Laban and the metal records correlated with the plates of brass. While at this point in time in the Book of Mormon there is no mention of a sacred relic that is a breastplate, perhaps there is mention of one in the 116 lost pages. The Liahona is also a sacred object, but there was no corresponding object recovered by the Limhite party.

The Limhite party may not have been intimately familiar with the details of the Nephite sacred relics, since what they found were gold plates instead of brass, and multiple swords, although with blades made of the same steel material as the sword of Laban, did not have gold hilts. However, it is apparent that Limhi was not fully convinced that the people who were destroyed were actually the Nephites and people of Zarahemla because Limhi stated that, upon Ammon's announcement that he was from Zarahemla, "now I know of a surety that my brethren who were in the land of Zarahemla are yet alive" (Mosiah 7:14). This prior doubt would certainly be logical based on the receipt of a sacred bundle containing peculiar objects that included a set of plates written in a totally foreign script not fully matching what the Nephites possessed as sacred items. Multiple relic swords also did not match a single sword of Laban. It is important to remember that Limhi was literate and maintained his own set of historical plates (see Mosiah 8:5). We don't know exactly what he did or did not know about the Nephite relics, but the Limhite party obviously knew enough to mistake the sacred relics of the Jaredites for the sacred relics of the Nephites.

The fact that the 24 plates, likely in an Olmec-style script, were thought to be the plates of brass is further evidence that the Egyptian and biblical Hebrew script found in the brass plates were not able to be understood at this point in time, nearly 400 or so years after Lehi's departure from Jerusalem. The Zeniffites clearly had religious scriptures derived from the plates of brass, since they followed (at least initially) the law of Moses and quoted from Isaiah during Abinadi's trial. Had the record that the Zeniffites were utilizing contained Egyptian or biblical Hebrew script, they would have known that the 24 plates could not have been the brass plates. I discussed evidence of this fact derived from other premises in a previous work (Grover 2017, 295–300).

Further Details Regarding the Limhite Party Route

Before the arrival of Ammon in the land of Nephi, the actual exploratory Limhite party indicated that they encountered a "land that had been peopled" and had been "destroyed" and supposed it to be the land of Zarahemla, and so they then returned to the land of Nephi (Mosiah 21:26). Given that explanation, it is unlikely that the "remnant" that they encountered was the main Epi-Olmec settlements around Tres Zapotes, or they would not have described the land as not being "peopled." That also diminishes the likelihood that the "land among many waters" included the land of Cumorah, although a visit to the lightly populated southern portion might still be a possibility.

According to the Caractors Document chronology, the party of Limhites left 473 years after the departure of Lehi, which would have been 128 BC. Based on the fact that their return was "not many days before the coming of Ammon" (Mosiah 21:26), which was around 479 years after the departure of Lehi, they were gone for a considerable length of time, along the order of five or six years. It is indicated that they were lost in the wilderness "for the space of many days," but that length of time was apparently the time they were actually lost in the wilderness, before they found their way out of the wilderness and were no longer lost, presumably then encountering the "remnant" population, in an area that at least had an east-flowing river with signs of population.

King Limhi characterized them as being "diligent," which is an appropriate description based on the length of time that they were gone. They traveled "in a land among many waters" and apparently somewhere along the way

found the “land which was covered with bones of men, and of beasts, etc.” and with “ruins of buildings” (Mosiah 8:8). It is noteworthy here that the early editions of the Book of Mormon up until 1920 had this verse reading “the bones of men, and of beasts, etc.” so this could be interpreted as bones of other vertebrates, which would certainly be indicative of remains within a volcanic eruption.

The description provided in Mosiah 21:26 can be read as a list of descriptions (each separated by a “yea,” which can sometimes represent the word *and* as in a list) of the land that was found:

Mosiah 21:26

Nevertheless, they did find a land which had been peopled; yea, a land which was covered with dry bones; yea, a land which had been peopled and which had been destroyed; and they, having supposed it to be the land of Zarahemla, returned to the land of Nephi, having arrived in the borders of the land not many days before the coming of Ammon.

This verse notes that the land itself “had been destroyed.” Alma 22:30 states the same thing. A reasonable interpretation that the Limhite party, in addition to observing evidence of people (buildings, etc. that had been abandoned and bones present), also observed at least a portion of the land as “destroyed,” which would be consistent with the remains of a volcanic eruption. Volcanic eruptions were recorded in the central Tuxtlas that overlap with the timeframe of the Limhite party.

The Limhite party must have traveled to more than one abandoned Olmec population center, as they recounted to Limhi that the land had “been peopled with a people who were as numerous as the hosts of Israel” (Mosiah 8:8).

The Limhite party obviously did not remain lost, as they eventually made their way back. It seems likely that they had some knowledge of the Usumacinta River and at least knew that if they roughly followed the coast, they would find it. At this point in history, Maya (Lamanite) centers were located along the Usumacinta (i.e. Piedras Negras), and the river was a known Mayan trade route.

West-Flowing River

In order to satisfy the requirements of the Limhite party route, there must be a west-flowing river that flows through a portion of the abandoned Olmec area. If one looks at current maps, there is no obvious choice. However, as previously discussed, the lower Grijalva River once followed different routes (see figure 44). The Bari river channel was no longer existent at the time of the Limhite party, but the Blasillo channel, which formed sometime after 700 BC, was still present. It ran westward along the same directional alignment as the upper Grijalva, where Zarahemla actually was, and ran through the abandoned Olmec area near La Venta. This is the best candidate to be mistaken for the River Sidon.

Probable Path

While not every twist and turn of the Limhite party route can be identified, the basic path of the Limhite party started in the valley of Guatemala and headed westward. The path then veered slightly north and encountered the virtually uninhabited mountains of the Chiapas Plateau that constituted the “wilderness,” missing the Central Depression of the Chiapas where the land of Zarahemla was located, exiting the highland near where the Blasillo channel of the Grijalva River runs westward. The Limhite party then proceeded into the abandoned La Venta Olmec area, which still had squatters. Although there are a variety of routes after that, the Limhite party visited the southern Tuxtlas, encountering desolate areas caused by volcanism. They likely also visited San Lorenzo and perhaps Laguna de los Cerros. On their return, they passed the lagoon, swamp, and river complexes along the coast and returned up the Usumacinta River. The path described above satisfies all the conditions and descriptions enumerated in the Book of Mormon.



Figure 78. Path of the Limhite party.

Chapter 16

The Recovery of the Coriantumr₂ Stelae Stone and the Finding of the Interpreters and the Plates of the Brother of Jared

The Jaredite relics found by Limhi's people are not the only ones recovered by the Nephites. Where were these additional relics discovered? To help us identify where these relics were found, we will first look at when they were found, using chronological analysis.

There is no direct calendrical tie between the Jaredite chronology and the Nephite calendar; however, there are some clues in the book of Omni and book of Mosiah timeframes that may clarify the Jaredite and Nephite chronological overlap and provide us with some more geographical information involving the land northward.

Background Information

According to actual Book of Mormon dates combined with dates provided in the Caractors Document, a basic relevant chronology of the timeframe has been definitively constructed (Grover 2015):

- Mosiah₁ became king: 370 years after Lehi's departure, calculated to be 228 BC
- Mosiah₁ departure from land of Nephi: 389 years after Lehi's departure, calculated to be 209 BC
- Zeniff departure from Zarahemla: 420 years after Lehi's departure, calculated to be 179 BC
- Mosiah₁ death: 436 years after Lehi's departure, calculated to be 164 BC
- King Benjamin death: 479 years after Lehi's departure, calculated to be 122 BC

The relevant sections of Omni related to the recovery of the Coriantumr₂ are:

Omni 1: 20–22

20 And it came to pass in the days of Mosiah, there was a large stone brought unto him with engravings on it; and he did interpret the engravings by the gift and power of God.

21 And they gave an account of one Coriantumr, and the slain of his people. And Coriantumr was discovered by the people of Zarahemla; and he dwelt with them for the space of nine moons.

22 It also spake a few words concerning his fathers. And his first parents came out from the tower, at the time the Lord confounded the language of the people; and the severity of the Lord fell upon them according to his judgments, which are just; and their bones lay scattered in the land northward.

Early in 1830 a man named Fayette Lapham visited Joseph Smith Sr. to learn more about the still unpublished Book of Mormon. Lapham would years later publish an account of their interview that relates enough information about the finding of the plates to verify that the interview occurred. There are some known inaccuracies in the recounting based on known information in the Book of Mormon (e.g. the brass plates were described as papers) and some of the recounting is not in the correct order, but the recounting is fairly accurate in most other regards. As part of the interview, Joseph Sr. described Lehi's journey to the New World and related several of the book's other narratives (Lapham 1870). The relevant section of the Lapham interview is as follows:

After sailing a long time, they came to land, went on shore, and thence they traveled through boundless forests, until, at length, they came to a country where there were a great many lakes; which country had once been settled by a very large race of men, who were very rich, having a great deal of money. From some unknown cause, this nation had become extinct; “but that money,” said Smith, “is here, now, every dollar of it.” When they, the Jews, first beheld this country, they sent out spies to see what manner of country it was, who reported that the country appeared to have been settled by a very large race of men, and had been, to all appearances, a very rich agricultural and manufacturing nation. They also found something of which they did not know the use, but when they went into the tabernacle, a voice said, “What have you got in your hand, there?” They replied that they did not know, but had come to inquire; when the voice said, “Put it on your face, and put your face in a skin, and you will see what it is.” They did so, and could see everything of the past, present, and future; and it was the same spectacles that Joseph found with the gold plates. The gold ball stopped here and ceased to direct them any further.

The key pertinent elements in this recounting on this issue are that Nephites initially came to a country that had a “great many lakes” and “had once been settled by a very large race of men,” and “for some unknown cause the nation had become extinct.” This is clearly referring to the land northward. Further, when they first beheld the country they sent out spies and found it “had been a very rich agricultural and manufacturing nation.” These spies also found the “spectacles,” which had to be utilized in dim light or darkness. They used them in their “tabernacle.” It is also noted that the “gold ball stopped” them there and “ceased to direct them.”

It is notable that the interpreters mentioned in Alma 37:21, 24 were originally referred to as “directors” in the Original Manuscript (Skousen 2007, 2358–2361) indicating the interpreters were able to still provide the direction that the Liahona previously provided.

Chronological Analysis

One key assumption, if made, helps clarify the chronology of this timeframe. If the Coriantumr₂ stone had been brought before Zeniff’s departure, then Limhi would have known from Zeniff’s oral or written record about Coriantumr₂ and the Jaredites/Olmecs, which he did not. This assumption is reasonable since Zeniff kept records, as did Limhi, and Zeniff was the grandfather of Limhi, and thus was not far removed in oral history. The only exception to this assumption is that the stone may have been brought earlier and been untranslatable until a separate arrival of the interpreters. However, it is indicated that the party that produced the stone may have also related to Amaleki that “their bones lay scattered in the land northward,” although it is possible that fact may have also been written on the stone.

Limhi also had no knowledge of the interpreters or the ability of Benjamin or Mosiah₂ to translate, indicating that the interpreters did not arrive before Zeniff’s departure and reinforcing that the stone had not arrived before Zeniff’s departure.

Omni 1:20 indicates that the Coriantumr₂ stone was brought “in the days of Mosiah₁,” which by wide definition could mean any time between 228 BC and 164 BC. Knowing that it must have been brought after Zeniff’s departure narrows the range from 179 BC to 164 BC.

We know from the Fayette Lapham discussion of the “tabernacle” that the Jaredites were in fact by this time extinct, which means that the tabernacle was utilized after 400 BC, so Lapham could not have been referring to a tabernacle in the early travels of Nephi before he was able to set up a temple. The only other time in this period of the Book of Mormon where one would not expect a temple to be in place, thus requiring the use of a tabernacle, is when Mosiah₁ fled from the land of Nephi and before a temple could be built in Zarahemla.

We don’t have any information from the Book of Mormon regarding the tabernacle. It was prior to the temple that was known to be in place (Mosiah 1:18) just prior to the time of Benjamin’s death circa 122 BC, so we don’t have an exact date for a tabernacle as it could have been as early as the flight in the wilderness at 209 BC or as late as the

latter part of king Benjamin's reign. However, since we know that Zeniff was not aware of the interpreters, then the tabernacle must have still been utilized after 179 BC. The completion of the Zarahemla temple must therefore have been sometime between 180 BC and 122 BC.

Since the interpreters were recovered at the time of a tabernacle, after Zeniff's departure but prior to Mosiah₁'s death, the time envelope for the recovery of the interpreters is 179 BC to 164 BC, the same time envelope as the recovery of the Coriantumr₂ stone.

The Lapham recounting interestingly refers to "spies" that were sent out. This is probably indicative of events concurrent with Zeniff's departure, as there were a large number "who were desirous to possess the land of their inheritance" (Omni 1:27–29), which was the impetus for the Zeniff migration. Zeniff refers to himself as "having been sent as a spy" among the Lamanites to "spy out their forces" (Mosiah 9:1). The purpose of the spying was both for military intelligence but also for population expansion. It appears that there was obviously a desire by some to leave Zarahemla.

Amaleki in the book of Omni does not mention who brought the Coriantumr₂ stone to Mosiah₂, but it would seem reasonable that "spies" just like Zeniff could be the ones who recovered the stone and the interpreters. For spies to go in the direction of the land northward makes sense from a military standpoint, as the people of Zarahemla had originated in the land northward (Helaman 6:10). They had landed in the land of Desolation then moved from there "up into the south wilderness," which was named Bountiful by later Nephites (Alma 22:30–31).

No mention is made of how they finally arrived at the land of Zarahemla, but it was mentioned that the people of Zarahemla had experienced "many wars and serious contentions" and "had fallen by the sword from time to time" (Omni 1:17), so it would seem reasonable that they may have ultimately been driven to the location where they were by enemies who were back in the direction of the south wilderness and the land northward. To send spies back in that direction seems a logical decision from a military standpoint.

Based on the above analysis the retrieval of the interpreters and the Coriantumr₂ stone occurred around 425 years after Lehi's departure, calculated to be about 174 BC.

The Interpreters and the Plates of the Brother of Jared

Ether 3:22–23 states that the interpreters were to be sealed up with the plates of the brother of Jared, the implication being that when the interpreters were found, so were the plates of the brother of Jared:

Ether 3:21–28

21 And it came to pass that the Lord said unto the brother of Jared: Behold, thou shalt not suffer these things which ye have seen and heard to go forth unto the world, until the time cometh that I shall glorify my name in the flesh; wherefore, ye shall treasure up the things which ye have seen and heard, and show it to no man.

22 And behold, when ye shall come unto me, ye shall write them and shall seal them up, that no one can interpret them; for ye shall write them in a language that they cannot be read.

23 And behold, these two stones will I give unto thee, and ye shall seal them up also with the things which ye shall write.

24 For behold, the language which ye shall write I have confounded; wherefore I will cause in my own due time that these stones shall magnify to the eyes of men these things which ye shall write.

25 And when the Lord had said these words, he showed unto the brother of Jared all the inhabitants of the earth which had been, and also all that would be; and he withheld them not from his sight, even unto the ends of the earth.

26 For he had said unto him in times before, that if he would believe in him that he could show unto him all things—it should be shown unto him; therefore the Lord could not withhold anything from him, for he knew that the Lord could show him all things.

27 And the Lord said unto him: Write these things and seal them up; and I will show them in mine own due time unto the children of men.

28 And it came to pass that the Lord commanded him that he should seal up the two stones which he had received, and show them not, until the Lord should show them unto the children of men.

Original Location of the Coriantumr₂ Stone

The comment that “their bones lay scattered in the land northward” does not appear to be text actually interpreted from off of the stone, but it looks to be a comment added by Amaleki. Thus the spies who obtained the stone must have passed into the land northward and had seen the scattered bones.

It seems apparent that the “spies” who were sent out as represented by Lapham are the same individuals or at least from the same group that recovered the stone of Coriantumr₂. This group went, at least as part of their trip, to the location of the Olmec colossal heads, as they reported that the land had been settled by “a large race of men,” which follows the narrative and mythology derived from the observation of the Olmec colossal heads at La Venta, San Lorenzo, Tres Zapotes, or Cobata.

While it can't be stated with surety, a likely place may have been near the Coriantumr₂ Cobata head located adjacent to the hill Cumorah.

Location of the Interpreters and the Plates of the Brother of Jared

Late in Nephite history, Moroni₂ refers to the plates of the brother of Jared, indicating that he will need to “hide them up again in the earth,” indicating that the plates were previously buried or somehow otherwise “in the earth” (Ether 4:3). Although it is not known how the interpreters and the plates were found, the use of the Liahona is a possibility. The Lapham interview states that the spies observed a “great many lakes,” which based on the variability of the interview, may perhaps refer to a “land of many waters.” Since the interpreters and the plates were likely found on the same expedition as the Coriantumr₂ stone, the hill Cumorah is a distinct possibility as to where they were buried, and it would be consistent with Jaredite and Nephite traditions. Because the hill Cumorah is also adjacent to the ancient land of Moron, where the brother of Jared lived after arriving in the New World, the hill Cumorah location is consistent with a burial of the brother of Jared's plates and the interpreters, as the Lord indicated to him just prior to his death, that “when ye shall come unto me, ye shall write them and shall seal them up” (Ether 3:22).

Chapter 17

People of Mulek Geography

The people of Mulek coexisted chronologically for a period of time with the late Jaredites, and they were the earliest heirs to the Jaredites' abandoned lands. Some portion of Jaredite geography became some portion of Mulekite geography. Etymological analysis and a close reading of the narratives about the people of Mulek will help us place the action of these narratives in the former Jaredite lands.

There are few geographic details given in the story of the people of Mulek. The location of the first arrival of Mulek and his founding group was in the land northward (Helaman 6:10), with the place of their first landing being in the land of Desolation. It is not indicated exactly when the Mulek group arrived, but because Mulek was a child of Zedekiah contemporaneous with the Lehi group and he arrived in the New World in person, a reasonable date of arrival would be no later than 560 BC.

Since the founding group arrived in the land of Desolation in 560 BC and the Jaredite demise was not until much later, contact between Mulek's people and the Olmec is a given. The Caractors Document does include the name *Mulek* and the section of the publication (Grover 2015) discussing its Mesoamerican relationship is included here.

Mulek/Muloch

There is a bit of discrepancy in the earlier versions of the Book of Mormon and the Printer's Manuscript as to the spelling of Mulek or whether there may be two individuals referenced (Book of Mormon Onomasticon 2015). I would suspect, based on Royal Skousen's analysis referenced in the Onomasticon, that the proper spelling is Muloch, but that does not bear any relevance to the translation of the name Mulek from the Caractors document. The names determined so far do not appear to have a phonetic element in the document but are written in Egyptian according to their etymological meanings, not from a transliteration. The Onomasticon provided a likely etymology for Mulek:

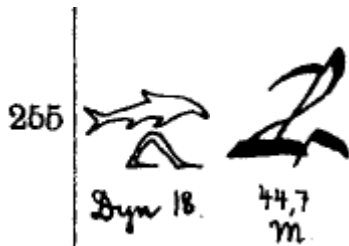
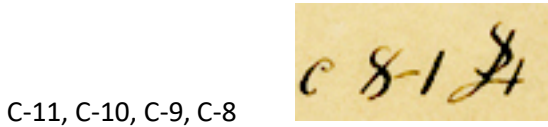
It is very tempting to read MULEK as a shortened form, perhaps a hypocoristicon, of a longer name. For example, from the same time period, the days of ZEDEKIAH, the name Malchiah in Jeremiah 38:6, reads in Hebrew *malkiyahû* and means "Yahweh is (my) king." It has been proposed by some scholars that Malchiah may have been the son of ZEDEKIAH, which, if it is correct, has been obscured by the King James translation. That is, the Hebrew, *malkiyahû ben hammelek*, can be translated most readily, as the Septuagint does, as "Malchiah the son of the king," rather than the King James rendering, "Malchiah the son of Hammlech." Because of the suggested identity of Malchiah as a son of ZEDEKIAH, LDS scholars have also suggested a connection between Book of Mormon MULEK and biblical Malchiah.

The form MULEK, if it is a hypocoristicon of a name similar to Malchiah, would be from the noun pattern for a diminutive or caritative, *pu'ail* (*fu'ayl* in Arabic), meaning "little king." The diphthong *-ai-* can shorten to */e/*. Given that MULEK was the son of King ZEDEKIAH (see Helaman 8:21), then a Personal Name based on a diminutive of the Semitic root *mlk* would seem appropriate.

The following characters have been translated as "Mulek." The basis for some of the character definitions in the translation of Mulek is from Crowley's research (Crowley 1961). Crowley found a few definitions for some of these individual characters; he did not propose that they meant anything as a unit.

The definitions that are relevant to Mulek (including a few found by Crowley) are as follows: C-8 is the hieratic sign for “walking fish”; C-9 is the Egyptian word *rn* meaning “to be young” (Brugsch 1868); C-10 is the Egyptian word *hwtj*, which is a determinative “male” adjective (*hwt* is also known to mean “male” in the Chicago Demotic Dictionary [CDD H (09:1) page 75]); and C-11 is *hry*, which in Egyptian means “lord,” “master,” or “chief” (Chicago Demotic Dictionary 2014, CDD H [09:1] page 219).

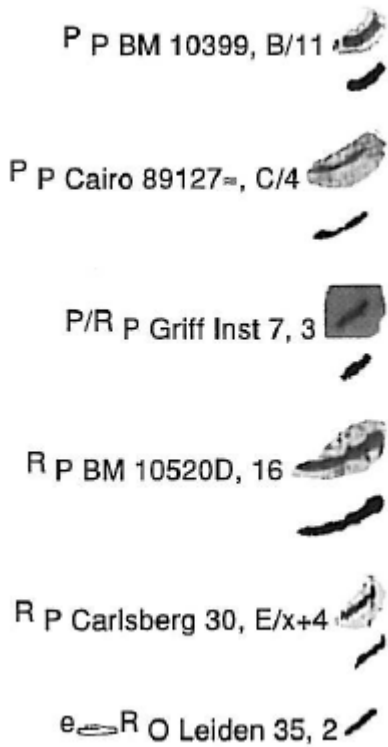
It is a fairly straight translation that “young male chief” would be equivalent to “little king,” which would translate as Mulek (according to the Onomasticon), who would have been the first king of the Mulekites. “Walking fish” in the context of the Mayan language is a perfect match for Mulek as explained below. Each associated Egyptian glyph is shown below:



Möller Number 255, Harris Papyri H. M. (Möller 1965, Bd II 1-30, 249–257)

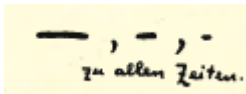


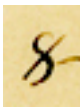
Example of *r*



(Chicago Demotic Dictionary 2014, CDD R [01.1] page 1)

Example of *n* from the Erichsen's Glossar Demotisches (Erichsen 1954)




C-10 

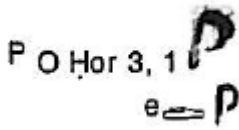
Example of *hwt*



Ptolemaic hieratic (Erichsen 1954, 297)

C-11 

Example of *hry*



Ptolemaic Ostrakon, cited from CDD H (09:1) page 219 (Chicago Demotic Dictionary 2014)

It should also be noted that the fish portion of the Möller Number 255 glyph is included by Gardiner as the hieroglyph Number K-3, and that it is the initial phonetic element in the word for “administrator of a province” and “excavator of canal(s),” *‘d-mr* (Gardiner 1957, 477). Mulek was never identified as a king.

Something Fishy about Mulek

As noted above, the Egyptian hieratic glyphs closely matching part of Mulek’s name are the signs for Fish (Gardiner Number K-3) and Walking Legs (Gardiner Number D-55). In Egyptian, certain verbs involving the notion of movement add the Walking Legs ideogram. The Walking Legs ideogram can also indicate backwards movement when oriented as in the Caractors glyph. It could have been interpreted as “Moving Fish,” but normally a designation for fish does not include an addition for movement, as a fish is presumed to be able to move by swimming.

The Maya PDI and ADI glyphs almost always feature the glyph called in the Maya “Muloc,” which depicts a fish, or “Xoc,” which is a shark.



ADI and PDI glyphs, including the Muluc fish glyph and the PDI Xoc shark glyph (A and B, Stuart 1990, 217; C - Pal. Inscr. (W), S5; D – Cop. Tl1, E door, S panel, C5 (Thompson 1950 Figure 30)

Famous Mayanist David H. Kelley (1960) noted a Hebrew connection to the Maya calendar involving three sequential Maya day names that corresponded with three sequential Hebrew letters. The day names are Manik, Lamed, and Muluc. The Manik glyph is of a hand and corresponds with the Yucatec Mayan word for hand, *kab*. The corresponding Hebrew letter is *kaph*. The next Hebrew letter in the Hebrew alphabet is *lamed*, or *l*, and the next Maya calendar day name is *Lamat*. The next Hebrew letter in sequence is *mem*, which means water, and the next sequential Maya calendar day name is *Muluc*, which features a fish as its glyph.

The symbol of a fish or a shark is well-known in the late Olmec (Epi-Olmec) culture area. Shark iconography is especially associated with the Gulf lowlands, most deriving from Veracruz and Tabasco (Arnold 2005). This is precisely the area that most Mesoamerican Book of Mormon models place the landing place and initial settlement of the Mulekites.

Notably, the shark or fish theme has been featured in the royal headdresses of the Gulf Lowland region of the Epi-Olmec. A shark headdress is featured on the La Mojarra Stela 1, which includes a large shark hanging from the rear

of the headdress, with four smaller sharks along its spine (see figure 79). The stela was pulled from the Acula River near La Mojarra, Veracruz, Mexico, not far from the Tres Zapotes archaeological site.

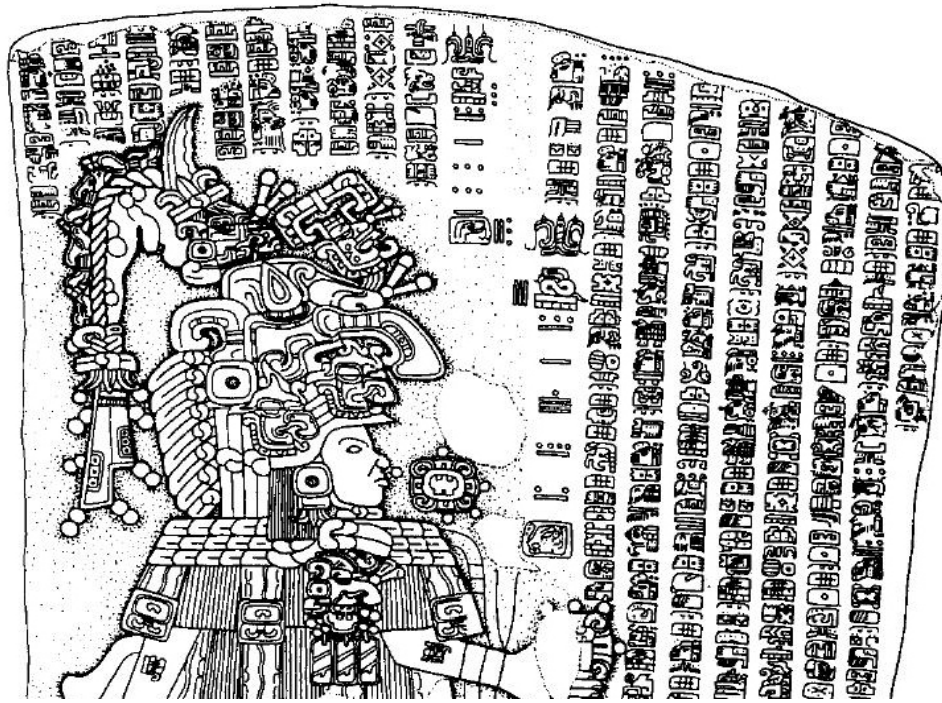


Figure 79. Shark headdress featured on the La Mojarra Stela 1, dating from 300 BC to the 2nd century AD. (Wikipedia Commons 2017b)

Other than the fish theme for the Maya glyph Muluc, a correlation with the Paleo-Hebrew letter (Grover 2015), and the association with the fish/shark theme in the area where the Mulekites would have been located, is there any further correspondence with the “Walking Fish” title for Mulek? John L. Sorenson (2013) has provided some convincing arguments that the bearded Semitic-looking individual with a large aquiline nose on La Venta Stela 3 is in fact Mulek and the scene depicts the arrival of Mulek (see figure 80) (539). One striking detail overlooked by Sorenson in Stela 3 is that the headdress that the individual identified as Mulek is wearing is in the form of a big fish. The designation in the Caractors Document as “Walking Fish,” as either part of his name or as a ceremonial title, is exactly consistent with the Maya glyph Muluc, the ADI featuring Muluc, and the La Venta Stela 3 featuring Mulek.

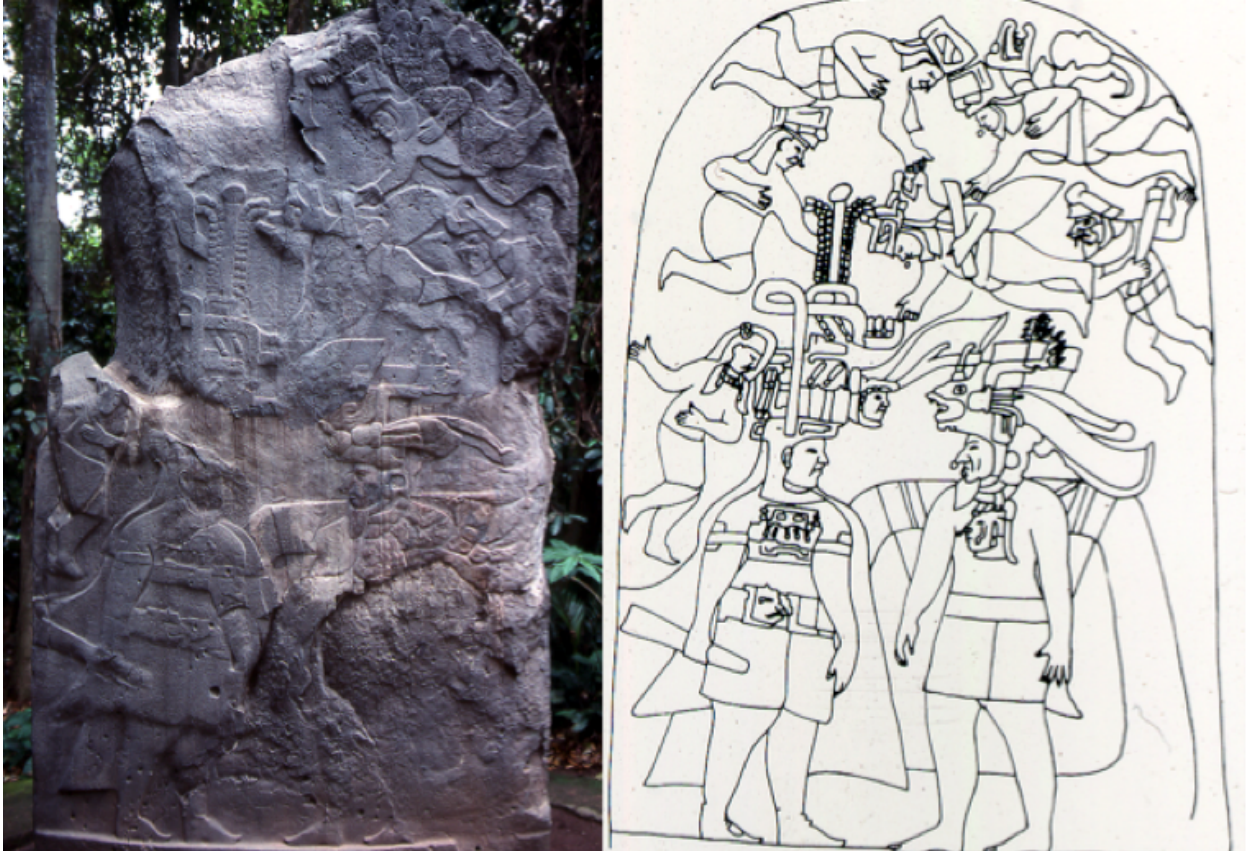


Figure 80. La Venta Stela 3. (Studyblue.org 2015)

The correspondence of La Venta with the geographical location of the people of Mulek is quite clear.

People of Zarahemla Geography

It is not indicated how long the people of Mulek remained in the land that would later be called Desolation. Based on a reasonable lifespan for Mulek, the people of Zarahemla (as at least some of the descendants of Mulek came to be called) would still have been in the area that would be known as Desolation in 540 BC. Since “Mulek” historically correlates with fish, it can reasonably be presumed that the people of Mulek were established for some time in the lowland areas, likely in the vicinity of La Venta. It would seem likely that they were in the La Venta area a significant amount of time before the people of Mulek “came up” into the “south wilderness,” which was later called the land of Bountiful (Alma 22: 30–31). Perhaps they moved at the time of Jaredite conflict around 450–400 BC.

It needs to be noted that the people who originated with Mulek are referred to as the “people of Zarahemla” and are referred to that way collectively even back to the arrival in the New World, even though it is obvious that the individual Zarahemla encountered by Mosiah₁ and his party was not present for their history.

It is clear from later references in the Book of Mormon that the land of Zarahemla was completely separate from the land of Bountiful, so the people of Zarahemla had moved from what was previously the “south wilderness” (which was obviously not a wilderness anymore after long-term occupation by the descendants of Mulek) to a new area, which then became the land of Zarahemla after being settled sometime before 209 BC, when they were joined by Mosiah₁ and his people. One interpretation of Mosiah 25:2 seems to indicate that not all of the people who were ancestors of those who arrived with Mulek came up into the wilderness with the individual Zarahemla:

Now there were not so many of the children of Nephi, or so many of those who were descendants of Nephi, as there were of the people of Zarahemla, who was a descendant of Mulek, and those who came with him into the wilderness.

This might help explain why Zarahemla was not considered a king at the time of Mosiah₁'s arrival, as there may have been another ruler in the old “south wilderness” area that they had just left. This interpretation would render the meaning that the move into the wilderness involved the individual Zarahemla and his fellow descendants of the original party of Mulek, along with another group of people described as “those who came with him,” “him” meaning Zarahemla. Based on this interpretation, the move of the specific group of people occupying the land of Zarahemla occurred not long before the arrival of Mosiah₁, perhaps sometime around 250 BC.

This reading could also differentiate “the wilderness” where Zarahemla moved to (which became the land of Zarahemla) from the “south wilderness” where the early people of Mulek occupied, as the “south wilderness” correlates with a portion of the land of Bountiful and the ancient Jaredite wilderness in the land southward adjacent to the city of Lib₁.

The interpretation favored by Skousen (2005b, 1464–1470) is that the initial group of founders from the Old World was “Mulek, and those who came with him into the wilderness.” Under this interpretation, the entire body came with Zarahemla, or at least if there were people left behind, they are not mentioned. This interpretation also means that we don't know when the group moved from the south wilderness/land of Bountiful area to the land of Zarahemla other than that it was sometime after approximately 450–400 BC based on the visit of Coriantumr₂. This interpretation also leaves open the possibility that the people of Zarahemla occupied a land which was not a wilderness and had prior or existing occupants.

The Book of Mormon does indicate that the last king of the Jaredites, Coriantumr₂, visited the people of Zarahemla for a period of nine “moons,” but it does not say exactly when that occurred, although it was likely after they moved to the south wilderness as they may have moved to avoid the Jaredite conflict. Ether 13:21 does indicate that Coriantumr₂ would receive a burial by “another people receiving the land for their inheritance,” indicating that he died at the end of the nine-moon period with the people of Zarahemla. That they were able to communicate with him would indicate that they were still in the Olmec language area or had just recently relocated.

Based on the readings of the statements so far in the Book of Mormon, there is no clear indication that the people of Zarahemla prior to Mosiah₁ directly observed the ruins and destruction for which the land of Desolation was named.

At this point, because of a paucity of information involving the people of Zarahemla and Mulek, a more specific chronology is difficult to establish. However, the order of geographic movement is possible to determine as follows:

1. Landing in the land of Desolation
2. Establishment in the area of La Venta
3. Movement to the “south wilderness” (later portion of the land of Bountiful)

4. Movement to the land of Zarahemla

Figure 81 indicates the geographical locations related to the people of Zarahemla. The locations are generally placed because they are only generally known. The location of Zarahemla is a general location based on the Sorenson model. This sequence generally aligns with the Zoque linguistic migration after around 500 BC, as discussed by Gardner (2015, 222).

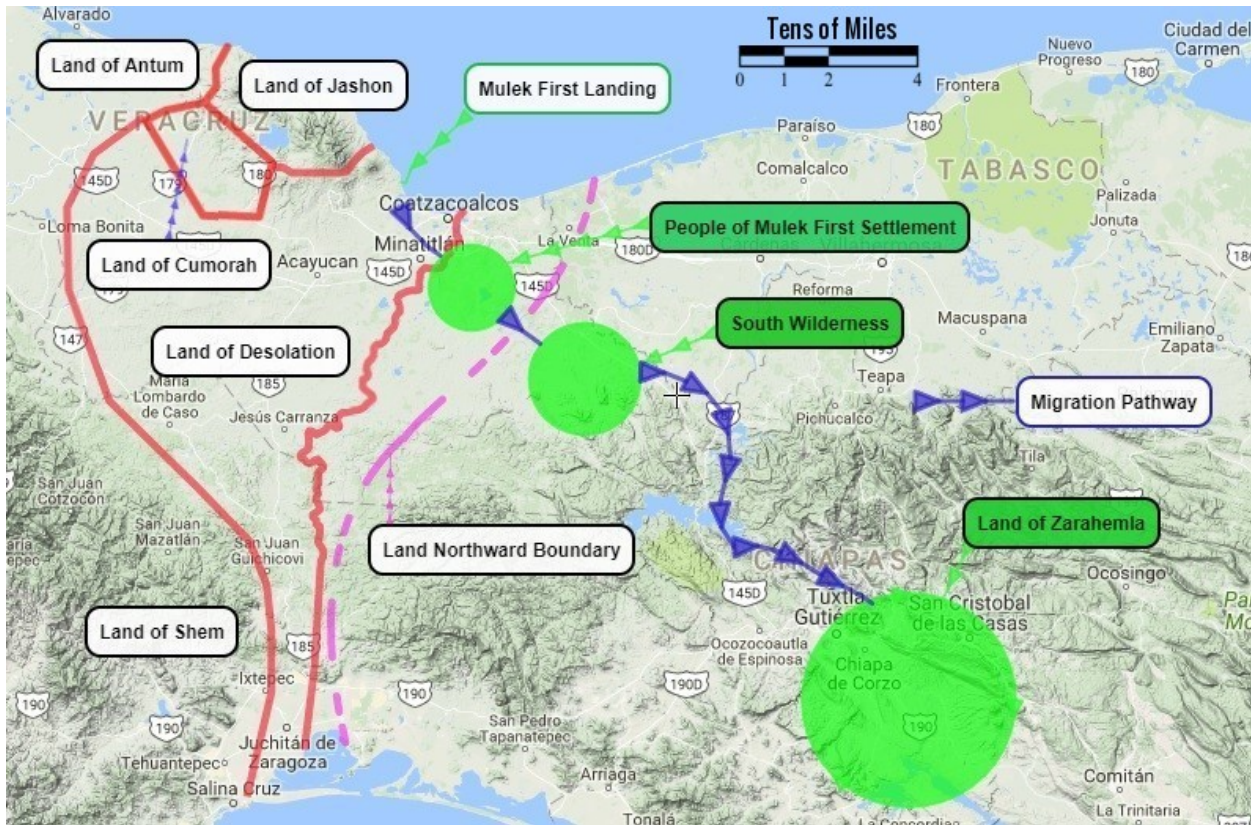


Figure 81. Movements of the people of Mulek (people of Zarahemla).

Chapter 18

A Note on Jaredite Populations

It should be noted that in addition to the various battles, there are three significant Jaredite population reductions noted in the book of Ether. Any effort to place the Jaredites in Olmec lands should take these population reductions into account.

The first was at the time of Omer.

Ether 9:12

And there began to be a war between the sons of Akish and Akish, which lasted for the space of many years, yea, unto the destruction of nearly all the people of the kingdom, yea, even all, save it were thirty souls, and they who fled with the house of Omer.

This event, based on the method I provided earlier, would have occurred approximately 280 years after the Jaredite departure.

The second population reduction was at the time of Heth (who was also claimed by this reduction):

Ether 9:31–32

31 And there came forth poisonous serpents also upon the face of the land, and did poison many people. And it came to pass that their flocks began to flee before the poisonous serpents, towards the land southward, which was called by the Nephites Zarahemla.

32 And it came to pass that there were many of them which did perish by the way; nevertheless, there were some which fled into the land southward.

This second event, based on the method I provided earlier, would have occurred approximately 520 years after the brother of Jared.

Finally, during the rule of Shiblom there was also large reduction in population:

Ether 11:5–7

5 And it came to pass that the brother of Shiblom caused that all the prophets who prophesied of the destruction of the people should be put to death;

6 And there was great calamity in all the land, for they had testified that a great curse should come upon the land, and also upon the people, and that there should be a great destruction among them, such an one as never had been upon the face of the earth, and their bones should become as heaps of earth upon the face of the land except they should repent of their wickedness.

7 And they hearkened not unto the voice of the Lord, because of their wicked combinations; wherefore, there began to be wars and contentions in all the land, and also many famines and pestilences, insomuch that there was a great destruction, such an one as never had been known upon the face of the earth; and all this came to pass in the days of Shiblom.

The Shiblom event corresponds roughly with the abandonment of the Olmec city of San Lorenzo, with the reign of Shiblom starting in 750 BC. San Lorenzo was the largest city in Mesoamerica from roughly 1200 to 900 BC. By 800–

750 BC, there was little or no population, although there was an important recolonization of the San Lorenzo plateau from 600 to 400 BC.

Some of the potential causes of the Heth and Shiblom events were previously discussed and also dealt with in the *Geology of the Book of Mormon* (Grover 2014). When attempting to place the Jaredites into the Olmec realm, one should be cognizant of these population reductions.

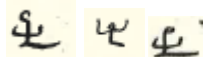
After completing the translation of the Caractors Document, one character (C-201) in particular provided some insight into the use of the word *millions* in the reformed Egyptian. The word for this character, meaning “multitude” in Egyptian, is *hh* (Chicago Demotic Dictionary 2014 CDD H (09:1) page 248).

C-201 

The Egyptian character from which it is derived is:



1000000



Demotisches Glossar (Erichsen 1954, 328)

The sign for one million could also mean “multitude” or “countless quantity.” After the Early Dynastic period (circa 2700 BC) this nonspecific interpretation of one million was the primary one (Grover 2015, 53, 140–41).

The only reference in the Book of Mormon to the word *million* is found in Ether 15:1–2:

1 And it came to pass when Coriantumr had recovered of his wounds, he began to remember the words which Ether had spoken unto him.

2 He saw that there had been slain by the sword already nearly two millions of his people, and he began to sorrow in his heart; yea, there had been slain two millions of mighty men, and also their wives and their children.

In light of the insight from the Caractors Document, the word *million* is not some enumerated population census but may just mean a large number of people. In that case, one might ask why the reference would be to “two millions” instead of just millions. The Caractors Document may also provide the answer to that, as the number glyph there is a stylized version of the number intended to incorporate the glyph for the name of Laman (C-106 and C-215) in the glyphs for Lamanites, so essentially the number glyph is incorporating the group it is referencing.

C-106  C-215 

In the case of the Jaredites, it may be that the actual glyph text of the Book of Mormon provides two separate characters—one identifying the followers of Coriantumr₂, and the other identifying the followers of Shiz (or his predecessors in battle against Coriantumr₂).

Also potentially of note is the fact that Coriantumr₂ is looking at the situation retrospectively, so one should not assume that all those slain by the sword died in one event, but the population reduction may go back years to when the prophecies of complete destruction are noted seven generations earlier with Com (Ether 11:1).

Section III: Culture

This final section deals with Jaredite culture. *Culture* here is defined broadly. We will explore everything from language to numbers to material culture, such as sculptures and records. Each chapter in this section is a separate exploration into how an element of Jaredite history or society described in the Book of Mormon illuminates or is illuminated by the examination of Olmec culture.

We previously explored possible Sumerian calendrical and metrological (measurement) influences on Mesoamerican culture via the Jaredites. We will now explore whether the Sumerian numeric system may have influenced Mesoamerican numeric systems by way of the Jaredites (chapter 19).

This section also examines the Book of Mormon glyph (on the Caractors Document) for the name *Jaredite* (chapter 20). Comparing this glyph to characters in other languages, it becomes evident that it is of Egyptian origin and has a range of meanings related to the historical founder of the Jaredite nation. This implies that *Jared* may have been a name assigned to this figure by the Nephite translator of the Jaredite record rather than his Mesopotamian birth name. In turn, this realization has intriguing implications for understanding the translation process underlying the Book of Mormon itself.

Olmec culture is most popularly known for the creation of colossal sculptures believed to depict the heads of Olmec kings. These heads are not identical to one another but have distinctive features. The distinctive features of these heads can be correlated with several of the Jaredite kings based on information about those kings in the Book of Ether narrative and given the Sumerian meanings of their names (chapter 21). The Book of Mormon may thus give personal names and narratives to the otherwise anonymous individuals depicted in these unique Olmec sculptures.

Ether, the last Jaredite prophet and rightful successor to the Jaredite throne, is described as having lived during the final Jaredite wars “in the cavity of a rock.” Given the Mesoamerican cultural context, this should be understood as more than a description of Ether’s domicile. Caves had mythic, ritual, and social meaning among the Olmec: as putative divine offspring, kings were understood to emerge into this world from the underworld via caves, as described in chapter 22.

A distinctive event in Jaredite culture was the creation of steel swords by Shule. These swords appear to have become relics in the Jaredite “sacred bundle.” But why are steel swords uniquely manufactured at this point in the Jaredite narrative? And how does the manufacture of such swords relate to metallurgy among the Olmec? These questions will be taken up in chapter 23.

The Lamanite converts to the Nephite religion, become known as the Anti-Nephi-Lehites, renounced war and buried their weapons. This reflects a known cultural practice of the Olmec, votive weapons offerings, discussed in chapter 24.

This section, and the book, end with an analysis of the source of most of our information about the Jaredites—the twenty-four plates. What was the name of this record and the glyph representing it, and what do these tell us about the record’s nature and meaning? Was it a unitary record, a record of single authorship, or a set of records? What was the size of the record, and how much content did it convey? These questions are taken up in our final chapter, chapter 25.

Chapter 19

Sumerian Numeric System Comparison

Similar to the 260-day calendar discussion, since the Nephite gold/silver metrological system and some of the reformed Egyptian numerals originate from or have some commonality with the early Sumerian system, the question comes to mind whether there may be some indication of Sumerian/Elamite influence on other Mesoamerican numeric systems. In trying to make this comparison, one has to keep in mind that there are always some chance associations that will be present. Considering that the Jaredite migration occurred around 2600 BC and consisted of a very small group of people entering a populated area with a long cultural history of its own, in comparing it with Mesoamerican systems occurring 2,000 to 4,500 years later, one would not necessarily expect much, if anything, to be present.

However, numerals and number systems do have a way of exhibiting some continuity over long timespans. Since Mesoamerica appears to have had a much more limited exchange with other cultures than those in the Middle East, perhaps there may be some evidence of connection present.

Summary of the Early Sumerian Number System

Numerical notation first developed in Mesopotamia around 3500 BC. However, Mesopotamian numeration has been described as a “dead end.” The numerals did not spread geographically far beyond their point of origin and did not survive when placed under pressure from numerical notation systems of later inhabitants of the region. As discussed earlier, the Sumerian proto-cuneiform consists of multiple numeric systems, and some identical signs appear to have different values in different systems (Chrisomalis 2010). All of the Sumerian systems appear to be cumulative-additive, although some individual signs are formed multiplicatively, that is, $600 = 60 \times 10$ (see figure 82).

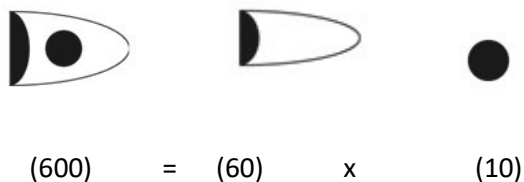


Figure 82. Example of a numeric sign formed multiplicatively in Sumerian proto-cuneiform.

Cumulative additive means that there are many signs per power of the base and that the sum of those values is taken to obtain the total value. An example of this type of system would be classical Roman numerals: CCCXXIII means $100 + 100 + 100 + 10 + 10 + 1 + 1 + 1 + 1$, or 324 in our system. The recovered proto-cuneiform texts are primarily accounting documents. While some of the proto-cuneiform systems don't have systematic classifications, there are sexagesimal systems (consisting of numeric signs that alternate between factors of 6 and 10), bisexagesimal systems (consisting of numeric signs that alternate between factors of 6 and 10 but have some intermediate signs arrived at by using a factor of 2), systems to calculate area, and the U_4 system, which was used to record time and calendrical units.

The number system of the area adjacent to Sumer known as Elam is represented by Proto-Elamite number signs, was very similar to the Sumerian proto-cuneiform system.

In addition to the written number system, it is also important to look at the verbal number system to determine the utilization of base or subbases within the system. While we don't know with any certainty the verbal nomenclature of the early Sumerian proto-cuneiform number systems, looking at what we know of the verbal names for Sumerian numbers helps us see that verbal Sumerian numeric notation consisted of different bases depending on where one is in the number system. A decimal-sexagesimal system, with elements of a subbase 10 and a base 60, describes the system with numbers above 60. Below 60 the number system is quinary-vigesimal with traces of decimal counting, meaning it is a subbase 5 and a base 20 system, with some traces of counting by 10s (Seidenberg 1965). More precisely, it is a cross between a quinary-vigesimal system and a decimal system, with the vigesimal dominating up to the base 60.

At the beginning of the Early Dynastic period (2900–2350 BC) significant changes were made to the script in the region. The older ideographic proto-cuneiform system slowly transformed into a writing system that used wedge-shaped (cuneiform) signs. However, despite the change to the script, the proto-cuneiform numeral signs remained identical to the archaic proto-cuneiform symbols. Around the 27th century BC, the numerals, along with the rest of the script, were rotated and written horizontally.

A positional number system was eventually adopted in Mesopotamia. The earliest assertion of this development is during the Early Dynastic IIIb period as part of a metrological (measurement) text (2500–2350 BC) (Whiting 1984). The system had a zero concept but essentially used a blank space for zero instead of a specific character.

Mesoamerican Systems

Bar-and-Dot System

The bar-and-dot numerals were the most commonly used system in lowland Mesoamerica, both on stone monuments (400 BC–910 AD) and in the four surviving Maya codices (1000–1500 AD). The numbers from 1 to 19 in this system are written by combining a dot sign for one and a bar sign for five additively (see figure 83).































0 	1 	2 	3 	4 
5 	6 	7 	8 	9 
10 	11 	12 	13 	14 
15 	16 	17 	18 	19 
20 	21 	22 	23 	24 
25 	26 	27 	28 	29 
Mayan positional number system				

Figure 83. Maya positional number system

Also, in Maya monumental inscriptions (see figure 84) and in Maya codices (see figure 85), the number 20 takes different forms.



Figure 84. Monumental Maya forms of the number 20. (Morley 1915)

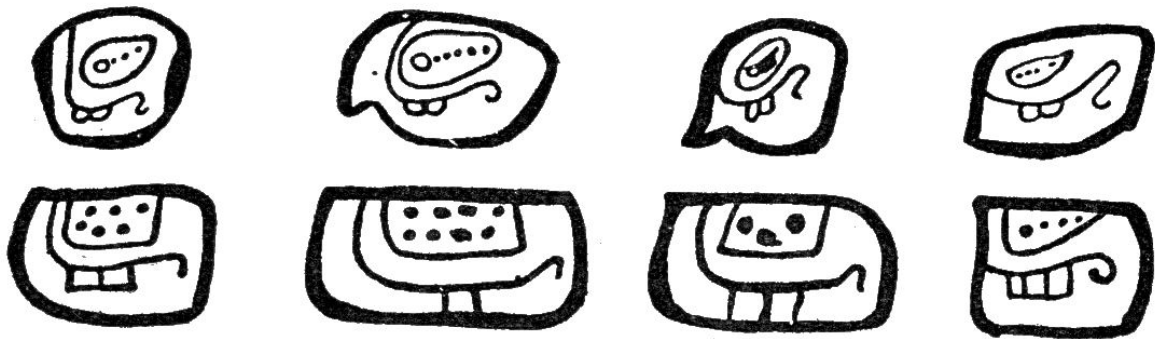


Figure 85. Codex Maya forms of the number 20. (Morley 1915)

The Maya/Mesoamerican Long Count calendar required the use of zero as a placeholder within its vigesimal positional numeral system. A shell glyph was used as a zero symbol for these Long Count dates (see figures 86 and 87). These values of zero were not really used as a zero in the Western sense; normally, it served as a placeholder within dates, with the rough meaning of “completion of a given cycle of time.”

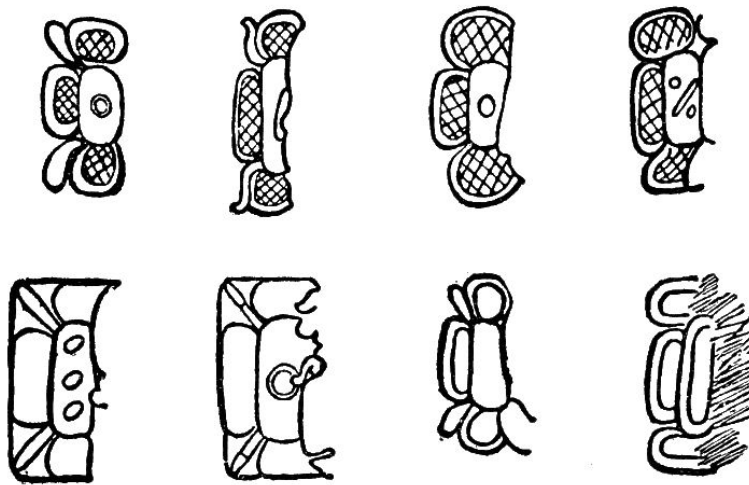


Figure 86. Monumental Maya forms of the number zero. (Morley 1915)

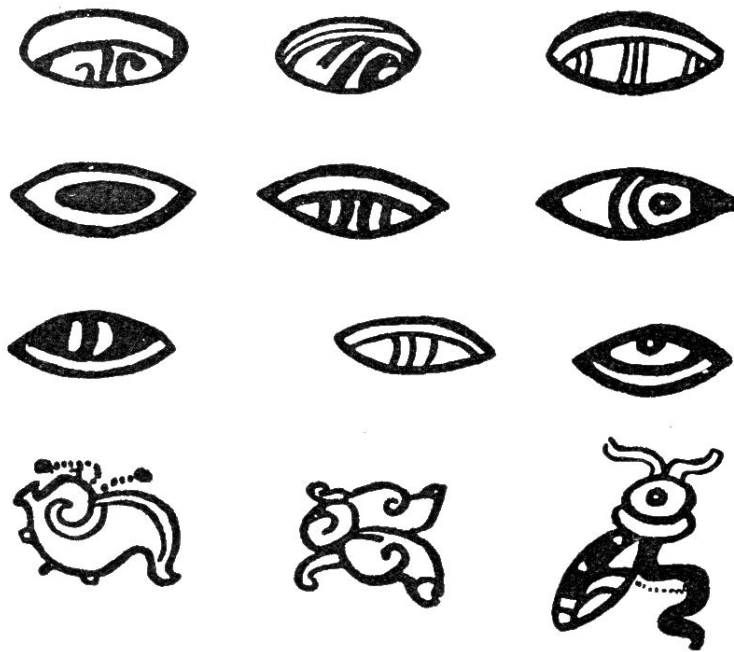


Figure 87. Codex Maya forms of the number zero. (Morley 1915)

The bar-and-dot system occurred in all three of the major Formative period (1000–400 BC) Mesoamerican script traditions: Isthmian (Epi-Olmec), Zapotec, and Maya. The written Maya system is considered to have a quinary-vigesimal structure (subbase 5, base 20). The verbal Maya system, which is known at a much later date, is a vigesimal structure (base 20) with a decimal subbase (base 10) for numbers less than 20.

Aztec Number System

The Aztec possessed a vigesimal numerical notation system, with multiple signs for the same numeral (see figures 88 to 91). The signs were combined in a cumulative-additive system, written in horizontal rows with the highest powers on the left. Unlike the Maya, the Aztecs did not always use a separate sign for five but would instead make groups of identical signs into groups of five.

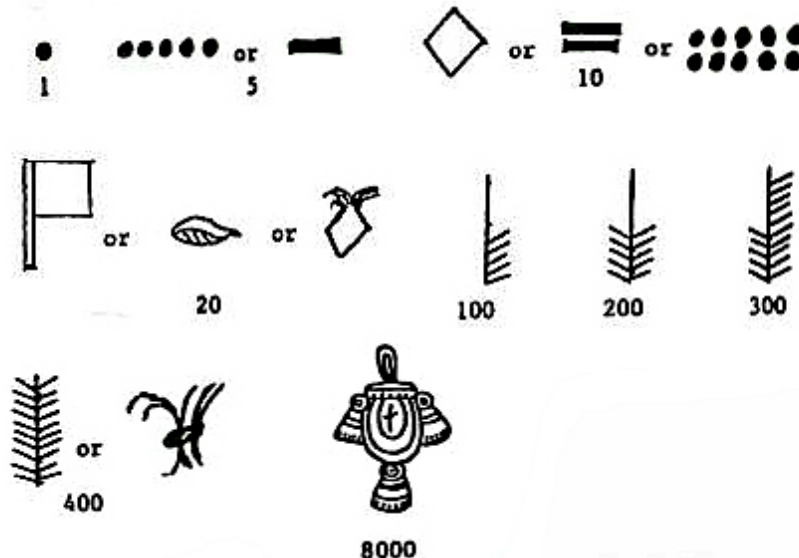


Figure 88. Aztec numbers set one. (Ortiz-Franco 2002, 239)

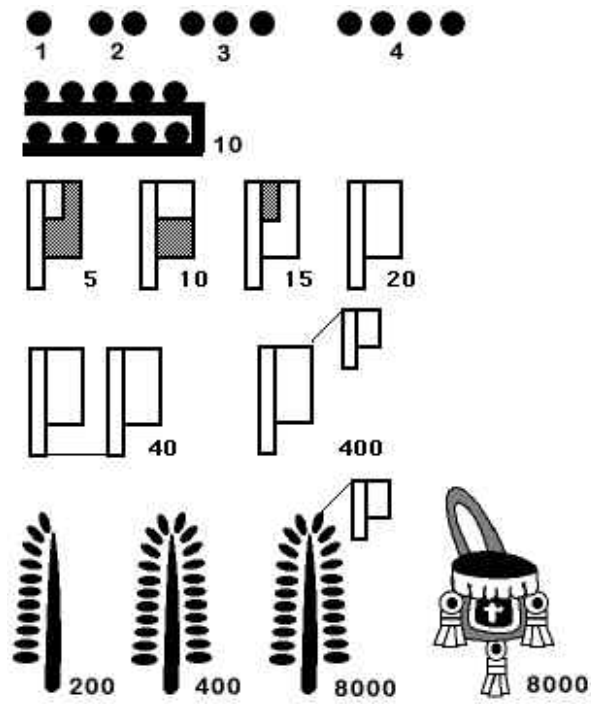


Figure 89. Aztec numbers set two. (Learning Connection 2015)

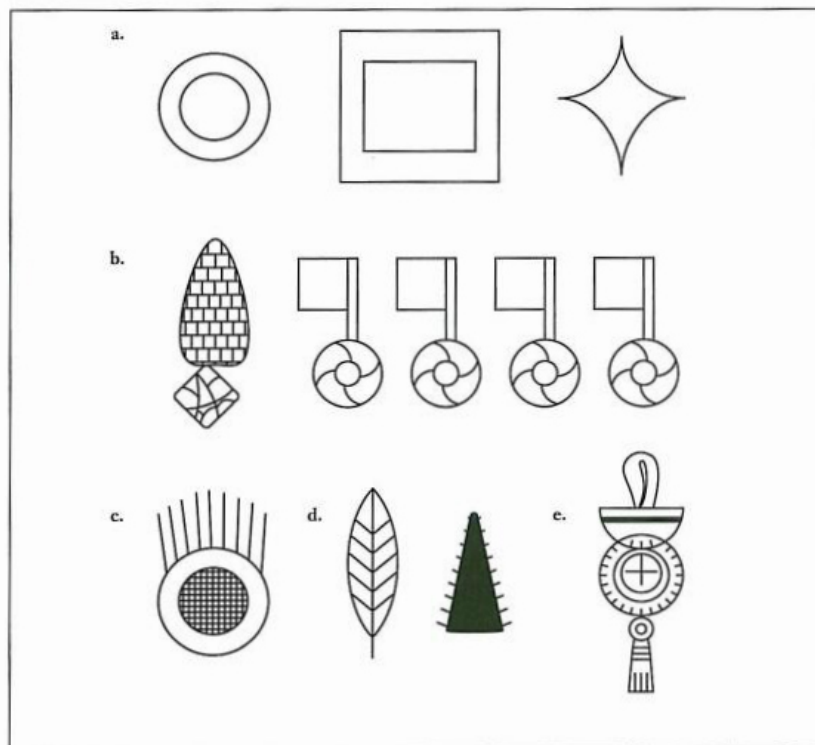


Figure 90. Aztec number glyphs set three: a) symbols for the number 10; b) symbols for the number 20; c) symbol for the number 80; d) symbols for the number 400; e) symbol for the number 8,000. (Aguilar-Moreno 2006, 313)

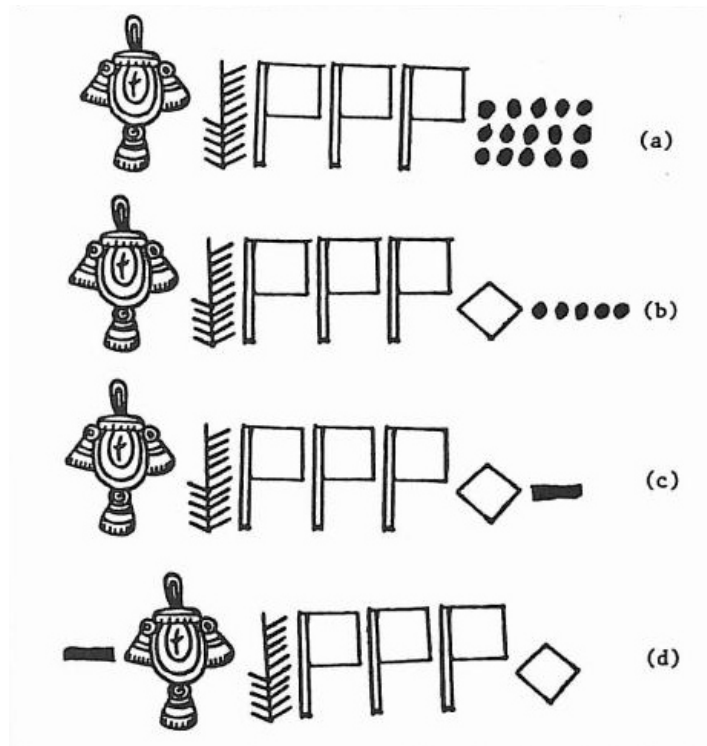


Figure 91. Four ways of writing 8,375 with Aztec number symbols. (Ortiz-Franco 2002, 241)

In addition to the Aztec script, we know how the Aztecs identified their numbers in the spoken language (Nahuatl). Since people still speak Nahuatl today, this provides a useful comparative tool. For the numbers up to 100, the system operates verbally as a base 20 system operates, with a subbase of 5 and 10. From 20 to 100 it is base 20, with a subbase of 5 between the factors of 20, with separate stratum steps (words) using the words for 5, 10, and 15. Its classification would be considered quinary-vigesimal with traces of decimal counting.

Texcocan Line-and-Dot System

The city of Texcoco in the province of Tepetlaoztoc was located in the valley of Mexico. It was a regional power before and after the Spanish conquest. Documents from the city indicate a number system that was a base 20 with a subbase of 5. The sign for 5 was a comb-like symbol with five lines. A grouping of a set of five dots was sometimes used to make 100 (see figure 92). It was a cumulative-additive system. Numeral phrases were written in a variety of directions but were always arranged from the highest to lowest sign (Harvey 1982, 191; see figure 93). Higher numbers used Aztec type symbols such as a bag or sack for 8,000 and the bush or tree for 400.

1	5	20	100
		•	•••••

Figure 92. Texcocan line-and-dot numerals. (Chrisomalis 2010, 304)



Figure 93. Numerical phrase from the Codex Kingsborough, circa AD 1550, enumerating the population of Tepetlaoztoc at 27,765 ($[3 \times 8,000] + [9 \times 400] + [8 \times 20] + 5$). (Chrisomalis 2010, 305)

Various modifications of this system have been found. The Códice de Santa María Asunción contains this number system that expresses the numbers positionally rather than additively, meaning the number value is changed based on its position. These different positions were made relative to a land registry. In this system, in one position dots and lines were used to indicate numbers up to 19. In a second, lower position, units and groups of five indicated multiples of 20 units, but no dots were used in this position. When dots were found, they occurred above the base second position; this upper position also counted multiples of 20, and in this upper position a line is equal to 20 and a dot is equal to 400.

In this system, the position of the dot changes the value. This system also has a zero-type glyph called the *cintli* (corn) glyph.

Comparison of the Archaic Sumerian Numerical System to Mesoamerican Systems

Attempting to compare the not fully understood Sumerian proto-cuneiform numerical system that would have come with a small group of travelers around 2600 BC to the Mesoamerican systems of the Formative Maya, Zapotec, Epi-Olmec, and later Aztec thousands of years later is no easy task. It is quite apparent that there has been significant fragmentation as well as unique invention in the later Mesoamerican numeric systems from what the Olmec may have been using. Nevertheless, even though there has been indisputable early trade contact in the New World from various parts of the world (Sorenson et al. 2013), one would not expect the kind of diffusion and borrowing that has occurred elsewhere in the world with numeric systems in Mesoamerica because it was significantly more isolated. As a result, one might be able to identify traces of the Sumerian system that were incorporated into these later Mesoamerican systems.

When evaluating connections between neighboring or ancestral numerical systems, Stephen Chrisomalis (2010) has proposed the following criteria for borrowing to differentiate those that may have been independently invented versus those that have borrowed or significantly utilized other systems:

1. Use of the two systems at the same point in time
2. Similarity in structural features
3. Similarity of forms and values of numeral signs
4. Known cultural contact between the regions where the two systems are used
5. Use of ancestor and descendant systems in similar contexts
6. Geographic proximity of the regions where two systems were used

Use of Two Systems at the Same Point in Time

This parameter is used to determine if direct borrowing or adoption has occurred. In the case of Sumerian, the time depth is much deeper than the Mesoamerican systems that we are looking at. The analysis here is an ancestral link, not a contemporary borrowing.

Similarity in Structural Features

Potential similarities in structural features between the systems are:

1. Both have combination vigesimal, quinary, and decimal structures.
2. Both have multiple signs for the same value (primarily Aztec).
3. Both have at least some positional numeric systems.
4. Both have the concept of zero, and in both it functions as a placeholder.
5. The Aztec and Sumerian systems are cumulative additive.

Similarity of Forms and Values of Numeral Signs

For purposes of this work, only a preliminary conceptual comparison is included. Additional research is required in order to describe and compare equivalent elements between the Sumerian and Mesoamerican systems.

Known Cultural Contact

The known cultural contact is based on a small group of immigrants coexisting or being incorporated into a native population. Since the point of the analysis is to see if there is an indication of this occurring, this parameter is assumed. Chrisomalis characterized this parameter as a “weak measure” and only to be used as a last resort in making these sorts of determinations.

Use in Similar Contexts

Generally speaking, from what we know of Sumerian and Mesoamerican use of numeric systems, they were used for religious, calendrical, and other trade uses, so the numeric system would generally be considered to have been used in similar contexts.

Geographic Proximity

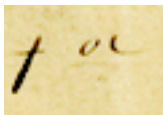
The geographic proximity is based on a small group of immigrants coexisting or being incorporated into a native population. Since the point of the analysis is to see if there is an indication of this occurring, this parameter is assumed. Chrisomalis characterized this parameter as a “weak measure” and only to be used as a last resort in making these sorts of determinations.

Chapter 20

The Jaredite Reformed Egyptian Glyph

What was the Nephite name for the Jaredites, and what does this name reveal about the Nephite understanding of the Jaredites and about the process of prophetic translation of records?

The name for the Jaredites in the Caractors Document consists of characters C-51, C-50, and C-49:



C-51, C-50, C-49

Characters C-49 and C-50 are actually one glyph. Under close examination of the images of the Caractors Document, both in color and in the 1886 black-and-white version, there is a line that underlies both characters.



(1886)

The Book of Mormon Onomasticon's evaluation for the etymology of *Jared* is a bit tentative because of the Jaredite linguistic origin:

Jared may be derived from the same Hebrew root as the biblical name, "Jared," namely, *yrđ*, "descend, go down."

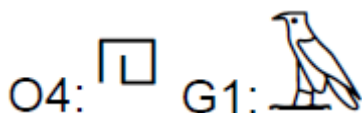
Since there are other directional implications for the underlying line, the two upper symbols will be looked at initially (excluding the word *tribe*, which is the adjacent glyph to the left). A spot-on definitional match for these upper characters are the Egyptian words *ʒh* and *hʒ*. Like other creative wordplay associated with names in the Caractors Document, this glyph has comparable meanings when read either forward or backward. Taking the reverse reading first (*hʒ*), and considering the masculine, feminine, and verb forms, the various definitions for this Egyptian word are

- "to descend, to go down into a boat, to travel by sea" (Budge 1920, 1:438)
- "ruin, destruction, to fall, to attack, to perish" (Chicago Demotic Dictionary 2014, H (01.1), 1–13)

Anyone familiar with the story of the Jaredites will know that this perfectly describes the origin and end of the Jaredites. The forward reading (*ʒh*) is defined as

- "pain, grief, trouble, loss, sorrow, misery, destitution, sadness, ruin, woe" (Budge 1920, 1:7)
- "dispute, battle" (Chicago Demotic Dictionary 2014, ʒ (02.1), 60)

The short forms in the hieroglyphics for these words (Budge 1920, 1:7, 438) consists of Gardiner Numbers O-4 and G-1:



Hieratic forms closest to the Caractors glyphs are:



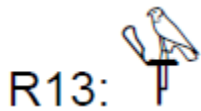
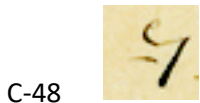
Möller Number 342, Bd. III-32-72-Taf, III 339–44 (Möller 1965)



Möller Number 192, Bd. III-1-31, III 187–94 (Möller 1965)

Inclusion of the underlying line will render a directional meaning that is discussed elsewhere. This directional meaning is consistent with the location of the Jaredites within the Book of Mormon geography.

Character C-48 (adjacent to the glyph for the Jaredite plates) is either an adjective used to describe the Jaredite plates or indicates the location from which they come. C-48 is the hieratic version of the following Egyptian glyph (Gardiner Number R-13) and in the hieratic Möller Number 189:



Westcar	Golen.	Ebers
 8,19	 1,3	 36,15 100,2

Möller Number 189, Bd. I-1-22, p. I 189–96b (Möller 1965)

The character is an ideogram for the Egyptian word for the West, *ʾmnt* (Gardiner 1957, 502), which would be consistent with the location of the Jaredites. It also is the hieroglyphic symbol representing Duat (also known as Tuat and Tuaut or Akert, Amenthes, Amenti, Imenet, or Neter-khertet), the Egyptian Land of the Dead (Budge 1920, 53). Of course, this obviously symbolizes the Jaredite demise, considering the description of the Jaredite lands being “covered with dry bones” (Mosiah 21:26–27):

26 Nevertheless, they did find a land which had been peopled; yea, a land which was covered with dry bones;
yea, a land which had been peopled and which had been destroyed; . . .

27 And they brought a record with them, even a record of the people whose bones they had found; and it was engraven on plates of ore.

This character is considered the equivalent of the land of Desolation mentioned throughout the Book of Mormon.

The character set for *Jaredites* has an amazing number of levels of meaning, all describing the origin, demise, and location of the Jaredites.

The Egyptian characters and Egyptian definition of *Jared* give insight into the probable source of some of the Jaredite names. The Jaredite records were translated by Mosiah₂ by use of the interpreters. It is not known what language they were translated into. The definition for *Jared* here does not sound like a simple translation of an individual's name. The definition encompasses the genesis and demise of an entire civilization. It would seem that this name, at least in Egyptian, must have been given "after the fact" by the Nephites, because, barring some prophetic intervention by Jared's father at his birth, the genesis and demise of the civilization would not have been known.

Some of the names in the Book of Ether are clearly biblical, Jared being one of them. It would seem that perhaps the translation of the plates of Ether involved some places and names that the Nephites already had terms for, and those are reflected in the biblical names found in the Book of Ether. In the case of Jared, it certainly raises some distinct issues relative to both of the translation processes that the name has apparently undergone.

Chapter 21

Colossal Olmec Heads

In the Book of Ether, there are only three principal Jaredite geographical places mentioned related to governance: the land of Moron, the land (and city) of Nehor, and the great city built by Lib₁. In Olmec archaeology, there are four principal cities that have been identified: Tres Zapotes, San Lorenzo, La Venta, and Laguna de los Cerros. The Olmec evidence of specific rulers is one of the most well-known features of the Olmec in the form of carved, colossal heads. There are currently 17 known Olmec heads, and none are located in Laguna de los Cerros; all are located in the following Olmec cities or their environs:

San Lorenzo	10 heads
La Venta	4 heads
Tres Zapotes	3 heads (including the Cerro Vigia Cobata head)

The Olmec colossal heads are generally recognized by scholars as the human representations of individual Olmec rulers and were likely used to recreate mythical and historical events (Cheetam and Blomster 2017, 33–34; Grove 2014, 175).

In following the line of succession in the Book of Ether, it is not always clear in which land the king resided of the three possibilities. The colossal heads clearly postdate the early Jaredite timeframe (2600–2023 BC). For the most part, except for brief splits in the kingdom, these early kings resided in the land of Moron, which was also referred to as the “land of first inheritance.” Based on the previous geographical analysis, the land of Moron is in the vicinity of Tres Zapotes. The great city of Lib₁ has been determined to be La Venta.

While the relatively later abandoned city of San Lorenzo corresponds with Ogath, a place name is not known for the time it was occupied, but it was likely considered part of the land of Nehor. Support for this conclusion can be found in the etymology of Nehor. In Hebrew, Nehor means *river*, which is consistent with San Lorenzo sitting on an island in the Coatzacoalcos River system. According to the Book of Mormon Onomasticon (2017), the derivation of *Nehor* in Egyptian is *n-hr*, which means “belonging to Horus.” Horus is the Egyptian bird god and was the Nephite description of the Principal Bird Deity and its manifestations (Grover 2017). The shape of the San Lorenzo plateau has been interpreted by archaeologist Michael Coe as the wing and tail feathers of a great bird effigy flying eastward (Coe 1989, 80; Coe and Diehl 1980, 27–28). Some portions of the bird features on the plateau may, however, be erosional features (Cyphers et al. 2014, 74–75). While this may be true, generally, erosional features follow pre-existing channels or areas of differential weakness, so the features may still have been a design on the original plateau. Many of the helmets of the colossal heads at San Lorenzo also feature bird-related motifs.

The construction of the San Lorenzo stone heads has been dated to the Preclassic period of Mesoamerican chronology, generally to the Early Preclassic (1500–1000 BC). Cyphers argued that monumental sculptures did not exist at San Lorenzo prior to 1150 BC (Cyphers 2012, 87). Some of the La Venta heads may have been made from 1000–600 BC, based on nearby radiometric dating. The Tres Zapotes heads are believed to be late in the Olmec timeframe. According to the Book of Ether and the calculated chronology, we can approximate the following timeframes and locations of the kings that actually served (excludes those who were held in captivity):

San Lorenzo—(1420–1065 BC)

Morionton, Kim, brother of Kim, son of the brother of Kim (?), Levi, Corom, Kish, Lib

La Venta or Tres Zapotes—(1065–955 BC)Lib₁, HearthomLa Venta or Tres Zapotes—(955–400 BC)

Four(?) unknown kings, Com, Amgid, Shiblom, unknown king, Ahah, Ethem, Moron (likely at Tres Zapotes), “mighty man” in iniquity (likely at La Venta), “mighty man” descendant of brother of Jared (likely at Tres Zapotes), Coriantumr₂ (at Tres Zapotes)

It is also possible that colossal heads were made for historic kings from the beginning of the Jaredite period, which is considered quite likely given the Mesoamerican penchant for establishing royal lineage to boost the current king’s bona fides.

Given the possibility that there may have been unmentioned kings before Morionton, the number of 10 colossal heads as kings can be accommodated at San Lorenzo by the Jaredite record in the San Lorenzo timeframe, and there are more than seven possible Jaredite kings in La Venta and Tres Zapotes. At San Lorenzo, the inclusion of deserving living and long-dead rulers in Olmec/Jaredite history arrives at a total number fairly close to those named in the Jaredite records. The Jaredite record of rulers is not inconsistent with the location and time period of the colossal heads.

Eight of the ten San Lorenzo heads show what look to be artificial, non-natural damage: four have a few drill holes, while the other four have much more extensive damage. One of the possible explanations is political upheaval, so it is also useful to see if the Jaredite record is consistent.

The only known hostile takeovers during the San Lorenzo timeframe were the overthrowing of Kim by his brother, and Kim’s son Levi overthrowing the then king (it may have been Kim’s brother, but the text does not say). Based on this information, the mutilation does not appear to have occurred individually at San Lorenzo for political reasons during the San Lorenzo period of occupation. If mutilation for political reasons occurred, it looks to be a later event, with all mutilation happening at one later period of time, perhaps later in the Jaredite history when the rival lineage took power, defacing all representations of the competing royal lineage. Diehl (2007) summarizes potential reasons for the defacing: 1) periodic, and tied to ritual cycles, 2) each change in ruler or ruling dynasties at the site, or 3) mutilation at the death of a ruler (120–21). None of these reasons is consistent with the fact that there is non-uniformity in the damage to each head, and some have little or no damage. Most of the heads are drilled, with some having pieces of basalt knocked off where the dimensions allowed it (i.e., protruding lip).

Archaeology at San Lorenzo has identified a workshop location for the recycling of stone monuments (Diehl 2007, 62). Given the long distance to the source of stone of the Tuxtla Mountains, it makes perfect sense that later populations would put a premium for the recycling of basalt. The mutilation of the monuments being related to basalt recycling has been suggested by Porter (1989). The fact that the primary damage of the heads at San Lorenzo are from drilling or cutting of slots seems indicative of an attempt to obtain basalt by cracking or breaking off pieces by penetrating into the basalt stone. The evidence also indicates that this is likely to have happened after the heads were displaced. The type of drilling that was practiced anciently relied upon preferred gravity and weight of the drill to apply the downward grinding force necessary to penetrate a hard rock like basalt. A partially buried head would present only certain surfaces for drilling. A comparison of the found position of the heads (including La Venta) and the likely downward direction and side of the drilling available on each head is as follows:

<u>Head identification</u>	<u>Found position</u>	<u>Location of the drilling</u>
SL-1	Face-up	On front of the head
SL-2	Face-up	On front of the head

SL-3	Indeterminate as head looks to have migrated down a gully, upside down, in a spring	On front of the head
SL-4	Lying down on right-hand side	No holes but basalt removed from both sides of back of head
SL-5	Face-up	On front of the head
SL-6	Semi face-down on left-hand side	On right side and right front of the head
SL-7	Face-up	On front of the head
SL-8	Lying down on left side	No holes
SL-9	Face-up leaning slightly to right-hand side	On the front of the head
SL-10	Face-up	On front of the head
LV-1	Upright, half buried	Crown of head
LV-2	Upright, original location	Lip and nose damaged, face, top of head, back of head, heavily eroded
LV-3	Upright, original location	Front, top, back, sides, heavily eroded
LV-4	Upright, original location	Top, heavily eroded
TZ-1	Upright, original location	Minor, back of head
TZ-2	Upright, original location	No damage
Cobata head	Upright, original location	No damage

It is possible, based on the nature of the damage, that basalt recycling may have been a motivation for at least some of the damage to the colossal heads. That much of the damage occurs on portions of the heads that are not buried and exposed indicates that the damage, if based on political reasons, would have occurred later in Olmec history, likely during a limited timeframe or episode.

It is notable that the Tres Zapotes heads and the nearby Cobata head have little or no damage. The San Lorenzo and La Venta heads did sustain damage, which would indicate that if the damage was based on politics hostile to the ruling line, the damage was based on a larger scale political division where the southern and eastern area experienced a political turnover hostile to the previous ruling line, which appeared to have occurred late in the Olmec history as the La Venta heads also experienced damage. The political conflict being later in Olmec time might also explain why the displaced and buried heads received damage relative to their aboveground exposed surfaces, indicating that the heads were there for some time before damage occurred. This is consistent with the final Jaredite conflicts, and with the geographical indications that the ruling of line of Ether and Coriantumr₂ were in the

Tuxtlas and north, whereas the rival and hostile lineage(s) were located to the south and east in San Lorenzo and La Venta.

Correlation of Specific Colossal Heads with Specific Jaredite Rulers

It is recognized that the distinctive motifs of the helmet-looking headdresses served as an identifying emblem for the ruler being portrayed. The headdresses were likely not helmets but instead are the two-dimensional representation of a three-dimensional headdress (Grove 2014, 174–75). Though somewhat speculative, it looks like it is possible to make some correlation between individual Olmec colossal heads and Jaredite rulers, especially in La Venta and Tres Zapotes. San Lorenzo requires a few more assumptions and is a bit less definitive, but some correlations are also possible there.

La Venta and Tres Zapotes

One assumption made here is that the colossal heads were only created for the ruling line of Jared, and then only for kings that completed their rule without being placed in captivity. This assumption is verified in comparison with the number of heads present in La Venta and Tres Zapotes.

There are eight rulers who were not in captivity mentioned in the Book of Ether following the establishment of the great city of Lib₁ (La Venta) and are in order:

Lib
Hearthom
Com₂
Shiblom
Ahah
Ethem
Moron
Coriantumr₂

While both Hearthom and Moron had their reigns cut short by captivity, Hearthom's direct line came back into power. It would be reasonable to assume that a colossal head could still have been constructed by descendants for Hearthom. Moron's son Coriantor was in captivity and then he begat Ether, so, although Coriantumr₂ was possibly a relation, Moron did not have the opportunity to have a colossal head constructed. Moron, because of his name, can also be assumed to have been born or affiliated with the land of Moron, which is the area of Tres Zapotes.

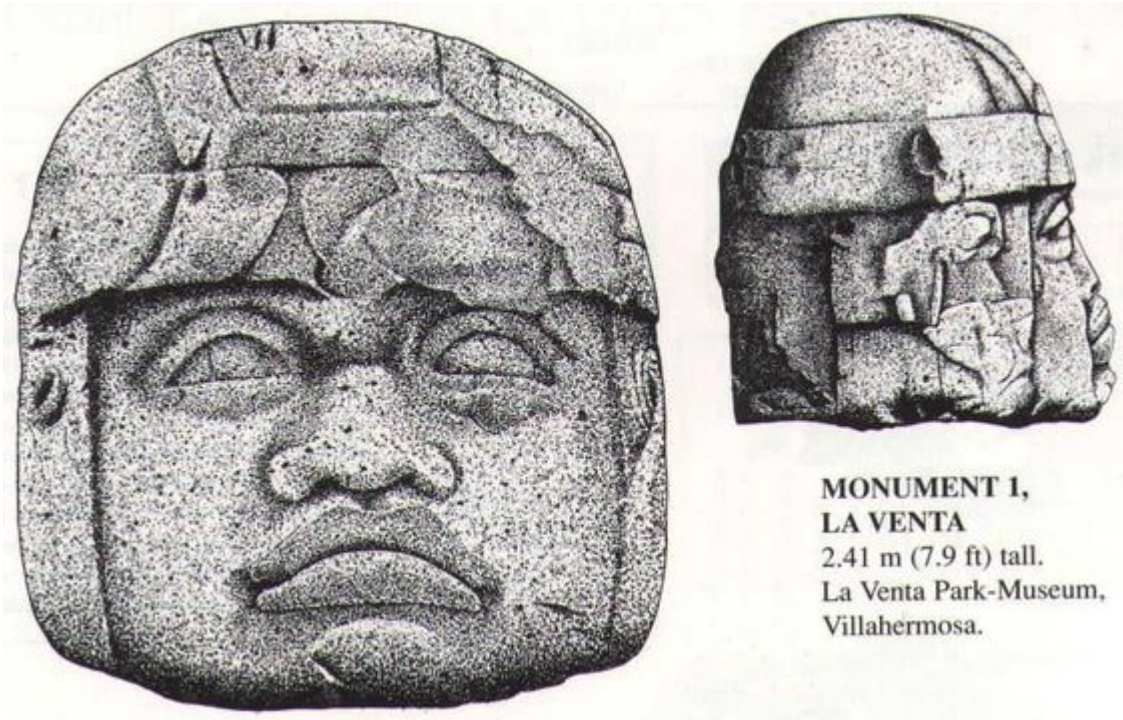
Based on this Jaredite ruling analysis, while the king was located at La Venta, Lib₁, Hearthom, Com₂, and Shiblom should be represented at La Venta, while Ahah, Ethem, and Coriantumr₂ would be reflected in the Tres Zapotes area. It should be noted that if Coriantumr₂ had a head created for him, it would have had to have occurred in his lifetime if done by the Jaredites, or afterward by the remnant of the Jaredites that were mentioned by Limhi. There clearly was a stela honoring him created after the civil war, which was constructed for him and brought to Mosiah₁. Therefore, it can be assumed that some form of a colossal head for Coriantumr₂ could have been made.

The archaeological history of La Venta indicates that there was a significant cultural change after 600 BC (Sorenson 2013, 536–45), which is roughly consistent with end of the Jared₁ ruling line at La Venta. According to the Jaredite chronology discussed earlier in the book, the Jared₁ ruling line was no longer in La Venta and was in Tres Zapotes by around 680 BC. The creation dates of the Tres Zapotes heads are unknown but thought to have been created sometime in the Middle Formative period (1000–400 BC) since the population of the site earlier than that was insufficient to provide the labor and political power necessary to create the heads (Pool 2007, 152). Therefore, creation of the heads post-680 BC is consistent with the current archaeological conjecture. The calculated Jaredite

chronology shown earlier in this book may need to be adjusted by 50 years or so later based on the evidence provided by the Olmec colossal heads.

So which colossal heads belonged to whom? The Olmec heads have all been recognized to be individual and unique. Each has a helmet or headgear that is unique with different motifs, geometric figures, and bands. The approach taken here will be to utilize a constructed Sumerian etymological meaning of the Book of Mormon name and compare it with the motifs or other elements of each head and see the amount of connections we can make. Multiple sources and examination of photos are utilized for the summary descriptions of each head and motif, and the figures in this section are from the same sources (Arqueología Mexicana 1995; Diehl 2004; Clewlow et al. 1967; Wikipedia 2017).





**MONUMENT 1,
LA VENTA**
2.41 m (7.9 ft) tall.
La Venta Park-Museum,
Villahermosa.

La Venta Heads

The La Venta 1 (LV-1) head is speculated to have been the portrait of La Venta's final ruler (Diehl 2004, Plate V). The Jaredite lineage at La Venta explains that leader would have been Shiblom. One must keep in mind that the numbers assigned to the colossal heads are not based on the chronological age of the heads but is instead based on the order in which they were discovered.

LV-1 has a headdress with three motifs representing the claws of a bird or animal. The headdress has a horizontal band divided into two parallel bands on the sides. The headdress has a U-shaped design with three hook shapes. The earpieces are large, rectangular beads with rounded corners and a rhombus and circle carved inside of them. This head would have to have been constructed during Shiblom's reign because he was slain and was the last ruler in La Venta. These motifs do correspond with the Sumerian compound constructed name Shiblom:

sě: geometric shape

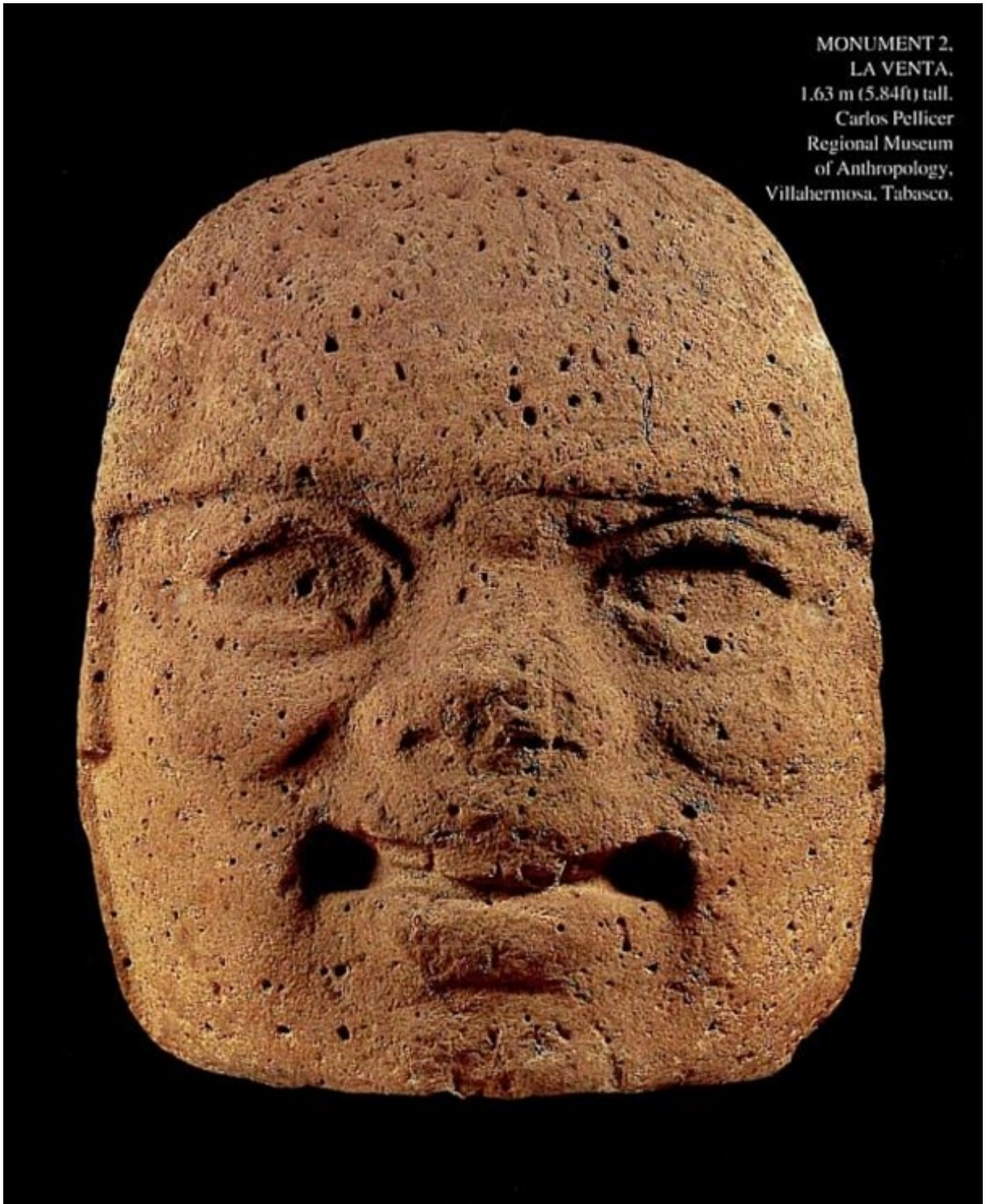
ibla: belt

la: to bind, binding

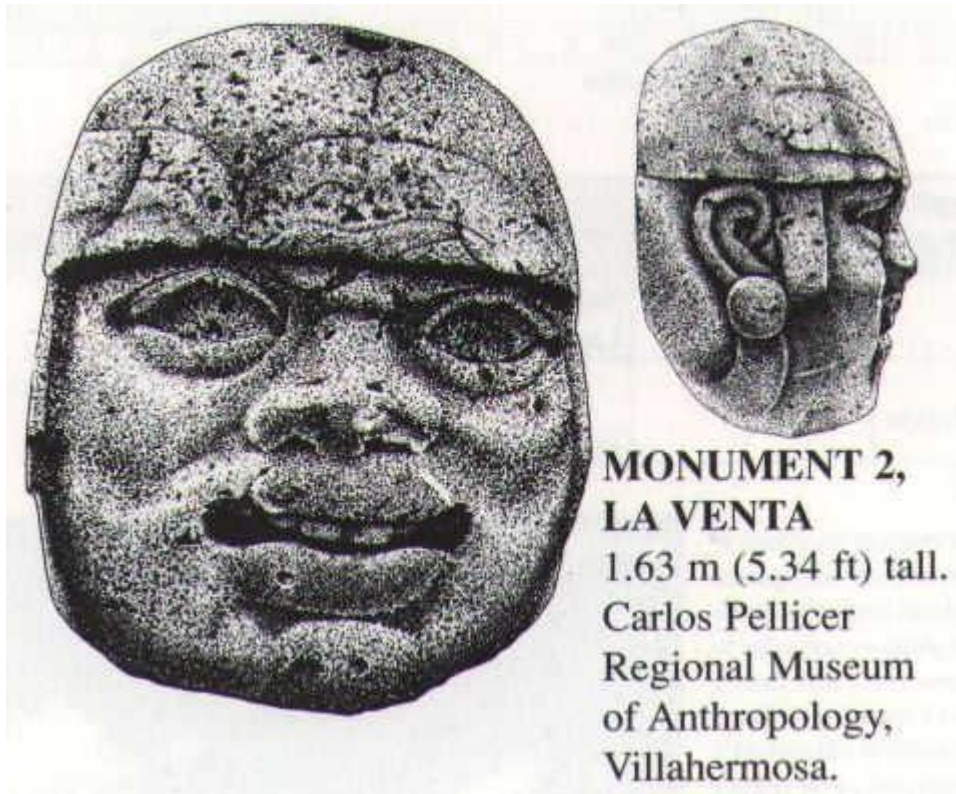
am: a bird

um: a bird

Compound Constructed Name: Sh(ě)ibl(a)om



MONUMENT 2,
LA VENTA,
1.63 m (5.34ft) tall.
Carlos Pellicer
Regional Museum
of Anthropology,
Villahermosa, Tabasco.



La Venta 2 (LV-2) is heavily eroded, so most of the helmet motif is no longer present. This head is notable because of its wide smile revealing the top front teeth. This head is also noted because the figure has prominent cheekbones indicative of a mature leader. This head is the middle head in a line of three heads positioned facing north running in an east-west direction. This head corresponds with the Sumerian compound constructed name Lib:

lib: to be happy, well-off

ib: middle

Compound Constructed Name: **Lib**

According to the Book of Ether, Lib₁ "did live many years" (Ether 10:29), so he would also match the observation of maturity found in LV-2.

MONUMENT 3,
LA VENTA,
1.98 m (6.49ft) tall.
La Venta
Park-Museum,
Villahermosa,
Tabasco.





La Venta 3 (LV-3) is heavily damaged and eroded causing most of the features and headdress to be erased. While damage is heavy, that fact may also be helpful in identifying the Jaredite ruler here. By process of elimination and by the nature of the reign, this head looks to belong to Com₂. Com₂ was able to regain power and obtain half of the kingdom, but he fought for many years against king Amgid, finally gaining power of the full kingdom. Even after gaining power, Com₂ had to battle robbers in the land and “did not prevail against them” (Ether 10:32–34). Damage to Com₂’s head would be consistent with animosity from a rival lineage or robbers who took over La Venta once the ruling lineage was relocated to the land of Moron.

This head corresponds with the Sumerian compound constructed name Com, keeping in mind that some elements may have referred to headdress motifs that are no longer present:

- kam*: to alter
- ku*: to place
- u*: abuse
- U*: type of stone
- um*: a bird
- um*: reed rope

Compound Constructed Name: **Com**

MONUMENT 4,
LA VENTA,
2.26 m (7.41 ft) tall.
La Venta Park-Museum,
Villahermosa, Tabasco.





La Venta 4 (LV-4) has two or three horizontal strips forming the base of the headdress, with one side decorated with a double-disc motif. The top features a clawed foot of a bird of prey. This head sits just to the west of Lib₁ (LV-2). This head corresponds with the Sumerian compound constructed name Hearthom:

har: ring
HAR: a bird
tu: leader
tu: priest
tum: wild dove
U: type of stone
um: a bird
um: reed rope

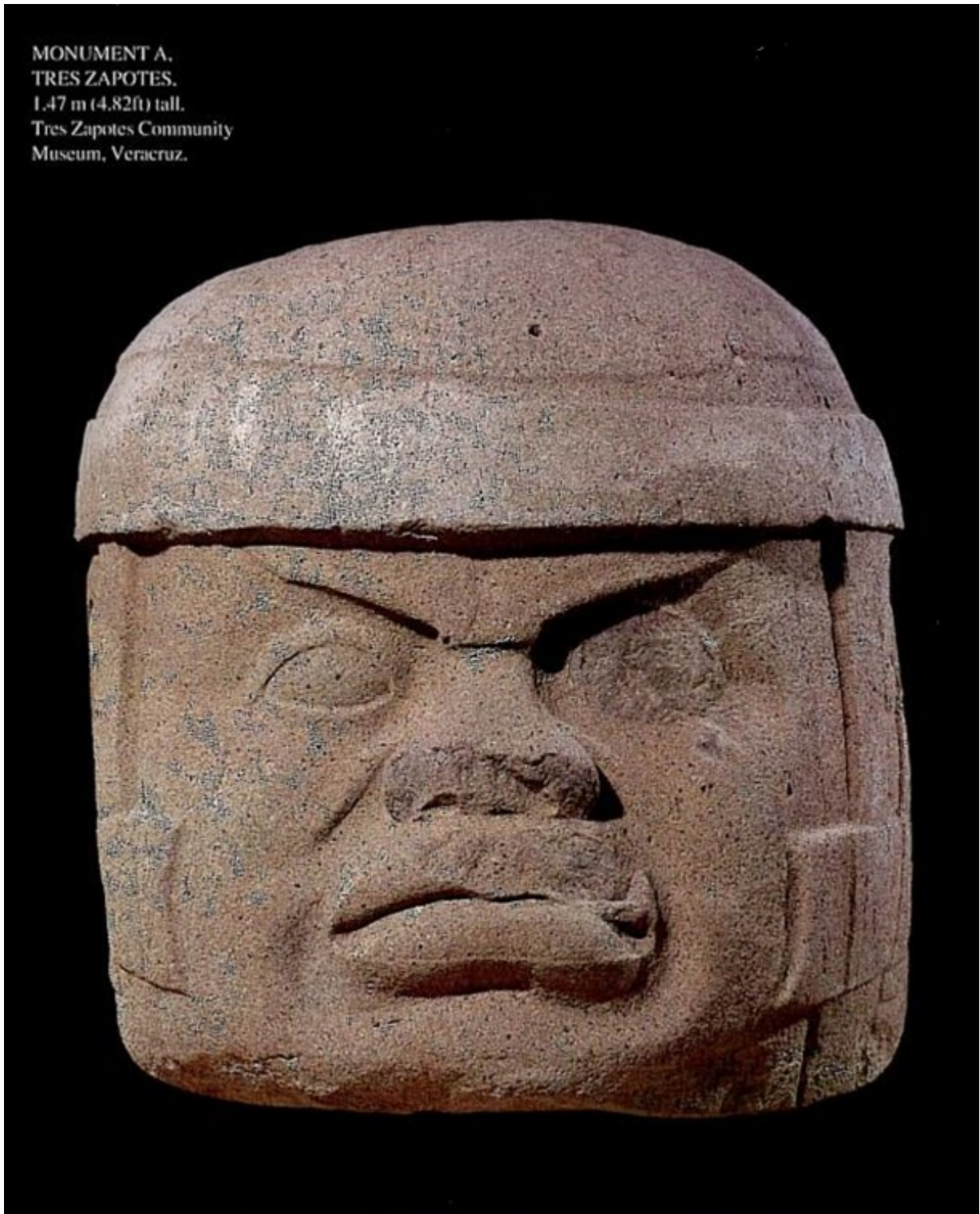
Compound Constructed Name: **Hartom**

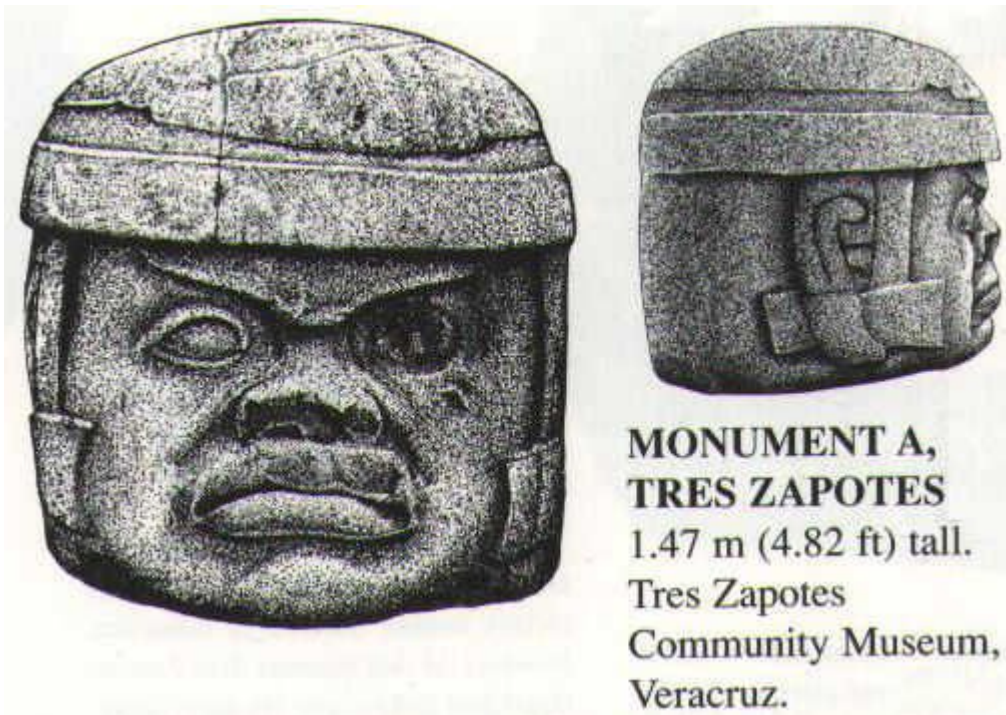
An interesting correlation between the LV-4 head and the San Lorenzo altar-throne Monument 14 has been documented:

An obvious question therefore is whether such identified personages are shown in more than one monument. San Lorenzo altar-throne Monument 14 provides an apparent match. Although its niched personage (ruler) is too eroded to be identified, the rope he holds in his left hand passes to a personage depicted in bas-relief on the side panel. That personage has prominent buck teeth and wears a brimmed hat, with a large and distinctive bird claw motif covering the hat's crown. A different carving depicting what is likely the same individual, with a bird claw headdress motif and buck teeth, is Colossal Head 4 at the site of La Venta. Was the La Venta personage the kinsman or ancestor of the San Lorenzo ruler, or his prisoner? (Grove 2014, 176)

This relationship is consistent with the Jaredite king sequence. Lib₁ is the king that created the great city of La Venta and was the first to reign there, but it is likely that his initial seat of power was San Lorenzo. He does not have a

colossal head there as it occurs in La Venta, but it is reasonable to assume that he did have a throne at San Lorenzo. Since the son of Lib₁ is Hearthom, this kinsman (son) relationship postulated by Grove is accurate.





Tres Zapotes and La Cobata Heads

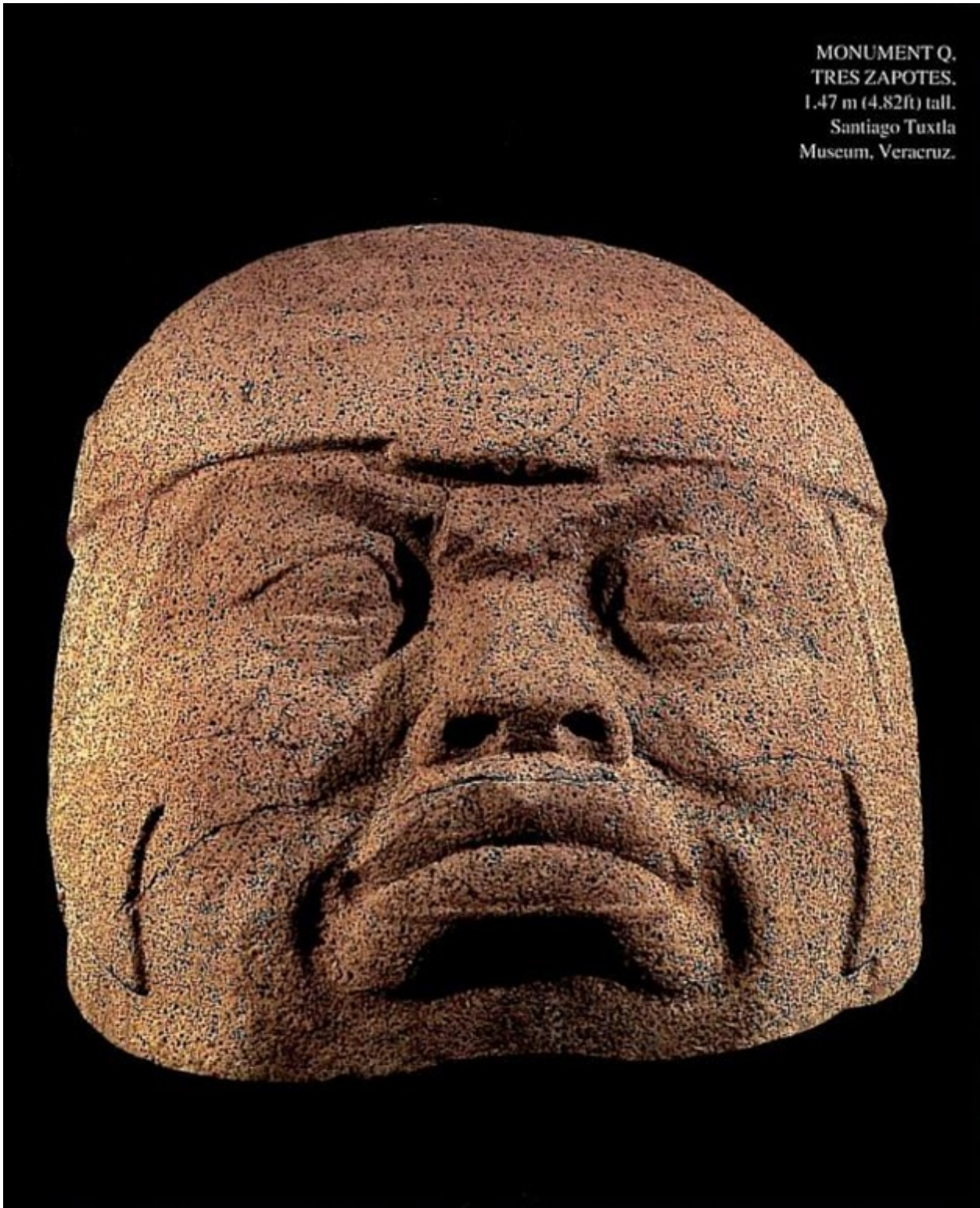
The three remaining Jaredite rulers are Ahah, Ethem, and Coriantumr₂. Moron was also a Jaredite ruler but was defeated and placed into captivity. Based on the system of identifying rightful heirs to the throne, Moron's lineage remained in captivity until Ether, who coexisted with Coriantumr₂ and did not end up as a ruler. As a result, it is unlikely that a colossal head would have been created for Moron.

Tres Zapotes 1 (TZ-1) consists of a headdress that does not feature motifs but on the rear side features individual strands of grass or hair. While not as definitive as other heads, this head reasonably corresponds with the Sumerian compound constructed name Ahah:

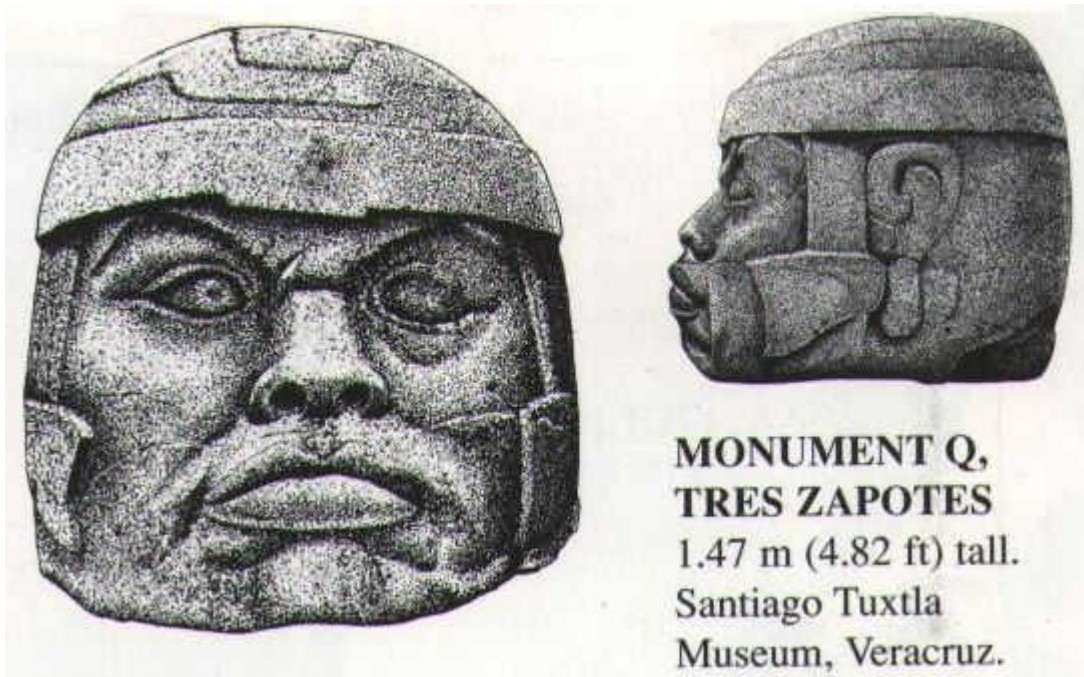
ah: dried

HA'A: locust grass

Compound Constructed Name: **Ahah(A)**



MONUMENT Q.
TRES ZAPOTES.
1.47 m (4.82ft) tall.
Santiago Tuxtla
Museum, Veracruz.



Tres Zapotes 2 (TZ-2) consists of a head that features a tongue-shaped design on top of the helmet, with seven braided tresses on the rear of the head. It has protruding jaw and cheeks, and pierced ear pieces that extend well onto the cheeks. The ear pieces have been described as sea shells. This head has a reasonable correspondence with the Sumerian compound constructed name Ethem:

e: strip, to thread, hang on a string

te: cheek

te: to pierce

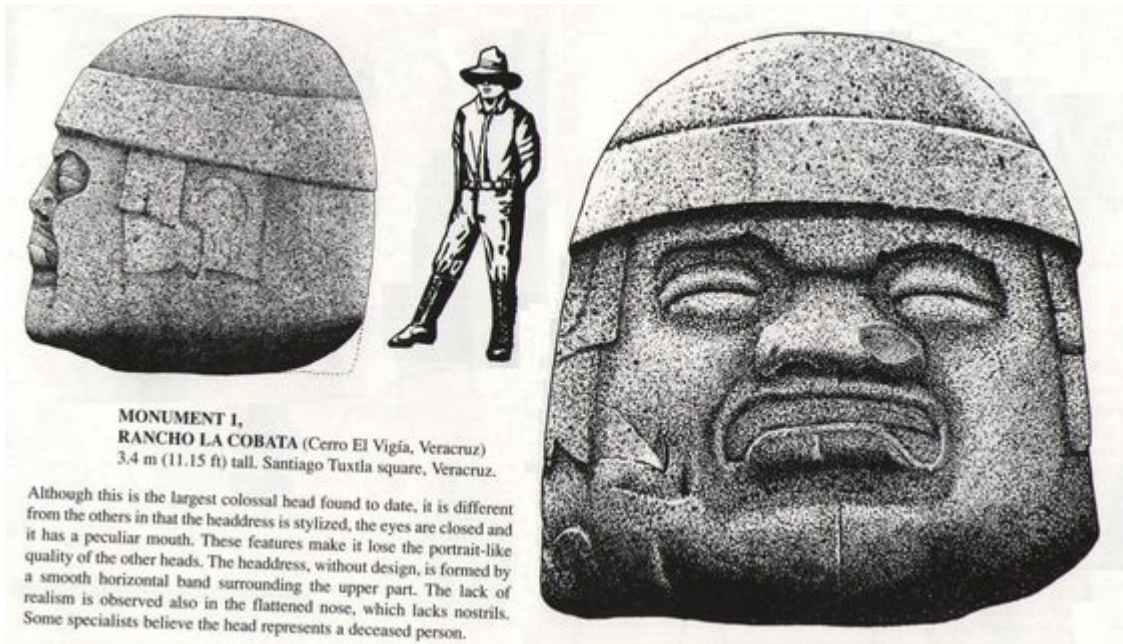
hem: type of stone

Compound Constructed Name: **Et(e)hem**

It should be noted that in ancient Egyptian, *etam* means sea shore (*Navigating the Bible* 2016), which might have some correlation with the sea shell-shaped ear pieces. TZ-2 has been described as having a “menacing appearance” which is consistent with Ahah, who did all manner of iniquity and caused the shedding of much blood (Ether 11:10).

MONUMENT 1,
LA COBATA RANCH
(Cerro El Vigía, Veracruz),
3.4 m (11.15ft) tall.
Santiago Tuxtla Square,
Veracruz.





The La Cobata head is the largest of all the heads, and specialists believe that the closed eyes represents a deceased person or death. Importantly, the head was discovered in a mountain pass in the Sierra de los Tuxtlas, on the north side of El Vigía (hill Cumorah), not near any known ancient settlement, overlooking the final Jaredite battleground. The obvious ruler represented by this head is Coriantumr₂. He is a larger-than-life figure and was noted to be “large and mighty” as previously discussed. The concept of the closed eyes representing the demise of the Jaredites is consistent with Coriantumr₂. The question arises as to who would have created the head, but as has been previously discussed, there was a remnant of the Jaredites mentioned by Limhi (perhaps the Epi-Olmecs) and would not be dissimilar to the large stone (stelae) that was created giving an account of Coriantumr₂ and the slain of his people and their destruction, which was translated by king Mosiah₁ (Omni 1:20–22). Considering the location of this head it corresponds with the Sumerian compound constructed name Coriantumr:

kur: mountain
ri: to be distant
ri: to be set in place
anta: upper
tu: leader
TUM: a stone
ur: figure
ur: man

Compound Constructed Name: Coriant(a)um(u)r

San Lorenzo Heads

The correlation of the San Lorenzo heads is more complex than the other heads because there are a few possibilities. The heads may include unknown kings that go into the gap timeframe prior to Morionton, or the heads may just represent kings that are noted by Ether as being in the ruling line going all the way back to Orihah. In the latter case, that would indicate that the early ruler heads were created long after the fact, with visages that likely may not have been known (unless likenesses were somehow recorded). It has been noted by archeologists that the heads at San Lorenzo likely featured ancestral rulers with heads made long after the fact. The number of heads versus Jaredite rulers don't match exactly, but it is close if one considers the exclusion of unpopular kings and the possibility that a few heads may not yet be found or were destroyed.

The total number of kings for initial consideration are 15: Orihah, Kib, Shule, Omer, Emer, Coriantum, Com, Heth, Shez, Riplakish, Morionton, Kim, Levi, Corom, and Kish. Kings that might possibly not be considered because of their poor leadership are Heth, Riplakish, and Kim (he was deposed into captivity). That would leave 12 rulers; there are ten known colossal heads at San Lorenzo, so there may be two heads not yet located or they may have been destroyed and recycled. Monument 20 at San Lorenzo is an extensively damaged throne with a figure emerging from a niche. It is possible that this damage was caused by the initial stages of re-carving the monument into a colossal head but the work was never completed. This may also account for one of the two missing heads. The discovered location of each head at San Lorenzo with the corresponding number is shown in figure 94. The display of many of the heads has been proposed as a sequential display.

The asymmetry in the number of heads on the eastern and western sides of the South-Central Ridge, taken in conjunction with the evidence of others in process, is the basis for (the) proposal that they constituted an unfinished commemorative macro-scene of ancestral ruler portraits (Cypers 2004), which is akin to Grove's (1997) concept of a "processional" arrangement designed to be viewed sequentially in public rituals. (Cyphers et al. 2014, 85)

While not represented with a colossal head, the other, less-desirable kings may have been otherwise represented in the panoramic plazas with other monuments. For example, a large throne is present on the San Lorenzo plaza, and the evil Jaredite king Riplakish is noted for erecting himself "an exceedingly beautiful throne" (Ether 10:6). Riplakish could have been another stop on the plaza tour, but he lacked a colossal head of his own.

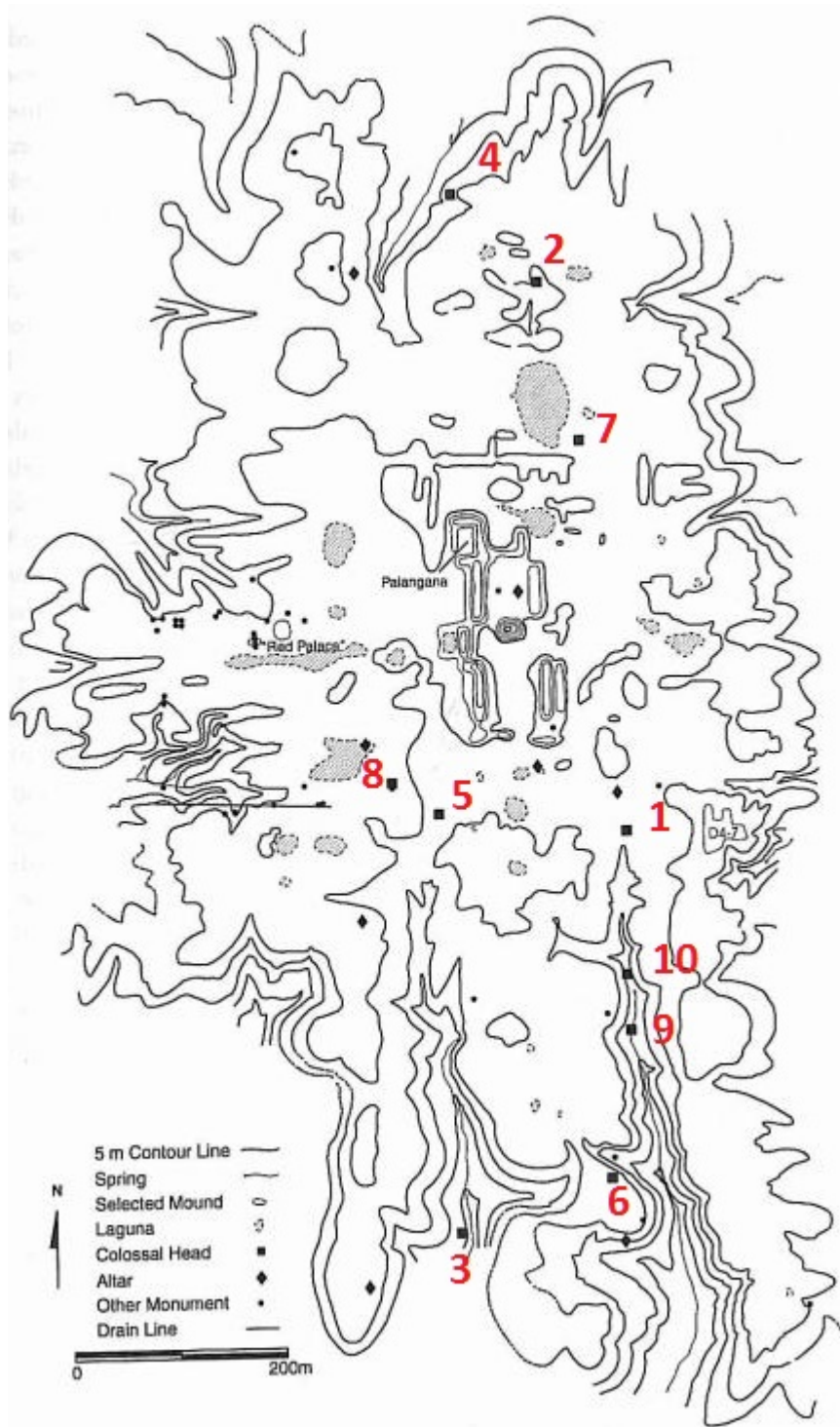


Figure 94. Map of San Lorenzo with the location of each colossal head. Contour interval = 5 m, lowest contour = 55 m. Numbers added by author. (Pool 2007, 101)

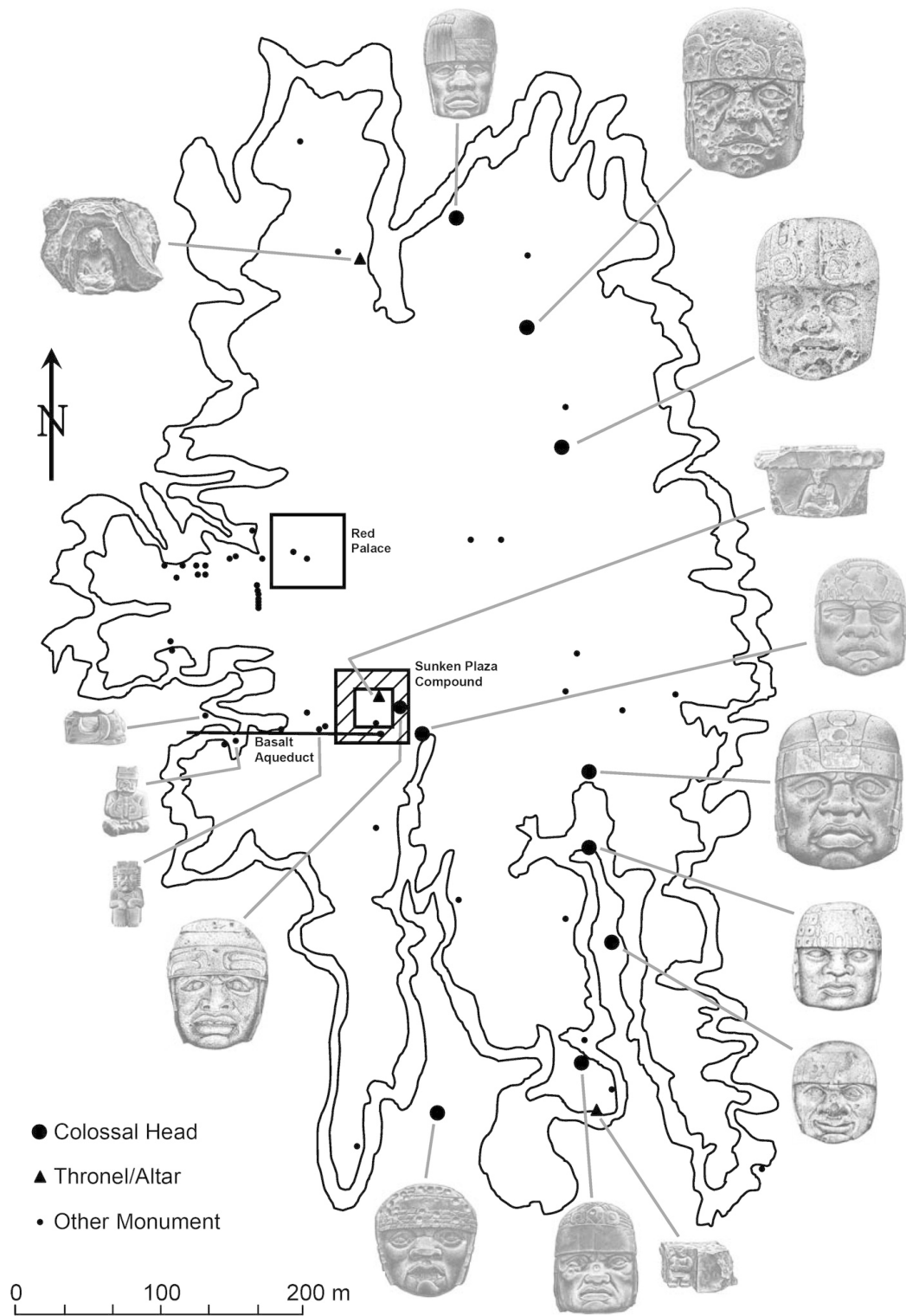
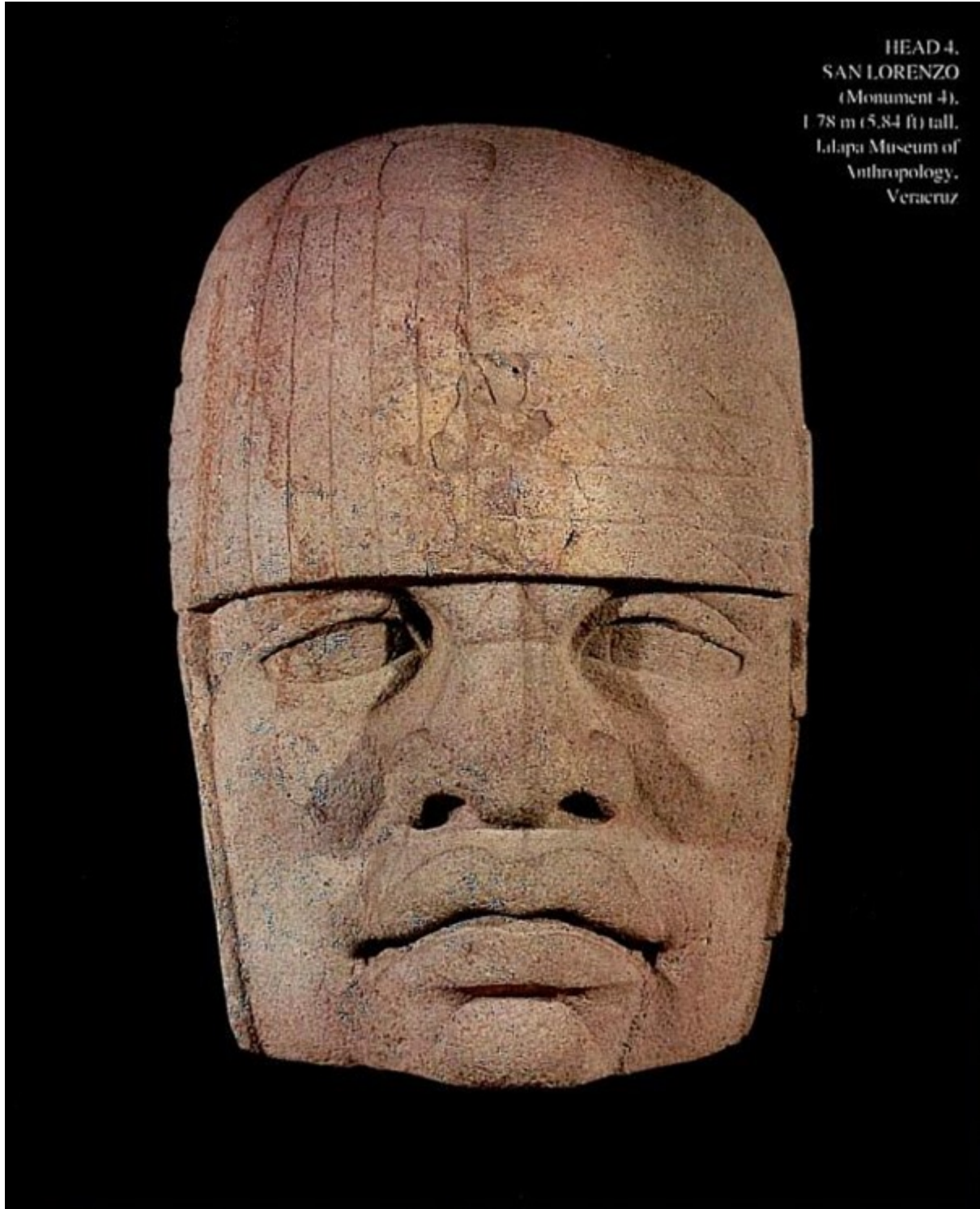


Figure 95. Map of the San Lorenzo acropolis illustrating the location of the colossal heads and monument. (Cheetam and Bloomster 2017, 18)

This being the case that the colossal heads are representing ancestral rulers displayed in sequence, an analysis of the heads versus individual Jaredite rulers indicates a sequence starting with the northernmost head and proceeding from north to south with a return on the west side going south to north, or in other words, in a clockwise direction. The Jaredite correlation of each of the heads is discussed in this sequence.





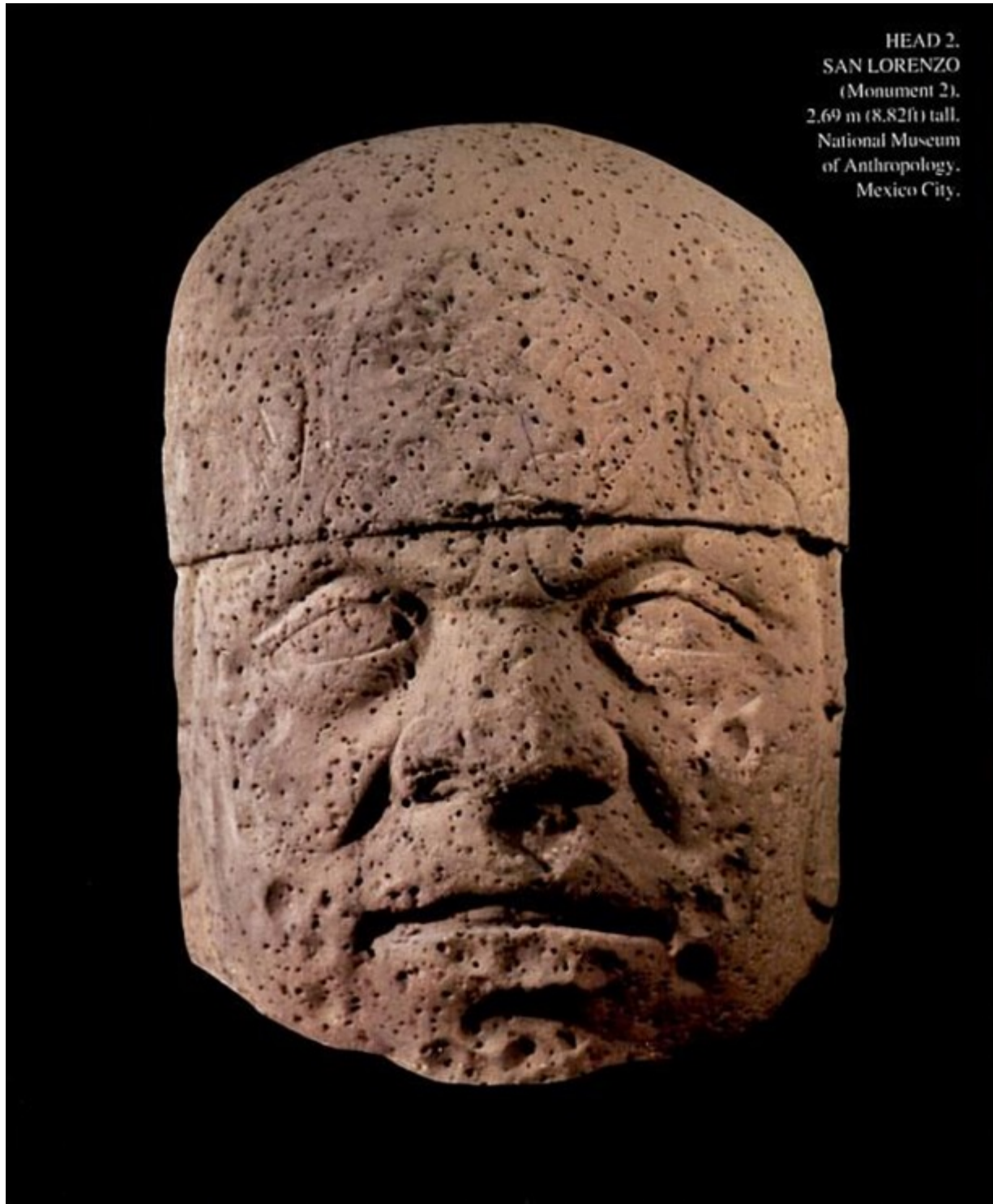
Plausible Identifications

San Lorenzo 4 (SL-4), the northernmost head, features four parallel cords wrapped around the smooth headdress, with eight strip tassels extending from three flat knots. This head corresponds with Orihah more by its numeric features. Orihah was the fourth son (Ether 6:14, 20), consistent with the four parallel cords. The tassel consisting of units of three and eight, has the product of 24, which corresponds with the number of males in the initial group (Ether 6:16). This head corresponds with the Sumerian compound constructed name Orihah:

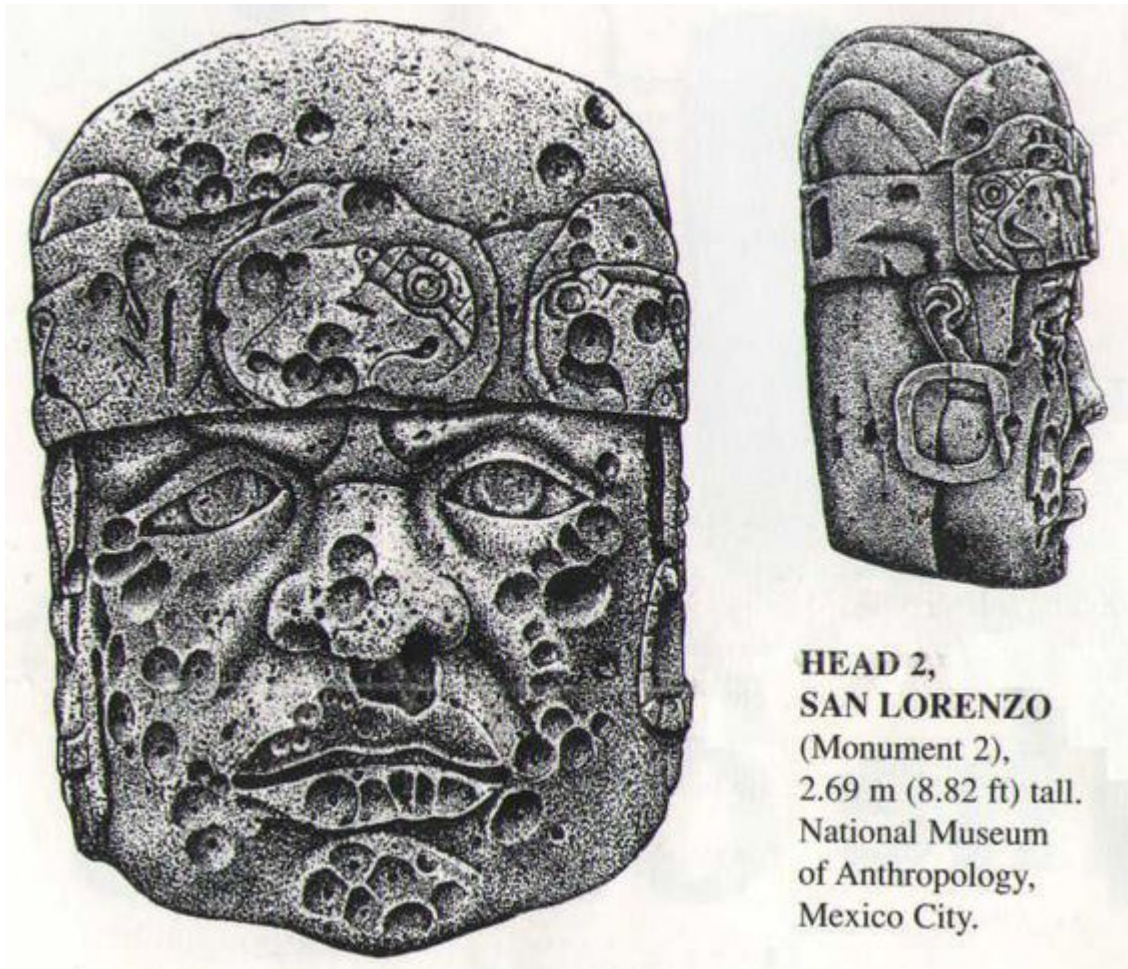
U: type of stone
ur: a man
ur: cloth trimming
ri: set in place
i: garment
a: power
he: be he

Compound Constructed Name: **Oriah(e)**

SL-4 has been described as having the features of an “ageing man,” which corresponds to Orihah living to at least old age (Ether 7:3).



HEAD 2.
SAN LORENZO
(Monument 2).
2.69 m (8.82ft) tall.
National Museum
of Anthropology,
Mexico City.

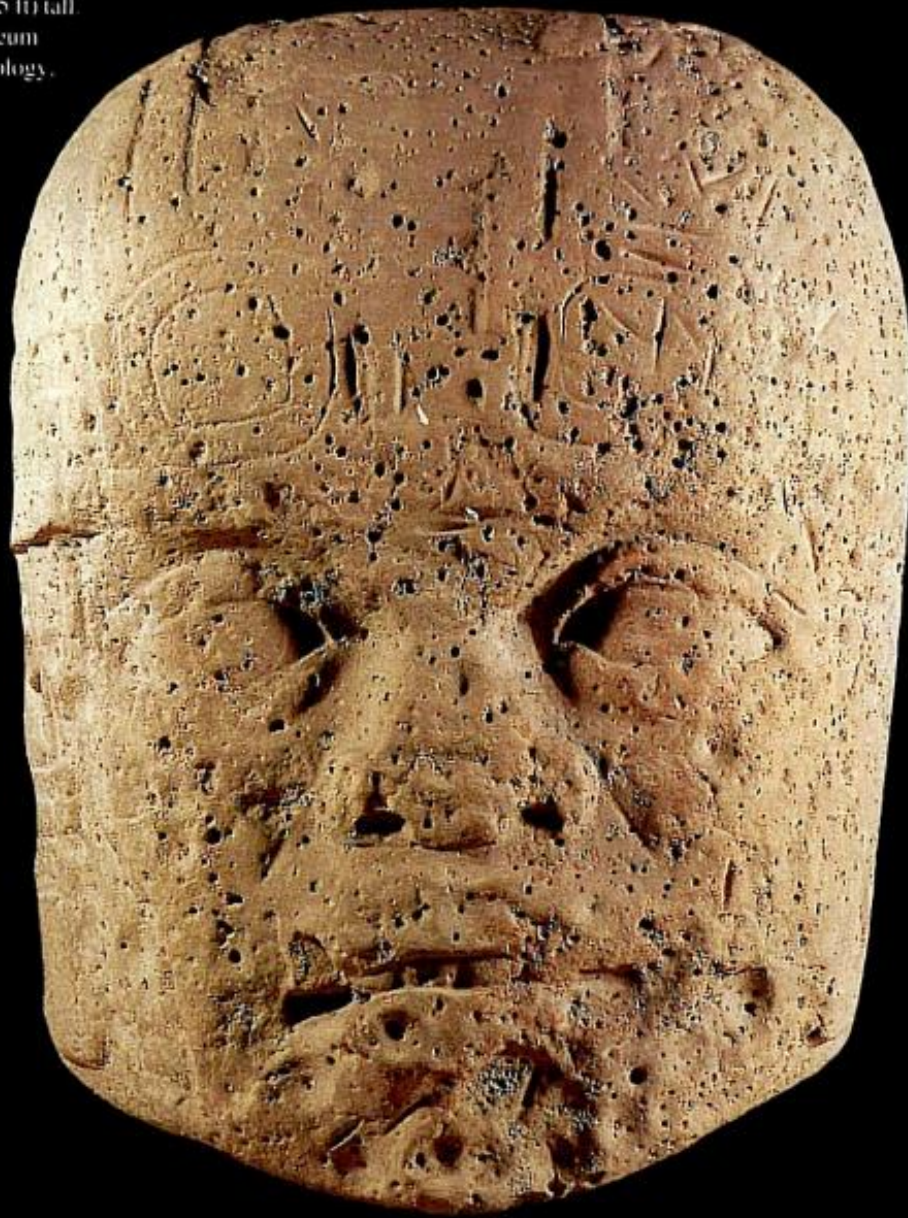


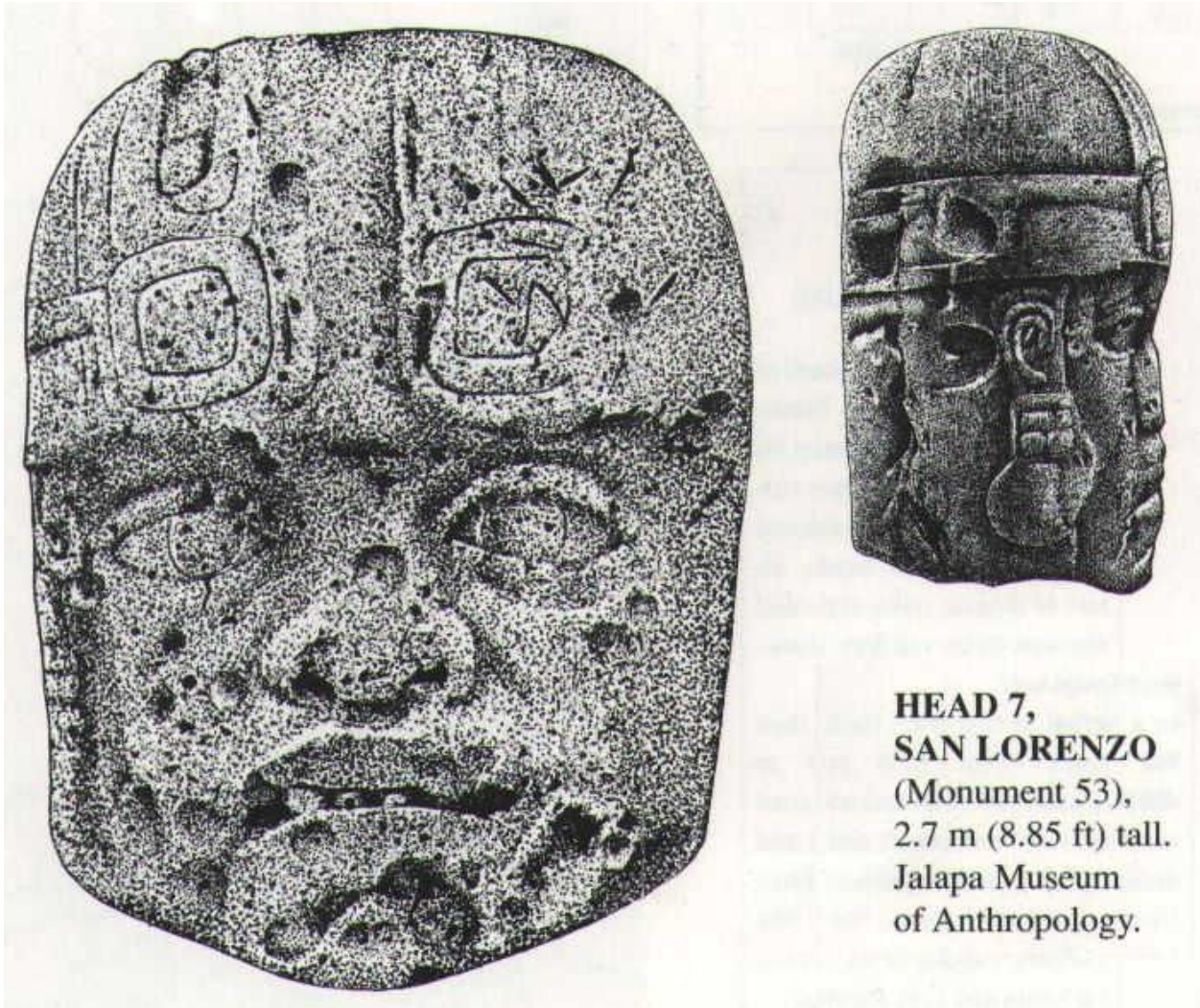
San Lorenzo 2 (SL-2), the next northernmost head, features an open weave headdress with three stylized parrot head symbols. The next king chronologically after Orihah is Kib, with the parrot motif corresponding with the Sumerian name Kib:

kib: bird

SL-2 has been described as having the features of an “ageing man,” which corresponds to Kib living to an exceeding old age (Ether 7:7).

HEAD 7.
SAN LORENZO
(Monument 53).
2.70 m (8.85 ft) tall.
Jalapa Museum
of Anthropology,
Veracruz.





**HEAD 7,
SAN LORENZO**
(Monument 53),
2.7 m (8.85 ft) tall.
Jalapa Museum
of Anthropology.

San Lorenzo 7 (SL-7), the next head going south, features a pair of human hands with a bird feathered ornament carved on the back of the single wide strip headband. The next king chronologically after Kib is Shule. This head corresponds with the Sumerian compound constructed name Shule:

šu: hand

šulu: a bird

U: type of stone

ul: to be distant in time

e: strip of leather

Compound Constructed Name: **Shul(u)e**

HEAD I,
SAN LORENZO
(Monument 1),
2.85 m (9.35 ft) tall,
Jalapa Museum
of Anthropology,
Veracruz.





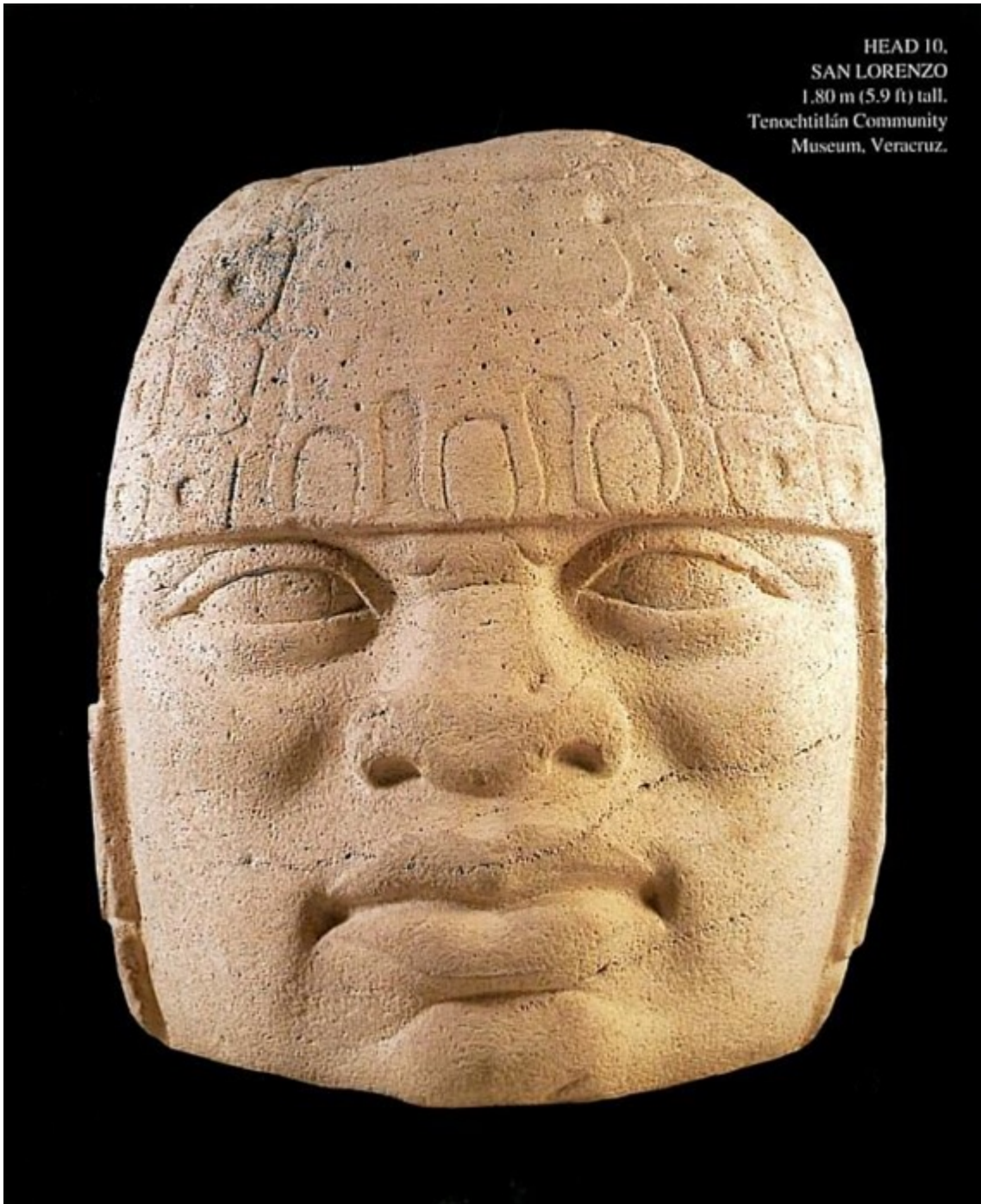
**HEAD 1,
SAN LORENZO**
(Monument 1),
2.85 m (9.35 ft) tall.
Jalapa Museum
of Anthropology.

San Lorenzo 1 (SL-1), the next head going south on the east side, features a simple headdress that has four stylized fingers. The face has been characterized as frowning with a serious look. The next king chronologically after Shule is Omer. This head corresponds with the Sumerian compound constructed name Omer:

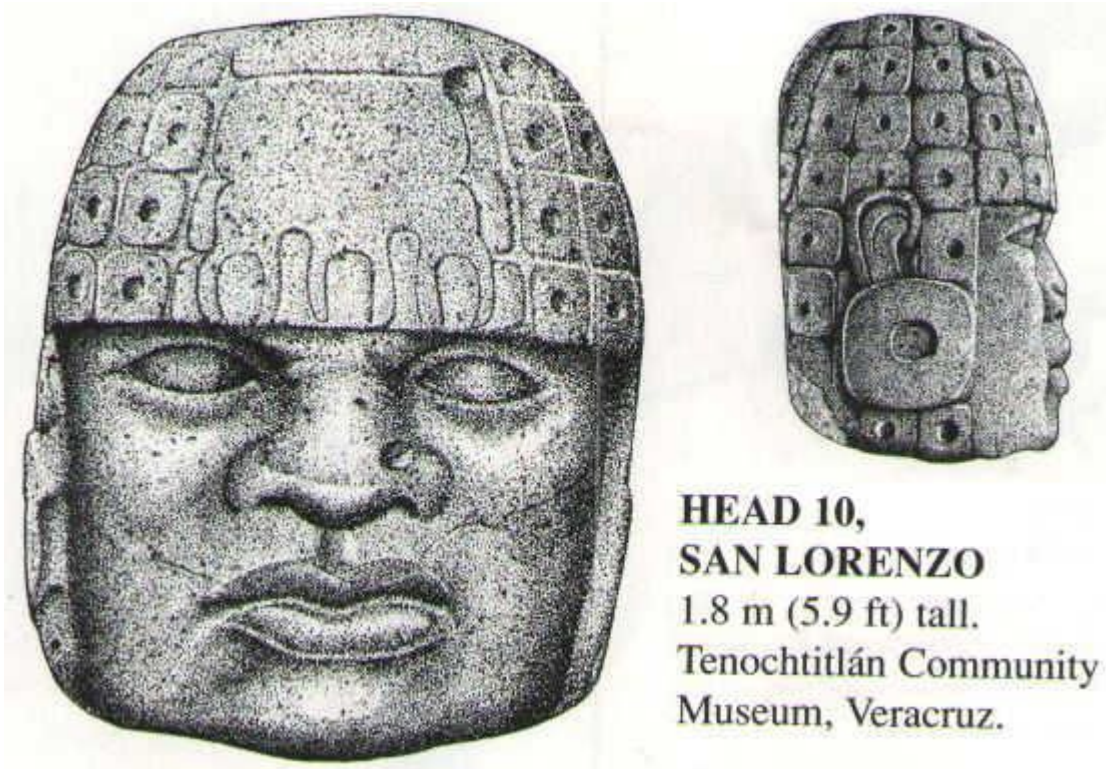
u: finger
U: type of stone
me: to be
er: mourning

Compound Constructed Name: **Omer**

SL-1 has been described as having the features of older people, which corresponds to Omer living to at least old age (Ether 9:14). In addition, Omer was forced into exile, while nearly all of the Jaredite population was killed in a civil war, so a mourning king would be an appropriate description.



HEAD 10,
SAN LORENZO
1.80 m (5.9 ft) tall.
Tenochtitlán Community
Museum, Veracruz.



San Lorenzo 10 (SL-10), the next head going south on the east side, features a headdress that is made of what appears to be square beads with holes in the center. Above the forehead is a three-toed foot with long nails, appearing to be the foot of a bird or the paw of a jaguar. There is a significant geographical gap between the previous head (SL-1), so one might expect that the next king in chronological sequence, Emer, may be one of the heads lost and unaccounted for. In fact, SL-10 seems to fit the next king in sequence after Emer, which is Coriantum. This head corresponds with the Sumerian compound constructed name Coriantum:

ku: to place
kur: mountain, east
ur: lion
ri: to set in place
an: upper
TUM: a stone
um: a bird

Compound Constructed Name: **Coriantum**

SL-10 has been described as having the features of a “mature man,” which corresponds to Coriantum living to over 100 years of age (Ether 9:24).

HEAD 9.
SAN LORENZO
1.65 m (5.41ft) tall.
Jalapa Museum
of Anthropology.
Veracruz.





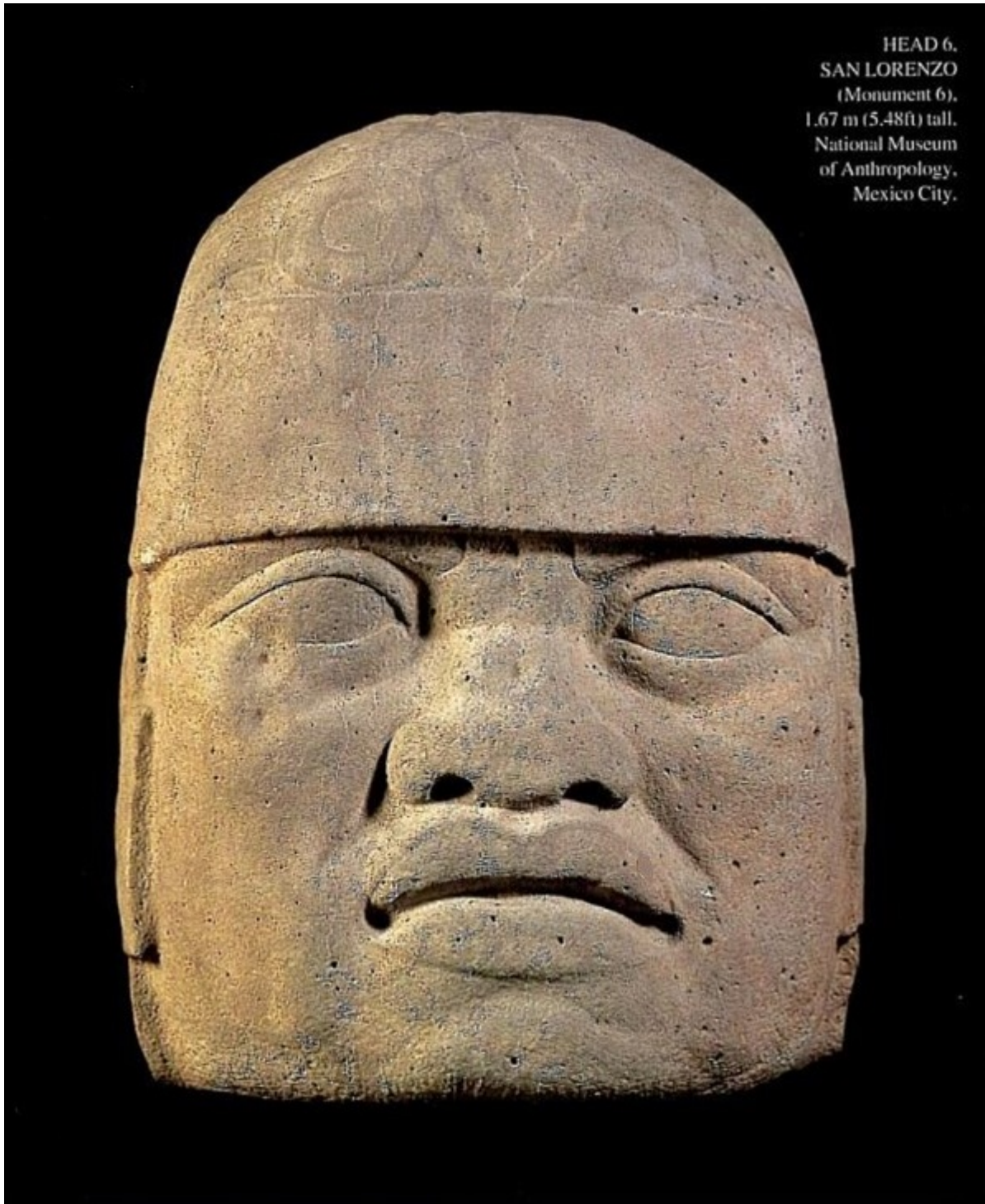
San Lorenzo 9 (SL-9) is the next head going south on the east side, and it is not clear what the main depiction is on the helmet because there is a wavy line that is weathered such that the image is unclear. The features on the sides appear to be strips or tresses that hang down. While much is to be desired for identification of this head, it does have some correspondence with the Sumerian compound constructed name Com, which is the next head in chronological sequence:

ku: to place

U: type of stone

um: reed rope

Compound Constructed Name: **Com**



HEAD 6.
SAN LORENZO
(Monument 6).
1.67 m (5.48ft) tall.
National Museum
of Anthropology,
Mexico City.



**HEAD 6,
SAN LORENZO**
(Monument 6),
1.67 m (5.48 ft) tall.
National Museum
of Anthropology,
Mexico City.

San Lorenzo 6 (SL-6) is the next head going south on the east side. There is a significant geographic gap following this head, so it is possible that the next king in chronological sequence, Shez, may be second of the heads unaccounted for. In fact, SL-6 fits the next king after Shez in sequence, which is Morionton. The helmet features an open-knotted weave headdress. It is sculpted with a net-like head covering joined together with sculpted beads. A covering descends from under the headdress to cover the back half of the neck. The headband is divided into four strips and begins above the right ear, extending around the entire head. A short strap descends from either side of the head to the ear. The ear ornaments are complex and are larger at the front of the ear than at the back. This head with a fish net-type headdress corresponds with the Sumerian compound constructed name Morionton:

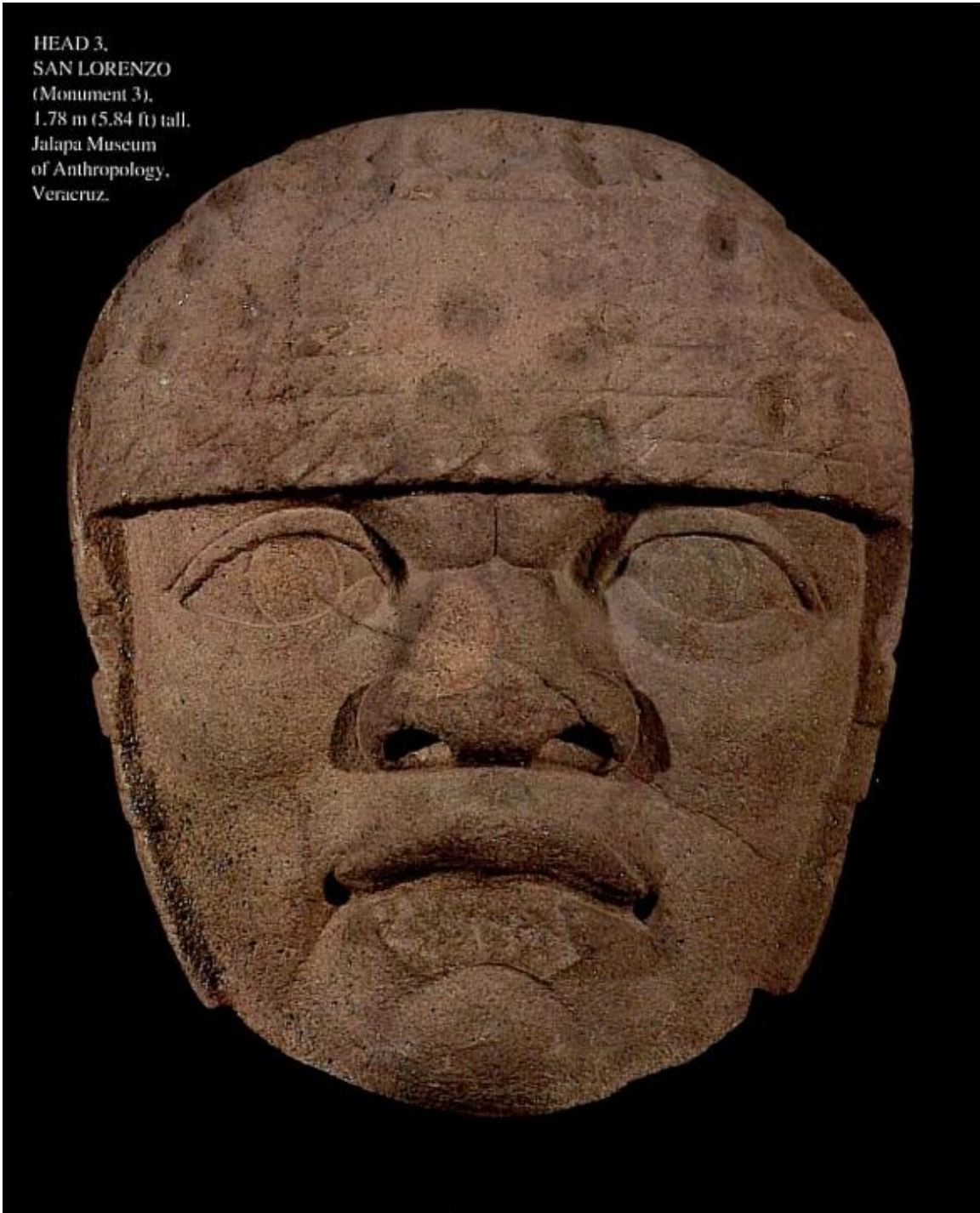
mu: a fish
mur: to dress, to clothe
mur: a fish
ri: to cast
i: clothing
a: water
an: upper, crown
tu: a fish
un: a bag, container

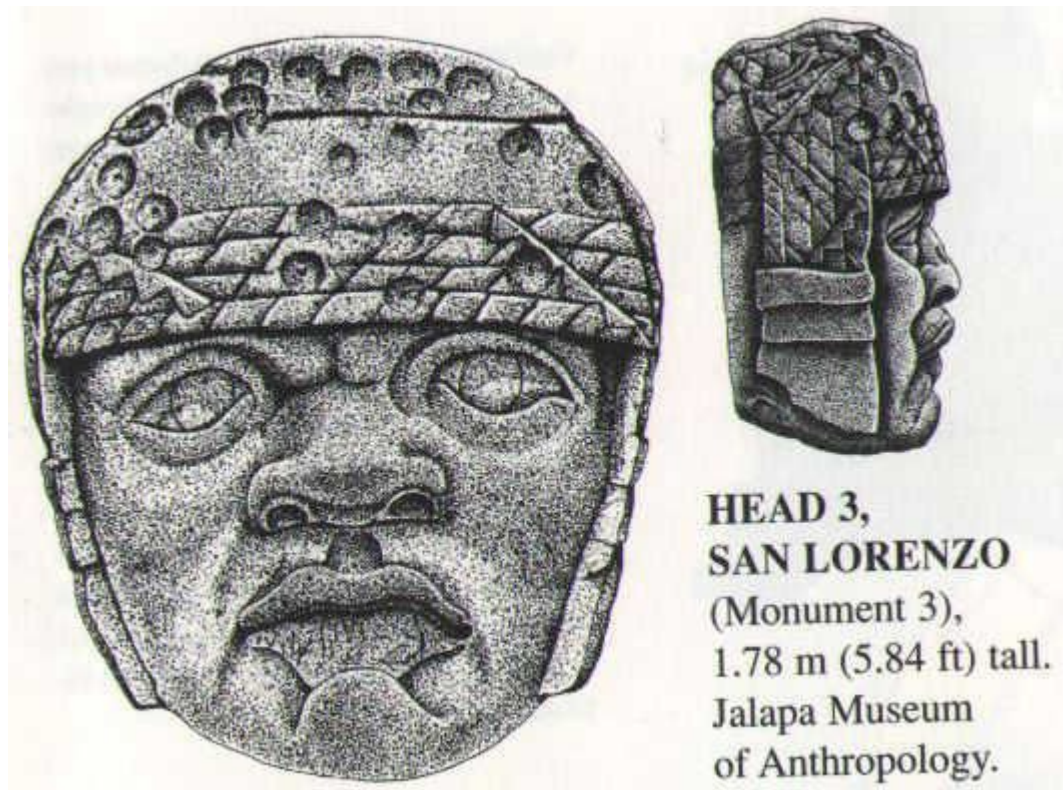
Compound Constructed Name: **Morionton**

SL-6 has been described as having the features of an "ageing man," which corresponds to Morionton living to an exceeding great age (Ether 10:13). SL-6 has also been described as appearing "bellicose." Morionton gave battle

unto the people and engaged in war that was “exceedingly sore” and lasted “for the space of many years” (Ether 10:9).

HEAD 3,
SAN LORENZO
(Monument 3),
1.78 m (5.84 ft) tall,
Jalapa Museum
of Anthropology,
Veracruz.





San Lorenzo 3 (SL-3) is the last head going south on the east side at the edge of the bird's wing configuration that Coe proposed at the site. The headdress is complex, with the horizontal basal band being formed by four twisted, horizontal cords, with diagonal folds above each eye. A small skullcap tops the headdress. A large flap formed of four cords drops down both sides of the head, completely covering the ears. Unlike other names derived from Sumerian, the name of the Jaredite king Levi appears to be a name provided by the Nephites from the biblical Hebrew name Levi. There is only one Levi in the Old Testament, namely, the third son of Jacob with Leah (Genesis 29:34), who gave rise to the priestly caste of the Levites. Specifically, the assumed root for Levi is לוה (*lwh*), which occurs all over the Semitic spectrum. It exists in Arabic, meaning "to turn, twist or wind," and in Assyrian as "to surround or encircle." In biblical Hebrew, it is not used as a verb but gives rise to the words לויה (*liwya*) and ליה (*loya*), both meaning "wreath" (Proverbs 1:9, 4:9; 1 Kings 7:29). Although the wreath is an item that is typically coiled or twisted, both ends are also joined to make a circle (www.abarim-publications.com 2015b). This corresponds very well with the headdress of SL-3. In addition, other Semitic etymologies are indicative of a priest:

The Hebrew root *lwh*, "to accompany" in the *qal*, and the Mari (Old Babylonian) PN *lawi-AN* with the Old South Arabic *lw'*, "priest," might suggest a meaning such as "pledged/priest of God." (Book of Mormon Onomasticon 2017)

The priestly skullcap portion, along with the rest of the headdress, obviously brings to mind the modern Jewish skullcap; however, Jewish head coverings that are consistent with this headdress go back to ancient times:

Head Coverings in Ancient Israelite Culture

The Israelites on Sennacherib's [king of Assyria from 705 BCE to 681 BCE] marble relief appear with headdress, and although the ambassadors of Jehu on the Shalmaneser stele have head coverings, their costume seems to be Israelite. One passage of the older literature is of significance: I Kings 20:31 mentions חֲבָלִים *havalim*, which are placed around

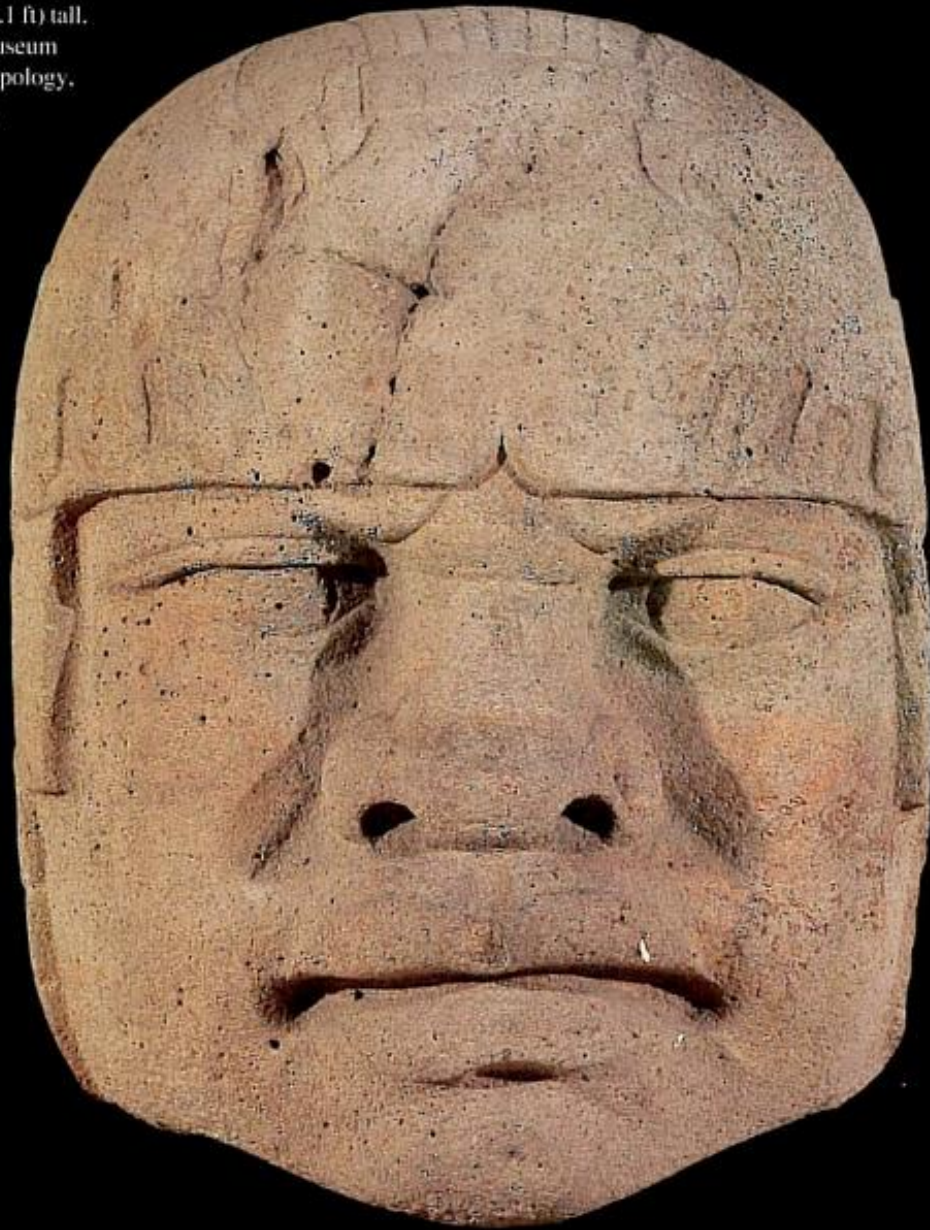
the head. This calls to mind pictures of Syrians on Egyptian monuments, represented wearing a cord around their long, flowing hair, a custom still followed in Arabia.

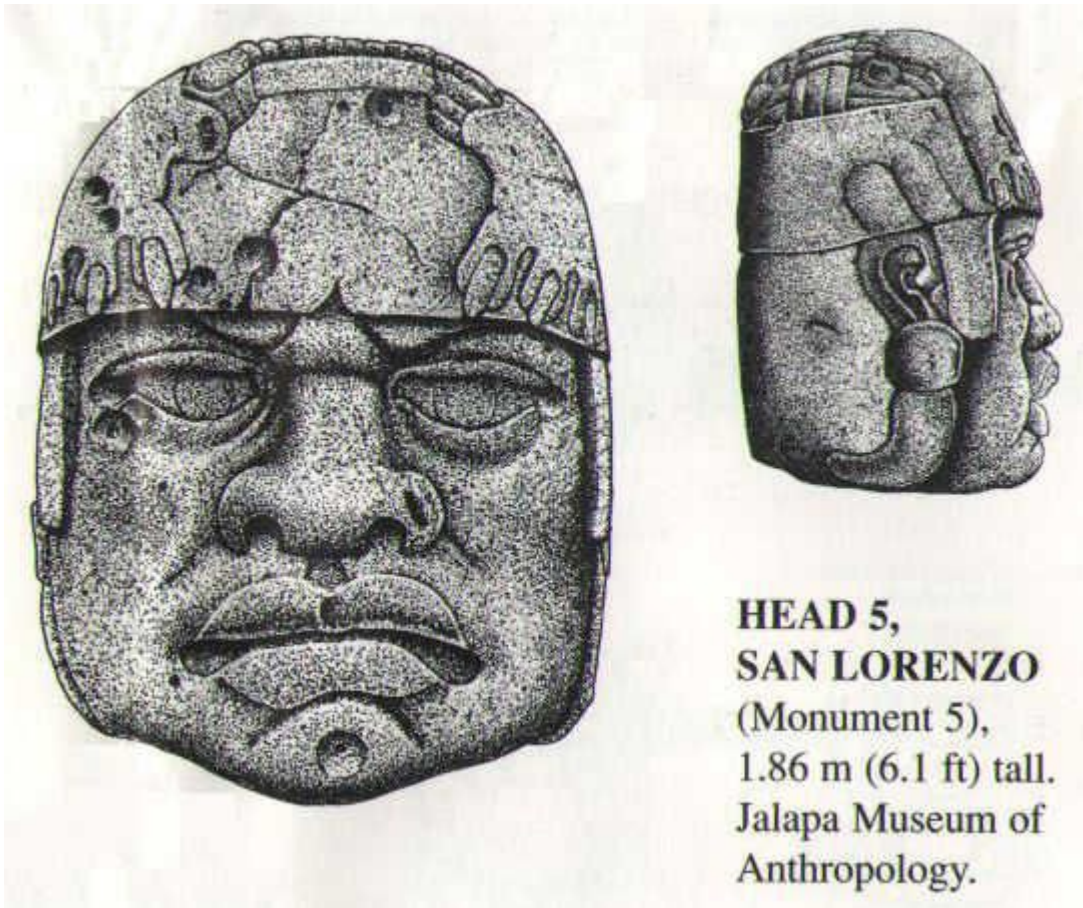
Evidently the costume of the poorest classes is represented; but as the cord gave no protection against the heat of the sun, there is little probability that the custom lasted very long. Much more common was the simple cloth skullcap, dating back to Egyptian times when those of high society routinely shaved their heads, to prevent lice. Conversely, their skullcaps then served as protection against irritation from their wigs.

The Israelites might have worn a headdress similar to that worn by the Bedouins, but it is unknown whether a fixed type of headdress was utilized. That the headdress of the Israelites might have been in the fellah style may be inferred from the use of the noun *tzanif* (the verb *tzanaf* meaning “to roll like a ball”, Isaiah 22:18) and by the verb *habash* (“to wind”, comp. Ezekiel 16:10; Jonah 2:6). As to the form of such turbans, nothing is known, and they may have varied according to the different classes of society. This was customary with the Assyrians and Babylonians, for example, whose fashions likely influenced the costume of the Israelites—particularly during and after the Babylonian Exile. (Wikipedia 2017a)

SL-3 has been described as having the “face of apparent maturity,” corresponding to Levi living to a good old age (Ether 10:16). The fact that Levi is an exclusively Hebrew name and fits the motifs on the colossal head so well may be an indicator that king Levi (and perhaps others) may have derived the name among the Nephites based on the appearance of the head itself and the observation of the head by the Nephites.

HEAD 5.
SAN LORENZO
(Monument 5),
1.86 m (6.1 ft) tall.
Jalapa Museum
of Anthropology,
Veracruz.





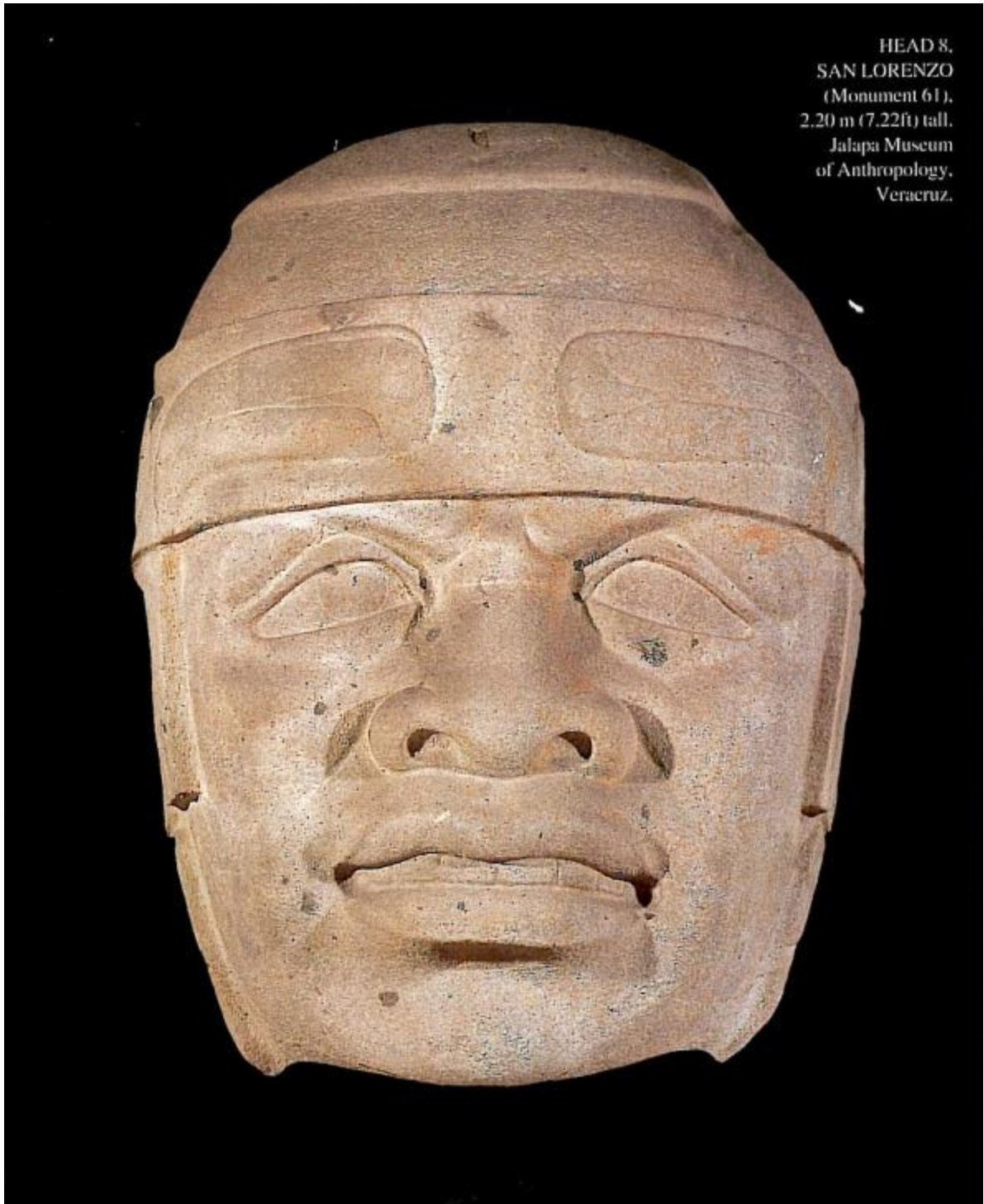
San Lorenzo 5 (SL-5) and San Lorenzo 8 (SL-8) are the last two heads and are located on the tail of the geographic bird figure, with SL-5 being the next head going counterclockwise from the chronological sequence of the heads on the east side. The next king in chronological sequence is Corom. The SL-5 headband of the headdress is set at an angle and has a notch above the bridge of the nose. The headdress is decorated with jaguar paws; although, because of the three claws, this has been interpreted to possibly be a bird claw. At the back of the head, ten interlaced strips form a net decorated with disc motifs. Two short straps descend from the headdress in front of the ears. The ears are adorned with disc-shaped earspools with pegs.

This head corresponds well with the Sumerian compound constructed name Corom:

- ku*: to place
- ur*: lion
- ur*: cloth trimming
- ur*: harness
- urum*: a male
- U*: type of stone
- um*: reed rope
- um*: a bird

Compound Constructed Name: **Corom**

SL-5 has been described as having the features of an “ageing man,” which corresponds to Corom having “seen many days” (Ether 10:17).



HEAD 8,
SAN LORENZO
(Monument 61),
2.20 m (7.22ft) tall.
Jalapa Museum
of Anthropology,
Veracruz.



SL-8 is the last head and is the last Jaredite king of San Lorenzo before Lib₁ founded the great city of La Venta. In Jaredite chronology, this king was Kish. The headdress is decorated with the talons or claws of either a jaguar or an eagle. It has a headband and a cover that descends from under the headdress proper behind the ears. Two short straps descend in front of the ears. The head sports large ear ornaments in the form of pegs. The name of the Jaredite king Kish appears to be a name provided by the Nephites from the biblical Hebrew name Kish. The most famous Kish in the Bible is the Benjaminite father of Saul, the first king of Israel (1 Samuel 9:1).

Linguists have determined that the Hebrew verb יקש (yqs) is the likely source of *Kish*. The verb יקש (yaqosh) originally meant to lay a bait or lure but came to denote laying a snare to catch animals, and from there to “snare” a person with alluring enticements (1 Samuel 18:21; Psalm 18:5; Jeremiah 5:26). This verb’s derivatives are:

- The masculine noun יקוש (yaqosh), meaning bait-layer or fowler (Hosea 9:8).
- The similar masculine noun יקוש (yaqush), also meaning bait-layer or fowler (Proverbs 6:5).

The name Kish may mean Snaring, Bird Catcher, according to Jones’s *Dictionary of Old Testament Proper Names* (www.abarim-publications.com 2015c).

The definition of a *owler* is “a hunter of birds.”

Thus, there is clearly a plausible relationship with the colossal Olmec heads that matches well with the Jaredite kings and chronology. It is also worth noting that consistent with the geographical configuration of San Lorenzo matching a bird, all of the Jaredite kings there, with the exception of Levi and Kish (which in Hebrew means bird catcher) have a potential Sumerian word in each of their names relating to a bird:

a: a bird cry
u: wild goose
kib: a bird
sǔlu: a bird
amar: a chick
am: a bird
um: a bird
ša: a bird
ezi: a bird
zi: to chirp (birds)
um: a bird
ku: to lay eggs
tum: wild dove

The Book of Mormon may thus give personal names and narratives to the otherwise anonymous individuals depicted in these unique Olmec sculptures.

Chapter 22

The Cavity of the Rock

The last Jaredite prophet, Ether, lived in “the cavity of the rock” (Ether 13:13, 14, 18, 22) during the final phase of Jaredite history where he would venture out to observe and then return to record what was happening to his people. The phrase “cavity of the rock” is an Olmec cultural reference and is not necessarily a description of the cave itself. Many Mesoamerican religious beliefs are represented by caves and ceremonies related to or taking place in caves. In the situation of Ether, one would look specifically to the Olmec beliefs. In the Olmec, when rulers are depicted resting in a “cavity of the rock” it demonstrates their claims to rule, their divine status, and their origin from the Underworld:

About the same time as the Guerrero caves were in use on the Pacific coast of Mexico, several monumental, carved, stone “altars” from Olmec sites on the Gulf Coast depict elite individuals of this precocious society in a cave-like front cavity. These altar “niche figures,” surrounded by maize imagery, have been interpreted as representations of Olmec site rulers seated in the mouth of a cave. David C. Grove (1973:134) theorizes that the “emergence from the cave” was central to Olmec kingship, the ruler’s mythical Underworld origins, and claims to divine status. (Healy 2007)

These types of niches are also represented in Olmec monuments that show kings on their thrones in these type of niche caverns. Ether was the rightful heir to the Jaredite throne, and it is perfectly appropriate for him to use this phrase in describing his position. In Ether’s role as a scribe, his utilization of a cave is very Mesoamerican:

Scribes, a secondary tier of Maya nobility, also are potential candidates to have visited caves. They may have used cave pilgrimages as a “mechanism...to affirm their ongoing relationship with the supernatural” (Stone 2005:136, 144). Perhaps they visited these sacred places, as pilgrims, to acknowledge “the divine source of their craft, affirming their legitimacy and supporting their (elevated) social positions by doing so.” The cave texts at Naj Tunich, for example, include self-references to scribal visits, where they appear to have been trying to connect with the divine source of their offices. Landa (in Tozzer 1941:153) mentions that holy water, which likely came from a cave or cenote, was used in the purification rites for ancient Maya codices.

The authors examine several hieroglyphic texts from cave sites which, using the new translation for “cave,” seem to record “arrivals” of various visitors and refer to caves as “a pilgrimage or ritual center” (Vogt and Stuart 2005:160–162). Stuart’s earlier work with ancient Maya texts enabled him to decipher the Maya expression for “writing,” tz’ihb, and the phrase u-tz’ihb, “he writes” from one of the cave paintings of Naj Tunich (Stone 1995, 2005a:142). He went further to show that the subject of this clause was the name of an ancient Maya scribe, with a special title of itz’at, or “sage.” The hieroglyph suggests that the scribe in question, with two other protagonists, came “to see” Naj Tunich, which phrase might actually be a Maya metaphor for “pilgrimage”. All this fits nicely with the themes, discussed earlier, of caves as pilgrimage sites and meeting places, sometimes used by scribes. (Healy 2007)

The Book of Mormon only contains one other place where “the cavity of the rock” phrase is used:

1 Nephi 3:27–30

27 And it came to pass that we fled into the wilderness, and the servants of Laban did not overtake us, and we hid ourselves in the cavity of a rock.

28 And it came to pass that Laman was angry with me, and also with my father; and also was Lemuel, for he hearkened unto the words of Laman. Wherefore Laman and Lemuel did speak many hard words unto us, their younger brothers, and they did smite us even with a rod.

29 And it came to pass as they smote us with a rod, behold, an angel of the Lord came and stood before them, and he spake unto them, saying: Why do ye smite your younger brother with a rod? Know ye not that the Lord hath chosen him to be a ruler over you, and this because of your iniquities? Behold ye shall go up to Jerusalem again, and the Lord will deliver Laban into your hands.

30 And after the angel had spoken unto us, he departed.

Royal Skousen has found phrases similar to “cavity of the rock” in 1600–1800s English, and the meanings are consistent with the Olmec niche caverns (Skousen 2017).

One might then wonder what the Nephi reference would indicate since Nephi₁ is writing it. In reading that section of scripture, it is pretty clear why Nephi₁ included what happened in the cavity of a rock. No less than an angel of the Lord established that Nephi₁, not Laman and Lemuel, was to be the divinely appointed leader identical to the Olmec cultural norm. In analyzing what partially motivated Nephi to write what he did in the Book of Mormon, Brant Gardner (2005) noted that one of the principal reasons was that “Nephi wrote to define himself as the king” (175–80). It is fairly certain that Nephi₁ arrived on the Pacific Coastal area of Guatemala/southern Mexico, and it is established that there had long been an Olmec presence in that area. It makes total sense that Nephi₁ would have used this phrase or illustration when addressing people of Olmec culture or at least Olmec cultural influence to help establish his right to divine rulership. In addition, Nephi₁ was a royal scribe.



Figure 96. Olmec royalty at La Venta emerging from niche cavity.

Chapter 23

The Swords of Shule

The hill Ephraim is the location that king Shule “did moulten out of the hill, and made swords out of steel” (Ether 7:9). The inclusion of this particular incident in the Jaredite record is quite curious. Warfare occurred prior to this time among the Jaredites. The rest of the history of the Jaredites indicates regular, periodic warfare, and swords are also periodically mentioned. However, nowhere else is it mentioned that any other Jaredite swords were made of steel. The mentioning of this fact takes on increased meaning when one considers that Ether was in a direct line to Shule and the right to kingship from Ether’s father, which was from Coriantor, who lived in captivity, and his grandfather Moron, who was deposed from the throne by a competing line from the brother of Jared (Ether 11:17–23) (see figure 97).

Why are steel swords uniquely manufactured at this point in the Jaredite narrative? And how does the manufacture of such swords relate to metallurgy among the Olmec?

Consistent with the Jaredite geography discussed previously, the location where Shule found himself in the Tuxtlas did not contain any natural sources of obsidian (Santley 2007, 127), and since he was an outcast to the kingdom controlled by his enemy, he may not have had any access to obsidian by means of trade. While perhaps counterintuitive, some volcanoes, such as those in the Tuxtlas, are virtually devoid of obsidian as it only forms in eruptions where the cooling of the appropriate volcanic material is rapid, avoiding the formation of crystals. Shule thus had to make do with what he had to create sufficient weapons to retake the kingdom, which may have added to his mythological status.

Ether was the keeper of the Jaredite lineage, the record of his royal ancestors, which presumably passed from father to youngest son. The records consisting of the 24 gold plates that Ether left were found together with swords “the hilts thereof have perished, and the blades thereof were cankered with rust” and breastplates which are “large, and they are of brass and of copper, and are perfectly sound.”

It seems likely that the swords of Shule are the very same swords that were deposited with the gold plates of the Jaredites. No other mention of rust is made in the Book of Mormon other than as literary allegory. The only other mention of a steel sword in the Book of Mormon is the sword of Laban (1 Nephi 4:9), which was made of “fine steel.” Nephi₁ used the sword of Laban in “defence” of his people (Jacob 1:10), as likewise did king Benjamin (Words of Mormon 1:13). The sword was then delivered to his son Mosiah₂ (Mosiah 1:16). The sword of Laban appears to have been maintained as a sacred ancestral object among the Nephites, similar to the practice with Goliath’s sword in ancient Israel (1 Samuel 21:9).

Also consistent with the practice of the transfer of a sword as a sacred object, the Book of Mormon plates were also buried with a breastplate as were apparently the Jaredite gold plates. While not directly noted in firsthand accounts, the sword of Laban was also buried together with the Book of Mormon plates (D&C 17:1).

Jaredite Kings

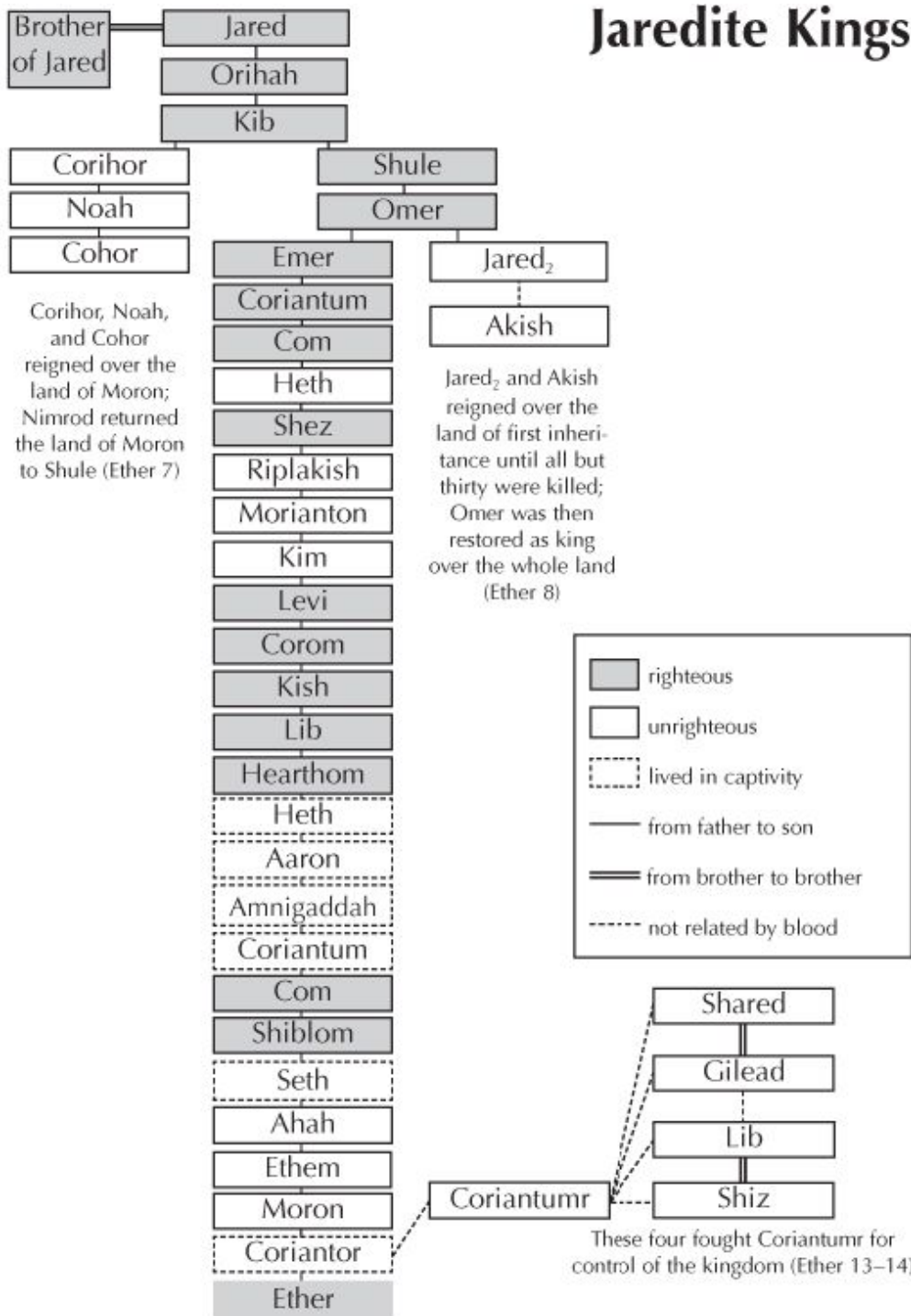


Figure 97. Lineage of Jaredite kings. (BYU Studies 2015b)

Etymology of the Name Shule

As previously noted one etymology for the name Shule is the Sumerian word *šelu* meaning “a metal” from the ED IIIa period (2600–2375 BC) (The Pennsylvania Sumerian Dictionary 2006).

Metallurgy of the Swords of Shule

No other references to swords in the book of Ether identify the swords (or any other weapon) as steel, so the identification of the swords of Shule as made from steel could be best interpreted as an anomaly. There is no mention of steel in later references to metals that the Jaredites had (Ether 9:17, Ether 10:7, Ether 10:12, Ether 10:23). In fact, given the fact that these swords were part of a Jaredite sacred bundle, the story of Shule seems to have an almost mythological element to it (forming metallic swords out of a volcano). The genesis of the swords and their singular uniqueness would be why the swords would be included in the sacred bundle, so there would be little expectation that other metallic, or at least steel, swords were present anywhere else in Jaredite history.

The language used pertaining to the method of manufacture of the swords of Shule is a bit peculiar. It states that Shule “did moulten out of the hill, and made swords out of steel.” In other parts of the text where *moulten* is used, the Book of Mormon refers specifically to “ore” of some sort.

1 Nephi 17:9

And I said: Lord, whither shall I go that I may find ore to moulten, that I may make tools to construct the ship after the manner which thou hast shown unto me?

1 Nephi 17:16

And it came to pass that I did make tools of the ore which I did moulten out of the rock.

Ether 3:1

And it came to pass that the brother of Jared, (now the number of the vessels which had been prepared was eight) went forth unto the mount, which they called the mount Shelem, because of its exceeding height, and did moulten out of a rock sixteen small stones; and they were white and clear, even as transparent glass;

Ether 3:3

Behold, O Lord, thou hast smitten us because of our iniquity, and hast driven us forth, and for these many years we have been in the wilderness; nevertheless, thou hast been merciful unto us. O Lord, look upon me in pity, and turn away thine anger from this thy people, and suffer not that they shall go forth across this raging deep in darkness; but behold these things which I have moulten out of the rock.

In the other instances of moultening, it is only the ore that is moultened, and then only iron or a rock to extract the 16 stones. In the case of the hill of Ephraim, Shule did “moulten out of the hill,” so something a little different seems to be going on.

It is also important to understand what is meant by the word *ore* in the Book of Mormon. The terms for the native metal and the ore of the metal are sometimes used interchangeably. An example is illustrated when the set of 24 Jaredite plates were described as “plates which are filled with engravings, and they are of pure gold” (Mosiah 8:9), and “plates of gold.” At another place in the Book of Mormon the very same plates are described as “plates of ore” (Mosiah 21:27). All indications of metallurgy in the Book of Mormon do not necessitate the assumption that complex smelting or metallurgy is taking place; in fact, the references and textual construction indicate that one is dealing with simple ores (essentially native metal) and not complex ores, which is why the terms for ore and the

metals can be sometimes be used interchangeably. The term *ore* in the Book of Mormon is essentially the native metal as mined. This metal—or, ore—would typically include inclusions of other materials that required additional refining, which meant crushing, grinding, hammering, cold working, and with perhaps some low-heat processing. In a few instances, higher levels of heat are required, and this is where the term “moulten” is used. In the case of the 24 plates, the likely reason they are referred to as “plates of ore” is because the native ore used required little refining. Nephi₁ did not refer to the plates he made as “pure” but also called them “plates of ore,” which likely indicated that the native ore used was relatively pure. That is why they are referred to as “pure gold” as well. The mention of brass in one passage in Ether might seem to indicate higher temperature alloying, but there are other reasonable interpretations of this term that do not require smelting that will be discussed later.

The language used here to “moulten out of the hill” does not imply any sort of mining. In the context of a volcano, it seems to indicate that the molten material from the hill was utilized in some fashion to make the swords. Meteoric iron (derived from meteorites) was already used before the beginning of the Iron Age to make cultural objects, tools, and weapons (Waldbaum 1980). Since Shule was only four generations removed from the arrival of the Jaredites, it is possible that there was still some retention of iron metal working. The edge of obsidian is much sharper than metal weaponry, so given the availability of obsidian in Mesoamerica, a low quality steel weapon would not be an advantage.

Basaltic lava can range in temperature from 1,832 to 2,282 degrees Fahrenheit. Anciently, iron was not melted or cast. The earliest known examples of casting liquefied iron are from China in the fourth century B.C. The melting point of iron is 2,800 degrees Fahrenheit, so it would not be expected that there was any sort of smelting going on with regard to Shule.

According to R. Madden (1977) there were two forms of ancient “steeling” of iron: 1) quenching and 2) carburizing through taking heated iron and hammering the iron and folding it so carbon molecules from the charcoals were beaten into the iron. Generally, the iron must be in contact with a carbon source in a way to exclude byproducts of combustion. Temperatures over 1,380 degrees Fahrenheit are necessary for carbonization to occur and over 1,650 degrees to produce a useful thickness of carburized skin. One technique that is not mentioned in those sources that would be well within the capabilities of early Mesopotamian metalworkers (and presumably Shule) is the technique of steeling butcher knives used during the American colonial period of rubbing the blade with tallow and then heating it evenly, adding more tallow, reheating, and continuing this process multiple times (Moorey 1999, 284).

A reasonable reading of the making of the swords of Shule would entail the use of meteoric iron formed and polished to a blade, with the carburizing heat provided by the magma. It is naturally very hard, keeps a good edge, and is resistant to tarnish. It is mostly composed of two different alloys of iron and nickel: kamacite and taenite. Meteoric iron produces extremely unique structural and decorative features when polished (see back cover of book).

Essentially, based on the legendary story of Shule found in the Book of Ether, it is likely that meteoric iron was hot worked in conjunction with high volcanic temperatures to create the steel for the swords of Shule. There have been other works by LDS authors on ancient possibilities for steel (Hamblin 2017; Sorenson 2013), both from a linguistic and technological standpoint. The purpose of this work is to provide a few new insights, so we will not repeat the findings for the possibilities of steel here.

Other Jaredite Metals

The other references to Jaredite metals and the timeframe are as follows:

Ether 9:17

Having all manner of fruit, and of grain, and of silks, and of fine linen, and of gold, and of silver, and of precious things;

This took place during the reign of Emer in approximately 2300 BC.

Ether 10:7

Wherefore he did obtain all his fine work, yea, even his fine gold he did cause to be refined in prison, and all manner of fine workmanship he did cause to be wrought in prison. And it came to pass that he did afflict the people with his whoredoms and abominations.

This took place during the reign of Riplakish in approximately 2050 BC.

Ether 10:12

And it came to pass that Morianton built up many cities, and the people became exceedingly rich under his reign, both in buildings, and in gold and silver, and in raising grain, and in flocks, and herds, and such things which had been restored unto them.

This took place during the reign of Morionton in approximately 1375 BC.

Ether 10:23

And they did work in all manner of ore, and they did make gold, and silver, and iron, and brass, and all manner of metals; and they did dig it out of the earth; wherefore they did cast up mighty heaps of earth to get ore, of gold, and of silver, and of iron, and of copper.

This took place during the reign of Lib₁ in approximately 1000 BC.

Mosiah 8:9

And for a testimony that the things that they had said are true they have brought twenty-four plates which are filled with engravings, and they are of pure gold.

Mosiah 8:10

And behold, also, they have brought breastplates, which are large, and they are of brass and of copper, and are perfectly sound.

Mosiah 8:11

And again, they have brought swords, the hilts thereof have perished, and the blades thereof were cankered with rust.

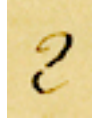
It is not known precisely when the breastplates or swords were made, but the supposition is that the swords were likely the swords of Shule previously discussed. The breastplates may have been produced during the final stages of Jaredite history, approximately 500 BC to 400 BC, but they could have been produced earlier. The 24 plates were written by Ether, so it would have been from around 500 BC to 400 BC as well.

Before looking at specific metals, it is fairly obvious that the reference to gold, silver, and precious things as a phrase is a generic term for wealth used throughout the Book of Mormon (1 Nephi 2:4, 2:11, 3:22, 3:44; Jarom 1:8; Mosiah 11:8, 11:9, 19:15, 22:12; Alma 1:29, 4:6, 15:16; Helaman 12:2; and 3 Nephi 6:2). In addition to the verses just cited, the words gold and silver rarely appear separately but also as a generic term couplet (1 Nephi 3:16; 2 Nephi 12:7, 12:20, 23:17; Jacob 1:16, 2:12; Mosiah 2:12, 4:19, 11:3; Alma 17:14, 31:24; Helaman 6:31, 7:21, 12:2, 13:28; 3 Nephi 24:3, 27:32; 4 Nephi 1:46; and Ether 9:17, 10:23).

What the generic term that includes “gold,” “silver,” and “precious things” means is not that gold and silver were unknown to the Nephites or Jaredites; instead, it means that when this phrase is used it should not be presumed that any gold and silver are involved. It is a generic term for “valuables.” Since gold and silver are used together,

this is likely indicative that it is referring to native gold that contains silver (as is the norm). The purity of gold of most ancient native gold ores is above 70 percent (Forbes 1950, 153). The later Nephites did have native silver as well, as the Nephite exchange system does utilize silver separately from gold in establishing exchange standards.

This alternate meaning is supported by the *gold* glyph C-185 found in the Caractors Document (Grover 2015):



C-55

gold

This is a somewhat straightforward form of the Egyptian demotic character for the word *nb*, which is translated as “gold” (Chicago Demotic Dictionary 2014, N (04:1), p. 57).



Demotisches Glossar (Erichsen 1954, 213)



C-185

gold (became wealthy)

This glyph does not appear to have the small visible gap like the previous character for gold (C-55); however, it is possible that this is a copyist error given the small size of this glyph, but it may signify a difference in meaning.

Gold and Silver

As mentioned, it is likely that gold and silver as a couplet is referring to the naturally occurring native gold alloy that also contains native silver. The early references in 2300 BC, 2050 BC, and 1375 BC indicate the possession of gold and silver, but no mention is made to mining of the material. These items may have been obtained by trade. The mention of the “refining” and the accompanying reference to “fine gold” is an indication that the native gold was worked to remove impurities to produce a “fine gold.” With regard to metallurgical terms in the Book of Mormon, only the word “moulton” implies some use of elevated heat. The terms “melt” and the dozens of uses of the term “fire” in the Book of Mormon are never used in the context of refining. 3 Nephi 24:2 does refer to the refiner’s fire, but this is a quotation of Malachi from the Old Testament.

In ancient Egypt, refined gold took two forms: 1) dust or powder from alluvial workings, and 2) ring-shaped ingots cast from the smelted gold produced in the mines (Notton 1974, 54). The Egyptian dust or powder did have final chemical and low heat processing, but the principal process of refining was crushing, pounding, grinding, and washing. The term “dross” is used a couple of times in the Book of Mormon (Alma 32:3, Alma 34:29), but no reference to it being a byproduct of heat or smelting is inferred, so it could just be the gangue and non-metallic material generated during the crushing, pounding, grinding, and washing process. The Book of Mormon description and reference to refining that took place is consistent with low temperature working or cold working; smelting is not implied.

Refining and working of gold is mentioned in 2050 BC. The other two references don’t indicate any utilization or working of gold, just that it was a sign of prosperity. Gold may have been merely a possession. The 2300 BC reference utilizes the generic “valuables” term, which could mean there was no presence of gold or silver.

Gold and silver so far have not appeared in the archaeological record in the appropriate Jaredite timeframe in the Olmec area, which is the location where most Mesoamerican models place the land of Nephite. As indicated in the Book of Mormon, the use of gold and silver was not utilitarian; rather, it was strictly decorative, so no gold or silver

in great amounts would be expected to be present. In fact, since specific timeframes and specific locations are the only places where gold and silver are mentioned in the Jaredite record, it is a distinct possibility that it was anomalous and may have been produced only during certain timeframes and at certain locations, and in most instances, it may have been a trade item.

The fact that it may have been principally in gold dust form when owned for purposes of wealth would have limited its presence in the archaeological record. In addition, where precious metals are involved, there are plenty of archaeological instances where the archaeological record lacks evidence of precious metals even when historical records clearly document their existence.

For example, Corinthian Bronze is described in ancient Latin, Greek, Hebrew, and Syriac texts. Pliny indicated that Corinthian Bronze was valued “before silver and almost before gold” (Pliny, AD 77a). Cicero and Plutarch also commented on the uniqueness of Corinthian Bronze (Cicero 45 BC, Plutarch AD 100). Early Jewish authors of the Classical period, including Josephus, were impressed by the Corinthian Bronze doors of the Nicanor Gate in the Temple at Jerusalem (Josephus AD 79; Jacobsen et al. 1992). Syriac sources for Corinthian Bronze include the Syriac “Peshitta” version of Ezra 8:27 datable to around AD 200 (Weitzman 1999), a Syriac text attributed to the alchemist Zosimus composed between the seventh and tenth centuries AD (Jacobsen et al. 1992), and a lexicon composed in the tenth century AD by the Syriac scholar Bar Bahlul (Duval 1901).

Despite this historically well-documented and somewhat widespread precious metal, so far not a single example of Corinthian Bronze has ever been located in the archaeological record or otherwise.

Another example of the absence of precious metals in the face of direct historical texts is the precious metals of the Fatimid Caliphate. The Fatimid Caliphate was a Shia Islamic caliphate that existed from 909 to 1171 AD, which covered a large area of North Africa, from the Red Sea in the east to the Atlantic Ocean in the west. The dynasty ruled across the Mediterranean coast of Africa and ultimately made Egypt the center of the caliphate. At its height, the caliphate included, in addition to Egypt, varying areas of the Maghreb, Sudan, Sicily, the Levant, and Hijaz.

Without a doubt, the problem of the origin of the inlaid-bronze and brass industry in the Arab world is much more difficult than in Iran. The reason is simple: the virtual lack of precious-metal objects attributable to the Fatamids. Because of this, there is no question of comparing silver and base-metal products. Of course precious-metal objects existed, and existed in huge quantities, as the description by al-Maqrizi of the treasures looted from the Fatimid palace in Cairo makes abundantly clear. Included in his catalogue we find monumental sculpture in precious metal – a silver ship, a golden palm tree, a golden gazelle, a golden hen and a golden peacock – and literally thousands of vessels in silver or gold, enameled or gilded, encrusted with jewels, or inlaid with niello – dishes and inkwells, cups and jugs, lamps and trumpets, flower vases and boxes – and precious-metal fittings, for knives, for swords, for standards and parasol handles, for tent poles and the royal barges. Apart from odd items of gold jewelry, only one Fatimid object even partially of precious metal has so far been identified, and that is a bronze mirror with a silver back! (Allan 1982)

Our knowledge of western Islamic metalwork prior to the rise of the Ayyubids and the Mosul school is extremely scant. A few articles on the Fatimid treasury or on single items, odd entries in the occasional exhibition catalogue, and some pieces in catalogues of private or public collections have left the subject obscure (Allan 1986).

Beyond the example of the absence of precious metals in archaeology where historic texts are involved, in the case of pre-Columbian gold in Columbia, archaeology failed to locate any workshop sites despite the fact that there were over 28,000 collected pieces in the Gold Museum in Bogotá and despite descriptions and direction to the locations in general terms from early explorers (Bray 1978).

One reason cited for the inability to discover evidence of mining and smelting sites in Central America is that European invaders, miners, and mining companies prospected for metallic ore sources in precisely the places where local people had been mining ore, smelting it, and probably working the metal. These later activities destroyed or changed the evidence of the earlier extractive metallurgy and processing technology (Hosler 2013).

The indicated use of all metals as merely ornamental (except for plates and the swords of Shule) is evidence in and of itself that there was probably not any smelting going on, and that the metallurgy was limited to cold working and perhaps some lower temperature hot working of native metals.

Gold in Ancient Palestine Previous to 600 BC

Canaanite Period

Despite extensive archaeological excavations that have occurred along the coastal strip of Israel, only a very few early Canaanite gold artifacts have been discovered. There is archaeological evidence that gold was available for jewelry production in Canaan from 1800 BC to 1200 BC. At that time the main sources of gold were Egypt and Arabia. The Midianites, a nomadic Semitic people who lived along the Red Sea coast in the Gulf of Aqaba and in the northwest of the Arabian peninsula, were the chief agents in gold trade with Arabia. They also mined and processed copper in Tymna (Altman 1979). Gold foil was used by the Canaanites for gilding bone and bronze objects.

Phoenicians, who would be differentiated from the general mass of Canaanites during the latter half of the second millennium BC, obtained gold from Ethiopia, Arabia, and Asia Minor. While there is no evidence that Phoenicians were smelting gold, they were experts in gold, silver, and gold gilding. Gilding was applied to metal, wood, and ivory, and the latter two were used to decorate walls and furniture. Wooden objects have not survived, but some examples of gilded ivory have been found.

Israeli Culture

In the Bible, gold is the most frequently mentioned of all metals but almost no gold objects have been found from the Israeli period of Palestine (1200 to 587 BC). Large quantities of gold were obtained by King Solomon and dedicated to the construction of the First Temple in 967 BC (1 Kings 6:20–35, 7:46–51). Only a few hoards have been found in Gezer, Akhsiv, and in Beth Shemesh, and they have consisted of relatively simple gold earrings, beads of various shapes and sizes, and discs with dots and holes apparently intended for sewing onto garments.

The Bible mentions Arabia, Sheba, South Arabia, and Ophir as sources of gold; Ophir is surmised to be situated between Mecca and Medina. The impression gained from the Bible and from modern research is that the use of gold for decoration was reserved for royalty and cultic purposes. Hebrew inscriptions on gravestones of the eighth and seventh centuries BC indicate that it was not the custom to put objects of value into the burial caves, and there seems to have been very little gold in private hands (Paul et al. 1973). The main accumulation was in the Temple and an indication of the size of the collection is given in a description of some of the treasure returned by Cyrus 50 years after the destruction of the first temple in 586 BC (Ezra 1:9–11).

Mesopotamia

In Mesopotamia, where extensive archaeology has occurred, the same paucity and large gaps in metal discoveries have been noted:

By the sixth millennium B.C. melted native copper, perhaps already producing “arsenical coppers,” and smelted copper were employed in northern Mesopotamia.

Evidence for metallurgy in Mesopotamia between 5000 and 3500 BC is extremely poor, amounting to no more than a handful of copper ornaments and isolated pieces of lead... There is no evidence for the use of gold, electrum, or silver

before 4000–3500 BC. In two cemeteries of that period in the south, at Eridu and at Ur, there is no metalwork in the graves. At present, we must assume, as the pattern of finds has now been consistent for over half a century, that this reflects a real situation in which even base metals served a minor, essentially decorative role in society.

Stone and clay were the raw materials predominantly used by all prehistoric communities of farmers and craftsmen for their tool kits and for their weapons in war. Therefore copper tools were not needed to increase the efficiency of food production or of carpentry in the relatively small, self-contained villages of Iraq before 3500 BC. Indeed, at this stage stone tools were probably more efficient than copper and were easily made of accessible materials. There was no incentive to increase the potential supply of copper, even if there were the means, nor to improve the range and strength of copper tools. Metal was neither vital for subsistence nor yet valued as a prestige commodity. Brightly colored semiprecious stones, such as turquoise and lapis lazuli, or imitations of them in blue-glazed dark stones or faience served that purpose. Distance from the sources of such stones does not appear to have restricted their supply. (Moorey 1985)

In the case of Mesoamerica, where there is a high concentration of volcanos and associated volcanic deposits, obsidian was available and ubiquitously traded. The sharp edge of obsidian is much superior to any cold- or even hot-worked native metal.

Another reason for the lack of archaeological evidence of precious metals in certain areas of Mesopotamia at certain times is that historical texts indicate that metals were often rigorously controlled by the bureaucracy and were regularly recycled (Moorey 1985). While we don't have much in the way of early Olmec texts, the archaeological record clearly shows that at the large Maya archaeological site of Kaminaljuyu there was wholesale recycling of carved monuments (Henderson 2013, 129–133). It would certainly be expected that whatever small amounts of precious metal there may have been would also be collected and recovered.

Plundering and tribute taking also affected the metal supply in Mesopotamia. A famous Sumerian epic poem from the Early Dynastic period describes how an expedition from Uruk into Iran seized not only precious metals but also the artisans skilled in working it with their tools, including molds for casting (Wilcke 1969). Probably the largest example of wholesale historical pillaging of metals (and everything else) was the Spanish conquest of Mesoamerica.

In addition, archaeology focuses on the excavation of temples, graves, and habitation sites. There is no mention of burial practices that would include any or all of the precious metals mentioned in the Book of Mormon. There is also no real indication that the possession of precious metals was widespread; it was probably limited only to the elite, just as occurred in Israel.

Notably, in the South American production of gold, there is a gap of nearly 1,000 years between the first discovery of worked gold together with gold-working tools (1500 BC) and the next most recent discovery (500 BC) (Scott 2000). No one doubts that there was gold being worked during this 1,000-year timeframe despite the complete lack of archaeological evidence.

It is also important to remember that the Jaredites were only one cultural subset of the entire Mesoamerican area. Gold and silver in their culture is only discussed at a few points in time and locations in their history. It cannot be extrapolated that all Mesoamerican cultures had precious metals (or even had an interest in them) from what is indicated in the Book of Mormon. Preferences for luxury materials in pre-Columbian America to some extent rely on the availability of the resource, but ultimately it is a cultural choice. For example, the classic Maya displayed little interest in gold despite its extensive use by its neighbors to the south (Pillsbury 2017, 3–4).

While indications of ancient mining for gold at the time of the Jaredites in the Olmec heartland or areas of influence has not yet been located, modern lode gold and copper deposits are known and have been explored and

developed by modern mining companies. Minaurium Gold, Inc. currently has two projects with gold ore in the Olmec area and the Santa Marta project also contains copper (see figure 98).



Figure 98. The Aurena gold and Santa Marta gold/copper deposits in the Isthmus of Tehuantepec (Caesars Report 2017).

Various low-grade, gold placer deposits are historically known in Olmec territory in the Isthmus of Tehuantepec at the headwaters of the Coatzacoalcos River, on the Malatengo River, Juinuapa River and Chicapa River (Shufeldt et al. 1872, 46, 105). In the situation of low grade placer deposits, this would be consistent with casting up “mighty heaps of earth to get ore,” as indicated in Ether 10:23, and would also not be expected to have any archaeological trace given the location near a meandering river.

Iron

Iron is mentioned among the Jaredites at approximately 1000 BC. While pure metallic iron would not be expected to survive in an archaeological setting, the Jaredite reference does not identify the form of the iron metal. There is excellent archaeological correspondence at the correct timeframe for the mining of iron among the Olmec. An Olmec mining colony has been identified in the Cintalapa valley. Among items excavated were partially worked blocks of ilmenite (form of iron oxide) and magnetite (magnetic iron oxide) and a fragment of an iron mirror, together with tools and San Lorenzo-style ceramics. These remains date to around 950 BC (Diehl 2004, 133). Among the products produced from this material were Olmec mirrors, which were formed from polished iron, beads, and figurines (Diehl 2004, 93). At the Olmec site of Las Bocas in Puebla, a particularly fine mosaic mirror was recovered that was dated to around 1000 BC (Carlson 1981).

The reference to iron in Ether is in relation to the great city that Lib₁ built, which I have identified as La Venta. As of 1981, seven iron mirrors have been excavated at La Venta (Carlson 1981). Tomb A at La Venta is one of the oldest formal tombs in Mesoamerica, dating to about 600 BC. Among the funerary offerings of this elite burial was a highly

polished magnetite (iron) mirror; it also contained the figurine of a seated female who wears an obsidian mirror on her chest. A total of seven concave mirrors were excavated from Complex A at La Venta; they were fashioned from hematite, ilmenite and magnetite (all forms of iron) (Diehl 2004, 70–71, 93). These are counted among the most outstanding examples of iron ore workmanship that the Olmecs produced. This certainly is consistent with the statement about the great city of Lib₁ in Ether 10:23 discussing iron and other materials that indicates that “they did work all manner of fine work.”

Ilmenite and magnetite cubes with drill holes in them have been found at various places in the Olmec heartland, including San Lorenzo. While the ultimate end use of these items is still debated, it is another example of iron being worked (Pool 2007, 104–105).

Brass

The question of brass in the Book of Mormon has been explored to some extent by John Sorenson (2013, 335–6) with linguistic conclusions that the biblical term for brass and bronze are to some extent interchangeable. Sorenson has also documented the pre-Columbian presence of brass and bronze. While the reference to brass by the Nephites included the standard concept of brass (an alloy of copper and zinc) or bronze (an alloy of copper and tin), the reference to brass in the Jaredite record (and perhaps later among the Nephites) is likely referring to pyrite, which can have the appearance of brass or bronze.

Before commencing research into historical metals, it is necessary to understand that unlike our modern technological world of defined chemistry and exact international standards of metals and alloys and their definitions, the historical and ancient world was not so organized. Broad terms were used to include a variety of types of metals and alloys. Sometimes metallurgy was as much a religious and medicinal endeavor as it was a material science. Further confusion is created because, for the most part, the historians themselves are not metallurgists, and so they are trying to describe something for which they may have no firsthand knowledge of process or terminology. Complicating things further is the translation of these ambiguous terms into another language, which itself may have less than specific terminology. A good illustration of this is found in the writings of Pliny the Elder, Gaius Plinius Secundus (AD 23–79), a Roman of Equestrian rank who wrote a 37-volume set entitled *Natural History*.



Figure 99. Pliny the Elder. (The Famous People 2017)

In attempting to describe a metal of his time, Pliny used the term *aes* in Latin (Pliny 77a). *Aes* in Latin can mean *bronze*, which modern scientists define as an alloy of copper and tin. The term can also mean *brass*, which modern scientists consider an alloy of copper and zinc. Some modern translators have translated the *aes* term of Pliny's to be brass, not bronze (Pliny 77b). Most ancient *aes* also contained lead. While that may seem vague enough, Pliny goes on to describe the three types of Corinthian bronze (*aes*), which he also defines, by their relative content of gold and silver, which means that *aes* can also be defined as an alloy with those metals. The term *bronze* or *brass* (perhaps especially Book of Mormon *brass*) are terms that should be approached with caution when attempting to identify any historical or ancient alloy, as they often are catch-all terms for the various alloys of copper and are often defined by their appearance and color, not by the metals contained in the alloy.

Ancient metallurgy involved proven techniques or recipes used by specific craftsmen or guilds, more so than any specific chemistry, since chemistry as we know it did not exist. The composition of the finished metal itself was often determined by the ore body utilized. Even today, since ore bodies vary widely in chemical composition, various tests and pilot plants are used to determine the best extractive process technique for a particular metal in a particular ore body. The same extractive challenge caused by differences in ore bodies existed for ancient metallurgists as well.

The twelfth-century Upper Mesopotamian writer Ibn al-Razzāz al-Jazarī, who was a metalworker by profession, in his *The Book of Knowledge of Ingenious Mechanical Devices*, refers to the cast bronze doors of Āmid as being of brass, which is very unlikely when compared to the surviving portions (Rogers 1976).

Muslim artists and artisans used basically the same metals and alloys as their Roman and Byzantine predecessors: gold, silver, and alloys of copper, tin, lead, and iron. Exact information about these metals is scanty. Our ignorance stems from a number of reasons. Most Islamic metal objects have not been properly analyzed, and as a result terms like 'bronze' or 'brass' are used indiscriminately in museum or exhibition catalogues and other scholarly publications. Moreover, the medieval Islamic terminology for metals and their alloys is often ambiguous and therefore difficult to evaluate. For instance, no clear distinction was made between bronze and brass, the term *ṣufr* being used for both. (Baer 1983, 1)

In addition, when dealing with ornamental metals (which seem to be the primary use of Jaredite metals) the ancient metallurgists (often alchemists), for the most part, were trying to produce a particular color or finish. The alchemists in particular were attempting to produce gold or gold gild (or at least the look of gold) from lesser metals. As a result, the ancient name of the metal or alloy may only be a representation of surface color, not of composition. Pyrite has been typically described as "brassy yellow" (Rickard 2015, insert).

With regard to the word *brass*, at least for the earliest Jaredite use, Sorenson (2013, 336) indicated that the text of Ether 10:23 is supportive of an alloy of copper (either bronze or brass) because the Jaredites did not have to dig up "heaps of earth to get ore" to get brass like is mentioned for gold, silver, copper, and iron, thus implying that it had to be smelted. However, there are two other reasons why brass may not have been mined by the Jaredites. It may have been a trade item and mined by someone else, or it may have been easily available on the surface, giving the Jaredites no need to dig up "heaps of earth" to get it.

Pyrite crystals sometimes form in deposits that with differential weathering leave pyrite crystals available on the surface without much excavation necessary (see figure 100).

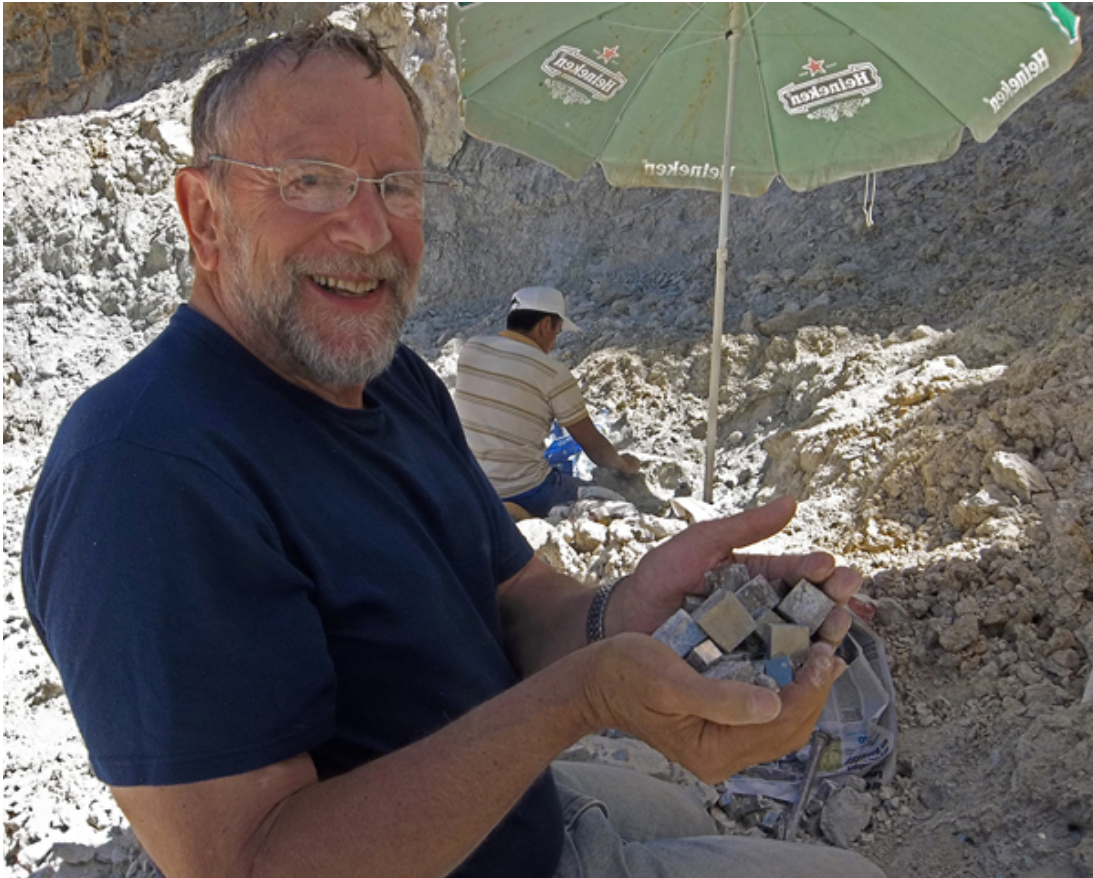


Figure 100. Collection of pyrite from surface at Navajun, Spain. (Treasure Mountain Mining, 2015)

More likely, the pyrite was a trade item not available in the Olmec area. In fact, the known pyrite sources for pre-Columbian pyrite are well outside of the area of the Olmec heartland, so it must have been a trade item (see Figure 101).

Pyrite was used by the Olmec to make mirrors and has been found at La Merced and other Olmec locations (Diehl 2004, 44). Similar to iron mirrors, it was decoratively used on other pieces that provide spectacular reflective qualities (Taube 2004, 66). As previously mentioned, these mirrors are depicted in Olmec items as being worn on the chest as a breastplate.

So the question arises linguistically as to why pyrite would end up translated as *brass* in the Book of Mormon. First of all, there is no indication of a separate word for pyrite in biblical Hebrew or that pyrite is specifically mentioned in the Bible. As just explained, early metallic terms sometimes became catch-all terms for metals that are similar in color or appearance.

Pyrite is an iron sulfide and when weathered oxidizes and reverts to a rusted iron oxide limonite. While not found in biblical Hebrew, the word for pyrite is found in Sumerian texts as early as 2000 BC (Rickard 2015, 7, 59). In Sumerian the term for pyrite would be *bil* “to burn” and *za* “stone” and looks to have some etymological relationship with the word for iron used in the Bible, *bar-zel'* (בַּרְזֵל). This word is clearly a loan word adopted into biblical Hebrew and has linguistic equivalents in other Semitic languages: Akkadian, *parzilla*; Ugaritic, *bröi*; Phoenician/Punic, *brzl*; Aramaic, *przl'*; Arabic, *firzil*; Old South Arabic, *nāək*; Armenian, *anag*; and Coptic, *anok* (Mankowski 2000; Ellenbogen 1962). This word has been identified as an introduced word into biblical Hebrew from a Western source but has not been further delineated. It is considered non-Semitic and underwent borrowing

from one language to another (Khan, 2013, 640). Sumerian is a definite possibility, likely being borrowed into Akkadian initially.



Figure 101. Pre-Columbian pyrite sources. (Gallaga 2016)

The *bar* in *bar-zel'* corresponds with the independent lexeme *BAR* in Sumerian, which is utilized to designate various metals: AN.BAR, iron; ZABAR, bronze; and KUG.BABBAR, silver. The lexeme *bar* also directly corresponds to the early English Anglo-Saxon word *braes*, which became the modern English *brass*. In English, also connected to *bar* is the term *brazi*, which denotes coal containing iron pyrite (Khan, 2013, 641).

In the Oxford English Dictionary (2017), under the section for *pyrite* there are examples where pyrite is referred to with the word *brass*, *brassy*, or *brasse ore*. Under the section for *brass* one of the actual definitions for it, specifically referring to mining, is iron pyrite, which is found in coal. Quoting the 1879 Cassell's Technology Educator, "(d)etached masses of pyrites ... are called 'brasses' by the colliers."

Since the early Jaredite term for brass would have been initially interpreted into the Nephite language by use of the interpreters, with a likely original Sumerian/Jaredite etymology and lacking a biblical Hebrew term for pyrite, the use of the term *brass* for pyrite would certainly be reasonable and etymologically defensible. Alternatively, although pyrite is a known English term, *brass* is also an acceptable name for types of pyrite in Early Modern English.

Copper

Pre-Columbian copper work is known but has not yet been discovered in the archaeological record in the Olmec area during Olmec times. Native copper is known and reported in the Olmec area, so it is consistent with the

possibility that small amounts were mined and worked by the Olmec/Jaredites. Chivela Pass, centered in the Isthmus of Tehuantepec, has occurrences of native copper (Stevens 1869, 51). Copper ore has been mined in Tequisistlán in Tehuantepec in the San Carlos Yautepec mining district (Stevens, 1911, 1128). Although it is reported as argentiferous chalcopyrite ore, native copper can be present within the yellow zone and within veins in small amounts of porphyry type deposits. Similar to Tequisistlán, the Santa Fe mine in Chiapas near Palenque also contains copper in a complex ore and produced 370,483 pounds of copper in 1903 (Stevens, 1908, 1217). As previously mentioned, the Santa Fe mine is a current copper/gold deposit that is located in the Olmec area.

Chapter 24

Death Ritual of the Buried Weapons

Burial of weapons occurs in the Book of Mormon's post-Jaredite narratives of Nephite-Lamanite warfare. But the ritual burial of weapons is first found among the Olmec. At the Olmec site of El Manatí, some of the first excavations unearthed a knife and a celt as part of a ritual offering, with 353 greenstone celts being eventually unearthed (Grove 2014, 120, 172) and some additional knives. A celt is a prehistoric stone or metal implement with a beveled cutting edge, probably used as a tool or weapon. The El Manatí site is dated from 1700 BC to 1200 BC.

Ritual burials of this sort are referred to as votive burials. At the Olmec site of La Venta, burial of celts (also known as "pseudo-axes") was extremely common in both burials and offerings. They were typically purposefully oriented in various ways, sometimes creating specific designs. It is unclear whether these artifacts were actually used in any practical way or if their meaning is ritualistic or symbolic. Most are smooth, but quite a few are decorated with what has been interpreted as representing religious symbolism. Such celts and other jade artifacts were offered to deities during ceremonies at La Venta and the belief in supernatural beings is evidenced in Olmec artifacts. However, it is difficult to tell which important figures remaining on the stone monuments and artifacts are gods and which are human leaders. In fact, there might have been little difference between the divine and the Olmec king in their ideology (Diehl 2004).

This practice is not only found in the Olmec heartland. At the site of Chiapa de Corzo, Mexico, also known as the city of Sidom under the Sorenson model, various votive offerings involving large numbers of axes similar to Olmec patterns have been excavated. Some axe offerings were found in tombs of what would be interpreted as royal (elite leaders) tombs (Bachand and Lowe 2012; Bachand and Lowe 2011; Bachand et al. 2008).

Some are very crudely formed "pseudo-axes" that were not finely crafted, but others were finely polished. The axes were carefully placed in axe clusters similar to other Middle Formative ritual axe clusters found at San Isidro, La Merced, El Manatí, and La Venta. Only 10 percent of the axes showed any damage or use.

The Book of Mormon recounts various episodes of enemies surrendering by laying down their weapons of war (Alma 44:6, 8, 14, 15; 52:25, 36–39; 55:23). With these peaceful occurrences, the record recounts associated covenants of peace related to the laying down of weapons of war (Alma 23:7, 13; 62:16; Helaman 5:51; Mormon 7:4).

The Book of Mormon ritual that directly relates to the documented Mesoamerican votive offerings of weapons occurs among a group of Lamanites called the Anti-Nephi-Lehites (later called the people of Ammon), who, together with their new king (who took the name of the people), "took their swords, and all the weapons which were used for the shedding of man's blood, and they did bury them up deep in the earth" (Alma 24:15–17). An oath was made in conjunction with the ritual burial, stating "if our brethren seek to destroy us, behold, we will hide away our swords, yea, even we will bury them deep in the earth, that they may be kept bright, as a testimony that we have never used them, at the last day; and if our brethren destroy us, behold, we shall go to our God and shall be saved."

Brant Gardner (2015) has an excellent discussion regarding this votive offering and the corresponding oath and its setting in Mesoamerica (303–308). Extending Gardner's discussion, there are some additional items that that were left unaddressed.

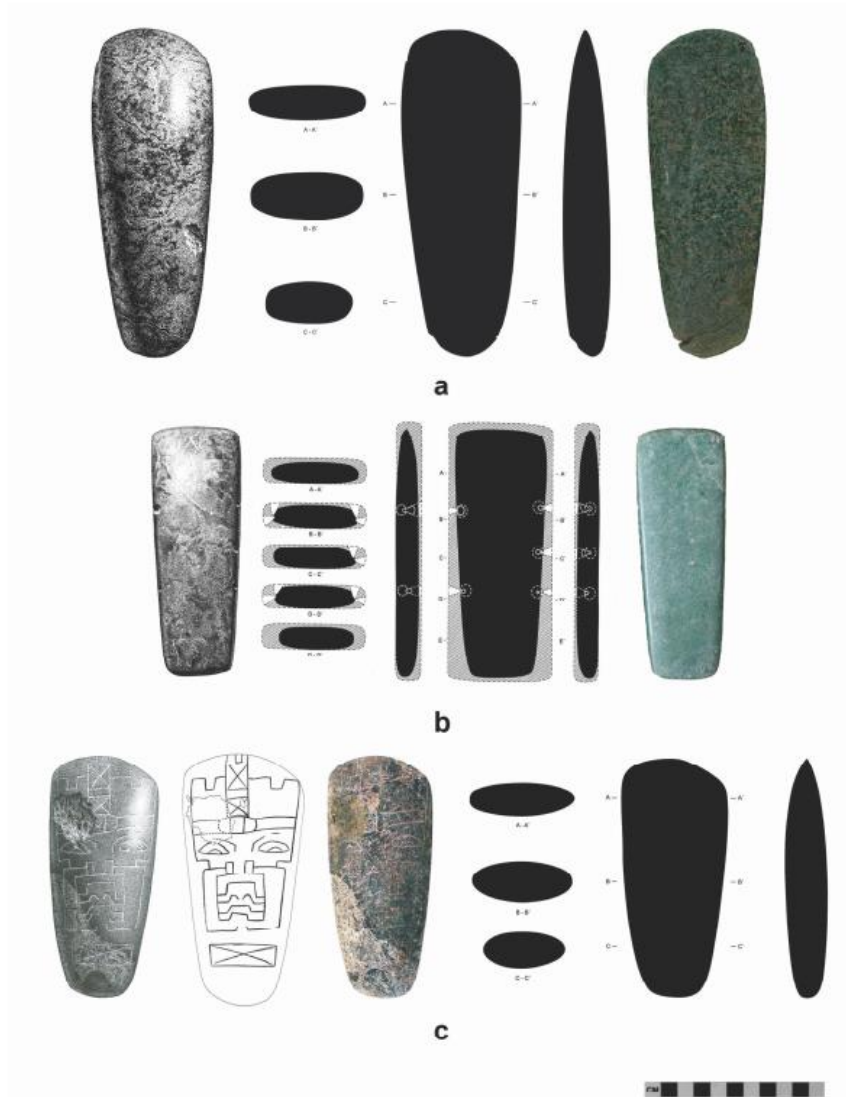


Figure 105.- Jade and serpentine axes from the Mound 11 axe pit excavations:
a) Axe 1, b) Axe 8, and c) Axe 7 (drawings by Áyax Moreno).

Based on later discussions in the Book of Mormon of the children who did not take the oath, Gardner noted that all of the members of the group made the oath, except the very young, which would be those that were too young to voice an oath. An item unaddressed is whether the very young, or others who did not typically possess weapons, could have participated in the votive offering itself. Noting the relative simplicity of many of the pseudo-axe offerings at Chiapa de Corzo (some were just river rock and pebbles) and noting that only 10 percent appeared to be weapons that were actually used, these votive offerings seem to be community-type offerings in which all persons would have been able to participate, not just the warrior class who possessed actual weapons. The participation of all members of the Anti-Nephi-Lehites is consistent with the weapon offerings tendered in Chiapa de Corzo.

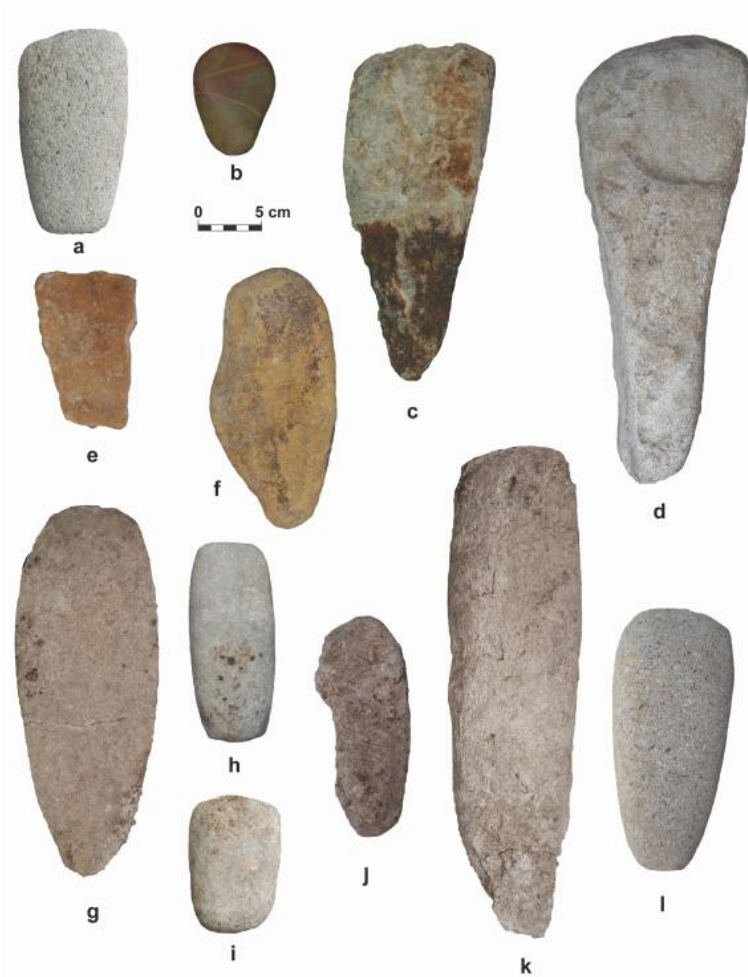


Figure 106.- Range of axe forms within the Mound 11 axe pit: a) Axe 2 – andesite, b) Axe 29 – river pebble, c) Axe 92 – limestone, d) Axe 23 – quartzite, e) Axe 69 – tabular sandstone, f) Axe 22 – sandstone, g) Axe 81 – limestone, h) Axe 97 – quartzite, i) Axe 89 – quartzite, j) Axe 46 – limestone (cave stone?), k) Axe 50 – limestone, l) Axe 11 – polished andesite.

Figure 102. Range of axe forms from Chiapa de Corzo Mound 11 votive offering. (Bachand et al. 2008)

Further, the Anti-Nephi-Lehi votive weapons offering is described that “they buried their weapons of peace, or they buried the weapons of war, for peace” (Alma 24:19). Smith (2017) argues that this phrase is an example of an improvisational error in the Book of Mormon, meaning that a mistake was engraved into the plates, and the correct verbiage is then restated and engraved by the author (72). Smith’s argument here is in error. With a removal of a comma (remembering there was no original punctuation in the Book of Mormon), the phrase reads “they buried their weapons of peace or they buried the weapons of war, for peace.” Given the fact that in the Chiapa de Corzo example there were two types of weapons buried, pseudo weapons (weapons of peace) and also actual weapons (weapons of war), this phrase makes perfect sense in a Mesoamerican votive offering context and is not an improvisational error.

Countering those asserting that the Anti-Nephi-Lehi offering was the cultural source of all Mesoamerican offerings, Gardner accurately argues that this type of votive offering predates and is more widespread. Extending Gardner’s argument further, this sort of offering is never noted among the Nephites. The practice is, however, noted again

among the Lamanites some 70 or so years later (Helaman 15:9). This is further evidence that it was a practice derived from local traditions incorporated by the Lamanites.

At Chiapa de Corzo some of the votive weapons offerings were done in conjunction with burials of important persons. Gardner indicates that this burial practice occurred at other places in Mesoamerica. While the Book of Mormon doesn't explicitly state this, it does state that the old Lamanite king (king Lamoni's father), who was the one who precipitated the conversion and change in heart of the Anti-Nephi-Lehi's, conferred the kingdom to his son and died in that same year, which was also the year that the Lamanites were preparing for war (Alma 24:3-4). Immediately afterward in the text is the pronouncement of the new king and the taking of the oath and votive weapons offering. The Book of Mormon votive weapons offering event looks to be entirely consistent with Mesoamerican practice because the votive weapons offering was made in conjunction with the burial of the old king.

Finally, the understanding of the Anti-Nephi-Lehites that the burial of their weapons would keep them "bright" indicates that weapons in the Book of Mormon were not made of metal, since metal is subject to corrosion upon burial.

Chapter 25

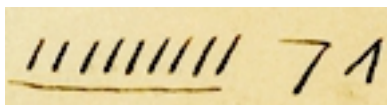
Twenty-Four Jaredite Plates

It is important to discuss the specifics of the source of much of the Jaredite information that is in the Book of Mormon, which comes from the Twenty-Four plates of the Jaredites.

What was the name of this record, and what was the glyph representing it? What do these tell us about the record's nature and meaning? Was it a unitary record, a record of single authorship, or a set of records? What was the size of the record, and how much content did it convey?

It is first important to note that these plates, when directly referred to, are always referred to as the "twenty-four plates" (Mosiah 8:9; Alma 37:21) or the "twenty and four plates" (Ether 1:2). This is actually the formal and official name of the plates. The Caractors Document contains the name of the plates, which consists of three glyphs, the number 10, the number 5, and the number 9, with 9 also being a rebus for the term "plates." These glyphs are identified as C-46, C-45, and C-47. The script runs right to left with the sum of the terms equaling 24.

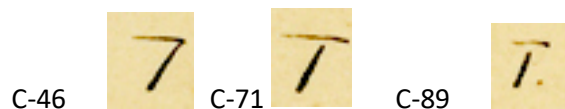
C-45, C-46, C-47



$9 + 5 + 10 = 24$

Each of the individual numbers is found in hieratic Egyptian. The following section is extracted from the book that describes the translation (Grover 2015):

5 (Palestinian hieratic) Characters 46, 71, and 89 (exclude base dot):



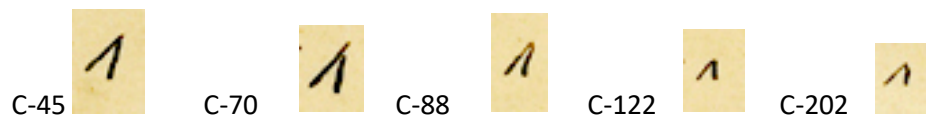
This is a standard form of the hieratic numeral 5, also found in Palestine.

Example:



Ostraca Arad 36, seventh century BC, Negev, Palestine (Wimmer 2008, 46–47).

10 (Palestinian hieratic) Characters 45, 70, 88, 122, and 202:



This is a well-known standard hieratic form of the number 10, also found in Palestine.

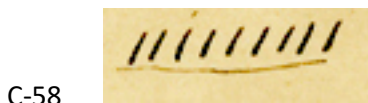
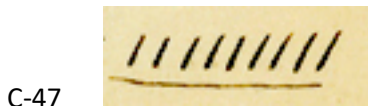
Example:



Ostraca Samaria 61, eighth century BC, Samaria (Wimmer 2008, 125).

The Number 9 and the Twenty-Four Plates Rebus

Character 47 is preceded by the number 15, but character 58 is not adjacent to any numbers. The character is a numeric form and is similar to the bar-and-dot structure but with dashes instead of dots; however, the bar-and-dot system can only have a maximum of 4 dots. The intuitively apparent number is 9, in that this character has 9 dashes; however, Character 58 is not part of a number sequence while Character 47 is.



In context, it clearly has the numeric value of 9, as the addition of the preceding number 15 gives a total number of 24. Immediately preceding C-58 (C-55 and C-56) are the hieratic/demotic words “good or pure” and “gold.” The term “pure gold” is only used three times in the Book of Mormon: first, for Laban’s sword (1 Nephi 4:9); second, to ornament the seats of king Noah’s high priests (Mosiah 11:11); and third, to the Twenty-Four Jaredite plates recovered by a group sent by Limhi (Mosiah 8:9). It is clear this glyph can have the meaning “9” or “plates,” or both at the same time, a practice not uncommon in other Caractors glyphs.

Sumerian/Elamite Proto-Cuneiform Elements of the Twenty-Four Plate Glyph

The form of the glyph is similar to Proto-Elamite forms of glyphs found in Mesopotamia that are likely number glyphs.



M001+M379~d MO41

M041~c

M041~d

Figure 103. Proto-Elamite Period (ca. 3100–2900 BC) from J. Dahl’s Working Elamite Sign List (2006).

Glyph Similarity with Mesoamerican Systems

The similarities for the glyph are found in the Texcocan and Aztec number systems previously discussed. Specifically, the Texcocan comb form shown in figures 105 and 106 for the numbers from 5 to 19 and the Aztec number forms for 100, 200, 300, and 400.

1	5	20	100
		•	•••••

Figure 104. Texcocan line-and-dot numerals. (Chrisomalis 2010, 304)



Figure 105. Numerical phrase from the Codex Kingsborough, circa AD 1550, enumerating the population of Tepetlaoztoc at 27,765 ($[3 \times 8000] + [9 \times 400] + [8 \times 20] + 5$). (Chrisomalis 2010, 305)

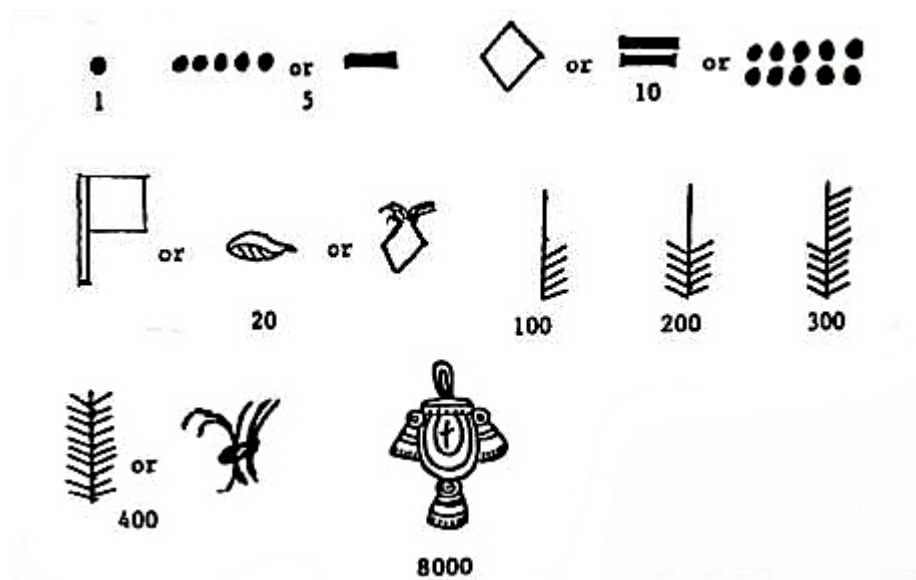


Figure 106. Aztec numbers set one. (Ortiz-Franco 2002, 239)

A correspondence in glyph form exists for this character in the Maya language as well. Below are a few of the Maya glyphs for “scribe,” “he of writing,” and “someone who writes.” Part of these two Maya glyphs has been interpreted as the “someone” or “he of” in relation to the scribe, when that glyph appears separately, at least one instance of it has exactly eight gaps, identical to the Caractors glyph (see below; all images and definitions are taken from the *John Montgomery Dictionary of Maya Hieroglyphs* 2007):

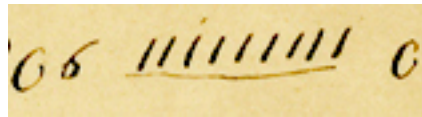


AJ tz'i-b'a (aj tz'ib') (T12.nn:501:314) > prep. phr. "he of the writing," or "scribe"; artist's title; designates the occupation of scribe, painter, or artist in general.

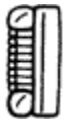


AJ tz'i-b'a (aj tz'ib') (T12.248:501) > prep. phr. "he of the writing" or "scribe"; artist's title.

(CH) > u-tz'i-b'a-la (utz'i[h]b'al) u-tz'ihb'-al ~ 3SE-i. v. -nom. "the painting/writing of" forms part of the "surface treatment" section of dedicatory expressions; alternatively may introduce painted scribal signatures.



Eight gaps



Eight gaps

a/AJ (a/aj) (T12) 1> vowel a 2> masc. agentive pro > n. meaning "he" 3> agentive pref. "he of _____"; associates individuals with locations or qualities.

The Maya character can be somewhat random in the number of gaps dependent on the scribe. Therefore, nothing should be attributed to the number of gaps, other than the similarity of the glyph form. In addition, the Maya glyph is used in many types of instances unrelated to scribes, so no meaning should be inferred. However, the fact that the hand of the scribe is actually writing on the glyph is similar to the Caractors glyph for plates is an interesting coincidence.

In Egyptian, this glyph is a clear shorthand version of the Egyptian hieroglyph *Mn* or *Men*, which means "to remain, to abide, to continue, to be permanent, to be stable, fixed, abiding, stablished" (Budge 1920, 1:296). In conjunction with other glyphs, it can mean "everlasting inscriptions."



Figure 107. Hieroglyph for *Mn* on the Temple of Karnak (upper left center in red).

The hieroglyph for *Mn* is derived from its depiction of the Egyptian religious ritualistic game called senet. At least 4,000 years ago, the Egyptian senet game came to be associated with the notions about migration of the soul (*ba*) and the Egyptian funerary cycle of life, death, and spiritual renewal. In the First and Second Dynasties, senet boards were deposited inside tombs with other furnishings for use by the deceased in the next life. Egyptians later represented senet boards artistically on the walls of Old Kingdom tombs, in offering lists and wall paintings, and as part of the mortuary equipment.

During the Sixth Dynasty, in the depiction of certain Hathoric celebrations, the deceased was depicted playing against a living person. The senet board is a physical bridge stretching from the space of the living into the space of the dead, permitting direct physical contact and a conduit of communication between the two; this motif is quite rare in Old Kingdom reliefs. Before the end of the Twelfth Dynasty, notions about the passage of *ba* via the senet game were applied to the Coffin Text Spell 335 (CT 335) and later to the Book of the Dead, chapter 17 (BD 17). In the senet ritual of the Twentieth Dynasty, the game re-created the nocturnal journey of the sun god through the Netherworld, thereby the senet board became the Netherworld and the moving players became the passage of the player/deceased through the realm of the dead.

A good number of senet boards have been found inside tombs, where they were carved as graffiti in the floors. Given the nature and location of the senet ritual, these boards could have been used by visitors to communicate with the dead or to perform some version of the ritual (Piccione 2007).

The games came to be incised into flat slabs of stone, wood, or faience. One of these completely inscribed and surely religious boards was found buried in the courtyard of the Eighteenth Dynasty tomb of Kenamun at Thebes. But the board, now in the British Museum, dates to the Twentieth Dynasty and was thus interred more than 300 years after Kenamun was buried. The ritual importance of this board is implied not because it was a later burial addition, but because it was interred by itself without any associated corpse. The roots of this character in the

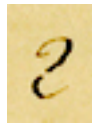
Egyptian hieroglyphs is consistent with its use as a description of engraved metal plates from the Jaredites, which were probably recovered from an underground tomb of some sort.



Figure 108. Senet game interred in a ritual burial. (Piccione 1980)

The Twenty-Four plates are also referred to in their second occurrence in the Caractors Document as “pure gold” plates; in this instance it is not a numeric glyph but simply utilizes the C-58 glyph for “plates.” The words for “pure gold” are fairly straight forward from standard hieratic and Demotic Egyptian:

C-55



gold

This is a somewhat straightforward form of the Egyptian demotic character for the word *nb*, which is translated as “gold” (Chicago Demotic Dictionary 2014, N (04:1), p. 57).



Demotisches Glossar (Erichsen 1954, 213).


C-56



good (pure in context)

This is a straightforward form of the Egyptian hieratic character for the word *nfr*, translated as “good” and which would be translated as “pure” in this Book of Mormon context (Chicago Demotic Dictionary 2014, N (04:1), p. 72).

The phonetic hieroglyph for *nfr* is Gardiner Number F-35 meaning “good” (Gardiner 1957, 465):

F35: 

The hieratic versions of the glyph are as follows:



Möller Number 180, Bd. III-1-31, p. III 176–86 (Möller 1965).

Significance of the Use of the Number 9 in the Twenty-Four Plates Glyph

The use of the number 9 in the Twenty-Four plate glyph may have Mesoamerican significance specific to the Jaredites/Olmecs and their calendar. As previously referenced, in Mesoamerican mythology the Lords of the Night are a set of nine gods who each ruled over every ninth night forming a calendrical cycle. Each lord was associated with a particular fortune, bad or good, that was an omen for the night that they ruled over.

The Lords of the Night are known in both the Aztec and Maya calendar, although the specific names of the Maya Night Lords are unknown. The existence of a nine-night cycle in Mesoamerican calendric cycles was first discovered in 1904 by Eduard Seler. The Aztec names of the deities are known because their names are glossed in the Codex Telleriano-Remensis and Codex Tudela. Seler argued that the nine Lords each corresponded to one of the nine levels of the underworld and ruled the corresponding hour of the night time. This argument has not generally been accepted, since the evidence suggests that the lord of a given night ruled over that entire night. Zelia Nuttall (1904) argued that the Nine Lords of the Night represented the nine moons of the lunar year. The cycle of the Nine Lords of the Night held special relation to the Mesoamerican ritual calendar of 260 days and nights, which includes exactly 29 groups of nine nights each, and also, approximately, nine vague lunations of 29 days each (Hassig 2001, 37–38).

Considering Olmec rulers were considered to have mythical Underworld origins which provided them claim to divine status, the utilization of the number nine would be perfectly appropriate to include in the numeric glyph as the name of the 24 plates, which is a record of Olmec/Jaredite rulers. Coriantumr₂, the last Jaredite ruler, remained with the people of Zarahemla for nine moons (Omni 1:21), also consistent with the ruler theme. The fact that the number 9 was an important formational element of the Olmec 260-day calendar is certainly consistent with a calendar different from the Nephites, and with the practice of incorporating numerical glyphs into the reformed Egyptian glyphs that are the identifiers of the separate Nephite calendars contained in the Caractors Document (Grover 2015, 67–110).

Significance of the Use of the Numbers 10 and 15 in the Twenty-Four Plates Glyph

The use of the Egyptian hieratic numbers 10 and 5, with the sum of them being 15, is not unique to the Twenty-Four plates glyph but is used in this or similar fashion in other calendar dates in the Caractors Document unrelated to the Twenty-Four plates. This utilization of the numbers 10 and 15 in the manner in which they are used look to be optional within the Nephite reformed Egyptian numeric system (Grover 2015), so it is likely to have some alternative significance.

The likely use of the numbers 10 and 5 would be consistent with other thematic elements of Moses and Exodus found in the Book of Mormon relating to the 10 plagues in Egypt, the 10 Commandments, and the Pentateuch (five books of Moses that contain the Torah or law of Israel). Both numbers constitute the compass and square symbols, which have temple implications.

Were There Really Just 24 Plates?

The Book of Ether, which is found in the Book of Mormon, is an abridgement of the Twenty-Four plates. Like standard Book of Mormon abridgement fashion, the name of the abridged book still maintains the name of the original book. Thus, it is likely that the name “Book of Ether” is also the name of the interpreted version of the 24 plates into reformed Egyptian based on Mosiah₂'s original interpretation of the 24 plates. Based on its length and the indication that not even a “hundredth part” of the Twenty-Four plates is found in the Book of Ether (Ether 15:33), it would seem difficult that 24 plates (even utilizing both sides) would provide enough space for the full record to be recounted (Arts 2002). It should be noted that the term “hundredth part” is a standard literary term used elsewhere in the Book of Mormon (Jacob 3:13, Words of Mormon 1:5; Helaman 3:14, 3 Nephi 5:8, 26:6) indicating “a small amount” and is not a literal percentage. Nevertheless, based on the current length of the Book of Ether as an abridgement and considering the material that was not even abridged, which included “the first part of this record, which speaks concerning the creation of the world, and also of Adam, and an account from that time even to the great tower, and whatsoever things transpired among the children of men until that time” (Ether 1:3), there is a considerable amount of material in the unabridged Book of Ether.

The full Book of Mormon plate stack (assuming uniformity of plate thickness) has been calculated based on alloy composition and dimensions to have between 300 to 600 plates (Grover 2015, 95). There is some defugalty in this calculation, as it assumed a uniform alloy of all the plates in the plate stack. This should not be assumed because the original Twenty-Four plates (or, possibly, the original plates of the brother of Jared) are in the sealed portion, and these plates were not made by the Nephites and likely had a higher concentration of gold.

Utilizing the Caractors Document language density and its translation, one can independently back calculate the number of plates utilized by the complete Book of Mormon plus the 116 missing pages. The Caractors Document is 8 inches by 3.25 inches, there are 222 characters, so the character density is $222/(8 \times 3.25) = 8.54$ characters per square inch. The translation of the Caractors Document rendered 2.1 words per character. The English equivalent would then be $2.1 \times 8.54 = 17.9$ words per square inch. Assuming that the Caractors Document lines were identical in length to those on the plates, with the plates being 6 inches wide and the Caractors Document being 8 inches, a proportional adjustment needs to be made, and the expected density on the plates would thus be 23.87 words per square inch. The total number of words in the current Book of Mormon is 270,004 on 492 manuscript pages based on the Yale Edition (Skousen 2009). Jolley (2017) has calculated the likely number of words in the 116 pages to be approximately 63,660 words, for a total of 333,664 words. Utilizing this number and applying the word density of 23.87 words per square inch, and assuming each plate on both sides has a surface area of 96 in², the total number of plates needed for this section of the plate stack is 146 plates. It was indicated by those who saw the plates that the sealed portion was anywhere from one half to two thirds of the total plate stack, which would indicate, based on the Caractors Document language density, that the full stack consisted of between 292 plates and 438 plates, relatively consistent with the range determined using the metallurgical calculations. The maximum number of plates available for the sealed portion would be 292 plates using the language density calculation, or 400 plates using the metallurgical calculation.

At least four records were potentially in the sealed portion of the Book of Mormon plate stack. The first was Twenty-Four plates (Ether 1:4), either in original form or as the unabridged Book of Ether interpreted by Mosiah₂ (with the interpreted metal plates version possibly created by Moroni₂ or Mormon). The second could be the original record of the brother of Jared and the interpretation of that record, presumably in reformed Egyptian (Ether 4:4–6). It is not explicitly stated that the original record of the brother of Jared is in the form of metal plates, but that assumption is made based on their longevity and the fact that they were apparently passed on in a form that maintained the ability to keep them from being read (i.e., sealed). Others have fairly well established that the plates of the brother of Jared were not included in the Twenty-Four plates (Arts 2002) but are a separate record.

It is stated in Ether 1:4 that whomever finds “the plates” that contain information from the first portion of the Twenty-Four plates will have “the power to get the full account,” clearly indicating that the plates referred to there (either the original Twenty-Four plates or the unabridged Book of Ether) were included with the interpreters. The individual width and length of the sealed portion of the Book of Mormon plate stack is described as having a soldered wood-looking type of outside surface (Grover 2015, 69), yet it was observable that there were individual plates there that were sealed. None of the individuals who described the plates indicated that there was a different dimension for the sealed portion (Grover 2015, 67–70).

It would not be expected that the original Twenty-Four plates or the original plates of the brother of Jared would have the same dimensions as each other. It is possible that Mormon, before starting his abridgement, sized his abridgement plates to match one or the other of these two records. As discussed in a prior work (Grover 2017), the small plates of Nephi included in the plate stack were likely an interpreted version, and they were contemplated to be included after Mormon had commenced engraving his abridgement (296–98). It would seem reasonable that the plates created by the Nephites had standard dimensions.

The original record of the brother of Jared and the interpretation of that record, presumably in reformed Egyptian, may also have been in the sealed portion of the Book of Mormon plate stack as they were “sealed up” by Moroni² (Ether 4:4–6):

Ether 4:1–6

1 And the Lord commanded the brother of Jared to go down out of the mount from the presence of the Lord, and write the things which he had seen; and they were forbidden to come unto the children of men until after that he should be lifted up upon the cross; and for this cause did king Mosiah keep them, that they should not come unto the world until after Christ should show himself unto his people.

2 And after Christ truly had showed himself unto his people he commanded that they should be made manifest.

3 And now, after that, they have all dwindled in unbelief; and there is none save it be the Lamanites, and they have rejected the gospel of Christ; therefore I am commanded that I should hide them up again in the earth.

4 Behold, I have written upon these plates the very things which the brother of Jared saw; and there never were greater things made manifest than those which were made manifest unto the brother of Jared.

5 Wherefore the Lord hath commanded me to write them; and I have written them. And he commanded me that I should seal them up; and he also hath commanded that I should seal up the interpretation thereof; wherefore I have sealed up the interpreters, according to the commandment of the Lord.

6 For the Lord said unto me: They shall not go forth unto the Gentiles until the day that they shall repent of their iniquity, and become clean before the Lord.

We know that there was an interpretation made of the original brother of Jared plates that was made available to the Nephites after Christ came in the flesh (Arts 2002).

Versification and punctuation did not exist in the original Book of Mormon, so there are a few alternative interpretations of what is in the sealed portion of the plate stack in addition to the Twenty-Four plates (or its interpretation) looking at the above-mentioned verses:

1. The original plates of the brother of Jared, the plates containing an interpretation of the brother of Jared, and the interpreters are sealed up as part of the Book of Mormon plate stack. If this was the case, it would seem a bit redundant to include the interpreted version, since either would still require the interpreters to be read.

2. The original plates of the brother of Jared are sealed up and hidden in the earth separately (v. 3), and not included in the sealed portion of the Book of Mormon plate stack. Only the interpreted version (presumably in reformed Egyptian) of the brother of Jared's plates was included. This would separate the interpreters from the original record of the brother of Jared, providing no method to interpret them when they eventually come to light, so this hypothesis may not be as likely.

3. Some have suggested that this set of verses may just be referring to the Book of Mormon itself and not the sealed portion. However, it is indicated that there was also to be sealed "an interpretation thereof," which was not found in the Book of Mormon plate stack. In addition, verse 6 indicates that the record will not go forth until the day that the Gentiles "shall repent of their iniquity" and "become clean before the Lord," which does not appear to have occurred prior to the Book of Mormon coming forth.

4. Where Moroni² says he "should seal up the interpretation thereof" he was meaning the method of interpretation, hence he then stated "wherefore I have sealed up the interpreters." In this case only the original brother of Jared plates were included, not the interpreted version, along with the interpreters.

At this point there are a few criteria that would be considered established with regard to the plate stack: 1) a version of the Twenty-Four plates was included; 2) a version of the plates of the brother of Jared was included; 3) the interpreters were included; and 4) the plate stack dimensions, including the sealed portion, were uniform. Assuming that Mormon could have made his abridgement plates match the size of either the Twenty-Four plates or the plates of the brother of Jared, the remaining plate stack possibilities are as follows:

A) 1. Original Twenty-Four plates; 2: interpreted brother of Jared plates; 3: the interpreters

B) 1. Interpreted Twenty-Four plates; 2: original brother of Jared plates; 3: the interpreters

In either case, both the Twenty-Four plates in some form and the brother of Jared plates in some form constitute the sealed portion of the Book of Mormon plate stack. Elliott Jolley (2017) has calculated the total number of words in the original, unabridged Book of Ether by extracting the words of Moroni² (leaving 13,240 words), and taking the "hundredth part" as literal, making the total number of English words in excess of 1,324,000 words. If the reformed Egyptian version was included, utilizing the Caractors Document language density, one arrives at 55,467 in² or 557 plates just for the interpreted version of the Twenty-Four plates. It is clear that the "hundredth part" is a literary term, since the number of calculated plates exceeds the available number of plates, and that is without accommodation of the plates of the brother of Jared and its interpreted plates.

Assuming that the "hundredth part" really meant something like the "fiftieth part," then the number of plates needed would be 279 plates to accommodate the Twenty-Four Jaredite plates (or their interpretation, the unabridged Book of Ether), leaving up to 159 plates (under the metallurgical approach of a maximum of 438 plates) to accommodate the plates of the brother of Jared (or its interpretation), which, although we don't know the original language, looks to be a reasonable number of plates. The original Jaredite language is likely proto-cuneiform Sumerian or Elamite (Grover 2017), so it would be expected to be heavily logographic, taking up less space than an alphabetic language. These calculations clearly have some range of extrapolation and error. However, even using the widest range possible, it is quite evident that there were more than 24 six x eight-inch plates in the stack dedicated to that Jaredite record, exclusive of the records of the brother of Jared.

The question remains as to whether there are just 24 plates. The logical answer is that each of the Twenty-Four "plates" consists of multiple metal sheets attached together to form a single plate record. The reference to each as a "plate" may be because they were attached in a manner that they formed a single continuous record or plate. Being in Mesoamerica, the most logical form would be the standard "fold out" type of codex arrangement, with each individual plate attached to two others on each side. The Book of Mormon indicates that scriptures or spiritual

information related to the scriptures were “unfolded” (Alma 12:1, 40:3; Mosiah 2:9, 29:33, 35; Jacob 4:18; 1 Nephi 10:19; Ether 4:7, 4:16).



Figure 109. Madrid Codex. (www.latinamericanstudies.org, 2016)

Unlike the Nephites, who likely used the pattern of the Old World brass plate stack when creating the plates of Nephi and the Book of Mormon plates (plates held together by three D-shaped rings), the Twenty-Four plates would not likely have had such a genesis. We don’t know if there was a continuous metal record being kept through Jaredite times, but it is not a requirement of the text because the Twenty-Four plates were written entirely by Ether around 400 BC (Ether 1:6). The additional record, written by the brother of Jared (apparently while in the Canary Islands as previously discussed) and created by him, presumably consisted of gold plates in order to withstand a long period of time without corrosion and also be capable of transport (as opposed to something like stone).

The fact that the Twenty-Four plates were described as “pure gold” (Mosiah 8:9) would indicate that they were softer than other plates that the Nephites were familiar with; metallurgical analysis of the Book of Mormon plate stack indicates a high copper alloy or a gold-plated copper material (Grover 2015, 95). Since nearly all native gold contains some silver, it is likely that they were actually not of pure gold, but rather a native alloy of gold or silver. The ability to separate gold from silver was not known in the timeframe that the plates could have been created (Grover 2015, 72). A native gold-silver alloy containing 25 percent silver would be four times harder than pure gold (Sachs et al. 1930). If they were created by Ether, depletion gilding of the surface to create a pure gold surface would have been possible based on the metallurgical knowledge known in the New World. A fold-out pattern with two sides attached is structurally superior to a plate penetrated by three holes with a ring binder, so it would be more likely for someone with some experience with plate construction to have created it.

Evaluation of the Use of the Word *Record*

Are there actually any textual hints that the 24 plates actually consist of multiple individual records? An evaluation of the use of the word *record* and *records* in relation to specific Book of Mormon records would be useful at this point. One can ignore the use of the word *record* that is not descriptive of an actual physical document or item (e.g., bearing record, etc.) or of generic reference to records (e.g., “many records of every kind,” etc.). Skousen (2014) has noted that the scribes for Joseph Smith had some problems on occasion choosing between *record* and *records* (127).

Skousen also notes that there were passages where a singular pronoun would refer to the plural *records* and conversely plural pronouns would refer to the singular *records*. Skousen opined that part of the shift in use may be explained by the singular *record* being used in a collective sense and the plural *records* being used in reference to the physical plates (Skousen 2017, 128).

The Brass Plates

The brass plates consist of the “record of the Jews” and also “a genealogy” of Nephi’s forefathers (1 Nephi: Preface, 3:3–4, 3:12–13, 5:6, 5:12; Omni 1:14). The record of the Jews is probably also referred to in 1 Nephi 7:11, as it refers to a “record” which was obtained from Laban. In all instances but one (1 Nephi 5:21) where the brass plates are described it uses the word “records,” not “record,” as it actually consists of multiple records (1 Nephi 3:3–4, 3:12–13, 3:19, 3:24; 1 Nephi 4:17, 5:10, 5:16; 2 Nephi 5:12; Mosiah 1:3, 1:6, 1:16, 2:34, 10:16, 28:11; Alma 3:11, 37:3, 37:9). 1 Nephi 5:21, based on the Original and Printers Manuscript indicates the singular “record;” however, it does use the plural pronouns of “them” and “they” (Skousen 2014a, 126–29). The “record” that is being referred to in 1 Nephi 5:21 looks to be the “record of the Jews” and not the genealogy as it indicates that it contains “the commandments of the Lord.” It should be noted that the Mosiah 1:6 reference was changed in the Printer’s Manuscript by Oliver Cowdery from *record* to *records* (Skousen 2014a, 1181–83).

Individual Books in the Book of Mormon

When individual books by individual authors (even when abridged) in the Book of Mormon are referenced they are referred to as a “record” (Nephi—1 Nephi: Preface, 1:1–3; Lehi—1 Nephi 19:1–2, 1:17, 6:1, 19:4 [Nephi’s record on the large plates]; Alma—Alma: Preface, 5:2, 35:16, 44:24; Helaman—Alma 37:2; Helaman: Preface, 16:25; Nephi₃—3 Nephi 5:10, 8:1, 23:7; Mormon—3 Nephi 5:17; Mormon 1:1, 2:17, 6:1, 8:1; Nephi₄—4 Nephi: Preface, 1:19, 1:21, 1:47; Ammaron—4 Nephi 1:49; and the brother of Jared—Ether 4:17). The only exception would be the “records” of Helaman, and the “records” of his sons (Helaman: Preface); however, the preface then uses the singular *record* to refer to the “records” of Helaman and his sons. The Original Manuscript and the Printers Edition indicated a singular “record of Helaman,” not records. This in fact is consistent with all of the other individual books (Skousen 2014a, 2875–76). This seems to indicate that for the Book of Helaman abridgement Mormon utilized some records outside of the Large Plates (perhaps those of his sons), so it would thus not be an exception to the reference to individual abridged books being referred to as a “record,” as each son may have had his own record. This would not be surprising, since at this period of Book of Mormon history, Mormon noted that the Nephites had “many books and records of every kind” (Helaman 3:15).

While not an official individual book, there is reference to the “record of Ammaron,” which was abridged by Mormon and incorporated into the book of 4 Nephi (4 Nephi 1:49).

Large Plates of Nephi

The large plates of Nephi seem to be what is referred to as a “record” on the Book of Mormon Title Page. However, other than that one reference, the large plates are referred to as “records” (Words of Mormon 1:10; Mosiah 1:6, 28:20; 3 Nephi 23:8). 3 Nephi 23:8 does not specifically call out the large plates, but follows the verse where Nephi₃ was asked by Christ to bring out his own individual book (3 Nephi 23:7), and then brought out the full set of large plates. He was then instructed by Christ to make a correction in what would have been the timeframe of the record of Helaman, his sons, indicating that the “records” referred to here are the large plates, again consistent with the reference to the large plates in the plural as “records.” The exception on the Title Page refers to a “record of the people of Nephi.” This exception is curious, but it is consistent with the usage of the term “record of the people,” which phrase appears to be an acceptable substitute with regard to the large plates of Nephi and their standard reference as “records”:

3 Nephi 1:3

Then he departed out of the land, and whither he went, no man knoweth; and his son Nephi did keep the records in his stead, yea, the record of this people.

The Printer's Manuscript shows that this verse should be read as the singular "record in his stead," so the "record of the people" and its description maintains a singular reference (Skousen 2014a, 3178–3180). Jarom 1:14 refers to the "records of our wars" that are on the large plates but does not refer to the large plates themselves.

The Small Plates

The Small Plates are referred to at Omni 1:9 initially in the Printer's Manuscript as "records" but then with an erasure by Oliver Cowdery was corrected to "record" (Skousen 2014a, 127; Skousen 2014b, 1108).

Plates of Limhi

The plates of Limhi are referred to as a "record" (Mosiah 8:5–6). They may be the "records" being referred to in Mosiah 22:14 and Mosiah 25:5, but these verses may have been referring to other records.

Mormon's Abridgement

Mormon's abridgement was always referred to as a "record" (Words of Mormon 1:1; 1:5; 1:6; 1:9; Alma 47:1; 3 Nephi 5:11, 5:14, 5:15, 5:16, 5:18; Mormon 6:6, 7:8, 8:5). Even after Moroni₂'s material was added, it was still a "record" (Mormon 8:12, 8:14, 9:32–33; Ether 12:20). It is noted that Mormon 7:8 was changed by scribe 2 from "record" to "records" in the Printer's Manuscript.

Moroni₂'s Abridgement of Jaredite Records

Moroni₂'s abridgement of Jaredite records was called a "record" or "my record" (Book of Mormon Title Page; Ether 2:13, 6:1, 9:1, 13:1).

Moroni₂'s Description of the Book of Ether

Moroni₂ refers to the Book of Ether as a "record" (Book of Mormon Title Page).

Moroni₂'s Description of the Complete Book of Mormon

Moroni₂ refers to the entire Book of Mormon as a "record" (Book of Mormon Title Page).

Twenty-Four Plates (aka the 24 Plates)

Limhi referred to the 24 plates as "records" (Mosiah 8:12–13). When the plates were transported and delivered to Zarahemla, they were referred to as "records" (Mosiah 22:14). At the time the plates were translated by Mosiah₂ they were referred to as "records" (Mosiah 28:11, 17). When Ammon met Limhi, in Mormon's narrative of the event, the 24 plates are referred to as a "record of the people whose bones they found" (Mosiah 21:27), but in the Printer's Manuscript and other early versions of the Book of Mormon, the verse states "and they brought a record with them, even a record of the people whose bones they had found; and **they were it** ~~was~~ engraven on plates of ore" (Skousen 2005b, 1417, 1431).

It is not until Moroni₂ that the 24 plates are conflated with the name the "Book of Ether and referred to as a "record," (Ether 1:3, 1:6, 13:14 ["the remainder of this record"], 15:33 ["he finished his record; (and the hundredth part I have not written)"]). The "Book of Ether then became the name of the record, and consistent with other

records written by a single individual (or an abridgement thereof) known in the Book of Mormon, it was also referred to as a single “record.” Moroni₂ indicates he takes his account from the 24 plates found by Limhi, “which is called the Book of Ether” (Ether 1:2), and indicates that “he that wrote this record was Ether” (Ether 1:6).

So the reference to the 24 plates prior and at the time of their translation as “records” is consistent with a compilation of separate, individual records, just as the plates of brass were referred to as “records.” After translation, as the translation indicated that the plates themselves were “written by Ether” (Ether 1:6), consistent with the standard practice, they were now referred to as a “record” just as the other individual books were in the Book of Mormon. It is likely that Ether prepared the 24 plates making an abridgement utilizing other records or oral histories. In that case, it was also appropriate to refer to the compilation as a “record” just like Mormon’s and Moroni₂’s abridgements were referred to.

Discussion of the Title “Twenty-Four Plates”

An attempt has never really been made to answer the question of why the specific number 24 is used to describe the Twenty Four plate set. The answer is one of those situations where something is hidden in plain sight. The Jaredite record is obviously a lineage history consisting of the reigning line starting with Jared₁ (technically Jared₁ was not officially a “king” like his son, but he was the apparent leader of the immigrant group). The number of Jaredite kings who would have created a record were exactly 24 (Jared, Orihah, Kib, Shule, Omer, Emer, Coriantum, Com₁, Heth, Shez, Riplakish, Morionton, Kim, Levi, Corom, Kish, Lib₁, Hearthom, Com₂, Shiblom, Ahah, Ethem, Moron, and Ether). Ether appears to be the last son of Coriantor the king in captivity, so he would have had the right to the throne. It is not clear, however, whether he made any attempt to exercise this right or not. He was released from captivity, unlike his father, Coriantor. It is not specifically indicated from where Coriantum₂ derived his right to rule, since the kingdom had been taken from Ether’s line by a rival lineage, “a mighty man” who was a “descendant of the brother of Jared” (Ether 11:17). It is possible that Coriantum₂ is from the rival brother of Jared lineage; however, the more likely scenario is that Coriantum₂ is a relative of Ether, perhaps a half-brother. This is evidenced when Ether indicates a direct association (likely geographical locations) between Coriantum₂, Cohor, and Corihor (Ether 13:17). Corihor was an early Jaredite prince who rebelled against his father, king Kib, usurping his throne. Cohor was the son of Corihor and rebelled against his uncle, king Shule, and also his father, Corihor (who at that point in time had some “power in the kingdom”) and became king over part of the land (Ether 7). It seems that Coriantum₂ was also of the lineage of Jared, and his “mighty men” challengers (Ether 13:15) were likely from the rival lineage of the brother of Jared. In any event, the record of Ether is effectively the record of the events of Coriantum₂ as well, so Ether’s life would still be the twenty-fourth record.

There are six more individuals mentioned in the lineage from Jared₁ to Ether in addition the 24 that constituted the Jaredite record, but they were born in captivity and dwelt all their days in captivity (Heth₂, Aaron, Amnigaddah, Coriantum, Seth, and Coriantor), so they would not have generated any record. There are other unidentified persons that were descendants of Riplakish and ancestors of Morionton, but they were “driven out of the land” (Ether 10:8), again losing the ability to leave a record.

Taking from the Jaredite “type,” the number 24 was included by Mormon as a civilization founding and destruction theme in the Book of Mormon. The initial number of the founding group of the Jaredites was 24 (Jared, the brother of Jared, and 22 friends) (Ether 6:16). The first king, Orihah, had 24 sons (Ether 7:2–3). The destruction of the Jaredites is represented in the 24 plates, which were hidden by Ether.

For the destruction of the Nephites, at the final battle of the Nephites on the last day before the remainder of the Nephite army was hunted down and wiped out (Mormon 8:7) Mormon calls out that there were only 24 survivors (Mormon 6:11, 15). It is also interesting that there were 23 Nephite final battle groups, and a twenty-fourth may be interpreted as the group that had escaped to the south (Mormon 6:15, 8:2). For the founding of the Nephites, the

initial number of the followers of Nephi₁ that broke off from Laman and Lemuel have been calculated to be 24 (Sorenson 1992a). Even though we don't have the 116 lost pages, I would presume that Mormon included at some point a summary of that number.

The founding number of Amulonites, which consisted of the priests of Noah₂, was 24 (assuming they each married one of the Lamanite daughters that they carried away [Mosiah 20:5]). The Amulonites were eventually hunted, driven, and slain (Alma 25:4). Other interesting uses of 24 along the beginning and ending theme were Hearthom's reign of 24 years, after which he lost his kingdom (Ether 10:30). It is also interesting that Mormon was first approached by Ammaron to be responsible for the sacred records at "about ten years of age" (Mormon 1:2); at 15 years of age he was "visited of the Lord" (Mormon 1:15), and he received the sacred records at 24 years of age (Mormon 1:3, 4), reflecting the numbers 10, 15, and 24—all part of the 24-plate glyph.

Perhaps less directly related was Pahoran being appointed chief judge and governor in the twenty-fourth year of the reign of the judges (Alma 50:40) and Morionton being slain and his army defeated in the place of the Jaredite destruction, the land of Desolation, also in the twenty-fourth year of the reign of the judges (Alma 50:25, 35).

Conclusion

The goal of this book has been to tap previously unused sources of information to illuminate the geography of the Jaredite “land northward,” to craft a working chronology of Jaredite history, and to provide a more accurate explanation of the cultural features of Jaredite civilization within an Olmec setting.

The data and analysis presented here demonstrate how geological and other scientific information can be used to help sort out issues of Book of Mormon geography and chronology. They also show the rich potential for inferring the Book of Mormon’s geography using the meanings of its names in Hebrew, Sumerian, and Egyptian, and in the narrative context of the Hebrew Bible.

Another thread running through many of the analyses in this work has been the continuity of culture between the Jaredites and the peoples who followed them. Whether we are analyzing linguistic, numeric, calendric, metrological systems, or other aspects of culture, the continuity between the Jaredites and the succeeding peoples is demonstrably stronger than has generally been posited in studies of the Book of Mormon. Their role in shaping the civilizations of the Mulekites, Nephites, Lamanites, and other Mesoamerican peoples has been underestimated. From the data presented here, we should conclude that it is the Jaredites who are the ultimate origin of Mesoamerica high civilization.

Many cultural practices of later Book of Mormon peoples and other Mesoamerican peoples can be illuminated by understanding them as inheritors of Jaredite practices, which in turn can be more fully understood by interpreting them as part of the cultural heritage of ancient Sumer. The Book of Mormon provides a key to understanding the cultural continuity between Mesopotamia and Mesoamerica.

This work is not, of course, the last word on the Jaredites. But it is hoped that on many aspects of Jaredite geography, chronology, and culture, it will provide a springboard for further study. For instance, the methodology for determining Book of Mormon land northward geography used here may also be applied to assessing and revising models for the geography of the land southward. Since much of the difference between geographical models of the land southward results from differences in how the Book of Mormon text is interpreted, the methodology used in this work may help to break the deadlock between these models, decide between them, or revise them on the basis of external data from scientific and linguistic research. Hopefully this book can serve as a template for such future work.

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The Olmec civilization has long been considered to be the Jaredite civilization. New evidence is presented here that provides a reliable correlation of chronology between Mesoamerican archaeology and the Jaredite timeline. New etymological and scientific evidence now provides a method of establishing a more detailed geography of the “land northward” referred to throughout the Book of Mormon, the Old World point of departure of the Jaredites, and Olmec cultural elements reflected in the Book of Mormon text.

