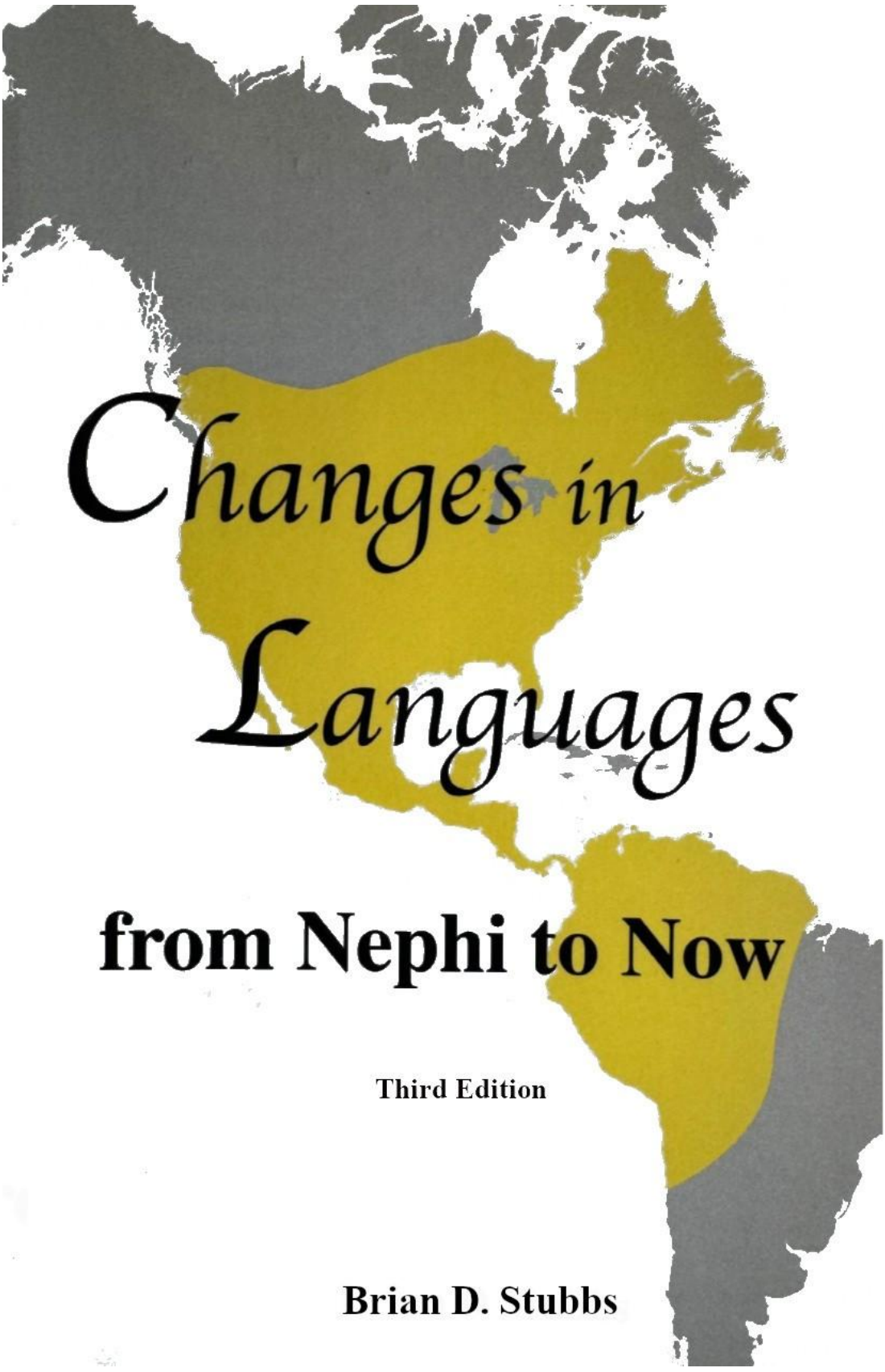


Changes in Languages

from Nephi to Now

Third Edition

Brian D. Stubbs

Changes in Languages from Nephi to Now

Brian Stubbs

Third Edition in PDF, 2025

Acknowledgments

I thank my wife for her patience and support in these research projects inevitably lasting longer than I will. I thank my linguistics professors Wick Miller, Ray Freeze, Mauricio Mixco, and David Iannucci, for a beneficial and enjoyable learning experience in linguistics and Uto-Aztecan, at the University of Utah, a leading locale for comparative Uto-Aztecan at the time of my sojourn. I appreciate other linguists for their friendship and interaction over the years: Kenneth and Jane Hill, Pamela Munro, John Robertson, Jason Haugen, Karen Dakin, Lyle Campbell, Robert Blair, Royal Skousen, Dirk Elzinga, David Shaul, Alexis Manaster Ramer, Roger Wescott, John McLaughlin, Bill Merrill, Thomas Willett, Mary Ritchie Key, Eric Elliott, others; and to Semitists Stephen Ricks, Don Parry, David Calabro, Paul Hoskisson, Robert Smith; to Egyptologist John Gee, and scholars John Sorenson, David Kelley, Noel Reynolds, and others, for their interaction. Grateful memories well up for my Hebrew professors: Gabriel Tabor, Dr. Sadok, and David Freedman; and Arabic: Merrill Van Wagoner and Lois Giffen; and my Egyptian professor Hugh Nibley. Many thanks to LeGrand Redd, John Knaphus, and others for their clerical help in the production of the Uto-Aztecan reference books that preceded this work, and to Jerry D. Grover, Jr, for sponsoring the publication of the latter.

Preface

Relevant to the Book of Mormon, previous researchers have addressed archaeology, geography, cultural content, DNA, chiasmus, Hebraisms, etc. This work focuses on Book of Mormon language matters and one Native American language family descended from a certain people of the text. Regarding the validity of the research, see chapters 5, 6, 7, and scholars' comments in Appendix J and endorsements on the last page. After publishing *Uto-Aztecan: A Comparative Vocabulary* (2011, 2nd edition 2020), which was praised as a new standard in comparative Uto-Aztecan, I also published *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan* (2015, 2nd edition 2023). Both half-million-word reference works are largely for linguists and specialists in the pertinent languages. In contrast, this book is designed for lay-readers. The middle 3 chapters of language data, if deemed daunting or dizzying, can be skipped or skimmed, but the other 9 chapters can still be enjoyed as lay-reader friendly discussions that bring attention to many things previously unknown.

This book draws some data from the larger reference works and proposes (1) that significant amounts of Hebrew, Aramaic, and Egyptian are in the Uto-Aztecan (UA) language family, (2) that UA is a mix of the Mulekite and Nephite languages, (3) that the language of the Mulekites shows a Phoenician-leaning, suggesting that they may have come on a Phoenician vessel, (4) that UA provides data relevant to competing opinions among LDS scholars on various Book of Mormon language matters, (5) that Aramaic was Abraham and Israel's original language, not Hebrew, and that Northern Israel's dialects likely spoken by some of Lehi and Ishmael's ancestors were heavily Aramaic, (6) that the language picture in the Americas is relevant to Book of Mormon geography, (7) that clarifying comment on a few Book of Mormon names may interest the curious, (8) that more information and new perspectives on DNA and genetic mixes are worth a word, (9) and that a variety of other evidences for the Book of Mormon's authenticity are many.

Beyond the first edition (2016) and second editions (2020), this electronic eBook (2025) constitutes a third edition and contains revisions and additions throughout, as well as a new map on page 26.

Persons picky on particulars should relax! As both a linguist and retired English professor, I side with a linguistic view of English. For example, whoever invented the rule that the numbers 1-10 should be spelled out should remain as mercifully anonymous as whoever invented the tie. Why seven, when 7 is shorter, more instantly recognized, and looks nicer? Other artificial "English" rules invented by medieval grammarians to imitate Latin (the language of learning in the day), which never were real English nor Germanic, will also be ignored, like not splitting infinitives and insisting that prepositions are not something to end a sentence **with**. Adverbs are usually put before the verb, which makes splitting an infinitive feel quite natural (because it is natural). Consider this sentence of 6 split infinitives: She only wanted her husband to temporarily change his attitude long enough to kindly invite the neighbors to lazily drink lemonade with them to inconspicuously give him a chance to humbly ask them to simply stop throwing their trash over the fence. Putting adverbs before or after the whole infinitive is often awkward, less natural, or invites misunderstanding. **She only wanted her husband temporarily** to change his attitude long enough (kindly) to invite (kindly) the neighbors (lazily) to drink (lazily) lemonade with them inconspicuously to give him a chance to ask them humbly (simply) to stop (simply) throwing their trash over the fence.

An occasional aversion to convention can serve good purpose. Who but the unusuals take an unusual interest in the unusual? Who but the less conventional, spend life studying limitless data for limited results and for free? Many youth dream of being pro athletes or movie stars, yet few dream of linguistic research. Maybe it is the difference between making millions vs. losing only a little bit that leaves some fields wide open. May we poverty-prone devotees to discovery be more appreciated than judged.

Chapter One

Introduction

Believers and non-believers have both assembled their separate sets of misconceptions about the Book of Mormon. So as truth emerges, everyone gets to be surprised in some ways, myself included. Every science or discipline has its knowns and unknowns, and while progress regularly enlarges the knowns, the remaining unknowns do not negate the reality of what has been confirmed in any field. Likewise for the Book of Mormon, unknowns hardly detract from a growing number of remarkable alignments. In fact, the evidences for the Book of Mormon have grown to rather overwhelming proportions (though most people are unaware) while the arguments against continue to dwindle and be dismantled.

One of the great fallacies afield about the Book of Mormon is the condescending attempt to label as gullible anyone who believes Joseph Smith's account. Yet gullible may better describe those accepting the fictions about the book than those digging in to find the facts. Those who dive in to get all the available facts find an ever-widening imbalance of more and more for, and less and less viable libel. The Book of Mormon's claim of emergence by angelic assistance and being translated by the gift and power of God are the most frequent objections and do make it a case of all or nothing. It is either of God or a fraud. There is no middle ground. In such a quandary, God does not want us to be gullible, but to be thinkers. Gullibility is a foolish and dangerous approach to life, as many victims of cults, conmen, and controllers can attest. But God wishes that we be wise. Yet few choose to read, seek, and think. Most people whimsically assume that its popular portrayal as preposterous is probable and dismiss it without having read, sought and thought. Assuming the book is false, without investigating it, simply because most of the world assumes so, makes which group gullible? Most of the world used to think the world was flat too, simply because most folks thought so, though a handful of thinkers thought otherwise. No one is expected to take Joseph Smith's word for it, not among us Latter-Day occasional Saints nor others. Whoever wants to know whether the book is true or not can read and dig into the research, as well as obtain a witness directly from God. In the last chapter of the Book of Mormon (Moroni 10:4) is a promise to those who read it and sincerely want to know whether it is true or not, explaining how by prayer one can obtain a witness from God, if desiring to come unto Him.

In addition, many readers experience the peace, enlightenment, and assurances that what they are reading is true, before even finishing the book. This has been the author's experience through life's dozen readings of it. Donald W. Parry (2002, 184) cites other examples: Willard Richards opened the book, read a half page, and decided that either "God or the devil has had a hand in that book, for man never wrote it." He then read it twice in ten days and was so convinced of its truth that he sold his business and moved 700 miles to learn more. Parley P. Pratt began reading and "read all day; eating was a burden … when the night came … I preferred reading to sleep. As I read, the spirit of the Lord was upon me, and I knew and comprehended that the book was true … This discovery greatly enlarged my heart, and filled my soul with joy and gladness. I esteemed the Book, or the information contained in it, more than all the riches of the world." Some start reading with a plan to find its faults to disprove it, but experience a change of heart in the process.

Because God does not want us to be gullible, He offers us witnesses directly from Him, and many other witnesses, to anyone who will read the book and test its invitation (Moroni 10:4). A witness from the Holy Spirit to our spirit is a witness not duplicable by man. The subconscious mind cannot create what God can cause in the heart. Witnesses from the Spirit are more miraculous than visits from angels. We understand the physics of a personage standing before us, how we see a person and hear what the person or angel says to us. However, we do not understand the physics of the Spirit's enlivening power when within us. Beyond witnesses from the Spirit, hundreds of circumstantial witnesses recommend reading it as well. (See Chapters 2, 3, 5, 6, 7, 9, and 10.)

Many may wonder why the Book of Mormon did not come about simply as an archaeological discovery of ancient records, like the Dead Sea Scrolls. Or skeptics may muse, "if only the angel had left the plates behind, for inspection and proof!" The plates would not have been proof. Even if scholars could have handled, deciphered, and read the plates, the usual academic judgments would have denounced the contents, in the same way that many academics deny persons and events in the Bible, though ancient records and archaeology verify many cities, places, and events. Spiritual events mentioned in the Dead Sea Scrolls and other ancient tangible records are often, if not usually, dismissed as the ancient author's myths.

However, the brilliance of God in His approach is that it leaves no wiggle room for rationalization or meddling in the middle. It is either true or false. Any claim so bold as a 530-page production laden with detail is left wide open and mercilessly vulnerable to thousands of external tests. If it is of God, then it should be consistent with external considerations many times more numerous than Joseph Smith could have imagined or than were even known or available in Joseph's day. If it is false, then it should be an easy exercise to amass hundreds of glaring glitches inconsistent with reality. So either the consistencies suggesting veracity or the inconsistencies suggesting falsehood should grow to number in the thousands, and evidences for the opposite stance should dwindle toward nothing. As investigations progress, one pile should increase and the other decrease. If the pile supporting it dwarfs the pile against it, one should read it.

If hundreds of details beyond the 19th century's grasp begin aligning with the book's contents, then we mere mortals should perk up to where probabilities point, and if it is true, then its contents are true, and if its contents are true, then Jesus is indeed the Anointed One, the Messiah[1], the resurrected and living Christ, the Redeemer of the world, restorer of truth, and judge of all mankind in their varied eternal destinies. An attempt to dismiss against the greater mound of evidence becomes a much greater stretch than believing that God lives, loves us, and has provided us another witness of His Son as Redeemer. Believers in the Bible should welcome another witness that collaborates the Biblical witnesses—the Old and New Testaments.

God had Moses lift up a serpent in the wilderness to heal all who have faith to look (Numbers 21:5-9). It was a type of many things. Turning one's head to look in order to live and avoid death is as simple a test of faith as can be arranged, yet many would not believe and would not look. The Book of Mormon is a similar kind of test. God lifted up an ensign for the nations (Isaiah 5:26, Isaiah 11:11-12), yet many will not look. We can look (read, investigate) and become aware of many matters regarding God's mind and will for blessing mankind, or refuse even to consider the possibility of its truthfulness and not look, supposing that the misinformed masses must have it right, but then be surprised to find out in yonder spheres (a tad tardy) that it is true.

To whom must people look to be saved? Unto the Savior! So what did the Great Jehovah employ as a symbol for Himself, for His people to look to? A serpent? Yes, an image of the very enemy that was destroying them! Why did the Holy One of Israel choose a symbol of the enemy, the serpent, to represent Himself? It was a sign and prophecy: He knew that when He came to earth, many of His people would see Him as the serpent instead of the Savior, as enemy instead of the Messiah. He was a threat to their positions of assumed power, so he was hated for healing and doing good, and He prophesied his own death to the day.

Likewise, God raised up the Book of Mormon as an ensign to the nations, an ensign of truth to settle the disagreements or variant interpretations of His former witnesses (Old and New Testaments) and as "Another Testament [Witness] of Jesus Christ" (the subtitle of the Book of Mormon). One can look, read, investigate and test whether it is true or not and be much enriched by its truths, or do as most people do and assume that prophets and revelations from God are a thing of the past or never happened. How interesting that man puts limits on what God can do! That little mortals assume they know what God may or may not do in this day and age? Has not that been the mistake of every generation? The ancient Israelites rejected or killed many ancient prophets (Matthew 21:33-41), because each generation hardly accepted the prophets of their day. In Christ's day, most rejected the God and Creator of the earth because He came differently than they assumed

He would. Likewise, in our day, despite mountains of evidence, the majority assume that the majority is right, that God would not give us additional scripture by His power, and they view this gift from God as the enemy—the enemy of their numbers or congregations, and their positions of assumed power.

Archaeologically discovered records of divine content are inevitably minimized by academic analysis. Yet a divine emergence that shines ever brighter through more and more circumstantial tests of time can hardly be minimized. If the plates' history were physically traceable, the whole of it would still be subject to attempts by academia to derail the supernatural contents, even if the language and translation were verifiable. But a record found and translated with the help of Heaven, and which then begins passing more and more external tests than would be possible if it were not true, cannot logically be dismissed and trumps all academic triteness to the contrary. If it aligns with many truths discovered after Joseph Smith's time, then reason is on its side. If more and more aspects are found sound, then the ever-growing mountain of matches suggests that the whole of it is true. After a point, logic lays heavily enough in its favor that naysayers are left looking a little like Holocaust deniers. In efforts to combat the overwhelming wisdom of the Almighty, we only succeed in making fools of ourselves against a thousand alignments otherwise impossible.

Many LDS studies have focused on the archaeological possibilities, the cultural content of the text in light of the ancient Near East, literary styles of the text's language, scriptural collaboration with known Near-Eastern texts, etcetera—all productive endeavors. This volume adds a new focus: Native American languages relevant to peoples of the text, with some review and new thoughts on other language matters relevant to the text.

Various views on Nephite language skills have been proposed over the years, based on a handful of statements in the text, but as in most cases of limited information, the resulting conclusions occasionally exceed what the founding facts can confirm. However, as some American languages are found to descend from peoples of the text, a clearer picture of the intervening language history begins to emerge. Consider some factors germane to Book of Mormon languages.

While the Book of Mormon describes the final destruction of the Jaredite nation, the Jaredites had at least 1500 years to spread throughout North and South America, regardless where they started. Many of them were likely far enough away to be out of rumor range and did not even get invited to the final bash. Even among those invited, some would have been wise enough to decide 'I'm taking my family and going elsewhere'. Nibley (1988, 242-49) elaborates similar views more eloquently and offers textual evidence of a Jaredite continuation. Sorenson (2013, 503-7, 586-7) echoes similar perspectives and offers archaeological evidence for Jaredite populations perpetuated into Nephite times. The Jaredite time-depth and bicontinental spread would likely underlie some of the language diversity in the Americas.

The enormous language variety in pre-Columbian America means that many different peoples made the Western Hemisphere home. Campbell (1997) lists 193 language families or isolates (58 in North America, 17 in Middle America, 118 in South America). An isolate is a single language not yet demonstrated to be related to any other language. Other recent analyses settle near 150 or 160. So, conservatively, at least 150 different language families exist. A language family is a group of languages related to each other or descended from the same ancient source, but unrelated to other language families. So we have 150 separate groups not related to the other 149, as near as linguists can tell at the moment. Only two of the 150 have been demonstrated to be from across the Bering Strait—Na-Dene and Eskimo-Aleut—the latter still straddling the Strait, as half of the language family is still on the Asian side and half on the American side. The usual explanation for the other language families is that they entered the Americas via the same route, but have been in the Western Hemisphere so long that their languages changed so much that language ties to Asia are no longer apparent. The DNA evidence confirms that East Asians are indeed some of the ancestors of many of them. Yet evidence continues to grow, showing that many other pre-Columbian hemispheric residents came by other routes (Sorenson and Raish 1996; Compton 2011; Gilmore and McElroy 1998; Gordon 1971). So none of the Book

of Mormon peoples were sole inhabitants, but had neighbors speaking entirely unrelated languages, which contact causes languages to change more and faster than they would in isolation. Linguists have found that all living languages are always changing, but the rates and ways they change vary according to a variety of circumstances.

The Mulekiyyiim and the Nephiyyiim arrived not long after 600 BC, but in different places, probably neighbors to different languages, causing them to change in different ways. (I often drop the King James English -ite so that readers become familiar with the Hebrew endings: singular -i(y) and plural -iyyiim. In Semitic languages, the -iy suffix means one belonging to that people or place and Hebrew's plural -iyyiim 'those of a people or place'. (The Semitic languages are Hebrew, Phoenician, Ugaritic, Aramaic, Arabic, Akkadian, Ethiopic, and others as a group of related languages descended from the same parent language called Proto-Semitic.) Notice that while the English Bibles refer to Israel-ites, in modern Israel, an individual belonging to Israel is called an Israel-i. The -i is pronounced as the -i- in machine, elite, Kelli, Stefani, etc.

To begin with, what did the Lehi-Ishmael party speak? Guesses to date have been Hebrew or a Hebrew-and-Egyptian mix. In the past, most BYU Hebraists thought their language was solely Hebrew, which they could write in either Hebrew script or an Egyptian script, while Hugh Nibley (*Lehi in the Desert* 1988, 13-18) suggested they knew or were dealing with both languages, Hebrew and Egyptian. (The matter is discussed more thoroughly in Chapter 4.) The Uto-Aztecan (UA) evidence sides with Nibley and suggests that the Nephiyyiim knew how to read and write both Egyptian and Hebrew but also spoke Aramaic! Yes, everyone gets to be surprised by truths newly emerging. UA shows a Hebrew-Aramaic-Egyptian mix (Chapter 5). However, even if Lehi knew Egyptian, the two families would hardly be speaking it. It is natural to assume that they spoke Hebrew, as they probably could; yet the evidence in UA suggests their idiom in Jerusalem was a heavily-Aramaicized Hebrew or a Hebrew-Aramaic mix. Another surprise for most of us LDS scholars is that the spoken language of the Nephiyyiim included a sizable amount of Egyptian vocabulary and grammar! Some items in UA also suggest that Arabic and / or the Old South Arabian languages influenced the migrating party's language. After all, they spent a decade there, which were the formative years of language learning for their children between ages 2 and 9 at the time. All that was their language background before they left the Old World. Besides their 3 or 4 original languages, the language of the Nephiyyiim was undoubtedly in contact with several indigenous languages, which contact would have encouraged significant language change, absorbing vocabulary and grammatical patterns from the neighboring American languages not at all related to the Semitic or Egyptian of their Old-World environment.

As for the Mulekiyyiim, we are not told what language they started with. We can assume that, as escapees from Jerusalem, they spoke Hebrew, but assuming is how all our troubles begin. The Jews who escaped Jerusalem undoubtedly did speak Hebrew, but how did they come to the Western Hemisphere? The Uto-Aztecan evidence suggests that their language in part was Phoenician, because the Phoenician portion of UA shows Phoenician sound changes different from Israeli Semitic (see 7.1). Among a variety of possible routes and scenarios, escape on a Phoenician vessel must be a primary consideration as the Phoenicians were the Mediterranean's seafaring power of the time, sailing all around the Mediterranean, and out into the Atlantic, northward along Europe's west coasts and southward along Africa's Atlantic coasts. On a globe one can see that the distance from the Old World to the New is shorter than the length of the Mediterranean Sea. So boarding a Phoenician vessel to escape Jerusalem's violent demise is an option, and the fact that the people of Zarahemla named their main river Sidon suggests the same, since Sidon is a Phoenician port, not so much part of Israeli geography. Sorenson (2013, 597) published the same opinion. So if they came on a Phoenician vessel, the crowd on board likely included Phoenicians, and perhaps a variety of other Mediterranean passengers, possibly Greeks, Celts, Iberians, or other languages. If such an ethnic mixture was on board and did their initial survival efforts together a few years once on land, then their language may soon have been a creole or mixture of who knows what or of how many languages?

When the Mulekiyyiim merged with the Nephiyyiim some 400 years after arrival (Omni 1:12-19), many assume that all the Mulekiyyiim were there. More probable is that during those four centuries some splinter groups parted now and then for the ever-elusive greener pastures. Did the pilgrims stay at Plymouth Rock 400 years? Hardly! Look how fast and far the first Englanders spread out, and at 2 to 3 mph. So whatever fraction of Mulekiyyiim were still in place when the Nephiyyiim came on the scene, those two excerpts from their original groups merged together to become the Nephi-Muleki merger, which people's eventual language is the ancestor of Uto-Aztecan (Chapters 5 and 6).

Likewise, several splinter groups of Lamaniyyiim likely spread south in search of the ever-elusive greener pastures and lost all contact with the Nephiyyiim, some very early and others in their turns later in the millennium of record. From the record, we might assume that the Lamaniyyiim were ever present and regularly warring with the Nephiyyiim, and some of them were, but remember that the record keepers often said that they could not relate a hundredth part of all the happenings and travels, and it is likely that various early and later offshoots never saw a Nephiy again, after permanently departing far away.

When the Nephiyyiim met the Mulekiyyiim, they could not understand each other (Omni 1:17-18). Many wonder how that could be, if both came from Jerusalem only four centuries earlier. Yet their not understanding each other should not surprise us, given the circumstances. We already mentioned the possible language mix in a Phoenician vessel for the genesis of the language of the Mulekiyyiim. Then the text tells us that the Nephiyyiim taught the Mulekiyyiim the language of the Nephiyyiim (Omni 1:18), and the UA evidence suggests the same. However, we should not assume that the language of the Mulekiyyiim became obsolete or extinct. The UA evidence suggests that UA is descended from the Nephiyyiim-Mulekiyyiim merger and that indeed the combined people learned the language of the Nephiyyiim, but that the resulting language mix was about ¾ from the Nephiyyiim idiom and ¼ from the Mulekiyyiim vocabulary, giving some insight into the language of the Mulekiyyiim. Which features of UA grammar came from the Mulekiyyiim and which from the Nephiyyiim and which from other American languages is a good question, one among many not yet answered. This merger alone would have the language in Alma's day being very different from Nephi's vernacular. That merger, plus five more centuries of steady change from the probable heavy influences of several surrounding languages, would already make Alma's contemporaries have to study to learn the languages of Lehi's and Nephi's writings. King Benjamin caused that his sons "should be taught in **ALL** the language of his fathers" so that they could read the records (Mosiah 1:2-4). In other words, they could not have read the ancient records with only a knowledge of their language in their day. What's more, "all the language of his fathers" may suggest multiple varieties and stages of the starter languages—Egyptian, Hebrew, and Aramaic—plus some language mixtures that had surely developed among them since arriving in the Americas.

After Alma had departed (Alma 45:18-19) and after the great war and the early deaths of the Nephite generals Helaman and Moroni (Alma 62:52, 63:3), many groups from among the Nephiyyiim and the people of Ammon left for the land northward from about 55 BC to 45 BC (Alma 63:4-9; Helaman 3:3-13), a century-plus after the merger of the Nephiyyiim and Mulekiyyiim. At least some of those emigrants launched into the west sea sailing to the land northward (Alma 63:4-9). Uto-Aztecan is on the west coast of Mexico and California, and so most Uto-Aztecan peoples may well be descended from those travelers into the land northward. That may have put most of the Uto-Aztecan peoples out of the way of the final destruction, possibly leaving us a blurry snapshot of the Nephiyyiim-Mulekiyyiim language merger, that is, after they had merged but before the coming of Christ. I say blurry because all of those languages have also changed since those days.

In addition to the Lamaniyyiim, we should not be surprised that descendants of the Nephiyyiim have also continued to the present. Alma, speaking of circumstances following the destruction of the Nephite nation, said "the seed of those who are now numbered among the people of Nephi, shall no more be numbered among the people of Nephi" (Alma 45:13); that is, they would continue, whatever their labels. DC 3:16-18 also

speaks of the present continuance of Nephite posterity: "so shall the knowledge of a Savior come unto my people—and to the Nephites, and the Jacobites, and the Josephites, and the Zoramites … the Lamanites, and the Lemuelites, and the Ishmaelites …" (DC 3:16-18). Furthermore, UA is only one among other pockets of Nephite mixtures with much else.

Some 80 or 90 years after those noted departures to the land northward (55 BC or 45 BC to AD 34), a cataclysmic destruction was followed by the resurrected Savior's visit to the Nephiyyiim, which event initiated a tremendous social change, a pervasive peace "upon all the face of the land" (4 Nephi 1:2-4), whatever the limits of that land were. That blessed state lasted some two centuries and surely attracted some from among nearby peoples of other languages to join or associate with them. In fact, the Nephiyyiim were likely in the midst of a multi-language environment their whole history, which generally causes languages to change faster. Nevertheless, during the centuries of peace, the association or absorption of peoples speaking a variety of other languages may have increased—increasing contact with an increased number of languages.

In Mesoamerica are 15-plus language families, totaling more than 100 languages. The Hopewell areas in the eastern U.S. encompass a half dozen language families. So wherever the territories of the Nephiyyiim, the language variety of their environment would have served as catalyst for changing the language(s) of the Nephiyyiim, perhaps at accelerated rates.

Another probability during the decades of increased devotion to the things of God would have been an increased interest in their scriptures. If more people read them more often, the language of the scriptures would have influenced their language as well. As the Roman Church's arrival in the British Isles brought a significant amount of Latin vocabulary into Old English, so also a more pervasive reading of the scriptures among the Nephiyyiim and allies may have added vocabulary from the esteemed records into the spoken idiom, perhaps in non-original forms or altered pronunciations. In Uto-Aztecan we see evidence of mispronouncing written records or misunderstanding the 'aleph's role as sometimes being a long vowel place holder vs. its usual pronunciation as a glottal stop (Chapter 7).

In any case, constant exposure to the language variety in their vicinity would likely have their language changing at a similarly raised rate the last five centuries also, probably as great as the first five centuries, such that by Mormon and Moroni's day, their language would have been as different from Alma's language as Alma's language was from Lehi's. These significant degrees of change proposed for each half millennium of Nephite history must be considered more probable than not, and the evidence in Uto-Aztecan suggests exactly such great degrees of change. Consider two comparable examples: English and Yiddish.

The change in English from AD 1066 to AD 1350 was huge, also due to intense contact with another language. After the Norman French conquered England in 1066, English changed fast, eventually losing 85% of its Old English vocabulary to new French infusions and Latin loans into English. The greatest change occurred in the first three centuries, such that an English speaker of 1350 would be quite impaired at comprehending the English of 1050. Modern English is as much a mix of Old English and Norman French as Spanglish or border Spanish is a mix of English and Spanish. Yet that severe pressure for mixing hit English that hard only once, while such pressures may have been constant for Lehi's seed.

A second example is Yiddish, the language of the central European Jews (originally north Mediterranean Jews). Yiddish results from their original Hebrew-Aramaic idiom being subject to many centuries of mostly German influence, as well as Slavic and other languages, collecting words from various stopping places along the way. Kriwaczek (2006, 40-48), Weinreich (1980), and Harshaw (1990, 5-7) outline its evolution from Roman Empire times, spreading from Greece, Italy and France into Slavic- and Germanic-speaking areas and elsewhere by the first millennium's end. Harshaw (1990, 32) and Weinreich (1980, 34) note Leo Wiener's proposed percentages of Yiddish as 70% German, 20% Semitic, and 10% Slavic. So the great majority of the vocabulary is from outside influences, mostly German. Kriwaczek (2006, 114) cites Wexler's (1993) view that much of the Hebrew might be later adoptions from written sources via Judaic

religious instruction, education, and culture. If so, the implication is that without written sources, much less or very little Semitic would have survived to the present. So both English and Yiddish retained about 15-20% of the people's original language, gradually losing the other 80% or more to adopting words, structures, and features from other languages.

Likewise, many language offshoots of the Nephiyyiim likely changed at relatively rapid rates under comparable pressures. Then as peace and righteousness deteriorated into wickedness and war, Mormon and Moroni took the records of a thousand years of language change (after the centuries of brass-plate language variety), and tackled the task of reading and summarizing a thousand years of history. Just as English has changed enough that we English speakers cannot read Old English without studying it like a foreign language, so also the spoken language of Mormon and Moroni's day would have been of limited help in reading the initial languages and the intervening stages of those languages as they evolved through their 1000-year history. For Mormon and Moroni to read Alma's language and Nephi's language and the record of the Jews and perhaps Joseph's Egyptian is tantamount to learning at least four or more other languages besides their contemporary speech of AD 400, which was not exactly Hebrew nor Egyptian, but was a mix of those and other. In Uto-Aztecan we can get an idea of what Nephi's language situation was (which is surprising enough) and how much it had changed by Alma's time, after the merger, but then it changed even more by Mormon's time. No wonder Ammaron picked his best student.

The interaction between Ammaron and Mormon is telling. Mormon relates "I began to be learned somewhat after the manner of the learning of my people" [he was 10] "and Ammaron said unto me: I perceive that thou art a sober child and art quick to observe…" (Mormon 1:2). "Sober child" likely means 'studious, conscientious, responsible' as opposed to 'just wanna have fun' like most 10-year-olds. "Quick to observe" likely means 'I can see you're a fast learner, a sharp kid, our best student and best hope to take a 1,000 years of records in different languages and different stages of those languages and summarize thousands of pages into 530, so when you're 24 and have more years of studying up on this 'learning of your people' well beyond your present 10-year-old stage, get the records, do your best, and good luck; you'll need it'. Chapter 8 delves into more detail and discussion of what Mormon and Moroni were up against.

Obviously, the focus of this volume is language. However, some readers may not want to be "bogged down" in language particulars, but only want the significance of it all or what we can learn from the detail. Therefore, let us look at priorities. Chapter 9 is a short word on the spelling and pronunciation of some Book of Mormon names and what we might learn from such about the Nephite language(s), but skipping it will not detract from one's grasping the main message of the book. The language details of Chapters 5, 6, and 7 are the foundation of many conclusions. What seems apparent about Nephi's and Mulek's and Alma's languages (all very different from each other) is based on the details in those chapters, which detail is abbreviated from the fuller book, Stubbs 2015 (second edition 2023). Nevertheless, if language detail makes one uncomfortable, dizzy, or nauseous, one can skip the detail in chapters 5, 6, and 7, and simply enjoy the thoughts and conclusions throughout the rest of the lay-reader friendly book.

1. Christ and Messiah (or Maššiaḫ < mšḫ 'anoint') both mean 'Anointed One' in Greek and Hebrew, respectively.

Chapter Two

Adieu, Nahom, Horses, Hagoth, Hebraisms, Ezekiel, Daniel, Isaiah, Etcetera

No doubt, witnesses from the Spirit are best and can happen regularly. While a single extraordinary witness after reading and asking God (Moroni 10:4) happens to many, mine are more mild witnesses, but repeated each time I read in the Book of Mormon. The Spirit softly grows stronger the longer I read. The warmth, goodness, and enlivening love of God's Spirit felt while reading His words are the living waters that nourish us. As Joseph Smith said—he who reads it oftenest will like it best (History of the Church 2:14)—because the Spirit with us while reading His words is sweet, enlightening, reassuring, and increases love. The Savior also said "whoso treasureth up my word, shall not be deceived" (JS-Matthew 1:37) because those who read regularly, enjoy His Spirit regularly and come to treasure His words, as Nephi did: "my soul delighteth in the scriptures" (2 Nephi 4:15). But those who cease reading tend to cease experiencing the regular witnesses, and some succumb to the piddly propaganda peddled by tenants of the great and spacious building (1 Nephi 11:34-36), who love leaving out key facts that validate the Book of Mormon.

The Lord tells us that when the tribes come from the north countries "they shall bring forth their rich treasures unto the children of Ephraim, my servants" (DC 133:30). What might those treasures be? Gold? Precious gems? Their treasures will be their scriptures. For "it shall come to pass that the Jews shall have the words of the Nephites, and the Nephites shall have the words of the Jews; and the Nephites and the Jews shall have the words of the lost tribes of Israel; and the lost tribes of Israel shall have the words of the Nephites and the Jews" (2 Nephi 29:13). The lost tribes' scriptures will indeed be treasures, without parts 'taken out' or changed like the generations of Hebrew manuscripts upon which our Old Testament is based, and perhaps much larger, like the brass plates (1 Nephi 13:23) with the prophesies of Joseph, Zenos, Zenock, and many others. Perhaps those northerners had prophets through the centuries, without an apostasy. What treasures will be their scriptures! What treasures are our scriptures! To those who treasure them.

The false internet propaganda against the Book of Mormon sways many who swallow the fallible foci. Yet the reality is that the pile of "supposed" evidences AGAINST is shrinking toward nothing while the pile of evidences FOR the Book of Mormon is growing to such heights that logically the Book of Mormon is practically proven, even by rational evidences alone.

In Doctrine and Covenants 88:118 the Lord tells us to "seek learning, even by study and also by faith." Besides truths revealed from Heaven by faith, the Lord also expects us to dig, study, search and research for truths enlightening and beneficial to mankind temporally and spiritually. The computer, medical advancements, modern transportation and communication, television, the calculus—the tool that made possible most of the technology of our civilization—and other truths by which thousands of technological developments have blessed mankind are not revealed in the scriptures. So indeed the Lord wants us to seek, discover, and learn what we can by study and research, speaking of mankind collectively. As the Lord gives them equal space in DC 88:118, we should balance learning by faith with learning by study.

In fact, an imbalance in our study of the Book of Mormon is what gave rise to incorrect assumptions, which can be stumbling blocks, yet the incorrect notions can be corrected by a more balanced approach of both kinds of study of the Book of Mormon. A Jewish saying—he, who only the Bible knows, knows not the Bible—is as applicable to the Book of Mormon. He, who only knows the Book of Mormon, knows not the Book of Mormon. A larger or more balanced study of the Book of Mormon and its various contexts is not only interesting and enlightening, but is sometimes crucial to avoid misunderstanding many things.

Contexts are important. For example, what does the following sentence mean? *The undesirable element was removed from the bar*. In isolation this sentence may evoke images of a bouncer ejecting a drunk rowdy from a nightclub. In an industrial context, a laboratory chemist may purify an undesirable chemical element from an ingot (bar) of metal. In a musical context, a composer strives to improve an undesirable

sequence of notes in a measure (bar) of music. In a restaurant, the manager may have noticed the brownish lettuce and removed it from the salad bar. In a legal context it may mean disbarment of an attorney. Or following a national survey, an ingredient in a candy bar may have been discontinued. So what does the sentence mean? It is nearly meaningless without an accompanying context to give it meaning or to narrow the possible interpretations. Some persons reading the sentence assume that they know the context, but by not thinking of other possible options, they may entirely miss the meaning. Independent of contexts, misinterpretations of events or of words may range from ludicrous to dangerous. Likewise, paragraphs, stories, lives, persons, and books—like the Book of Mormon—are better understood in their larger contexts.

Consider some old assumptions about the Book of Mormon quite correctable with research: (1) that "all" Native Americans are Lamanites descended from Lehi, (2) that the Jaredites were all killed in the Jaredite destruction, and (3) that the Polynesians are descendants of Hagoth's cruises which came from the Americas. The Book of Mormon does not say that, but some modern prophets have (Shumway 1992). Then after being taught those things, the youth go to the universities where they learn (1) that the Americas were populated by migrations of Asian peoples from across the Bering Strait and that DNA studies show that a high percent of Native Americans have DNA consistent with East Asian origins, (2) that the archaeological record reveals no pan-American destruction around 600 BC, or stated differently, that in both North and South America dozens of archaeological traditions (cultures / peoples) existed through the time of the Jaredite destruction, from long before Lehi and for centuries afterwards (Fagan 1995, Bruhns 1994) and (3) that the Austronesians / Polynesians came from Southeast Asia long before Lehi was born, let alone Hagoth 500 years later. All of those are backed by irrefutable evidence. Thus, some youth conclude that both sets of seemingly conflicting views cannot be true, and decide the Book of Mormon must be false. The fact of the matter is that both sets are true, to their varying degrees, but none exclusively so; and seeking, searching, and learning by study is how we unravel the complexities and clarify the ways and extents to which these truths apply and intertwine. For example, some Polynesians are mixtures from both east and west, as both the DNA and language evidence suggest (Stubbs 1998). In addition, some language evidence demonstrates Semitic speakers in Ancient America (Chapters 5, 6, 7), though those languages are few among the 1,500-plus Amerindian languages, and while Asian DNA may be prevalent, much evidence also aligns with a Semitic presence (Chapters 5, 6, 7, 10, 11) mixing with the Asian presence and who knows how many other enterers into the ancient Western Hemisphere. The 190 language families suggest many groups 'coming to America'.

Hugh Nibley (1989, 127-147, from earlier 1959 articles) assembled a wonderful chapter (among many) entitled "Kangaroo Court" wherein he reviews the history of Book of Mormon criticisms. "Has the Book of Mormon ever been given a fair hearing?" Nibley asks (1989, 129), "From the statements of policy that we are about to quote it will be apparent that it most definitely has not." From the Book of Mormon's first appearance, critic after critic published attempts to prove its fraudulence, yet none produced substantive arguments against it, but instead, after a flippant string of derogatory comments, they would conclude that its fraudulence is so obvious that the book is not worth spending time on, some not even reading it or examining its contents. Most critics base their conclusions, not on the book's content, but on their confidence that gold plates and angels do not exist in contemporary times. "If scholarship has any obligations to society to protect the layman from predatory quacks and impostors, no more urgent occasion … for the exercise of true learning can be imagined than that offered by the bold, uncompromising challenge of the Book of Mormon. If it is weak, it should have been knocked over long ago; if it can't be knocked over, the public should be told as much. As long as it stands, it is a standing rebuke to scholarship" (Nibley 1989, 129).

Some astounding specifics side with the text's authenticity, things a fabricator would hardly have thought up. Mormon abridged or summarized highlights from the voluminous large plates of the Nephite history. Joseph translated from Mormon's abridgement to the amount of 116 hand-written pages, which Martin Harris persuaded Joseph to let Martin borrow to show his wife and other persons. Due to disobedience, the

pages were lost. The Lord told Joseph that the designing persons had changed the reading, such that if he translated the same material, they would reproduce their fabricated alteration to cast doubt on the work (DC 10:10). So the Lord told him to continue the translation from where he left off to the end of the book. Then Joseph was to go back and translate the small plates, to cover the first centuries of the history. In other words, the large plates, abridged by Mormon, covered the whole 1000 years of Nephite history, while the small plates, by Nephi and a few, covered the first few centuries, such that both overlapped in covering the same first period. However, Mormon did not abridge the small plates, but put them with the others as directed by the Lord.

A striking consistency is that the first books (Nephi, Jacob, Enos, Jarom, Omni) and Mormon and Moroni are all in 1st person (I/me) while the books of Mosiah, Alma, Helaman, Third and Fourth Nephi, and Ether are all in 3rd person (he/him). A fabricator would not have thought to be so careful. So Mormon writes: "king Benjamin had continual peace …" (Mosiah 1:1); "in the first year of the reign of Alma …" (Alma 1:2); "And it came to pass that Helaman …" (Helaman 2:2); "Nephi, the son of Helaman … departed out of the land …" (3 Nephi 1:2-3); etc. At times Mormon includes 1st person quotes from those records he abridges, but those books are generally in 3rd person. However, Mormon put the small plates with his abridgement, so Joseph Smith translates directly from the original authors of the small plates: "I, Nephi, having …" (1 Nephi 1:1); "Nephi gave me, Jacob …" (Jacob 1:1); "I, Enos, knowing my father to be a just man …" (Enos 1:1); "I, Jarom, write a few words …" (Jarom 1:1); etc. Then, as mentioned above, Mosiah to 4 Nephi are in 3rd person, until Mormon's own book, where the narrative switches back to 1st person: "And now I, Mormon, make a record …" (Mormon 1:1). For a fabricator to keep all that straight would be highly unlikely.

A second interesting consistency is the use of "it came to pass" and its absence. Both Nephi and Moroni use "and it came to pass" when recounting events of the past, but when writing of their current lives respectively, the phrase is not used. Nephi began the large plates, then two or more decades later, he is commanded to create the small plates as a record for more spiritual things. So when making the small plates, he is recounting his past life up until he catches up to his "present"; thus, Nephi uses "it came to pass" 198 times from 1 Nephi 1:1 to 2 Nephi 5:30, but from 2 Nephi 5:31 to the end of 2 Nephi, he never uses the phrase again. Likewise, Moroni uses "it came to pass" throughout his summary of the book of Ether, the past record of the Jaredites, but he never uses it in his writings about his own life.[1]

Third, many portions of the biblical book of Isaiah are quoted and paraphrased throughout the Book of Mormon. If a fraudulent impostor's purpose were to pull one over on the world's readership, quoting and making numerous changes to the Book of Isaiah is not a smart strategy. However, such changes are striking supports to the book's authenticity when changes to Isaiah clarify matters or later align with other versions of Isaiah, like those in the Dead Sea Scrolls, which emerged 120 years after the Book of Mormon came forth.

Among the Dead Sea Scrolls (DSS) was a complete copy of Isaiah, called the Great Isaiah Scroll, written 2,000 years ago, making it 1,000 years older than our oldest Isaiah text before that discovery. That Great Isaiah Scroll has differences from the Hebrew Old Testament text which we have had the last several centuries. John A. Tvedtnes (1981), Donald W. Parry and Stephen D. Ricks (2000, 2011), Donald W. Parry and Elisha Qimron (1998), and Parry (2020) have reviewed the Dead Sea's Great Isaiah Scroll, comparing it with the King James Version (KJV) and The Book of Mormon Isaiah passages, and they have found several instances in which The Book of Mormon passages agree with the ancient Isaiah scroll, though both differ from the KJV Isaiah, which Joseph Smith is accused of clumsily echoing. In fact, the preachers of Joseph's day called him blasphemous for saying "as far as it [the Bible] is translated correctly" and for even suggesting the Bible is not perfect; but with time many old texts have surfaced and differences abound, expanding the field of comparative textual criticism where scholars try to reconstruct an original text from the many differing descendant texts. The obvious conclusion is that Joseph Smith was right: in many places the Bible was altered or was not translated correctly, yet Joseph could not have guessed the Book of Mormon Isaiah agreements with the DSS. One example is 'inhabitants' in 2 Nephi 19:9 and in the DSS, but 'inhabitant' in Isaiah 9:9. A small

difference, but significant. We must add that there is yet much more in the Book of Mormon Isaiah verses than in the DDS version also, to be verified with future discoveries.

Fourth, critics frequently claim that there is no archaeological evidence for the Book of Mormon. Wrong again! While LDS archaeologists still debate the places in America, Nahom (1 Nephi 16:34) has been found and its name is written in stone and is right where it had to be for the group to "travel nearly eastward" (1 Nephi 17:1) thereafter in order to arrive at Bountiful. In First Nephi 16:34 we read that "Ishmael died, and was buried in the place which was called Nahom." Lehi or his party named most other places of encampment, saying "and we called the place" this, that, or the other. But at Nahom, they say the place was called Nahom, meaning that other people lived there and the place was already named Nahom. Interestingly, engravings in the Ancient South Arabian script dating from 700 B.C. to 900 A.D. show a tribe living in the very area where Lehi's party would have left the coast and turned more eastward (1 Nephi 17:1), and the tribe was named NHM (Brown 2002, 81-82, only the consonants are written in ancient Semitic languages). That was not known in the United States in Joseph Smith's day. The probability of Joseph guessing right on that is one in millions. No doubt, more sites will be identified with time.

Fifth, the name Alma changed from being in the "against" column to the "for" column. An early criticism was that 'obviously Joseph did not even know that Alma is Latin, not Hebrew, and it's a feminine noun, not a man's name'. However, a century later, the 1900-year-old Bar Kokhba letters of ancient Israel were discovered and contained a Semitic man's name **Alma**! (Yadin 1971, 176; Nibley 1973, 121; Onomasticon; Peterson 1997, 144-45).

Sixth, Nephi was thought a strange name too, but is common in western Arabia, though that was not known in 1830. Naphy is a clan name and is a common surname *an-naphy* and means (so-and-so) 'the-Nephite'. Laḫy or Leḫi is also a clan name in the same area.

Seventh, writing on metal plates was another early criticism—especially gold plates! What a preposterous claim! "Too funny for words" was Nibley's description of the "hilarity and derision" flowing from the critics for nearly a century. However, the naysayers have had to swallow that one too, because since Joseph's day many ancient samples of writing on metal plates have surfaced, including copper plates among the DSS. Furthermore, gold plates have also been found to be common in Syria and Palestine in Lehi's time and right where the northern Israelites were located (Nibley, *Approach to the Book of Mormon* 1988, 21-28; Nibley 1989, 245; Peterson 2000). Also impressive is an Etruscan gold book of inscriptions on six 24-carat gold sheets also bound with gold rings and dated to about 600 B.C. (news.bbc.co.uk, May 26, 2003), and the Pyrgi tablets of 3 gold plates with both Etruscan and Phoenician writing on them dated to about 500 B.C. (Copeland, 2013). All these discoveries since the Book of Mormon's discovery provide the perfect context for writing on metal plates. How did Joseph guess that one right too?

To certify writing on plates even more securely, the Aramaic verb srṭ 'to scratch' is also used for the verb 'to write'. In fact, the serto script, a writing style, comes from that verb. Putting ink on papyrus or painting skins with some liquid would invite a different kind of verb, but 'to scratch' for 'write' suggests a fairly common practice of 'scratching' on metal plates.

Eighth, critics also note a lack of evidence for the horses mentioned in the Book of Mormon. Teryl L. Givens (2002, 141-2) does a masterful job of comparing the lack of archaeological evidence for horses in the Americas to the lack of archaeological evidence for horses in the land of the Huns: "not a single usable horse bone has been found in the territory of the whole empire of the Huns, probably the most horse-dependent people in history." Those Old-World master horsemen fought, traveled and lived on horses, yet no archaeological evidence of their horses has been found either. So critics need to remember that not finding certain kinds of evidence does not mean it does or did not exist, but simply has not been found (yet).

Ninth, regarding the whole of archaeological items, Michael R. Ash (2015) notes a list of 60 items mentioned in the Book of Mormon, things like cement, barley, metals, etc. In 1842, only 13% were known to exist archaeologically, but by now 75% have been found.

Tenth, *critic*s claim Joseph's use of French 'adieu' (Jacob 7:27) **show**s a charlatan's effort to get fancy with a French term in an English *translation*. **What** they fail to realize **is** that **half** of English **is** French. In 1066 the Norman French conquered and ruled England, influencing English for *centuries*. **We** adopted **more** French into English **than we** retained of Old English. Modern English **kept** merely 15% of the Old English *vocabulary*. French **and** Latin loans replaced 85% of Old English. **Most** *astonish*ing **is** the ignorance of the *critic*s in **not** checking to discover that adieu **IS** English! **It is** from Middle English adieu, **which is** from Old French adieu, **and so has been** part of the English language for *several centuries*, **following** the **same** route as the **other** 40,000 French **words** into English. In **other words**, adieu **has been** English as **long** as **all** the **other highlighted** terms. In this paragraph the French loans **are highlighted and underlined, words** from Old English **are** in **bold**, **and** Latin loans *italicize*d, **while** the **words** from **other** sources (as well as articles, *prepositions*, **and** proper nouns) **are not marked**.

Eleventh, critics also claim that the awkward language of the Book of Mormon is bad grammar and betrays its composition by an uneducated amateur. No, the Book of Mormon is nothing like Joseph Smith's personal language, neither his early uneducated language, nor his later very eloquent language, such as: "The Standard of Truth has been erected; no unhallowed hand can stop the work from progressing; persecutions may rage, mobs may combine, armies may assemble, calumny may defame, but the truth of God will go forth boldly, nobly, and independent, till it has penetrated every continent, visited every clime, swept every country, and sounded in every ear, till the purposes of God shall be accomplished, and the Great Jehovah shall say the work is done" (History of the Church, 4:540). Stubbs (1996b, 1997) further analyzes Book of Mormon language vs. Joseph Smith's language. Book of Mormon language may be awkward English, but it is wonderfully consistent with a translation from ancient Near Eastern languages, and is very different from Joseph's usual language. Consider the first verse: "I, Nephi, *having* been born of goodly parents, therefore I was taught somewhat in all the learning of my father; and *having* seen many afflictions in the course of my days, nevertheless, *having* been highly favored of the Lord in all my days; yea, *having* had a great knowledge of the goodness and the mysteries of God, therefore I make a record of my proceedings in my days" (1 Nephi 1:1). The four *having* phrases describe an attending circumstance and are typical of Hebrew, Egyptian, Arabic, etc. Many examples of these circumstantial clauses are throughout the Book of Mormon: Mosiah 7:21-22, Alma 2:1-2, Alma 9:19-23, Alma 13:5-8, and many more. Plus, Joseph Smith never talked like that.

Besides circumstantial clauses, Book of Mormon language reflects literal translations from Hebrew in several other ways, often called Hebraisms. Donald W. Parry (2002) in note one outlines the early history of highlighting Hebraisms in the text, citing Thomas W. Brookbank (1905-1915), Sydney B. Sperry (1935, 1954), and E. Craig Bramwell (1961). Thereafter, John Tvedtnes (1970, 1986, 1991) has been a prolific published voice on Hebraisms, with support and echoes from Melvin D. Pack (1973), Angela Crowell (1982), Stephen Ricks (2002), Donald W. Parry (2002), and others. Because many of the same Hebraisms are cited in several works by several authors, let the articles above serve as sources for the Hebraisms below.

Twelfth, the Hebrew 'construct state' is consistently used for possessive structures involving two nouns with 'of' between, never apostrophe possession. Examples include "the army of the king" (Mosiah 19:1), but never 'the king's army'; "sword of Laban" (2 Nephi 5:14) instead of Laban's sword'; "the house of Laban" (1 Nephi 3:4), not 'Laban's house'; etcetera.

This structure is even used for 'noun-of-adjectival noun' in place of the more usual English pattern 'adjective-noun': for example, "plates of brass" (1 Nephi 3:3) instead of 'brass plates'; "rod of iron" (1 Nephi 8:19) instead of 'iron rod'; "words of plainness" (Jacob 4:14) instead of 'plain words'; "night of darkness" (Alma 34:33) instead of 'dark night'; and "walls of stone" (Alma 48:8), not 'stone walls'.

Thirteenth, another Hebrew manner of language is preposition-plus-noun instead of English's shorter and simpler adverbs: "in haste" (3 Nephi 21:29) instead of 'hastily'; "with gladness" (2 Nephi 28:28) instead of 'gladly'; "with patience" (Mosiah 24:15) instead of 'patiently'; "in abundance" (Helaman 6:12) instead of 'abundantly'; "with much harshness" (1 Nephi 18:11) instead of 'very harshly'; etcetera.

Fourteenth, the cognate accusative is common in Hebrew and Arabic, but strange to most other languages. The cognate accusative means that the object (accusative) of a verb is a noun of the same word as the verb. A biblical example is "she vowed a vow" (1 Samuel 1:11). Book of Mormon examples are "I have dreamed a dream" (1 Nephi 8:2); "to fear exceedingly, with fear" (Alma 18:5); "taxed with a tax" (Mosiah 7:15); "work all manner of fine work" (Mosiah 11:10; Ether 10:23).

Fifteenth, prepositions like 'by the hand of' and 'from before' are literal translations of common Hebrew prepositions. For example, "he fled from before them" (Mosiah 17:4) has an unneeded 'before' and is more awkward than simply 'he fled from them', yet 'from before' is a literal translation of the Hebrew prepositions *mippəney* 'from the face of' and *millifnê* < *min* 'from' + *lifnê* 'before, to the face/front of' (Saenz-Badillos 1993, 117). 'By the hand of' can be shortened to 'by' for semantic efficiency, but the longer phrase is how it would be said in Semitic languages.

Sixteenth, Hebrew pluralizes some nouns not normally plural in English. The amplified plural is illustrated by "bloodsheds" (2 Nephi 1:12; 2 Nephi 6:15; Alma 35:15; Alma 62:39); "labor with their mights" (Jacob 5:72); "with all the energies of my soul" (1 Nephi 15:25).

Seventeenth, a syntactic pattern in both Hebrew and Arabic is that 'and' often precedes a clause following 'if'. This sounds strange in English, yet note the Arabic example in Wright's grammar:

'in yasriq, fa-qad saraqa 'ax-un la-hu min qablu

'If he steals, and a brother of his has stolen before'.[2]

English leaves out the 'and'; and the 1837 edition of the Book of Mormon was made to agree with more English-like English. However, Royal Skousen (1997) notes in the original 1830 edition of the Book of Mormon exactly this structure: "and if ye shall ask with a sincere heart … having faith in Christ and he will manifest the truth of it unto you by the power of the Holy Ghost" (Moroni 10:4), and a string of seven of them in a row in Helaman 12:13-21 of which we quote only two: "yea and if he sayeth unto the earth move and it is moved … if he sayeth unto the waters of the great deep be thou dried up and it is done."

Eighteenth, in the Book of Mormon are literary devices of ancient Hebrew like chiasmus, wherein subject matter is addressed in order then in reverse order: A, B, C, D, C, B, A. Chiasmus was hardly known in Joseph's day, yet many examples of chiasmus occur in the Book of Mormon. (See Welch 1982, 1990.)

Nineteenth, "because that" (2 Nephi 2:26; 2 Nephi 4:32; 2 Nephi 29:8) instead of the usual English 'because' without 'that' is again like Hebrew. In the original 1830 edition were many more cases of "because that" which were adjusted to "that" in order to flow more like contemporary English.

Twentieth, Tvedtnes (1970) also notes an example of Hebrew agreement in Alma 30:24: "This people is a free people." In English, 'people' is usually grammatically plural, while in Hebrew it is often singular. Stubbs (1992) adds that while this phrase in Alma may have been verbless, it may also have contained the third-person singular pronoun /hu/ often placed between two nouns, functioning as a copula verb. Uto-Aztecan languages also have the word /hu/ serving as both third-person singular pronoun in some languages but a "be" verb in others between nouns, as in 'the man he my father' for 'the man is my father'.

Alma 2:1-2 is another example of 'people' being singular: "… Now this Amlici had, by his cunning, drawn away much people after him." English *many* would modify a plural noun, as in 'Amlici drew away many people', while *much* modifies singular nouns or collective nouns. Collective nouns are found in many languages and are nouns that consist of collections of possibly plural things, but which are grammatically singular, like 'a people' (vs. persons), sand (vs. grains of), fish (vs. fishes). "Much people" also aligns with the fact that Book of Mormon language always says 'this people'; I cannot find instances of the plural 'these

people'. Even after 'all', we find "all this people" (Helaman 8:5); and as I write it, my computer's grammar-check underlines.

Twenty first, a favorite pastime of Book of Mormon critics is to point out editorial changes to the Book of Mormon since its first appearance. Daniel C. Petersen (1997) wrote an excellent article dealing with the issue. Many changes are simply corrections of scribal error (see Petersen 1997, if interested); others are simply editorial clarifications deemed permissible to desirable, but not semantically significant. For example, Tvedtnes (1991) and Petersen (1997, 144-45) address Decker's (1995) complaint that in Alma 46:19 our present text speaks of Moroni "waving the rent part of his garment in the air" after writing "upon the rent part" because it was changed from the 1830 edition's original reading of "waving the rent of his garment in the air" after writing "upon the rent." Decker criticizes both the original as bad English and the later perceived need to change it as proof of inauthenticity. While Decker gloats in what he perceives as the impossibility of writing upon a rent, Petersen (1997) points out that in Hebrew 'rent' can be a noun, that is, can be a single word meaning 'something rent' or 'a rent something'. In English, adjectives usually modify nouns. However, we allow some adjectives and verbal past participles to be nouns by themselves—the poor, the rich, the alert, the afflicted, the down-trodden—but other adjectives and uses as nouns are not typical English—I could not cut the tough (leather) with my dull (knife), so I used his sharp (one). Egyptian, Hebrew, Arabic, and many Native American languages, on the other hand, do make much more frequent use of adjectives serving alone as nouns, which in translation to English are often helped by an inserted noun or 'one' or 'thing'. So it is with Alma 46:19, that adding 'part' improved the flow of English, though the 1830 original was perfectly good Hebrew or Egyptian, and only adds further support to the text's authenticity.

Another example that the author recently noticed while reading the Syriac (Aramaic) New Testament is found in John 20:12. The Syriac more literally reads "She saw two angels in whites" meaning in 'white garments', but no noun is listed, yet the adjective is pluralized like a noun, 'whites' meaning white clothes.

Twenty second, in addition to several Hebraisms noted by many, the author has noticed at least one Egyptian phrase. Some Hebraisms, like the construct state and adverbial prepositional phrases, are also typical Egyptian structures as Nibley also notes. Beyond those, not many Egyptianisms (dare we call them) are found, perhaps due to not as many Book of Mormon readers knowing Egyptian, or it may be due to most of the Book of Mormon being written in Hebrew more than in Egyptian. We do not know yet what books were written in what. Nevertheless, one Book of Mormon phrase fits Egyptian. A common Late Egyptian idiom or way of saying 'to leave a place or return from a place; is *rdi s'-i r* 'set my back to': *rdi* 'set/put'; *s'* 'back'; the pronoun suffix following back tells whose back or who is leaving or returning; and *r* 'toward/against' (Hannig1995, 653; Faulkner 1962, 156). In Alma 8:24, Alma writes, "I was about to *set my back towards* this land forever" (italics added), that is, leave it forever.

rdi	s'	-i	r
put/set	back-	my	toward/against

Twenty third, another nice fit with Egyptian is the name that the converted Lamanites or Ammonites took upon themselves: *nty-Nephi-Lehi*. Egyptian *nty* originally meant 'one of' or 'one belonging to'; it also had a plural *ntyw*, but that fell out of use so that *nty* was used for both singular and plural. Having two consonants together at the beginning of a word could easily encourage a prosthetic vowel such that *nty* being pronounced *anti* is easily plausible. In fact, Coptic *ente* (from *nty*) actually has such a prosthetic vowel. (Coptic is a late form of Egyptian; see Appendix D.) As for the Nephi-Lehi juxtaposition, Egyptian had no real word for 'and'. It had convoluted inventions translatable as 'and', like *ḫnꜥ* 'with' and others, but usually nouns were simply juxtaposed or put in line. So *nty-Nephi-Lehi* is good Egyptian, meaning 'those of Nephi and Lehi' or 'belonging to' or 'of the persuasion of Nephi and Lehi'.

Twenty fourth, the -mr ending in Coriantumr also impresses me. The name Coriantum is also a Jaredite name (Ether 1:13-14, 10:31), so it is reasonable to suppose that Coriantumr has a suffix -r added to Coriantum.

However, what impresses me about the name is that no helping vowel is inserted as is typical of English. In some ancient languages, -r- can be syllabic, not needing a vowel, because -r- IS a vowel, pronounced much like we pronounce it in English. Ancient Sanskrit had a rule rhythmically similar to the English rule that the vowels are a, e, i, o, u, and sometimes y and w, but in Sanskrit the vowels are a, i, u, r, l, and sometimes m and n, in words such as krm, wherein -r- is the vowel. The vocalic nature of English -r- is apparent in the fact that any one of the five vowels can be put in front of -r and yet each is pronounced the same in unaccented syllables: solar, polar, collar, molar, father, holler, fir, sir, stir, favor, motor, color, occur, fur, blur, sure. One might consider that -r- is the vowel, and the written vowel (a / e / i / o / u) is silent or not needed, just as in -mr no vowel is needed. In contrast to Sanskrit and other languages that recognize syllabic -r-, English speakers, especially in the 19th century, had no tolerance for syllabic -r. They invariably thought a vowel had to go with final *-r*, *-er* being most common. So to find *-mr*, that is, final *-r* after a consonant with no helping vowel, though fine in some ancient languages, but not in conventional English spelling, I find impressive. In fact, in the written manuscript, evidence suggests that Oliver Cowdery tried to put an *-er* at the end of Coriantumr, and after being corrected, in frustration made the biggest R of the whole manuscript (Skousen 2016).

A pair of interesting accounts are those of Robert F. Smith (p.c.) and John Tvedtnes (2001), educated in Israel for a time. They took Biblical Hebrew courses from Haim Rabin at the Hebrew University in Jerusalem. Smith took a class for English speakers from Dr Haim Rabin, a specialist in the history of the Hebrew language and president of the Hebrew Language Academy. Wanting to illustrate how Hebrew uses the conjunction 'and' much more than English, Rabin read a passage that Smith recognized as coming from the Book of Mormon. After reading it, Rabin said, "Now, some of you know the Bible well enough to know that this passage didn't come from the Bible. I used the Book of Mormon because it is a much better example of this than the English Bible." Tvedtnes also took a class from Rabin, who admitted to John Tvedtnes that he [Rabin] considered the Book of Mormon to be a translation of an ancient Hebrew text.[3]

Beyond the several items of evidence listed above, the recent book, *Authentic: The Book of Mormon, Evidence of a Miracle* by Stephen L. Lundwall and Rebecca A. Lundwall (2025), is a must read. It is full of several more confirmations, including a wealth of details and reasoning that substantiate the book's coming forth the way the witnesses said it did. *Authentic* cites many of Royal Skousen's findings that are impossible unless the book was brought forth as stated. Many witnesses of the translation process, friends and foes, confirm a single reading (that took 3 months) with no supplementary materials nor outside help, repeats, reminders, reviews, etc. For some, the only option left is that Joseph must have had the 530-page work memorized from another source, but that does not hold either, because no other source is like it. Even the dialect is not Joseph's or any contemporary's, but is Early Modern English (AD 1500-1700). The Lundwalls bring to light details in the text and in the lives of Joseph, Emma, Martin, Oliver, David, and others such that the complex of details seems to seal the surety that the book is the miracle that those involved said it is.

Bible believers should be aware of a few Biblical mentions and supports for the Book of Mormon. In fact, we might be surprised that the religious world was not expecting something like the Book of Mormon. Biblical references to the Book of Mormon include Ezekiel 37:16, wherein the stick / book of Judah, being the Bible, is combined with the stick / book of Joseph, being the Book of Mormon, both to be one in the Lord's hand.

In addition, the whole chapter of Isaiah 29 refers to the Book of Mormon, and 2 Nephi Chapter 27 offers a wonderful interpretation of Isaiah 29: Ariel / Jerusalem shall be brought down (Lehi's people and remaining Israel / the Jews, both from Jerusalem, are scattered) and left in deep sleep (lacking truth), because they are drunken, not with wine, but with iniquities, having rejected the prophets and closed their eyes (refusing to see); but in the last days, the days of the Gentiles, when all nations are drunken with iniquity, God shall bring forth the words of a book out of the ground, the words of those who have slumbered, whispering out of the dust, a book wherein the vision of all is sealed (the Brother of Jared's vision of the whole history of the

world is in the sealed two-thirds of the plates that Joseph was not allowed to translate; see Ether 3:25-27; see also Noel Reynolds 2025, 491-2); and the learned cannot read it, but to one not learned, the Lord says, thou shalt read the words which I shall give unto thee … for I will show unto the children of men that I am able to do mine own work. Their fear toward me is taught by the precepts of men (vs. God's truths). Therefore, I will proceed to do a marvelous work and a wonder. The wisdom of the wise shall perish (those attacking truth will be exposed as fools). The deaf shall hear the words of the book; the meek shall increase joy in the Lord … sanctify the Holy One … come to understanding and … learn doctrine. Isaiah 29 and 2 Nephi 27 are all about the coming forth of the Book of Mormon as key to the restoration of truth, understanding, and increased blessings for humble abiders in Christ.

Other scriptures referring to the apostasy (falling away) and a later restoration should also be seriously considered (Callister 2006 is masterful coverage). However, most difficult to dodge gracefully is Daniel's prophesying of the restoration also.

Those who believe in the Bible, but rail against Joseph Smith, the Book of Mormon, and the restoration ought to consider Daniel 2:36-47! Daniel interpreted the king's dream as a history of worldly power and the end of such power: the king of Babylon was the head of gold (Babylon), then comes a chest of Silver (Persia, Cyrus conquered Babylon), then a torso of brass (the Greeks defeated the Persians), then thighs of iron (Rome followed Greece in ruling the known world), and Rome ruled like iron and split in two like two legs, Rome and Constantinople as capitals. At the bottom of the legs are the feet and ten toes of iron-clay mixture, half strong and half weak. The nations that descend from the Roman Empire break up into many smaller nations. Then comes the rock cut out of the mountains without hands, meaning God does it, not man's hands, and it is **IN THE DAYS of the toes or the many kingdoms, in the latter day**, "shall the God of Heaven set up a kingdom" (Daniel 2:44). The Church in New Testament times does **NOT** fit, because it is in the middle of Rome's power, up at the thigh area in time sequence. Only a latter-day work coming about by the power of God can qualify, like the Book of Mormon coming forth by the power of God and the restoration of the Church of Jesus Christ in the latter days. Anything *not* coming by the power of God cannot be what Daniel 2 refers to, yet that is the main criticism of the Book of Mormon, the claim that it came by the power of God. If God has already done His work, as many Christian denominations profess, what do they expect Daniel 2 to refer to? The Book of Mormon fits the time-frame of Daniel 2, in the days of the many kingdoms, in the last days, long after Rome's rule of iron. The Book of Mormon clarifies many disagreements among Christian factions who 'honor Him with their lips, but their hearts are far from Him' as both Isaiah (29:13) and Christ said (Matthew 15:8; Mark 7:6; Joseph Smith History 1:19). It is God's work that will fill the earth, as the image representing the ungodly ruling powers crumbles.

1. *Discussions on the Book of Mormon*, by Andrew H. Hedges, Keith Wilson, Todd B. Parker, and Steven C. Harper, first aired June 26, 2008; and also in Chapter 18 of *Book of Mormon Student Manual* (2009), 136, on lds.org.
2. William Wright, Arabic Grammar, 3rd ed revised (New York: Dover Publications, 2005), 2:37.
3. Robert F. Smith on Oct 31, 2015, emailed me his account of taking a Biblical Hebrew course at the Hebrew University in Jerusalem in the summer of 1970, from Haim Rabin, Hebrew professor and past president of the Hebrew Academy. Smith said Doctor Rabin in class would read parts of the Book of Mormon as examples of translated Hebrew (see his paper "'It came to pass' in the Bible and the Book of Mormon" FARMS Preliminary Report SMI-80b). The next year John Tvedtnes also took courses from Rabin and had similar experiences expressed in his article "Hebrew Names in the Book of Mormon," a paper presented at the Thirteenth World Congress of Jewish Studies in Jerusalem, August 2001, and communicated to Teryl L Givens, November 3, 2000, and cited by Teryl L. Givens in *By the Hand of Mormon*, 279-280, note 66.

Chapter Three

The Male Names of Lehi's Family and Arabia

When we examine the male names of Lehi's family, a pattern emerges that may be meaningful. The first five male names of Lehi's family—Lehi, Laman, Lemuel, Sam, Nephi—are prominent in Arabic or in Arabic-speaking areas south of Jerusalem and in western Arabia. Only after Lehi obtained "the record of the Jews" did the last two sons get typical Hebrew or Biblical names: Jacob and Joseph.

Nibley notes that "the names of Lehi and some of his sons are pure Arabic" and that Manasseh, of all the tribes, most frequently had contact with and intermarried with the Arabs (Nibley, *An Approach*, 71). He also suggests that Lehi may have been a merchant, familiar with the peoples and dialects of the Arabs in the deserts south of Jerusalem, at the least, and may have been a product of family background from the desert as well (Nibley, *Lehi in the Desert*, 34-42). Nibley's observation of Nephi's detached attitude toward "the Jews at Jerusalem" as if they were not his people, in spite of his residence among them, is also consistent with origins elsewhere (Nibley, *An Approach*, 98). Keep in mind that some or most of Lehi's ancestors were Josephites and that many escapees from the Northern Kingdom's destruction a century earlier entered the Southern Kingdom (such as Jerusalem) or fled to Egypt or Arabia, etcetera. Different individuals among Lehi's 16 great-great-grandparents could have gone to any or many such places, some later returning as far as Jerusalem. Robert F. Smith elaborately explores evidences for the southerly destinations and Israelite ties to both Egypt and the Arabs (Smith 1996, 136-47), some of whom were also east of Northern Israel.

Lehi is a prominent personal name in western Arabia, the deserts south of Palestine. In the Bible, Lehi occurs as a place name, but not as a personal name, but it is a frequent personal name in western Arabia. Smith and Nibley note that Lehi is a common personal name and clan name among several ancient Arab groups—the Safaitic, Lihyanite, Thamudic, Minaean, Qatabanian, and Sabaean—all south of Jerusalem (Nibley, *An Approach*, 98; Smith 1996, 147). The Onomasticon (Hoskisson et al) cites many instances among Semites of the personal name Lehi found since 1940.

Laman, as a personal name, is found only in a Lihyanite inscription, notes the Onomasticon (Hoskisson et al), and Lihyanite is that same Lehi / Lahy clan in western Arabia, which clan is named Lehi, in effect, where Lehi and Nephi are common. The Lihyani clan spoke an Old South Arabian language. Smith observes that even though the names of both *Laman* and *Nephi* may have their origins in Egyptian, their later prominence is clearly found among the Arabs (Smith 1996, 147).

Lemuel is Edomite, and the Edomites are one of the ancestral groups of the Arabs. The only occurrence in the Old Testament speaks of a King Lemuel (Proverbs 31: 1, 4), probably a king of Massa (Genesis 25:14) in ancient North Arabia (Nibley, *An Approach*, 75-76; Onomasticon; Smith 1996, 147).

Sam is the Arabic form of Hebrew *Shem* (Nibley, *An Approach*, 76). Other LDS scholars argue that *Sam* can justifiably be short for Samuel (Onomasticon), but do we have evidence or can we assume that those ancient peoples did the same kind of shortening for nicknames that we do? I lean with Arabic *Saam* for *Shem*. Some may question Arabic *Saam* (for *Shem*) because the Hebrew form *Shem* was also used among the Nephites (Mormon 6:14); however, for a language to collect different forms of the same name via various languages is common. In English we have Karl (German) and Charles (French); John (English) and Sean (French) and Juan (Spanish) and Johann (German). So multiple forms of a name in the Nephite idiom should not be thought unusual, especially in the multilingual context seemingly apparent for the Lehi-Ishmael party.

Nephi is a prominent Book of Mormon name, and though its etymology is not entirely secure, some viable proposals exist, and what we do know is that, again, it is common in western Arabia and among the Nabateans. The Onomasticon (Hoskisson et al) offers the most thorough collection and discussion of the possibilities, among which the two most promising seem to be Egyptian nfr (later nfy) 'good, beautiful' and Egyptian *nfw* (also later *nfy*) 'captain, skipper', either of which could be the predecessor of the common western

Arabian name *nfy*. Regardless its origins, the proper name *nfy* is found in at least 10 Nabatean inscriptions (footnote 28 of chapter 22 in Nibley, *An Approach*, 500). The Nabateans lived in the deserts between Judah and Arabia, and even though they wrote their language in an Aramaic script, some scholars think the Nabateans spoke a dialect of Arabic (Sáenz-Badillos 1993, 12). Inscriptions of the name *nfy* are also found among the people of Lihyan (Lahy / Lehi) in Western Arabia. The phone book of the modern city of Jeddah in western Saudi Arabia lists some 27 families with the surname *an-Nafi*, meaning 'the Nephite' or of the Naphy clan (Hilton and Hilton 1996, 89-93). *Nephi* also shows up in Safaitic and Minaean, two Old South Arabian languages (Smith 1996, notes 65, 66, on p. 147). So beyond its possible Egyptian origins, *Nephi* turns up in some four ancient Arabic-speaking groups south of Jerusalem.

Nibley points out that the name *Ishmael* (though not of Lehi's immediate family) is also at home in ancient Arabia and belongs to the proverbial patriarch of the Arabs, whose traditional homeland lay between Palestine and Egypt. The name is also common among the Sabeans of ancient Arabia (Nibley, *An Approach*, 71; Nibley, *Lehi in the Desert*, 40).

The names of Lehi and his first four sons do not occur as personal names for ancient Israelites as attested in the Bible, yet all are prominent personal names in the southern deserts of Arabic-speaking areas. The fact that Arabic and the deserts south of Jerusalem emerge as the common denominators for the male names of this departing party may be meaningful to our sense of direction in searching the possible backgrounds of Lehi. Furthermore, this prominence of Arab-associated names in Lehi's family may be relevant to the prominence of a few Arabic-like features in the Nephite dialect later partially apparent in UA.

Again, everyone gets to be surprised. LDS scholars have naturally thought in terms of "Hebrew" for this Lehi-Ishmael group leaving Jerusalem, and must be somewhat surprised at the pre-exilic Aramaic and the fact that the male names of Lehi's family are all more prominent in Arabic-speaking areas, until Lehi obtained "the record of the Jews" and named his last two sons 'Jacob' and 'Joseph'. Yet non-LDS scholars may be surprised and should be impressed that those five names, four of which were not known to the western world in Joseph's day, all turn out to be real names and to be consistently found in the same area(s), southeast of Jerusalem. Impressive indeed!

Chapter Four

Lehi's and Nephi's Languages: The Former Discussions

Lehi and Nephi left Jerusalem with 3 languages, a multiplicity from the beginning. As mentioned in Chapter One, the Nephites could read and write both Egyptian and Hebrew—the latter as "the learning of the Jews"—yet the spoken language of the Lehi-Ishmael party appears to have been partly, if not mostly, Aramaic, or at least a Hebrew-Aramaic mix, the evidence to come in this and other chapters.

Why was Lehi dealing with Egyptian, while living in or near Jerusalem? Were the brass plates partly in Egyptian? We do not know for sure, but what we do know makes Egyptian probable, at least some of the time. John Sorenson (1977) and Noel Reynolds (2025) address evidence for the brass plates being a Northern Kingdom or "house of Joseph" record. So "the record of the Jews" may have been a separate record or separate section among the plates, and mostly in Hebrew, no doubt, while some or most of the Josephite record was likely in Egyptian. In any case, because Laban's Josephite lineage kept the brass plates, these plates seem to have been a "house of Joseph" record, later combined with the record of the Jews.

The writings of Joesph of Egypt were on the brass-plate record, or Joseph may have initiated that record, as first-person prophecies may suggest (2 Nephi 3:6-16). Reynolds (2025, 484, 528) lists 5 places where Book of Mormon authors cite first person quotes of Joseph or his father, Jacob. If Joseph started or contributed to the brass-plate record, he would be writing in Egyptian. Ephraim and Manasseh were born of an Egyptian-speaking mother (whatever her ethnic origins) and were raised in Egypt before their Semitic-speaking cousins came to town, so their native language was Egyptian and they were living in Egypt. Furthermore, Hebrew writing did not exist yet in Joseph, Ephraim and Manasseh's day, so naturally they wrote in Egyptian, as also noted by Reynolds (2025, 498-99).

As Hebrew has been passed on for generations among the Jews as their fathers' language and the liturgical language of their founders' records to this day (Hebrew Old Testament), in spite of later living in lands of other languages, similarly Egyptian as the language of the fathers of the tribe of Joseph and the language of their records (brass plates) could have been passed on or kept up as a liturgical language among the Josephiyyiim, who were located primarily in the Northern Kingdom until its demise in 732 and 720 BC.

Keep in mind that Lehi, though he had lived in Jerusalem all his days, was descended from the tribe of Joseph, who started in Northern Israel. Some of Lehi's 16 great-great-grandparents likely fled the Northern Kingdom's destruction a century-plus earlier. Israel Finkelstein (2013, 154-5) speaks of "a dramatic growth of Jerusalem" from "a traditional highlands town to a large city" and that "the population of Judah at least doubled, if not tripled" in the late eighth century B.C., as well as the appearance of "northern traits of material culture, such as olive oil installations … and certain pottery types" all of which must be due to "the fall of the Northern Kingdom and resettlement … from southern Samaria … in Jerusalem and Judah." Additional walls or sections of Jerusalem were added for the northern refugees at the time of the fall of the Northern Kingdom. Nephi speaks of 'the Jews at Jerusalem' as if he did not feel a part of them.

In the second verse of the Book of Mormon, Nephi tells us: "Yea, I make a record in the language of my father, which consists of the learning of the Jews and the language of the Egyptians" (1 Nephi 1:2).

Exactly what that means has been debated by LDS scholars for most of a century. Sydney B. Sperry (1950, 28-38) proposed that the Nephites were writing Hebrew (the language or learning of the Jews) in an Egyptian script or writing system. Hugh Nibley (1952/1988, 13-18) argued that they were dealing with the actual Egyptian language and Hebrew too, such that the Nephite spoken language eventually became something of a Hebrew-Egyptian mix. A package of supports can be marshaled for either view, when considering only Book of Mormon statements and extrapolatory thought on them through a filter of what we think we know about Semitic and Egyptian. Thus, the scholarly and gentlemanly debate begun by Sperry and Nibley in the middle of the last century came to an impasse, when considering only Hebrew and Egyptian and

the Book of Mormon text. Of course, the best source for an answer to the Hebrew vs. Egyptian question and answers to many other questions may lie in some Native American languages, if some can be identified as partially Lehite-languages. But American languages are so many and so much work: 1500 languages belonging to 190 different language families. Furthermore, becoming an authority in one language family can require half a lifetime. Nevertheless, if some Native American tongues contain enough Near-East language leftovers, descending from peoples of the text, we can learn much by looking to see what they have: if there is Hebrew, but hardly any Egyptian, then Sperry and the other Hebraists are likely right; but if those languages contain significant amounts of Egyptian mixed with Semitic, then Nibley is right. If Lehite languages exist, they would have been mixed with or influenced by other American languages, yet we can be open to evidence possibly relevant to questions like (1) how do Nephite languages differ from Lamanite languages? (2) and Nephite from Mulekite? (3) early Nephite from later Nephite? Break-offs from different peoples at different times may tell us many things.

Only a few statements in the Book of Mormon address the language(s) of the Nephites and their records. Besides 1 Nephi 1:2 above, Nephi later says, "it is wisdom in God that we should obtain these records, that we may preserve unto our children the language of our fathers" (1 Nephi 3:19- 20). It was later in life that Nephi wrote this concern for preserving their language for their children, maybe after seeing his children's language being changed by the neighboring New World languages, just as Old English changed rapidly while subject to French for many generations after 1066, each generation aghast at the younger generation's language, like the previous generation was also at theirs.

Four centuries after Nephi, King Benjamin caused that his sons "be taught in all the language of his fathers" so that they could read the records and be men of understanding, and Lehi "having been taught in the language of the Egyptians therefore he could read these engravings [on the brass plates]" (Mosiah 1:2-4). From this, one side argues (1) that the brass plates were in Egyptian, while the other side argues (2) that they contained Hebrew in Egyptian script.

A thousand years after Nephi, Moroni states, "we have written this record ... in the characters which are called among us the reformed Egyptian, being handed down and altered by us, according to our manner of speech. 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. But the Lord knoweth the things which we have written, and also that none other people knoweth our language" (Mormon 9:32-34).

So the Nephites knew Hebrew, but what of Egyptian—the language or only a writing system? Tvedtnes and Ricks (1996) provide a thorough list of published opinion on the two views over the last century. Those favoring Hebrew written in Egyptian script interpret 1 Nephi 1:2 as something like Lehi's language consisted of the learning (mental/vocabulary/real language) of the Jews and the (written) language (or script) of the Egyptians (Sjodahl 1927, 14; Sperry 1950, 28-38; Tvedtnes 1970, 50; Sorenson 1985, 74-78; McConkie 1985, 448; Ricks 1992, 2; Stubbs 1992). The other argument is that 'the language of the Egyptians' means the language of the Egyptians (Nibley 1952/1988, 13-18; Robert Smith p.c.; Stubbs 1992). James E. Talmage (1913/1949) and Stubbs (1992) suggest that both languages may have been found on the brass plates and used by the Nephites. Stubbs (in 1992) was open to both views, but leaned slightly with the other Hebraists for a time, until finding much Egyptian in UA adjusted his opinion to agree with Nibley.

We can be sure that some portions of the brass plates and of the Book of Mormon were written in the Hebrew language (whatever the script). A strong argument favoring the Hebrew idiom on the brass plates and in the Book of Mormon is the fact that Isaiah's writings were on the brass plates and were quoted frequently by Book of Mormon authors. The original language of Isaiah's writings was Hebrew, and there would have been no reason to mess up the fine poetic language of Isaiah's Hebrew by translating it from Hebrew into Egyptian during the mere century-plus between Isaiah and Lehi, for Hebrew-speaking Israelites; in fact, there

would have been every reason not to (Stubbs 1992). However, the fact that some portions of the brass plates, such as Isaiah and probably much of the record of the Jews, were in Hebrew would not necessarily mean that all other portions of the brass plates were in Hebrew.

A careful reading of 1 Nephi 5:10-16 suggests that when Lehi searched the brass plates, he may have found two different sections, perhaps in different languages: "Lehi took the records which were engraven upon the plates of brass, and *he did search them from the beginning*. And he beheld that they did contain the five books of Moses, which gave an account of the creation of the world, and also of Adam and Eve … *And also a record of the Jews from the beginning*, even down to … Zedekiah … And also the prophecies of the holy prophets, from the beginning, even down to … Zedekiah … And it came to pass that my Father, Lehi, also found upon the plates of brass a genealogy of his fathers; wherefore he knew that he was a descendant of Joseph … Laban also was a descendant of Joseph, wherefore he and his fathers had kept the records" (1 Nephi 5:10-16).

Lehi searched the plates from the beginning, with its account of the creation, etc. Yet, besides that, there was also a record of the Jews from the beginning. Nephi mentions "from the beginning" twice, with an account of the creation, etc, also on the record of the Jews. Those words may suggest two different sets of records, a Josephite or Northern Kingdom record and a Southern Kingdom record of the Jews. If so, the record of the Jews was likely in Hebrew, while the Josephite record could well have been in Egyptian, at least in part. Or either could have started in Egyptian and later switched to Hebrew, just as the Old Testament switched to Aramaic in Daniel, as soon as the Israelites were living among that new language. Because Laban's Josephite lineage kept the brass plates, those plates seem to have been a "house of Joseph" record, later combined with the record of the Jews.

Matters of when and with whom the brass-plate record began are relevant to the language(s) found on them. If the Josephite portion of the brass plate collection was initiated by Joseph or his early posterity, then the actual Egyptian language was likely the initial language on the brass plates. Consider the facts (1) that the Israelites were probably bilingual while in Egypt; (2) that Ephraim and Manasseh were born of an Egyptian-speaking mother and were raised in Egypt before their cousins came speaking another language; (3) that Moses was raised in Egyptian courts; (4) that Egyptian was the native language of Ephraim, Manasseh, and Moses, and that the Israeli Semitic was a second language for those individuals; and (5) that Hebrew writing did not exist in Joseph's day, though its beginnings were underway by Moses' day.

The proposed beginnings of the Canaanite / Phoenician alphabet, from which the Hebrew alphabet derived (and from which the Greek, Latin, and English alphabets later derived, all being forms of "reformed" Hebrew / Phoenician), have often been dated between 1500 and 1200 BC (Sáenz-Badillos 1993, 16-17; Young 1993, 98; Knapp 1988, 189-90; Hallo and Simpson 1971, 112), and Noel Reynolds cites sources putting the West Semitic alphabet's development on the Nile Delta before 1900 BC, but sees "no evidence that any scribal schools adopted it for textual compositions before the eighth or seventh centuries in Jerusalem" (Reynolds 2025, 504, 530). Since the Phoenician / Hebrew alphabet had not yet been invented in Abraham's day, his choices for writing were limited to Egyptian or cuneiform. The cumbersome cuneiform (used for Akkadian and Sumerian) could easily encourage one toward Egyptian, and the only sample of Abraham's writing known to us (the Book of Abraham) was in Egyptian. Noel Reynolds explains that Abraham's upbringing was in a northern Ur, which "was also an outpost of the Egyptian Empire … controlled by Egyptian imperial administrators" and that Abraham likely knew Egyptian long before he went to Egypt" (Book of Mormon Central 2019; Reynolds 2025, 504, 518, 530). The dates for the common use of the West Semitic alphabet precluded Joseph from its use, and though Moses' time approximated the early era of the alphabet, he was raised in Egypt's courts and probably knew Egyptian best at age 40, which may explain Moses' need for a spokesman. He spent the next 40 years among Jethro's people, who spoke another Semitic dialect. Then at 80—not the optimum age for achieving fluency in a second language; no wonder he wanted a spokesman

(Exodus 4:15-16)—Moses returns to lead enslaved Israel back to Canaan, where they resumed adopting Hebrew / Canaanite from the Canaanite speakers. In short, it is likely that many Israelites were somewhat bilingual in both Egyptian and their Semitic dialect, but the more probable choice or more practical choice for writing, during their years in Egypt, was Egyptian script(s). In fact, if some Israelites did not learn to write Egyptian while camped at the doorstep of the great civilization of learning of the day, we should be surprised. Abraham, Isaac, Jacob, and his sons were in Palestine only three generations (as isolated shepherds) before moving to Egypt where more generations were spent than in Palestine. So if they learned Canaanite (Hebrew) while in Canaan or Palestine (Genesis 31:47), why would they not learn Egyptian while in Egypt?

One argument against using Egyptian scripts to write Hebrew is that Egyptian writing is so intricately specific to the Egyptian language that using it for writing other languages would be cumbersome (Nibley 1952/1988, 13-18). On the other hand, though admittedly it would have been an unwieldy exercise, we mortals regularly afflict ourselves with unwieldy exercises. For example, Old English speakers' adopting the Latin alphabet to write English became a comical adventure in hopes that the five vowel letters of the Latin alphabet (a perfect match for the five vowel sounds of the Latin language) might also systematically represent some 10 or so vowel sounds of most English dialects. So we have all 5 vowel symbols and 9 spellings to represent the vowel sound in sit: 1. sit, discipline (in spite of final silent e), 2. busy, 3. women, 4. we're, here, 5. hear, 6. weird, 7. myth, 8. sheer, and sometimes 9. village. We also have all five vowels and nine spellings to represent the first vowel sound in father: 1. father, 2. bother, gone (in spite of final silent e), 3. ensemble, sergeant, 4. lingerie, 5. caught, 6. cough, 7. sought, bought, 8. buy, 9. heart. In fact, most English vowel sounds have between five and ten spellings. But we have gotten used to it and there are good reasons not to change now (see Appendix A "Spell-Bound").

The fact is that most languages make do with borrowed systems not designed for their phonemic inventory, requiring additions and adjustments. The adoption of the Greek alphabet to write Coptic (a very late Egyptian) is another example of such adjustments, besides English adopting the Latin alphabet.

As for adapting Egyptian to write Hebrew, Tvedtnes and Ricks (1996) have noted instances of Egyptian scripts used for Semitic record keeping, and, as mentioned, writing systems are regularly adapted to write other languages for which they were not originally designed. Before Old English speakers adopted the Latin alphabet to write Old English, Rome had borrowed the Greek alphabet to write Latin, and the Greeks had borrowed the Phoenician / Hebrew alphabet to write Greek. In fact, the Greek word *alphabet* comes from Hebrew *'aleph* 'ox' and *bet* 'house' as the first two letters of the Hebrew alphabet. An English synonym for the alphabet is the A-B-C's; similarly, the Greek word *alphabet* means A-B. Furthermore, the origin of the Hebrew / Phoenician alphabet is partially from Egyptian. So calling English reformed Egyptian may be a stretch, but most alphabets are reformed something else. It could well be, as Sorenson (1997, 450-51) suggests, that the Israelites began writing their Semitic idiom in Egyptian script while in Egypt, or they could have learned Egyptian and were writing Egyptian in Egypt's script, or both.

As mentioned previously, another good point of Sorenson's (1997, 450-51) for some of the brass plates' being a "house of Joseph" record is that Book of Mormon authors quote the prophecies of Joseph in first person: "Joseph truly said: Thus saith the Lord unto *me* [Joseph]: a choice seer will I raise up out of the fruit of thy loins" (2 Nephi 3:7, italics added). So either Joseph wrote on the brass plates himself and started that record, or the brass-plate authors had access to and were quoting other records written by Joseph himself. Second Nephi 4:2 says "the *prophecies which he [Joseph] wrote*, there are not many greater … and they are upon the plates of brass." So Joseph's prophecies *are on the plates of brass*, seemingly in first person, but they are not in our "record of the Jews", that is, not in our Old Testament.

For the Israelites to change language as they change location and come under new language influences has not only happened several times, but happens most of the time. For example, the Aramaic portions of the Hebrew Old Testament (Daniel and parts of Ezra) were written when the Israelites were subject to the Aramaic

spoken in Babylon where they lived after Jerusalem's destruction. The Septuagint, a Greek translation of the Hebrew Old Testament, came into being when Jews lived in Greek-speaking areas. Yiddish is the mostly-German-some-Hebrew mix that the Jewish people developed after moving into Germanic-speaking areas. In short, Jews have readily learned the language of the land wherever they have gone, from Biblical times to the present. Even Hebrew is the Israelite's adopted dialect of the ancient Canaanite or Phoenician language. Aramaic was spoken where Abraham came from, so contrary to popular belief, even Hebrew was not the Israelites' original language, but was a borrowed language also.

For example, Hebrew *yaam-aa* 'west' literally means 'sea-ward' (*yaam* 'sea' + *-aa* 'toward'). The sea was to the west only in Palestine. Where Laban and Israel's mothers came from, no sea was near enough to bother with; in Egypt the Mediterranean Sea was north and the Red Sea was east. Only in Palestine would the word 'sea-ward' for 'west' make sense. So that word, as well as many others, became part of the Israelites' language after entering Palestine. Just as Hebrew (Canaanite) became Israel's language after they moved into Canaanite-speaking areas and as Aramaic became their language after moving to Aramaic-speaking areas, and Greek became the language for those moving into Greek-speaking areas, so Egyptian could easily have been the language of the Josephites, or descendants of Ephraim and Manasseh, for whom Egyptian was their native language. Furthermore, if Hebrew was not yet a written language when Israel entered Egypt, some of the other tribes may have added Egyptian and its writing system to their literary heritage. So for the Israelites, or at least Josephites, to emerge from Egypt with Egyptian records has parallels. The exodus song (Exodus 15:1-19) in early Hebrew affirms that the Israelites were speaking their Semitic tongue also, but that does not discount the possibility of Egyptian records among some exiters, especially among Josephites, the posterity of Ephraim and Manasseh, whose native language was Egyptian. Even the Hebrew Old Testament is thought to contain periodic updates in the centuries after Moses, such that the "originalness" of parts of the Hebrew Old Testament, as we now have it, is in doubt. Rewrites into later forms of Hebrew or the translation of older Egyptian records into Hebrew are not only possible, but probable.

In any case, regarding the language(s) on the brass plates, some or all of the following combinations are possible: Egyptian portions written in Egyptian characters; Hebrew portions in Hebrew characters; and Hebrew portions in Egyptian characters. The same combinations are possible for Nephite records, and we ought not to assume homogeneity throughout either set of records. If the Nephites initially knew both Hebrew and Egyptian, then their language becoming a mixture of the two, as Nibley (1952/1988, 13-18) suggests, has many precedents. For example, English took on considerable Latin vocabulary after St. Augustine brought Christianity to the British Isles in A.D. 597, as the Catholic Church's records and services were all in Latin; and some of that Latin vocabulary had been previously borrowed from Greek or Hebrew (Baugh and Cable 81-85; Jespersen 37-39).

Support for the Book of Mormon being written in Hebrew includes the following: First, Tvedtnes and Ricks enumerate recently discovered archaeological evidences demonstrating the simultaneous knowledge and use of Hebrew and Egyptian by scribes who used Egyptian scripts in Semitic record keeping (Tvedtnes and Ricks 1996, 156-63) approximately contemporary with Lehi. Second, we mentioned that later portions, such as Isaiah and Jeremiah, were certainly written in the Hebrew language on both the plates of brass and the plates of Nephi. Third, the fact that Moroni states that they "have written this record ... in the characters ... called ... reformed Egyptian" does emphasize "characters." If they had been writing in the language called reformed Egyptian, he could have said "we write in reformed Egyptian" or "we write in the language called reformed Egyptian"; however, the fact that they wrote in "characters" called reformed Egyptian suggests they were writing their spoken language in Egyptian characters, though that spoken language was an altered Hebrew or an altered Hebrew-Egyptian mix as Nibley suggests. Fourth, Tvedtnes and Ricks also note Joseph Smith's words "the language of the whole running the same as all Hebrew writing in general" (right to left, opposite of European languages), and Tvedtnes and Ricks conservatively state that those words are not conclusive, as also

Egyptian ran the same direction usually; nonetheless, Hebrew always runs that direction and is the language mentioned (Tvedtnes and Ricks, 157). Fifth, several phrasing patterns point to Hebrew as the original language for much of the Book of Mormon (Tvedtnes 1970; Tvedtnes 1991; Sperry 1954), though some patterns match both Hebrew and Egyptian, yet other spots match Egyptian (Alma 8:24).

In any event, both the Egyptian and Hebrew characters had been altered according to their manner of speech (Mormon 9:32-33). We can be sure that the Nephites in Mormon's day were not conversationally fluent in either Hebrew or Egyptian. Even if Lehi (and possibly others of his group) were bilingual in both languages, for the Nephite nation to maintain a distinction and fluency in two languages over a period of a thousand years, without juxtaposed contact with nations speaking one or both langauges, has no linguistic precedent. For example, though English is one language, it is a Germanic-French-Latin mix. Incorporating vocabulary from neighboring languages, the common populace mixed them into what is now modern English, without maintaining a distinction for very long. In other words, the Nephite language would be either a changed form of Hebrew (if the brass plates contained only Hebrew) or it could be something of a Hebrew-Egyptian blend (if portions of the brass plates contained the Egyptian language); and regardless which was the case, it would later have been mixed with features and vocabulary from neighboring Native American languages.

The fact that both the Hebrew and the Egyptian characters were altered according to their manner of speech (Mormon 9:32-34) suggests that they could write their single spoken language (whatever it was) with either Egyptian characters or with Hebrew characters. Their "manner of speech" may refer mostly to their pronunciation, such that as sounds are lost, changed, or merged (as we can see they were in Uto-Aztecan), adjustments in spelling or phonetic representation would likely have occurred also, though written English still maintains many sounds no longer pronounced (silent letters): da**ugh**ter, **k**nif**e**.

Lehi's having been taught in the language of the Egyptians (Mosiah 1:4) could mean (a) that he could speak Egyptian, whether fluently or as a second or trade language; or (b) that he had mainly a reading knowledge of Egyptian. Some evidence suggests that logograms or other symbols were part of the writing system, in addition to phonemes / alphabetic symbols (Sorenson 1997, 455; Gee 1994, 79-82, 94-99).

The fact that substantial amounts of Egyptian are evident in Uto-Aztecan has the author convinced that the Lehite languages included the actual Egyptian language. Lehi's needing to know Egyptian to read the brass plates likely means that both the Egyptian and Hebrew languages were on different sections of the records from Jerusalem, probably in their respective scripts for the most part, and that knowing Egyptian enabled Lehi to read the Egyptian portions, since without Egyptian he could not have read (all of) them, only the Hebrew portions. Both the Hebrew and Egyptian languages being on the brass plates also sets well with King Benjamin causing that his sons "should be taught in ***all*** the language of his fathers" (Mosiah 1:2). One language could be described as ***the*** language of his fathers, but ***all*** the language of his fathers suggests a more sizable corpus than the one language they spoke, and each with ancient and later forms. As for Hebrew written in an Egyptian script, the Nephites may have initiated or further developed that art form, as it seems not to have been a science. In contrast to Hebrew's signs representing only one consonant at a time, Egyptian has two-consonant signs and three-consonant signs and symbols for whole words, all of which would save space. However, the fact that writing their Hebrew-Egyptian mix in Egyptian script also introduced imperfections suggests that the phonetic matching of the Hebrew script was easier and the everyday practice, but that using the space-saving Egyptian symbols was a trickier adaptation, which they felt less comfortable with, since Mormon and Moroni probably did not have much time to brush up on literary particulars during the years of war and turmoil that filled their lives since childhood.

Scholars may scoff at the thought that some Northern Kingdom Israelites knew Egyptian, but what do we / they know? What percent of the archaeological discoveries in Israel's earth have been found to date—one percent? Academia's notions are regularly overturned with one discovery. It is also the case that we know

very little about the northern tribes' language(s) or dialects anyway, except that there were dialects and that they show diversity in the few written materials found thus far, but scholars lack data to judge the degrees of Aramaicizing of Hebrew or Canaanizing of Aramaic among them, yet see hints of both (Young 1993, 54-61, 165-72). Young (1993, 167) also notes that Hosea is the only book by a Northern Kingdom native and his book has a high number of unintelligible passages, that, instead of being chalked up to scribal error, may be due to "our ignorance of the peculiar dialectal background to Hosea." If so little is known about Northern Israelite dialects, then is it possible that some Josephites might have kept up the language of their fathers, Ephraim and Manasseh? Also worth noting is that if Hosea is the only book written by a Northern Kingdom native, then our Old Testament is indeed "a record of the Jews" and a comparable set of Northern Kingdom records could be very different in language and content, such as Zenos and Zenock.

Returning to the Americas, if Nephite historians knew Egyptian, questions arise as to what kind of Egyptian? Joseph's Delta-region Egyptian? Or an earlier or later dialect than Joseph's? And how and when did the Egyptian (evident in Uto-Aztecan) enter the Nephite idiom? Was Egyptian a liturgical language among some of Israel's northerners and thus also in parts of the Nephite scriptures? If so, some Egyptian, as an often-read model of language in their scriptures, was likely incorporated into their speech.

All things taken together may suggest that the debates over which *one* of the two views is correct (Hebrew or Egyptian?) may have overlooked the probability that *both* views are correct in ways. Questions involving parts and intermediate developments should exclude assuming a homogenous pattern or language for either the brass plates or the Nephite plates. In addition, the fact that the Nephites in the Americas were surrounded by unrelated languages suggests more language change than would have occurred in the Near East (also obvious in Uto-Aztecan (UA), in Yiddish, and in most languages surrounded by unrelated languages). So by Mormon and Moroni's time, considerable language change and stages of change would have made abridging a thousand years of written history a formidable task.

The author is convinced that "the language of the Egyptians" means the language of the Egyptians and that the learning of the Jews means the education Lehi received in the Jerusalem environment for writing Hebrew (or Aramaic) in the Phoenician alphabet, and that Lehi, Nephi, and later Nephite record keepers to varying degrees knew both Hebrew and Egyptian, and that future investigations in the Americas and in Israel will unveil much more.

In UA, we see a substantial amount of Egyptian, and we also find two separate Semitic dialects that merged into one language. One (Semitic-p) has the same sound correspondences as the Egyptian, which suggests that Semitic-p and the Egyptian were spoken by the same people, nicely matching the description of the Nephite's two languages. The other Semitic dialect (Semitic-kw) has quite a different set of sound correspondences which is probably the Mulekite language, as it reflects a dialect more like Phoenician than the Israelite Hebrew of 600 BC.

The Nephite Semitic dialect, in contrast, is either a heavily Aramaicized Hebrew or more Aramaic than Hebrew. Though data on most dialects of Northwest Semitic is limited or unavailable, some scholars (Young 1993, 54-62, 85-86) note that Aramaic did influence the dialects of ancient Israel, especially northern Israel. What is not known is the degree or extent, though it may have been more significant or pervasive than presently known. The American data may prove enlightening to that void in present knowledge.

Marsha White (1997), in a review of Young 1993, summarizes Young's substance more clearly and concisely than I could: "Young … suggests that Biblical Hebrew goes back to the adaptation of the pre-Israelite Canaanite prestige language…. Thus, from the beginning of Israelite history there were two linguistic strata: literary / formal and dialectical / colloquial. This situation of diglossia persisted throughout pre-exilic Israelite history…. The best explanation for … so many Aramaisms in the early literary language is that they were in the lower (i.e., spoken) form of the language, and that Archaic Biblical Hebrew was open to elements from the underlying dialects. The strong presence of Aramaisms in the oldest Biblical Hebrew undermines the theory

that Aramaisms equals late" (White 1997). In other words, some Biblical scholars assumed that the Hebrew-speaking Israelites brought Aramaic elements into Hebrew later; but Young says they were speaking Aramaic for generations while learning the Canaanite / Hebrew language. Rendsburg (1997, 2003a, 2003b, 2006) is also a prolific proponent of Aramaic evidence in the earliest stages of Israeli language, especially northern Israelian.

This all aligns well with the likelihood of Aramaic substrata serving as underlying dialects to the literary language of Canaanite / Hebrew, perhaps throughout the Northern Kingdom's centuries. What language did the mothers of Israel (Rebekah and Leah and Rachel) speak? Aramaic! Genesis 25:20 speaks of Laban, the Arammiy (in Hebrew) or Aramean, though King James English translates it as 'the Syrian'; and Laban, the Aramean, was Rebekah's brother, and Leah and Rachel's father, and Jacob's uncle. Besides Israel's roots being from Aramaic-speaking areas, Aramaic was also a lingua franca (international language) throughout many areas through most of Israel's BC centuries. So did Israel's population really set aside Aramaic upon entering Canaan to learn Canaanite / Hebrew? More likely are degrees of bilingualism while adding the Phoenician / Canaanite literary language to their native Aramaic. The sizable amount of Aramaic in Uto-Aztecan is consistent with that. Furthermore, Manasseh dwelt in the northeast corner of Israel's allotments, right next to the Aramaic homelands, just east of Manasseh, so for Manasseh to retain Aramaic longer or re-acquire it, even if lost, could be expected.

Rendsburg (1997) "refers to Israelian [northern kingdom] Hebrew as a dialect bundle, because almost certainly there were minor differences … the Galilean variety no doubt shared many features with Phoenician and with Aramaic too. However, the available data generally do not allow us to isolate such minor differences" (Rendsburg 1997, 67). I might add that the differences may not all have been minor.

As has been proposed for northern dialects and thus for refugees from the north into Judah, the Lehi-Ishmael dialect may have been partly Aramaic, if not mostly. Among Lehi's 16 great-great-grandparents, some were likely Northern Kingdom Josephite refugees, others may have been Southern Kingdom Jews, and some may have been from Arab areas southeast of Jerusalem where the names of Lehi's boys are prominent. In addition, some of those Old Arabian dialects were also east of Manasseh. Most of us are mixtures from multiple directions, and we know next to nothing of the members of the Lehi-Ishmael party. Sariah was Lehi's wife, but was she also descended from Northern Kingdom refugees, like Lehi probably was? Or was she a Jewish girl whose parents were concerned about her marriage to this visionary Josephite from the refugee side of town? What of Ishmael? And Ishmael's wife? Maybe Ishmael or his wife had not lived in Jerusalem all their days, and perhaps they were Aramaic speakers, and their daughters raised Lehi's grandchildren. Then add Zoram to the mix. We know so little about the backgrounds of the individuals of the starter seed, except that they came out of Jerusalem and that Lehi and Ishmael were part Josephite. Then they spent a decade in Arabia, associating with some of the local people at least some of the time, or so it seems judging by their sojourn among the people of Nahom. And would such a luscious place as Bountiful not have neighboring residents already?

Lehi was obviously a learned man who could read and write both Egyptian and Hebrew and could probably speak Aramaic, as the evidence in Uto-Aztecan suggests that the Lehi-Ishmael party eventually spoke a heavily Aramaicized dialect. In fact, Lehi as Aramaic speaker may clarify Nephi's statement better than any previous explanation: that the language of his father consisted of the language of the Egyptians and the *learning* of the Jews. Note that Nephi did not say "the language of the Jews" as if Lehi's language was not mainly the language of the Jews (Hebrew), but "the learning of the Jews" or the scribal learning among the Jews for writing the literary language Hebrew, though Lehi's family may have spoken Aramaic also. First Nephi 1:2 hints at such and the large amount of Aramaic in UA's Semitic-p vocabulary suggests something that direction. The characters for both Hebrew and Aramaic were the same, so with them, one could write either Hebrew or Aramaic. UA evidence suggests that some, maybe most, of the Lehi-Ishmael party were bilingual in Hebrew

and Aramaic. Living in Jerusalem, they certainly spoke Hebrew, but as great-grandchildren of the sizable group of somewhat recently arrived refugees from Northern Israel, they and their community of refugees may have maintained some fluency in Aramaic. In addition, at least Lehi was knowledgeable in Egyptian and in "the learning of the Jews" or the scribal craft for reading and writing Hebrew and Aramaic.

Some might doubt Lehi's group being Aramaic speakers because about a century before Lehi left Jerusalem, the city was threatened by the Assyrians (701 BC), and Jerusalem's leaders asked the threatening Assyrian general to talk to them in Aramaic, which Jerusalem's leaders understood, but not talk in the Jews' language, Hebrew, so that the general populace "on the wall" could not understand (2 Kings 18:26; Isaiah 36:11). That suggests that Jerusalem's general population did not speak Aramaic, which may well have been the case 100 years before Lehi. However, by Lehi and Ishmael's departure a century later, the situation may have been quite different. Archaeological evidence suggests that many Northern Kingdomers swelled Jerusalem's population during the intervening century, and as has been noted, northern Israelites were more likely bilingual, or were more likely to have spoken Aramaic also. A century later, some added section(s) of town may have been where the refugees lived and where Aramaic may have been spoken. First Nephi 3:22 makes it apparent that Lehi (and maybe Ishmael too) did not live in the city, but in rural inheritances some distance outside it, yet in the Jerusalem area, as Nephi and his brothers left Jerusalem and "went down to the land of our inheritance" (1 Nephi 3:22) to gather up their gold and silver to take to Laban. In addition, the fact that Jerusalem's leaders a century earlier knew Aramaic shows that a number of individuals, perhaps the better educated, did know Aramaic. In short, the military conversation that took place on Jerusalem's wall a century earlier may have nothing to do with whether Lehi and / or Ishamel were Aramaic speakers.

The next three chapters contain language data. Appendix C on basic linguistics, Appendix D on Egyptian, and Appendix E on the Semitic languages are provided to help one better appreciate the language data, if interested. However, if language data make one dizzy or disinterested, then skip to Chapter 8 where language-light discussions resume.

Chapter Five

Lehi's and Nephi's Semitic and Egyptian as Evident in Uto-Aztecan

The name Uto-Aztecan derives from the Utes in the north to the Aztecs in the south. Uto-Aztecan (UA) appears to be descended from the Nephite-Mulekite merger, because it contains two different Northwest Semitic dialects merged into UA, and a sizable quantity of Egyptian vocabulary with the same sound correspondences as one of those two dialects of Semitic. "Appendix C: Introduction to Linguistics or Language Science" is available to refer to as desired. Or readers may skim or skip what data they wish.

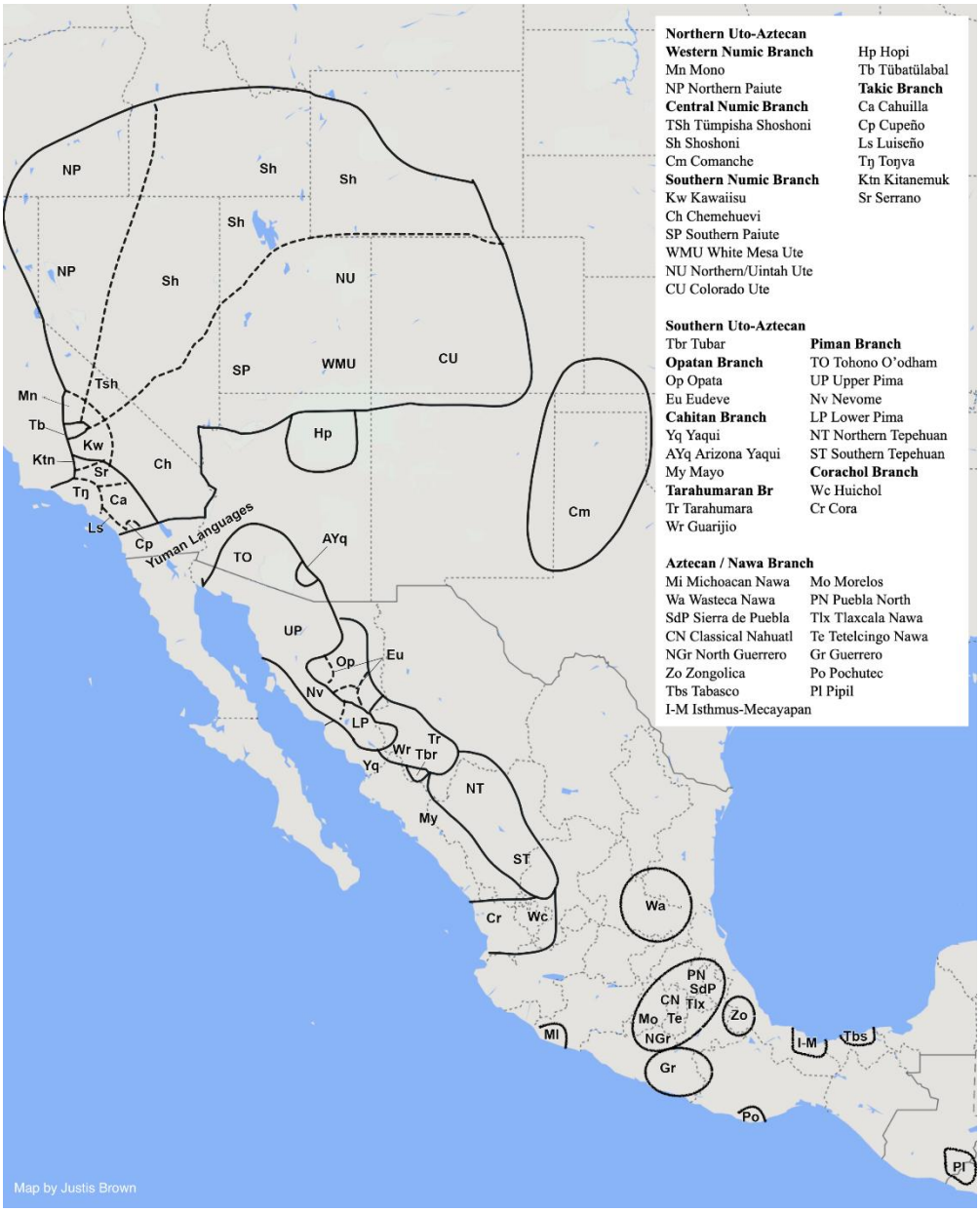
Uto-Aztecan consists of some 40 related languages in the southwestern U.S. and western Mexico. (See map on the next page, page 28.) A century ago, Edward Sapir (1913, 1915) established UA as a language family. Below are listed in chronological order the UA cognate collections that deal with the whole language family (others not listed deal with certain branch(es).

Sapir, Edward, "Southern Paiute and Nahuatl: a Study in Uto-Aztecan" (1913, 1915)
Voegelin, Voegelin, and Hale, *Typological and Comparative Grammar of UA* (1962)
Miller, Wick, *Uto-Aztecan Cognate Sets* (1967)
Miller, Wick, 1988 Computerized Database of Uto-Aztecan Cognate Sets (1988)
Hill, Kenneth C., *Miller's Uto-Aztecan Cognate Sets*: *Revised and Expanded by KCH* (2006/2020)
Stubbs, Brian, *Uto-Aztecan: A Comparative Vocabulary* (2011/2020)

The last, *Uto-Aztecan: A Comparative Vocabulary* (UACV, Stubbs 2011, 2nd edition 2020), has been very well received among specialists in Uto-Aztecan and favorably reviewed by Kenneth Hill in the *International Journal of American Linguistics* (Hill 2012). However, many unresolved questions in Uto-Aztecan (UA) have eluded linguists for the century since Edward Sapir (1913, 1915) established UA as a language family, yet Semitic and Egyptian explain many of the puzzles in UA.

After publishing a new standard in comparative UA (UACV 2011), Stubbs' next book, *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecn* (2015, 2nd ed 2023), presented 1657 correlations between UA and Egyptian, Hebrew, and Aramaic, consistent with the linguistic comparative method. *Exploring* appeared exactly a century after Sapir's founding works, and it creates a case stronger than the first accepted treatise establishing each Native American language family. After Sapir (1913, 1915) established Uto-Aztecan as a viable family of related languages, Voegelin, Voegelin, and Hale (1962) produced the first numbered list of 171 cognate sets (groups of related words). Klar (1977) brought the Chumash languages to clarity with 168 sets. Taylor (1963) established Caddoan (a language family of the central plains), assembling 107 cognate sets. Hale (1962, 1967) did the definitive study for Kiowa-Tanoan with 99 sets. This work's proposal may better compare to tying two distant language families, as did Haas (1958) by ending four decades of controversy in uniting Algonkian-Ritwan, an eastern U.S. family with a west coast family, by means of 93 sets. Chamberlain (1888) began the union of Catawba with Siouan via 17 comparisons, and Siebert (1945) secured it with mostly morphological correlations, as not enough clear cognate sets were known at the time to establish correspondences (Campbell 1997, 140). Thus, the going rate is between 50 and 200 sets to establish most Native American language families. So Stubbs (2015 / 2023) case, exhibiting 1657 sets merits proportionate consideration.

This work samples some data from Stubbs (2023) and explains their relevance to Book of Mormon language matters. Below is a **Map of the Uto-Aztecan Languages**:



The Uto-Aztecan Languages, Abbreviations, Branches, and Branch Abbreviations

Mn	Mono	(Western Numic)	Hp	Hopi (single language branch)		Eu	Eudeve	(Opatan)
NP	Northern Paiute	(WNum)	Tb	Tübatülabal (single language branch)		Op	Opata	(Opatan)
			Ls	Luiseño	(Takic)	Tbr	Tubar (single language branch)	
TSh	Tümpisha Shoshoni	(CNum)	Ca	Cahuilla	(Takic)		Yq	Yaqui (Cahitan)
Sh	Shoshoni	(Central Numic)	Cp	Cupeño	(Takic)		AYq	Arizona Yaqui (Cah)
WSh	Western Shoshoni	(CNum)	Sr	Serrano	(Takic)		My	Mayo (Cahitan)
Cm	Comanche	(CNum)	Tŋ	Toŋva	(Takic)		Wr	Guarijio (Tarahumaran)
			Ktn	Kitanemuk (Takic)			Tr	Tarahumara (Tarahumaran)
Kw	Kawaiisu	(Southern Numic)	TO	Tohono O'odham (Tepiman)			WTr	Western Tr (Tarahumaran)
Ch	Chemehuevi	(SNum)	UP	Upper Pima/Pima Alto (Tep)			Cr	Cora (Corachol)
SP	Southern Paiute	(SNum)	Nv	Nevome	(Tepiman)		Wc	Huichol (Corachol)
WMU	White Mesa Ute	(SNum)	LP	Lower Pima/Pima Bajo (Tep)			CN	Classical Nawatl (Aztecan)
NU	Northern/Uintah Ute	(SNum)	PYp	Pima de Yepáchic	(Tep)		Te	Tetelcingo Nawatl (Aztecan)
CU	Colorado Ute	(SNum)	PYc	Pima de Yécora	(Tep)		Wa	Huastec Nawatl (Aztecan)
			NT	Northern Tepehuan	(Tep)		Pl	Pipil (Aztecan)
			ST	Southern Tepehuan	(Tep)			

The Branches of Uto-Aztecan: Miller (1984) and Cortina-Borja and Valiñas (1989) tallied the number of word agreements between UA languages using Swadesh's 100-word list, with 12 substitutions. Cortina-Borja and Valiñas added six languages to Miller's and analyzed the data differently. Below are most of those data:

	Mn																	
NP	77	NP																
TSh	59	58	TSh															
Sh	58	58	87	Sh														
Cm	57	58	79	88	Cm													
Kw	52	56	54	55	49	Kw												
Ch	50	55	61	58	54	75	Ch											
SP	53	58	62	62	59	79	86	SP										
CU	52	57	59	61	59	76	78	87	CU									
Tb	39	42	37	38	35	39	42	39	40	Tb								
Tŋ	26	26	26	26	23	24	27	26	27	40	Tŋ							
Sr	26	24	24	24	21	26	28	27	27	35	45	Sr						
Ca	29	27	27	27	24	27	31	31	29	38	42	50	Ca					
Cp	28	27	24	24	23	26	30	31	28	37	34	38	65	Cp				
Ls	26	27	25	24	22	24	27	27	26	34	38	35	50	48	Ls			
Hp	33	32	27	23	22	31	33	31	32	38	29	29	31	31	26	Hp		
TO	23	26	25	25	23	26	28	28	30	35	25	27	31	28	25	32	TO	
LP	24	26	24	24	23	24	26	26	27	35	24	27	30	27	24	35	85	LP
NT	25	28	26	26	23	27	28	30	29	37	26	30	32	29	26	33	79	79 NT
ST	22	24	23	23	21	24	24	26	27	33	26	28	31	28	25	30	73	75 82 ST
Wr	26	29	23	23	24	24	24	25	28	36	29	34	34	29	28	32	44	47 47 48 Wr
Tr	23	27	21	21	21	22	22	23	26	32	28	34	33	26	28	28	41	42 42 43 83 Tr
Op	26	29	21	20	20	20	26	24	23	33	26	31	33	29	24	33	40	44 40 39 55 54 Op
Eu	28	27	23	23	22	26	24	26	27	35	26	30	34	29	25	35	45	47 45 43 59 52 73 Eu
My	27	28	25	26	24	27	25	27	28	35	29	33	36	26	28	34	43	45 49 49 58 51 53 61 My
Yq	29	30	26	26	24	29	26	29	30	35	28	32	35	26	28	36	45	47 49 49 58 51 55 62 93 Yq
Tbr	28	27	27	28	27	28	27	30	31	33	24	28	29	26	23	30	40	41 46 43 48 44 42 51 51 53 Tbr
Wc	25	24	23	23	21	23	23	24	25	32	24	28	34	26	27	28	41	43 42 41 51 48 48 49 48 51 41 Wc
Cr	25	22	22	23	21	22	21	22	23	30	19	21	24	23	22	26	34	34 35 35 42 38 35 42 45 46 39 58 Cr
CN	18	18	16	16	14	16	15	16	16	24	20	22	23	19	19	24	29	29 30 29 32 33 39 40 38 39 36 39 37 CN
Te	19	18	16	16	14	17	15	16	17	25	20	22	24	20	19	24	30	30 30 29 32 34 38 40 38 39 35 37 35 85 Te
Pl	16	15	14	14	12	16	15	16	17	24	21	19	23	20	18	24	30	30 29 29 33 34 38 40 39 39 37 37 35 79 81 Pl

Many UA specialists see a primary split between Northern Uto-Aztecan (NUA) and Southern Uto-Aztecan (SUA) (Heath 1977:27; Heath 1978:222; Langacker 1977:5; Langacker 1978:197, 269; Fowler 1983:234, Cortina-Borja and Valiñas 1989), yet a few reject NUA and Manaster Ramer (p.c.) rejects SUA. Jane Hill (2001a and b, 2010) also cites evidence for NUA vs. a lack of such for SUA, meaning that SUA divided into branches earlier or that the break off of NUA may have been about the same time or after the break-up of SUA branches. NUA consists of Numic, Takic, and two single-language branches: Tübatülabal and Hopi. SUA branches include Tepiman, Opatan, Tarahumaran, Cahitan, Tubar, Corachol, and Aztecan.

Numic (Num) has three subbranches. From southern California, Western Numic (WNum) spread northward along the California-Nevada border into Oregon and Idaho. Central Numic (CNum) spread northeastward through central Nevada, northwestern Utah, into Idaho, Wyoming, and onto the plains. Southern Numic (SNum) spread eastward into southern Nevada, northern Arizona, most of Utah, and the mountainous west half of Colorado. Western Numic includes Mono (Mn) and Northern Paiute (NP). To Central Numic belong Tumpisha Shoshoni (TSh), Shoshoni (Sh), and Comanche (Cm). Southern Numic includes Kawaiisu (Kw), Chemehuevi (Ch), Southern Paiute (SP), Northern or Uintah Ute (NU), White Mesa Ute (WMU), and Colorado Ute (CU).

The term Colorado Ute here replaces Southern Ute, since northern vs. southern is not a language division, but relocation options for the many dialects: e.g., the Uncompahgre Utes from southern Colorado went north to the Uintah-Ouray reserve, though their dialect and ties are closer to southern Colorado Ute; and White Mesa Ute (Stubbs 2011, 6-10), often labeled Southern Ute (because it is in the south), retains features in NU and California SNum, but lost in Ignacio's Colorado Ute; and none of the three so-called Northern Ute dialects (two from Colorado) is recorded. So the northern-southern distinction is recent-geographic, not linguistic, and of at least five dialects, only Ignacio's is left in Colorado, thus, the term Colorado Ute.

The tabulations above show high correlations within each branch of Num (76-88), but less between the Num languages of different branches (49-62). Lamb (1958) and others have explained the Num languages' spread from the NUA homeland in southern California out into the Great Basin. The data show the inner-most language of each branch to be more closely related to the outer-most language of the same branch than to the closer neighboring Num languages of different branches. This pattern shows more diversity in Southern California between languages of differing branches only a few miles away vs. closer ties to tongues of the same branch 1,000 miles away. For example, TSh in Southern California is linguistically much closer to Sh (87) in Wyoming and Cm (79) on the plains, all three of Central Numic (CNum), than TSh is to nearby Mn (59) of Western Numic (WNum) and also in Southern California, or to nearby Kw (54) of Southern Numic (SNum) and also in Southern California. This greater diversity in the geographically limited Numic (and NUA) homeland speaks convincingly for a three-way Numic split in Southern California before spreading north, northeast, and eastward into the Great Basin. Shaul (2014) presents many details about the Numic spread, suggesting SNum spread first and WNum last.

Takic (Tak) includes the UA languages of Southern California, less Tübatülabal (Tb) and Numic. Within Tak is a tighter **Cupan** (Cup) group—Luiseño (Ls), Cahuilla (Ca), and Cupeño (Cp). Serrano (Sr), Toŋva (Tŋ, formerly Gabrielino), Kitanemuk (Ktn) and other now extinct languages together with Cupan constitute the Tak branch. Tak shows a much greater diversity than Numic. The numbers between the Tak pairs range from 35 to 50 (except for Ca-Cp 65) vs. Numic's numbers (49-88).

Tübatulabal's (Tb) numbers with Num range from 35 to 42, with Tak they range from 34 to 40, and the Tb-Hp number is 38. So Tb appears to be about equidistant lexically to other branches of NUA.

Hopi (Hp), presently spoken in northern Arizona, holds a unique position in UA—unique as a single-language branch of NUA and as the only known UA tribe to participate in the Ancient Pueblo tradition, along with three other language families (Kiowa-Tanoan, Keresan, and Zuni). Hp has fairly equal distances with many SUA and NUA languages, giving Hp a unique and somewhat central place in UA.

Southern Uto-Aztecan (SUA) has 7 branches: Tepiman (Tep), Opatan (Opn), Tarahumaran (TrC), Cahitan (Cah), Tubar (Tbr), Corachol (CrC), and Aztecan (Azt), from Arizona to Nicaragua. In contrast to earlier views of a UA homeland in the north, hints of greater diversity in SUA areas surface regularly, bringing Manaster Ramer, Jane Hill, and myself to deem SUA areas as more likely prospects for the UA homeland. For example, all UA reflexes of PUA *kw are in the heart of SUA. Within miles of each other are Tep b, Opatan b, Cahitan bw, Tbr kw, and Tr w/b/ko (Stubbs 1995), while NUA reflects a nearly unanimous kw.

Tepiman (Tep) is unique phonologically (*kw > b, *c > s, *s > h, *y > d, *w > g) and shows numbers from 73-85 between Tep languages. The Tep branch includes Tohono O'odham (TO) in Arizona and Nevome (Nv) in Mexico, both of Upper Pima, while Lower Pima (LP) includes Pima de Yepachec (PYp) and Pima de Yécora (PYc). Tepehuan has Northern Tepehuan (NT) and Southeastern Tepehuan (ST) in western Mexico.

Tarahumaran (TrWr) includes the dialects of Tarahumara (Tr) and the dialects of Guarijio (Wr).
Opatan is the closely related pair of Eudeve (Eu) and Opata (Op) or Tewima/Tegwima (Shaul, p.c.).
Cahitan (Cah) has Yaqui (Yq), Arizona Yaqui (AYq), and Mayo (My), with Yq and My sharing 93 items.
Tubar (Tbr) is its own branch. These four small branches in the center of SUA diverge nicely in reflecting Proto-Uto-Aztecan *kw as Eu/Op *b, and Cahitan bw, and Tr/Wr *w, and Tbr kw.

Corachol (CrC) consists of Cora (Cr) and Huichol (Wc), showing a closer lexical relationship to each other (58) than to any other UA languages, and they form an earlier branch with Aztecan in sharing the innovations *p > h/ø and *u > ï > i, both of which are absent in all the rest of UA.

The **Aztecan** (Azt) branch consists of some 28 dialects related to Classical Nawatl. Cortina-Borja and Valiñas (1989) include nine in their classification study. Azt yields numbers of 30-40 with other SUA languages, but only teens to 20 with NUA languages, except 23-26 with Tb, Hp, and Ca.

Some characteristics of UA are different or not at all like Egyptian or Semitic, but reflect influences rather typical of Amerindian language families, which we would expect of a transplant from the Near East into the Americas. One example is suppletion in singular vs. plural verb forms. That is, one verb is used for singular subjects and an entirely different word is used when the subject is plural, yet suppletion is not a feature of Semitic or Egyptian. Several suppletive pairs in UA show such influences on UA. Semitic conjugation morphology (patterns of how verbs are conjugated) is not productive in UA, but many fossilized forms of both the suffixed / perfective conjugation (singular yašiba; plural yašib-uu) and the prefixed / imperfective conjugation (yi-/ya-ktub, ti-/ta-ktub, etc) are found in UA.

In contrast to differences, other grammatical features align and substantial amounts of Uto-Aztecan vocabulary produce consistent sets of sound correspondences between UA and the Near-Eastern languages. Linguists know that as a language changes, each sound remains or changes consistently to one other sound in the same language and environment, and this creates a set of sound correspondences between related languages. For example, among the consistent patterns of sound correspondences, some 40 examples show Hebrew b corresponding to p of Proto-Uto-Aztecan (PUA); i.e., Hebrew / Phoenician b > PUA *p (> means 'became' or 'changed to'; < means 'changed from'; * marks a proto-form or original sound or proto-word as reconstructed by linguists. So Hebrew b > PUA *p means Hebrew b changed to what linguists see as originally *p in UA). The matches presented are a few from among many more examples of each sound change, though abbreviated from the fuller data in the numbered paragraph sets from Stubbs 2023.

In language change, sounds are regularly lost: Latin fabulare > *fablar > Portuguese falar and Spanish hablar. We no longer pronounce the initial k- nor final -e in knife. Clusters of two consonants often reduce to one consonant, the first often being lost: in 'debt' the cluster -bt- lost -b-; -b- was also lost in Portuguese falar < *fablar; and the -l- in 'walk' and 'talk' is not pronounced. The first consonant is often absorbed to double the second: incomplete, but in-legal > illegal, and in-regular > irregular, and in-moral > immoral. The first consonant being absorbed to double the second can be seen in 44, 45, 47, 54, 63, 95, etc.

Semitic verbs usually consist of three consonants (bṣq, gdʕ) subject to various vowel patterns for verb conjugations, adjectives, and nouns. The small numbers in parentheses are those from the large work, *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan*, available free online at bmslr.org. (C = any consonant or unknown consonant; N = unknown nasal consonant n, m, or ŋ; V = any or unknown vowel; pronounce vowels as in Spanish, or see Appendix C for all pronunciation issues; the left column is generally Semitic or Hebrew, or sometimes Aramaic or Arabic forms are listed.)

5.1 The Semitic-p contribution in Uto-Aztecan

Semitic / Hebrew b	> Uto-Aztecan *p
1(527) baraq 'lightning'	> UA *pïrok; My berok 'lightning'
2(528) byt / bayit / beet 'house, spend the night'	> UA *pïtï; Tr bete 'house'; Num *payïC 'go home'
3(528) bytu 'spend the night, plural'	> UA *pïtu 'lie down, spend the night, plural'
4(531) Hebrew boo' 'coming (used as 'way to')	> UA *pooC 'road, way, path'
5(534) Hebrew batt 'daughter'	> UA *pattï 'daughter'
6(550) Aramaic bəsár 'flesh, penis'	> UA *pisa 'penis'
7(559) Semitic *baka^{y}; Syriac baka' 'cry'	> UA *paka' 'cry'

8(532) Arabic bṣr ‘see’; baaṣirat ‘eye’ = Hebrew *booṣer(et) > UA *pusi ‘eye’
9(535) Aramaic bəquuraa ‘livestock’ > UA *pukuN ‘domestic animals’
10(540) Hebrew bṭḫ / *baṭiiḫ ‘trust(ed)’ > UA *piciwa ‘believe’ (ṭ > c (=ts))
11(552) bṭn ‘be pregnant’ > UA *puca ‘pregnant’ (ṭ > c (=ts))
12(553) bṣq ‘swell’ > UA *posa ‘swell’
13(556) bayṣa(t) / beeṣa(t), pl: beeṣoot ‘egg, testicle’ > UA *pïyso ‘testicle’
14(558) bwṣ / byḍ ‘be white’; buuṣ ‘white linen’ > UA *pos ‘white’: Tb poosït~’opoos ‘be white’
15(562) -bbiiṭ ‘look’ > UA *pici / *pica ‘look, see’ (ṭ > c (=ts))

The other voiced stops also devoice, that is, Semitic b, d, g > UA p, t, k; also Semitic q > k:
16(606) Arabic dubur ‘buttocks, rear’ > UA *tupur ‘hip, buttocks’
17(607) Hebrew dobɛr ‘pasture, vegetation’ > UA *tupi ‘grass, vegetation’
18(1484) dwr / duur ‘go round, turn, revolve’ > UA *tur ‘whirl, roll, twist’
19(1103) dakka ‘make flat, stamp, crush’ > UA *takka ‘flat’
20(1279) Aramaic *yagar ‘hill, heap of stones’ > UA *yakaC / *yakaR (AMR) ‘nose, point, ridge’
21(608) Semitic/Hebrew gdʕ ‘cut off’ > UA *katu’ 'cut, wound'
22(57) Sem/Hebrew *siggoob ‘squirrel’ > UA *sikkuC ‘squirrel’
23(1014) Aramaic qədaal ‘neck, nape of neck’ > UA *kutaC ‘neck’ (*q > k)
24(1023) Sem tqn ‘make straight, set, lay down’ > UA *tïkaC ‘put lying down, stretched/spread flat’ (*q > k)
25(1089) Hebrew qippod ‘hedgehog’; Arabic *qunpuđ ‘hedgehog’ > UA *kïNpa ‘prairie dog’ (*q > k)
26(864) Sem/Hebrew *quuppoot ‘baskets, pl’ > UA *koppo ‘basket’ (*q > k)
27(74) Hebrew təbuu’at ‘produce from the land’ > UA *tïpï’at / *tïpat (AMR) ‘pinion nut’

Proto-Semitic *đ (> Arabic đ, **Aramaic d**, Hebrew z), corresponds to UA *t (note that UA t best matches Aramaic d (> t) and the vowelings also match Aramaic):
28(616) Aramaic dakar ‘male’ > UA *taka ‘man, person’
29(617) Aramaic diqn-aa ‘beard / chin-the’ > UA *tï’na ‘mouth’ (from Aramaic, not Hebrew zaaqaan)
30(618) Aramaic di’b-aa ‘wolf-the’ > UA *tï’pa ‘wolf’ (from Aramaic, not Hebrew hazzə’eb)
31(620) unattested f. pl: *đabboot(eeʸ) ‘flies’ > UA *tïpputi ‘flea’

Semitic ’aleph or glottal stop ’ > w in UA (which change also occurs in Arabic), or other times both a glottal stop and adjacent round vowels occur, perhaps ’ causing vowels to round (o, u):
32(566) ’ariy / ’arii ‘lion’ > UA *wari ‘mountain lion’
33(567) Hebrew ya’amiin-o ‘he believes him/it’ > UA *yawamin-(o) ‘believe (him/it)’
34(569) Hebrew ’egooz ‘nut tree’ > UA *wokoC ‘pine tree’ (C = unknown consonant)
35(571) Semitic ya’ya’ / yaa’ayaa’ ‘(be) beautiful’ > Ls yawáywa, Sr yï’aayï’a’n ‘be pretty, beautiful’
36(572) Hebrew ’iiš ‘man, person’ > UA *wïsi ‘person’
37(574) Hebrew ’išaa / ’ešɛt / **’išt-** ‘woman, wife of’ > UA *wïCti ‘woman, wife’ (C = unknown consonant)
38(577) ’aas- ‘myrtle willow’ > UA *wasV ‘willow’ (V = any/unknown vowel)
39(579) pa’r- ‘mouse’ > UA *pu’wi(N) ‘mouse’
40(581) Hebrew ’arṣ-aa ‘earth-ward, down’ > UA *wïcï ‘fall’ (c = ts)
41(575) kama’- ‘truffle(s)’ > UA *kamo’- ‘sweet potato’
(truffles are also edible fleshy appendages to a root system, as are potatoes)
42(596) ’arnab ‘hare’ > UA *wa’na ‘rabbit net’
43(576) ’ataʸ, *’atii-; Syriac ’ita / ’ɛta ‘come’ > UA *wic ‘come’ (t > c(ts) by high vowels like i, u)
44(871) ’pl / *tu’pal ‘be dark, go down (sun), f’ > UA *tu’pa > *cuppa ‘be dark, (fire) go out’ (t > c, by u)
45(872) ’pl / *yu’pal ‘be dark, go down, m’ > UA *yu’pa > *yuppa ‘be dark, black, (fire) go out’

46(873) ’pl / *yu’pal ‘be dark, go down, m’ > UA *yu’pa(l) > Aztecan *yowal, CN yowal-li ‘night, n’
Aztecan branch regularly loses a single -p-
47(1110) Aramaic ’ard-aa’ ‘mushroom-the’ > UA *witto’oC ‘mushroom’
48(1331) ’ikkaar ‘plowman, tiller of ground’ > UA *wika 'digging stick'
49(1333) Hebrew m’n / *me’’an ‘refuse’ > Hp meewan- ‘forbid, warn’

Semitic initial r- > t- in UA:
50(600) r’y / raa’aa ‘see, v’ > UA *tïwa ‘find, see’
51(603) Aramaic rima / rimə-taa ‘large stone-the’ > UA *tïmï-ta ‘rock’
52(604) Aramaic rə’emaan-aa / reemaan-aa ‘antelope-the’ > UA *tïmïna 'antelope’
53(99) rakb-u ‘they mounted, climbed’ > UA *tï’pu / *tïppu ‘climb up’
54(889) Aramaic rakb-aa / rikb-aa ‘upper millstone-the’ > UA *tïppa ‘mortar (and/or) pestle’

Loss of Semitic final -r, without effect on the preceding vowel:
55(565) makar ‘sell’ > UA *maka ‘give, sell’
28(616) dakar ‘male’ > UA *taka ‘man, person’
6(550) Aramaic bəsár ‘flesh, penis’ > UA *pisa ‘penis’
48(1331) ’ikkaar ‘plowman, tiller of ground’ > UA *wika 'digging stick'
20(1279) Aramaic *yagar ‘hill, heap of stones’ > UA *yakaC / *yakaR (AMR) ‘nose, point, ridge’

Semitic initial voiceless pharyngeal ħ > UA *hu, or w/o/u, and non-initially ħ > w/o/u:
56(672) ħbq ‘pass air, break wind’ > UA *hupak- ‘stink’ (*q > k)
57(673) ħnk ‘train, dedicate’; ħanukkaa ‘dedication, consecration’ > Ca huneke ‘to take an Indian bath’;
Yq húnak-te ‘show, direct, raise (young)’
58(671) ħmm ‘heat, bathe, wash’ > UA *huma ‘wash, bathe’
59(1040) ħml ‘carry, lift, pick up’ > UA *homa ‘take, carry, pick up’

The Semitic voiced pharyngeal ʕ > UA w/o/u, i.e., some form of rounding, as also the Phoenician symbol of ʕ became Greek *o* and English *o*:
60(677) ʕagol ‘round’ > UA *wakol 'round(ed)’
61(676) paqʕ- ‘whiteness, species of fungus’ > UA *pakuwa ‘mushroom, fungus’ (*q > k)
62(683) ʕmṭ ‘cloud over, become dark’ > UA *(w)umaC / *(w)ïmaC ‘rain, be cloudy / overcast’
63(686) ʕɛrwaa ‘nakedness, genitals’ > UA *wowa ‘vulva, vagina’
64(1197) Hebrew ʕaaqeeb ‘heel, footprint’ > UA *woki ‘track, footprint’ (*q > k)
65(747) Aramaic / Syriac ṣibʕ- ‘finger’ > UA *sipwa ‘finger’ (not voweled like Hebrew ’ɛṣbaʕ)
66(876) dʕk, impfv: -dʕok (< *-dʕuku) ‘(fire) go out’ > UA *tuku / *tuka/i 'fire go out, dark, black, night’
67(900) nʕm ‘be lovely, good, beautiful’ > UA *numa / *noma ‘good, well, pretty’
68(1289) šgʕ, Hebrew məšuggaʕ ‘raging, mad’ > Nawatl šiikoaa ‘be jealous, angry’
69(94)ršʕ ‘act wickedly, be guilty’ > UA *tasawa ‘be/do bad’

Many phonemes (sounds) remain much the same, such as t, k, p, s, m, n, etcetera:
70(52) Hebrew mukkɛ ‘smitten’ > UA *mukki ‘die, be sick, smitten’
71(769) *taqipa (sg), *taqipuu (pl) ‘overpower’ > UA *takipu ‘push’
72(750) tmh ‘in awe, fear, speechless’, Syriac təmah > UA tuma’ / tu’mï / tehmat / tïhmï ‘be silent, afraid’
73(755) Hebrew kutónet ‘shirt-like tunic’ > UA *kutun ‘shirt’
74(754) Hebrew participle pone ‘turn to, look’ > UA *puni ‘turn, look, see’
75(851) Hebrew panaa-w ‘face-his’ > UA *pana ‘cheek, face’
76(852) pl construct panee^{y}- (< *panii) ‘face, surface of’ > UA *pani 'on, on surface of’

77(1339) šippaa ‘make smooth’ > UA *sipa / *sippa ‘scrape, shave’
78(56) šɛkɛm / šikm-, Samaritan šekam ‘shoulder’ > UA *sïka ‘shoulder, arm’, Numic *sikum ‘shoulder’
79(563) sapat ‘lip’ > UA *sapal ‘lip’
80(879) šwy / šawaa ‘broil, roast’ > UA *sawa ‘boil, apply heat, melt'
81(1138) Hebrew šor ‘navel’; Arabic surr ‘navel cord’ > Sr ṣuur ‘navel’
82(13) snw ‘shine, be beautiful’ > Hopi soniwa ‘be beautiful, bright, brilliant, handsome’
83(890) kann ‘shelter, house, nest’ > UA *kanni (NUA) ‘house’ > *kali (SUA) ‘house’
84(903) khh, kehah ‘be inexpressive, disheartened’ > UA -kïhahï- ‘sad’
85(1045) Hebrew *moškat ‘bracelet, fetter, belt’ > Tb mohkat-t ‘belt’
86(1105) kali / kulyaa ‘kidney’ > UA *kali ‘kidney’
87(1409) Aramaic kuuky-aa’ ‘spider-the’ > UA *kuukyaw ‘spider’; Hopi kòokyaŋw ‘spider’

Semitic emphatic or pharyngealized ṣ > s in UA:
88(892) Arabic ṣanawbar ‘type of pine tree’ > UA *sanawaC > Sh sanawap-pin ‘pine tree’
89(901) Sem ṣb’ / ṣby / ṣəbee ‘wish, want, seek, delight in’ > UA *supiC ‘like, want’
90(1173) Sem mwṣ ‘suck’ > UA *mos ‘suck’
91(1350) Sem ṣd’ / ṣdi ‘grow rusty’ > UA *sïta / *sïti ‘red’

Semitic emphatic or pharyngealized ṭ > c (ts):
92(770) ṭwy / ṭawaa ‘spin (thread)’ > Nawatl cawa ‘spin’
93(771) ṭʕm ‘taste, eat’ (plural participle ṭoʕmiim) > UA *cu’mi 'suck, sip, kiss'
94(772) ṭame’ ‘(be) unclean’, ṭum’a(t) ‘uncleanness, filthy mass’ > UA *co’ma ‘mucus, have a cold’
95(832) *sarṭoon ‘scratcher, crab’ > UA *saCtun >*sicu/*suttu ‘claw, fingernail, crab, scratch’
Sometimes the c (ts) lenites (weakens) one more step to s:
96(778) ṭibbuur ‘navel’ > NP sibudu; Cr sipu; Hp sipna / sivon- ‘navel’

The Semitic-p distinguishes x from ẖ, as in pre-exilic Hebrew, thus Semitic *x > UA k:
97(1088) *xld ‘burrow’, xuld / *xild-aa’ ‘mole-the’ > UA *kita ‘groundhog’
98(630) *xole ‘be sick, hurting’ > UA *koli ‘to hurt, be sick’
99(631) xmr ‘to ferment’; *xamar ‘wine’; Arabic ximiir ‘drunkard’ > UA *kamaC 'drunk'
100(632) *xnk ‘put around the neck’ > UA konaka ‘necklace, string of beads’
101(634) *xaṣr- > xaṣṣ ‘hip, haunch, loins’ > UA kaca ‘hip’

Clusters like -m’-, -’m-, -qm-, that is, m clustered with either ’ or q became ŋ in Northern UA, n in SUA:
102(1246) Old Canaanite sim’al ‘left’, *ha-sim’al ‘the-left’ > Tb aašiŋan ‘left side’ (l > n in NUA)
103(1012) šeqma(t) / šiqma(t) ‘sycamore tree’ > UA *sïŋŋa(C) 'cottonwood or aspen tree’
104(1144) ’lm ‘be grieved’ > Hebrew ’almaanaa ‘widow’ > UA *o’mana / *oŋani ‘sad, suffering’
Clusters with -r- as 2nd consonant show -Cr- > -Cy-, especially -gr-, -qr- > -ky-, or -gra / -qra > Hopi -kya:
105(1130) Aramaic pagr-aa ‘corpse-the’ > Hopi pïïkya ‘skin, fur’
106(1403) Syriac šigr-aa ‘drain, ditch-the’ > Hopi sikya ‘small valley, ravine, canyon with sloped sides’
107(1405) šqr ‘fair, yellow to red’, Arabic šuqra ‘fair complexion, blondness, redness’ > Hopi sikyà ‘yellow’
108(743) Aramaic tuumr-aa ‘palm tree-the’ > UA *tu’ya ‘palm tree, sp’
Proto-Semitic *z > c (ts) in UA:
109(1116) Hebrew zɛ́pɛt (< *zipt-) / zaapet ‘pitch’ > UA *copï ‘pitch, resin’
110(87) Arabic ʕgz / ʕagaza ‘to age, grow old (of women)’ > Tr wegaca- 'grow old (of women)’

5.2 The Egyptian Infusion into Uto-Aztecan

Egyptian terms in UA exceed 400 and have the same sound correspondences as the Semitic-p data. Here we list one-fourth of the Egyptian terms. Egyptian writing did not include vowels, only the consonants. Sometimes the vowels are hinted at in transcriptions from other ancient Near-East languages, or from Egyptian's descendants like Demotic and Coptic, but often only the consonants are certain. Sometimes Coptic is simply listed for hints at vowels or to show Uto-Aztecan's better preserving Egyptian sounds:

Egyptian	Uto-Aztecan
111(116) -i 'old perfective/stative verb suffix'	> UA -i 'intransitive / past / passive/ stative verb suffix'

The stative of Old Egyptian 3rd person verbs ended with -i and perfectly matches UA *-a/-i 'vowel alternation on the end of verbs of UA *-a 'transitive, active' and *-i 'intransitive, passive, stative':
Cr -i 'stative suffix'; Yq -i 'stative suffix';
Wc sana 'break' vs. Wc sani 'broken';
Wr co'a 'put out fire' vs. Wr co'i 'be no fire';
Wr wela 'put upright/standing' vs. Wr weri 'be upright/standing';
Tr mana 'put, place, set' vs. Tr mani 'be (in/at a place), exist';
Tr bi'wá 'clean it' vs. Tr bi'wí 'be(come) clean';
CN tla-tema 'fill, place s.th.' vs. CN temi 'be full, be lying down';
CN tla-kotona 'break s.th.' vs. CN kotoni 'be broken';
CN tla-mana 'put s.th. on the floor' vs. CN mani 'be stretched out, extended';
Tbr towa 'leave s.th. behind, vt' vs. Tbr towi/tovi 'stay, remain, vi'.

Egyptian	Uto-Aztecan
112(117) -w / -iw 'passive verb suffix'	> UA -wa / -iwa 'passive verb suffix'
113(115) sbk / *subak 'crocodile'	> UA *supak / *sipak 'crocodile' (b > p)
114(124) tks 'pierce'	> UA *tïkso 'pierce, poke'
115(125) km 'black'	> UA *koma 'dark, gray, brown, black'
116(126) nmi 'travel, traverse'	> UA *nïmi 'walk around'
117(129) wnš, pl wnšiw 'jackal'	> UA *wancio / woncia 'fox' (-ns- > -nc- as in sense/cents)
118(131) šm 'go, walk, set out, leave'	> UA *sima 'go, leave'
119(219) iqr 'skillful, excellent, capable, intelligent'	> UA *yikar 'knowing, intelligent, able, good'
120(221) wr 'great (in size/importance), wrw 'greatest'	> UA *wïru 'big'
121(222) wnx 'be clothed, roll of cloth'	> UA *wanaC 'cloth, clothing'
122(136) win 'thrust aside, push away, set aside'	> UA *wina 'throw down/out, spill, empty'
123(253) spd 'sharp, be sharp pointed'	> UA *sipaC 'point'
124(255) sqd 'slope (of pyramid)'	> UA *sikiC 'slanted (terrain), side' (q > k)
125(210) twt 'sandal(s)'	> UA *tuti 'sandal(s)'
126(339) t'-ħimat 'the-wife'; Coptic hime	> UA *tïhima 'spouse'

Note again Egyptian b > UA p, as in the Semitic-p data:

127(132) sbq 'calf of leg'	> UA *sipika 'lower leg'	(b > p)
128(133) sbty 'enclosure'	> UA *sapti 'fence of branches'	(b > p)
129(134) qbb 'cool; calm, quiet, cool breeze'	> UA *koppa 'quiet, calm'	(b > p)
130(137) bbyt 'region of throat'	> UA *papi 'larynx, throat, voice'	(b > p)
131(138) bši 'spit, vomit', bšw 'vomit, vomiting'	> UA *piso-(ta) 'vomit'	(b > p)
132(139) bnty 'breast'	> UA *pitti / *piCti 'breast'	(b > p)

133(141) bit ‘bee’ > UA *pitV > *picV ‘bee, wasp’ (b > p)
134(142) bik ‘falcon’ > UA *pik ‘hawk species’ (b > p)
135(154) sb’ ‘star’ > UA *sipo’ > *si’po ‘star’ (b > p)

Also Egyptian x > UA *k, as in the Semitic-p data:
136(170) txi ‘be drunk, drink deep’, txw ‘drunkard’ > UA *tïku 'drunk’
137(294) xpš ‘foreleg, thigh’ > UA *kapsi ‘thigh’
138(295) xpd ‘buttock’ > UA *kupta ‘buttocks’
139(295) xpdw ‘buttocks’ > UA *kupitu ‘buttocks’
140(171) sxn / zxn ‘kidney fat, pancreas’ > UA *sikun ‘kidney’
141(174) sxt ‘field, country, pasture, willow’ > UA *sakat / *sakaC ‘grass, willow’
142(178) x’yt / h̲’yt ‘disease, slaughter, corpse-heap’ > UA *ko’ya ‘die, pl subj; kill, pl obj’
143(247) xr ‘fall’ > UA *kuri ‘fall’, UA *kara ‘fall’
144(320) xpx ‘rob’ > UA *kïpïk ‘take, grasp’
145(224) wxd ‘be painful, sick, suffer, endure’ > UA *okotï ‘be in pain, suffer, sorrow’
146(452) xt ‘fire, heat’ > UA *kut ‘fire’

Egyptian initial pharyngeal ḫ > UA *hu, and non-initially ḫ > w/o/u, as in Semitic forms in UA:
147(180) ḫbi ‘be / make festival’ > UA *hupiya ‘sing, song’
148(181) ḫnqt ‘beer, drinkers’ > UA *hunaka ‘drunk, alcohol’
149(182) ḫtp / hotpe ‘be gracious, peaceable, set (sun), bury’ > UA *huppi ‘peaceable, go down, sink, dive’
150(187) ḫw’ ‘foul, putrid, stink, vi’ > UA *hu’a / *hu’i ‘break wind, stink’
151(188) nḫbt ‘nape of the neck, to yoke’ > UA *nohopi > nopi ‘hand, arm’ (slid down like others)
152(189) nḫb ‘to harness, yoke’ > UA *noopi ‘carry on back’
153(397) ḫti ‘smoke, vapor’ > UA *uti ‘dew, vapor, frost’
154(415) ḫnn ‘penis’ > UA *huna ‘penis’

Egyptian glottal stop ’ > w, or glottal stop next to round vowels (o, u), as also in Semitic-p:
155(147) m’i ‘lion’; Coptic mui > UA *mawiya ‘mountain lion’
156(205) t̲’y ‘male, man’ > UA *tawa / *tawi > *tïwi ‘man, male’
157(322) q’i ‘tall, high’; q’yt ‘high land, hill’ > UA *kawi ‘mountain, rock’
158(515) ’xi ‘sweep together’ > UA *wak / *wok ‘sweep, comb, brush’
159(150) t’ ‘earth, land’; Coptic to > UA *tïwa / *to’o ‘sand, dust’
160(151) i’w ‘old man’; i’wi ‘be aged’ > UA *yo’o ‘old’
161(153) s’ ‘son’ > UA *so’o ‘child, son’
162(259) st̲’ ‘jar, jug’ > UA *soto’i ‘jar’
163(258) st̲’ ‘drag, pull, pull out, draw’ > UA *(piC)-sutu’a ‘(behind)-pull, drag’
135(154) sb’ ‘star’ > UA *sipo’ > *si’po ‘star’
164(157) it̲’ ‘take, carry, steal’ > UA *itu’i > i’tu ‘steal, take’
165(159) t̲’w ‘take, gather, carry’ > UA *tï’wi / *tu’wi ‘to gather seeds, harvest’
166(370) ḫ’ ‘behind, around’ > UA *huwï ‘around’
167(431) b’k / b’kt ‘document, writing’ > UA *po’ok ‘mark, write, tattoo’ (b > p)
168(148) t’yt ‘shroud’ > UA *tawayi ‘cape-like garment’
169(198) d̲’rt ‘bitter gourd’ > UA *sawara 'gourd'

Egyptian ḏ corresponds to Semitic ṣ, and thus Egyptian ḏ > UA *s, like Semitic-p ṣ > UA *s also:

170(200) ḏbt / *ḏubat ‘brick, adobe brick’ > UA *supa ‘adobe’
171(199) ḏb’ ‘to clothe, garment, clothing’ > UA *sipu’ > *si’pu ‘slip, skirt, shirt, clothing’
169(198) ḏ’rt ‘bitter gourd’ > UA *sawara 'gourd'
172(197) ḏʕb ‘coal-black’, ḏʕbt ‘charcoal’ > UA *so’opa ‘black, dark’
173(194) ḏ’i ‘pierce, transfix’ > UA *so’a/*so’i 'pierce, sew, shoot arrow'
174(390) ḏwt ‘mosquito, gnat’ > UA *suti ‘mosquito, gnat’

Egyptian initial r- > UA t-, as in Semitic-p, though Tarahumara retains r-:

175(164) rn ‘young one, of animals’ > UA *tana ‘offspring’
176(165) rwi ‘dance, v’ > UA *tawiya / *tuwiya > *tuya ‘dance’
177(169) rmṯ ‘man, person’ > UA *tïmati ‘young man’: Tr ŕemarí, Eu temáci-
178(167) rwḏ ‘cord, bow-string’ > UA *tïsa ‘rope’
179(337) r’-ib ‘stomach’ > NUA *to’i ‘stomach’ / SUA *toCpa ‘stomach’
180(508) rmn ‘side, row of rowers’ > UA *taman ‘tooth’ (animal jawbone of teeth on the ground looks like two rows; this is not a match of meanings, but the change is traceable)

Egyptian pharyngeal ʕ > UA *w/o/u:

181(163) rʕ / rʕw ‘sun’ > UA *tawa / *tawi ‘sun, day’
182(162) šʕy ‘sand’; Coptic šoo > UA *siwa(l) ‘sand’
183(262) ʕnt ‘nail, claw’ > UA *wati 'claw, fingernail'
184(400) sʕr ‘thorn bush(es)’ > UA *sawaro ‘saguaro cactus'
185(426) ʕnr(t) ‘flint’ > UA *wi’naC ‘flint’
186(464) ʕq ‘enter’ > UA *waka/u ‘enter’
187(475) sw ‘it, pronoun’ (is) p’ʕt ‘quail’ > UA *supa’awi ‘quail’

Like the devoicing of Egyptian b > UA *p, so also is the devoicing of Egyptian d > UA *t, and g > *k:

188(268) dwn ‘stretch, straighten; Coptic town > UA *tuna ‘straight’
189(269) dqr ‘fruit’ (> Coptic tiče / jiji) > UA *taka(C) ‘fruit’
190(270) dbḫ ‘ask for’ (Coptic toobh) > UA *tïpiwa / *tïpiN 'ask'
191(271) dm ‘be sharp, sharpen’; Coptic toom > UA *tama / *tomo ‘be sharp, sharpen’
192(272) dmi (dmr) ‘touch’ > UA *tam ‘touch’
193(273) dw’ ‘rise early’; dw’w / dw’yt ‘morning’; Coptic to’we > UA *to’i ‘rise, come up/out’
194(395) ngg ‘gander/male goose’ > *nakï 'goose' (devoicing of g > k)

Egyptian cluster *-m’- > UA *mw > ŋ in 3 items widespread throughout UA, as in Semitic -m’- > -ŋ- (102):

195(280) ḫm’ / ḫm’t ‘salt’ (> Coptic hmu) > UA *omwa > *oŋwa / *oŋa ‘salt’
196(281) sm’ ‘lung’; pl: sm’w ‘lungs’ > UA *somwo > *soŋo ‘lungs’
197(284) qm’ ‘create, beget (of father)’ > UA *kumwa > *kuŋa ‘husband’ (q > k)

Other clusters and parallels:

198(332) qrḫt ‘serpent, partner’ (*qarḫat >) > UA *koŋwa ‘snake, twin’ (q > k)
199(384) inqt ‘net’ > UA *ikkaC / *iCkaC ‘carrying net’ (q > k)
200(391) ishb ‘jackal, fox’ > UA *isap / *isa’apa ‘coyote’
201(398) k’p ‘cover, close (eyebrows/eyelids) > UA *kuppa / *kuCpa 'close (eyes)’
202(434) g’p ‘cut’ > UA *kappi 'break, cut' (devoicing g > k)
203(381) wrt ḫq’w ‘buzzard’ > UA *wirhukuN 'buzzard, turkey vulture'
204(404) ḫ’dt ‘basket’ > UA *huCta ‘basket’

205(426) ʕnr(t) ‘flint’ > UA *wi’naC ‘flint’
206(264) šmrt ‘large bow’, pl šmrwt > -samaaloo-t of Nawatl koo-samaaloo-tl ‘rainbow’
207(267) twr ‘reed’ > Nawatl tool-in ‘cattails, reeds’;
208(266) šnw / šni ‘hair, grass’; šni ‘encircle, cover’ > UA *soni / *sono ‘grass, blanket’
209(331) qny ‘be yellow’; qnit ‘yellow(ness)’ > Cp kenekene’e- ‘yellow’ (q > k)
210(333) qd ‘go round, turn, spin’ (> Coptic koote) > UA *koti / *kuri ‘turn, go around’ (q > k)
211(446) qm’ ‘fight’; qm’tyw ‘enemies’ > UA *kïma’a / *kïmma(n)ci ‘different, enemy’ (q > k)
212(409) nk ‘copulate’ > UA *naka ‘copulate, cover’
213(468) ’wt ‘length’ > UA *otï / *utu / *uta ‘long, tall’
214(470) t’-imnti ‘the-west’ > UA *tïmïnïmïn ‘north, west’ (reduplicated)
215(519) wpi ‘open, separate, divide’ > UA *wopa ‘divide’

The above Egyptian-UA matches are less than 25% of the 430+ listed in the Egyptian in Stubbs 2023. If the Egyptian phrasing in UA is reduced as much as many Egyptian phrases are reduced in later Coptic, then such identifications would be a challenge (if even possible), requiring time, not to mention requiring a greater depth of knowledge of UA languages and Egyptian than yet exists in any single mind. Many living languages reduce as drastically. In American English, one often hears ‘hwəjədu?’ for ‘what did you do?’ Therein -j- is the phonological reduction of the final -t of ‘what’, the whole of ‘did’, and the y- of ‘you’—some of 3 words (-t did y-) reduced to one consonant (-j-).

Often as drastic were Egyptian changes to Coptic: Egyptian *iwr-ti* > Coptic εετ (eet) ‘pregnant’ (Loprieno 1995, 78); the *i/y* is not obvious, nor *w* or *r*. Practically nothing of the stem ‘pregnant’ (iwr) is left, only a long vowel and the t of the stative suffix. Egyptian *r-di.t iri.f sḏm* > Coptic *e-t-ref sotem* ‘to cause that he may do hearing’—a reduction of 8 consonants (*r-di.t iri.f*) to (*etref*) 3 consonants and 2 vowels (Cerny and Groll 1993, 155), though 3 of the original 8 consonants are vowel-like or semi-vowels. Egyptian *tw.i m nʕy r sḏm* ‘I am in going to hear’ (= I shall hear) became Coptic *tinasotm*, or *tw.i m nʕy r* > *tina* (Cerny 1976, 104), 8 segments (sounds) to 4. Adding to the challenge is that the time depth from Late Egyptian to Coptic is half the probable time depth in this problem. If UA is partially from Egyptian, the Egyptian in the UA languages is now being recorded at a time depth a millennium or two greater than the time depth between Late Egyptian and Coptic. Yet UA preserves many vowels and details better than Coptic does.

Significantly, these data explain many things previously unexplained in UA. The phonology of medial (middle) consonant clusters is a huge problem in UA, yet Semitic and Egyptian shed light on many of those clusters and explain the mutual effect of adjacent consonants on each other. For example, 216(614) makteš ‘mortar, grinding stone’ > UA *ma’ta ‘mortar, grinding stone’ is in most of UA, including Nawatl meta-te, but the noun made verb Ca mataš (< *mattaš) ‘crush, squash, vt’ shows final -š and medial geminated *-tt-, because a single *-t- > -l- in Cahuilla, assuring that a cluster (-kt-) underlies -tt-.

Second, Uto-Aztecanists agree on each UA language’s reflex that corresponds to PUA *p. (A language’s reflex is its corresponding sound which the proto-sound changed to.) However, five UA languages—Tarahumara, Mayo, Yaqui, Arizona Yaqui, and Eudeve—show both initial b and p corresponding to PUA *p. This split is usually ignored as an inconvenient inconsistency in these languages. However, the initial b forms in these languages correspond to Egyptian b or Semitic b of Semitic-p, and the initial p forms to Semitic/Egyptian p. How can such an alignment be coincidental? For the various UA forms of b vs. p to match Semitic/Egyptian b vs. p is significant (at 6.2 in Stubbs 2023).

Third, PUA initial *t (at the beginning of words) corresponds to the initial t of most UA languages, except for Tarahumara initial r. So if PUA *t became Tarahumara r, then where does Tarahumara initial t come from? The book’s data suggest that Semitic/Egyptian initial r became UA t, so in most UA languages initial r and initial t merged to look like PUA *t, but Tarahumara kept them separate. Thus, 6.1 (in Stubbs 2023) clarifies the Tarahumara r vs. t puzzle.

Five other matters in UA at 6.3, 6.4, 6.5, 6.6, and 6.7 in Stubbs (2015 / 2023) are also explained by the Near-East language ties.

Many UA features match reconstructed Hebrew / Phoenician better than they match other Semitic languages:

	Uto-Aztecan		original Hebrew	Arabic	Aramaic	Akkadian
217(1)	***-ima** (pl suffix)	Semitic masc pl:	***-iima**	-uuna/-iina	-iin	-uu
218(904)	***-te** (pl suffix)	Semitic fem pl:	***-ooteey**	-aat	-aat	-aat
219(2)	***na-**	reciprocal/passive:	***na-**	in-	--	
220(3)	***yasipa**	'sit / dwell'	***yašiba**	waθaba	yəθeb	

The Semitic in UA is much more than the Semitic in Yiddish, the German-based language of the Jewish peoples of Central Europe. UA and Yiddish are both Semitic infusions into non-Semitic areas, where each (as a minority people) borrowed heavily from the languages of the larger surrounding peoples. Nevertheless, while the details of UA's prehistory and grammar may yet require lifetimes to unlock, UA has a higher percentage of its basic vocabulary from Near-Eastern languages than Yiddish has. For example, Yiddish pronouns are all from German, whereas most UA pronouns match Semitic (section 3 in Stubbs 2023). Most Yiddish body-part terms are from German—kop (head), oig (eye), oi'er (ear), hant (hand), hartz (heart), k'nee (knee), fus (foot), etcetera—while a higher percentage of UA body-part terms, animal terms, and basic nouns of nature match Semitic or Egyptian (7.1 in Stubbs 2023).

Another parallel is that both Yiddish and UA have their Semitic vocabulary fixed into a foreign grammar. Just as the limited Semitic vocabulary in Yiddish is set into a German-like grammar, so is UA's Near-East vocabulary set into a non-Semitic grammar.

Let us next consider the language of the Mulekiyyiim as evident in UA.

Chapter Six

Alma's Language after the Nephites and Mulekites Mix

Both the Semitic-p and Egyptian parallels with UA in the preceding chapter have the same sound correspondences, apparently spoken or used by one group or the same people. However, in contrast to those two, a separate sizable set of data suggest another contributing Semitic dialect / language, having a different set of sound correspondences in which Semitic b > UA *kw (like Greek p corresponds to Latin kw), though the Tepiman branch of UA, and Eudeve, Opata, and some dialects of Nawatl actually have b (from Semitic b), and those b correspond to PUA *kw (< Semitic b in dageshed positions). The data of the Semitic-kw language infusion into UA are what I noticed first, and because the Hebrew b > *p group were exceptions to those correspondences that I noticed first, I ignored them for years, but kept them in the back of my mind (not a safe place), in case an explanation arose later, and it did. For I later noticed Egyptian similarities (in UA) whose sound correspondences with UA aligned with those exceptions, that is, Egyptian b > PUA *p also, as well as many other examples of Semitic b > PUA *p. Not until then did it occur to me that we have two separate Semitic entities that merged in UA—a Phoenician-like Semitic-kw where Semitic b > UA *kw, and an Aramaic-like Semitic-p in which Semitic b > UA p. Furthermore, the Semitic-p speakers seemed to know some Egyptian as well. The data show the two Semitic infusions (Semitic-p and Semitic-kw) to have separate sets of sound correspondences for other phonemes (basic sounds) as well.

In Book of Mormon terms, the Egyptian and Semitic-p fit expectations for Lehi's language, while Semitic-kw is likely the Mulekiyyiim contribution to the merger. That means the language of the Nephiyyiim changed dramatically after combining with the Mulekiyyiim, the resulting mixture being about ¾ of Nephi and ¼ of Mulek. Grammatical changes likely occurred also. In fact, as the Mulekiyyiim were the majority (Mosiah 25:2), their grammar may have had more effect, as grammar is largely subconscious and almost beyond control of those who wish to control it (Appendix B: Subconscious Mind's Role in Language).

6.1 Semitic-kw or the Mulekite Contribution

Below are some data and sound correspondences from Mulekite Phoenician-like Semitic-kw, wherein Semitic b > UA *kw (that is, Semitic b became UA *kw), and r > y:

221(4) Hebrew baašel 'boiled, cook, ripen' > UA *kwasïC 'cook, ripen'
222(5) Hebrew bááśaar 'flesh, penis' > UA *kwasi 'tail, penis, flesh' (r > y/i)
223(6) Hebrew baalaʕ 'swallow' > UA *kwïluC 'swallow'
224(7) Semitic *bahamat 'back' > UA *kwahami 'back'
225(24) bky / bakaaʸ 'cry' > UA *kwïkï 'cry' (from Semitic-kw)
226(19) barr- 'land (as opposed to sea)' > UA *kwiya / *kwira 'earth' (r > y/i)
227(27) brm 'worn out, weary, bored with' > UA *kwiyam 'be lazy, do lackadaisically' (r > y/i)
228(1457) Arabic ṣabba 'pour, drip, overflow' > UA *cikwa 'rain
229(11) Hebrew -dabber 'speak' > UA *tïkwi 'say, talk, speak' (r > y/i)
230(26) Hebrew bɛn 'son'; pl: bənee^{y} 'children (of)' > Nawatl *konee 'child, offspring' (bə/bV > kwV > ko)

As in all 3 languages, the voiced pharyngeal ʕ > w/o/u:

231(88) ʕlq 'stick, adhere', ʕalaqat 'leech' > UA *walaka 'snail' (of similar slimy adhering texture)
232(89) śeeʕaar 'hair'; Arabic šaʕr / šaʕar 'hair' > UA *suwi 'body hair' (r > y/i)
233(92) yáʕar 'wood, forest, thicket' > UA *yuwi / yuyi 'evergreen species' (r > y/i)

Semitic-kw non-initial -r- > -y-/-i- (also in many above); -r- tends to raise & front preceding vowels (V > i):
234(62) srq / saraq ‘to comb’ > UA *siyuk / *ciyuk ‘to comb’ (-r- > -y-/-i-)
235(65) mrr ‘pass, go, walk’ > UA *miya ‘go’ (-r- > -y-/-i-)
236(64) Semitic krr / krkr ‘go in circles, dance’ > SP kiya ‘have a round dance’ (-r- > -y-/-i-)
227(19) barr- ‘land (as opposed to sea)’ > UA *kwiya / *kwira 'earth' (-r- > -y-/-i-)
228(27) brm / baram ‘worn out, weary, bored with’ > UA *kwiyam ‘be lazy, do lackadaisically’ (-r- > -y-/-i-)
237(79) Hebrew ħmr ‘cover with, smear on’ > UA *humay ‘smear, spread, rub, paint’ (-r- > -y-/-i-)
238(81) Hebrew ħabéret ‘wife’ > UA *hupi 'woman, wife' (-r- > -y-/-i-)

As in the Egyptian and Semitic-p contributions, so also in Semitic-kw we see ħ > hu or w/o/u:
239(78) Hebrew ħeṣ ‘arrow’ > UA *huc ‘arrow’
237(79) Hebrew ħmr ‘cover with, smear on’ > UA *humay ‘smear, spread, rub, paint’ (r > y/i)
240(80) Hebrew ħpp ‘to rub off, wash’ > UA *up(p)a 'bathe, wash, rub’
238(81) Hebrew ħabéret ‘wife’ > UA *hupi 'woman, wife' (r > y/i)
241(82) Hebrew ħzy / ħazaa ‘see, behold, look’ > UA *husi / *h^{w}asi ‘look, peek at’
242(658) ħbl ‘bind’, *-ħabbil ‘bind’ > NUA *wïkkwiN- ‘wrap around, coil’
243(853) Aramaic ħippušit-aa ‘beetle-the’; Arabic *xunpus > UA *wippusi ‘beetle’ (-np- > -pp- in both Aramaic and UA). In the next section are 3 more examples (244-246) of ħ > w/o.

Semitic-kw ṣ > UA c (ts):
244(83) Hebrew ṣrħ ‘cry, roar’ > UA *cayaw ‘yell’
245(84) Hebrew ṣmħ, imperfective: yi-ṣmaħ ‘sprout’ > UA *icmo ‘sprout’
246(85) Hebrew ṣlħ ‘rush, v’ > UA *coloa ‘flee, run’
247(899) ṣinw-, pl aṣnaa’ ‘twin, one twin’ > UA *cono’o 'twin(s)'
248(29) ṣəbii > ṣəvii ‘gazelle’ > Hopi cöövi- ‘antelope’
249(86) ṣʕq ‘shout, call out, cry (out)’, ṣəʕaaqaa ‘yell, call, n’ > UA *coaka ‘cry’
250(28) ṣurṣur ‘cricket’ > UA *corcor ‘cricket’
239(78) Hebrew ħeṣ ‘arrow’ > UA *huc ‘arrow’

Unlike its associated rounding in Semitic-p, the Semitic-kw glottal stop ’ is not rounded and is often lost:
251(991) Hebrew ni-qra’ ‘he/it is called/named’ > UA *nihya ‘call, name’
252(587) ’argaamaan ‘purple, red-purple’ > UA *aNkaC ‘red’
253(1214) Hebrew mee-’ayn ‘from where?’ > Tb maa’ayn ‘where from’
254(1055) ’aamaqqət-aa ‘lizard-the, n.f.’ > UA *makkaCta(Nka) ‘horned toad’
255(591) ’adaamaa / ’^{a}daamaa ‘earth’ > UA *tïma ‘earth’
256(592) Hebrew ’abneṭ, pl: ’abneṭ-iim ‘sash, girdle’ > UA *natti ‘belt’
257(1054) raqbubit ‘moth, decayed, moth-eaten’ > UA *…kupïpika / *(C)Vkupïpika 'butterfly'

Semitic-kw final or non-initial -l also tends to raise and front vowels (V > e, i):
258(1225) Hebrew ’abaal ‘truly, indeed’ > Tr abe ‘yes, an emphatic’
259(54) Hebrew taapel ‘whitewash’; Aramaic ṭəpel ‘plaster’ > UA *tïpi ‘white clay’
260(1321) Hebrew ħargol, Arabic *ħargal / *ħurgul ‘locust’ > Tr urugi-pari ‘type of grasshopper’
261(798) Hebrew ’akal ‘(he/it) ate’ (perfective) > UA *’aki ‘open mouth, eat, take/put into one’s mouth’
262(797) Hebrew *yo’kal ‘(he/it) eats’ (imperfective) > UA *yï’ïki 'swallow, taste, finish'
263(796) Hebrew *to’kal ‘(she/it) eats’ > UA *tukkaC > Num *tïkkaC 'eat'
Numbers 261 and 262 (-l raising -a- > -i-) are in contrast to 263 Semitic-p *tukkaC wherein final -l has no vowel-raising effect, as also final -r in Semitic-p has no vowel-raising effect—a consistency in Semitic-p.

Semitic-kw shows doubled *-bb- > UA *-kw-:
228(1457) Arabic ṣabba ‘pour, drip, overflow’ > UA *cikwa ‘rain
229(11) Hebrew -dabber ‘speak’ > UA *tïkwi ‘say, talk, speak’ (r > y/i)
242(658) ḫbl ‘bind’, *-ḫabbil ‘bind’ > NUA *wïkkwiN- ‘wrap around, coil’

Semitic-p shows doubled *-bb- > UA *-pp-:
31(620) unattested f. pl: *đabboot(ee^{y}) ‘flies’ > UA *tïpputi ‘flea’
264(80) Hebrew ḫbb ‘rub off, wash’ > UA *uppa ‘bathe, wash, rub’
15(562) Hebrew ya-/hi-bbiiṭ ‘look’ > UA *pici ‘see’

6.2 Fossilized Verb Conjugations

A considerable amount of Semitic morphology or fossilized items of Semitic verb conjugations are found in UA. Below are 3 groups among others in *Exploring* (Stubbs 2023).

265(1420) Semitic nwr ‘to make/become light’ with infinitive and imperfective: -nuur(u), and perfective naar: and UA has both in Eu nurú ‘to dawn, become light’ and Tbr nare ‘to dawn, become light’

Uto-Aztecan has four separate forms from the verb bky /bakaa ‘to cry, weep’:
7(559) Semitic-p bky / *baka^{y}; Syriac bakaa / baka’ ‘cry’ > UA *paka’ ‘cry’
225(24) Semitic-kw bky / baka^{y} ‘cry’ > UA *kwïkï ‘cry’
Because bilabials as first segment in a cluster disappear (-bk- > -k-) in Egyptian/Semitic to UA, the imperfective 3rd person masculine singular *ya-bkay ‘he weeps’ and 3rd fem sg *ta-bkay with imperfective prefixes originally *ya- / *ta- also match UA *yakka and UA *takka:
266(560) Semitic *ya-bka^{y} ‘he/it weeps, cries, masculine sg.’ > UA *yaCkaC > *yakka / *yaka ‘cry’
267(561) Semitic *ta-bka^{y} ‘she/it weeps, cries, femenine sg.’ > UA *takka > NP taka ‘cry’.

So Northern Paiute has both the masc 3rd sg of *ya-bka > yakka and the fem sg *ta-bka > UA *takka ‘cry’ (the middle consonant geminates/doubles in both as well). UA also has the perfective stem in Aramaic baka^{y} / baka’ ‘cry’ > UA *paka’ of Semitic-p and also *kwïkï/*o’kï of Semitic-kw.

Uto-Aztecan also has 3 separate forms from the Semitic root ktš ‘to grind’: the imperfective verb stem in most UA languages, a perfective qittel in Yaqui, and a noun ‘grindstone’ in most UA languages:

	of Hebrew root ktš ‘grind’	UA
268(1094)	impfv -ktoš (< *-ktusu) ‘pound, grind’	*tusu ‘grind’ with loss of 1st C in a cluster
269(615)	*kitteš (< *kittaš) ‘grind’	Yq kitte / kittasu ‘grind’
216(614)	makteš ‘mortar, grinding stone’	*ma’ta ‘mortar, grinding stone’

And most compelling is the noun made verb Ca mataš ‘crush, squash, vt’ (< *mattaš) showing final -š and a medial cluster or geminated *-tt-, because single *-t- would be -l- in Cahuilla, so all 4 consonants align.

6.3 Unusual Semantic (Meaning) Combinations Continued into Uto-Aztecan

In addition, many unusual semantic combinations in Semitic and Egyptian are preserved in the corresponding UA meanings. A few of them follow:
270(283) Eg qm’ ‘create’ and ‘mourn’ > UA ‘make, create’ and ‘mourn’
198(332) qrḫt ‘serpent, partner’ (*qarḫat >) > UA *koŋwa ‘snake, twin’ (q > k)
271(406) Egyptian b’ ‘ram, soul’ > UA *pa’a ‘mountain sheep, all living beings’
272(98) Hebrew rqʕ ‘stamp, beat out (metal), spread out’; Hebrew raaqii^{a}ʕ ‘extended surface, expanse, sky’
> UA *tukuN- in * tukuN-pa ‘sky’ and ‘metal’ in the Takic languages.

273(994) Ls qáya/i- ‘blow down (a tree)’ (which is the same result as ‘uproot’)
and Ls qáya/i- ‘heal’ are listed as separate verbs in the Luiseño dictionary, though phonologically identical, yet the corresponding Syriac verb ʕqr has both meanings: ‘uproot’ and ‘heal’ (ʕəqar or -ʕqar > qayV).

The less-then-identical semantic inclusions have changed meaning in understandable ways:
274(734) Hebrew mə-ṣuudat ‘net, prey’ i.e., game > UA *masat / *masot ‘deer’
275(720) Hebrew nebɛl ‘skin-bottle, skin’ in the common phrase of Hebrew nebɛl yayin ‘skin of wine’; Syriac nbl / n’bl > Classical Nawatl no’pal-li ‘prickly pear’ used to make alcoholic beverage; so as Semitic ‘skin/bottle’ (container) came to mean the fermentable substance in UA, so also ‘the bottle’ is a euphamism for alcoholic reference in English too! And UA even shows Syriac’s glottal stop.
276(675) Hebrew ɧnp ‘limp’; Arabic ɧnp ‘have distorted foot, be curved, pigeon-toed, walk bow-legged with toes inward’ (like turtles, badgers, and bears) > UA *hunap- ‘badger, bear’; Arabic uses this stem for ‘tortoise’ and ‘chameleon’ while the UA match is ‘badger’ and ‘bear’ all having similar turned-in feet;
277(724) Semitic parʕoš ‘flea (jumper)’ (from the Semitic verb prʕš ‘jump’) > UA *par’osi / *paro’osi ‘jackrabbit’; the jackrabbit, like the flea, is also a jumper, and in UA *paro’osi ‘jackrabbit’ we see all 4 consonants and 2 identical vowels in two of the most extraordinary jumpers of the animal kingdom.

Chapter Seven

The Differences between Lehi's Semitic-p vs. Mulek's Semitic-kw

Lehi's Semitic-p has the expected sound correspondences of 600 BC Israeli sound correspondences, while Semitic-kw has the expected Phoenician sound correspondences. For example, in Proto-Semitic (that is, early or original Semitic) *x and *ħ were two different sounds. Those two sounds merged to become the same sound quite early in Phoenician, before the creation of the Phoenician alphabet (about Moses' time), because the Phoenicians had only one letter to represent both. However, those two sounds remained distinct in Israeli Hebrew until about 300 BC or later. So the fact that we have the distinction in Semitic-p, but not in Semitic-kw, is consistent with Semitic-kw being from Phoenician and Semitic-p being from Israeli Semitic.

In addition, the fact that Semitic-p has the same sound correspondences as the Egyptian terms is also consistent with those two being used or spoken by the same people, and since we are told in the text that the Lehiyyiim were dealing with both Egyptian and Israeli Semitic, that is also consistent with those two being the Lehi-Nephi language.

Proto-Semitic *x yields a difference between Semitic-p *k (from Proto-Semitic *x) and Semitic-kw *hu/w (from Phoenician ħ). Proto-Semitic *x and *ħ eventually merged, that is, both became the voiceless pharyngeal ħ in Hebrew, Phoenician, and Aramaic (but remained distinct in Ugaritic, Arabic, and Akkadian). So Phoenician ħ and later Hebrew voiceless pharyngeal ħ are mergers of two different sounds, which were distinguished in pre-exilic Israeli Hebrew and in UA's Semitic-p, but not in Semitic-kw. The Israelites, after arriving in Palestine, borrowed the Phoenician alphabet and language, such that Hebrew and Phoenician are dialects of the same language. (Hebrew was not spoken where Abraham came from.) The fact that the Phoenician alphabet had only ħ (ħeyṭ) to represent both Proto-Semitic *x and *ħ suggests that these sounds were already merged in Phoenician when the Phoenicians developed the Phoenician / Hebrew alphabet (Blau 1998, 12, 30) about 1500 to 1200 BC. However, the Israelites kept these two Semitic consonants distinct until 300 B.C. or so (Kutscher 1982, 13-18; Sáenz-Badillos 1993, 81; Blau 1998, 12, 30), in contrast to the Phoenicians who merged them a millennium earlier. Eventually, the Israelite dialects merged the two sounds also, but through ancient Israel's centuries the two sounds were maintained as distinct; for example, the Septuagint Greek Old Testament of about 300 B.C. shows those phonemes as still distinct (Blau 1998, 30).

In UA, Semitic-kw shows them merged to pharyngeal ħ (and ħ > UA *hu/o), but Semitic-p distinguishes the two and has several vocabulary items showing both an alignment of Semitic x > UA k/h and Semitic ħ > UA *hu/o. Arabic, Old Epigraphic South Arabian, Ugaritic, and Akkadian show the original distinction, so cognates from those languages show the original x, and so does UA distinguish the pharyngeal ħeyṭ (Semitic *ħ > UA hu/o/u/w) from the velar/uvular fricative Semitic *x > UA k/x/h. And that last sound-change (Semitic *x > k in UA) happens within Semitic itself (*x > k), such as Arabic loans into Aramaic: Arabic xabbaaz > Aramaic kabbaaz 'baker' and Arabic xaraağ 'tax' > Aramaic karg-aa 'tax-the'. Also in Arabic loanwords into Ethiopic, x > k (Kapeliuk 2002, 313) as in UA. So UA's Semitic-p aligns with Hebrew phonology dating before 300 B.C. The following are a few from among a dozen more that are from Semitic-p or Lehi's Semitic, showing Proto-Semitic *x > UA *k:

278(629) Arabic xbṭ 'strike, knock'; Semitic *xabbiṭ > *kappica 'clap, slap', but Hebrew ħbṭ 'beat'
98(630) Hebrew ħole (< *xole) 'be sick, hurting' > UA *koli 'be sick, hurt, vi', but *huli, from later Hebrew
99(631) *xmr 'to ferment'; *xamar 'wine'; Arabic ximiir 'drunkard' > UA *kamaC 'drunk', but Hebrew ħmr
100(632) *xnk 'put around the neck' > UA konaka 'necklace, string of beads', but Hebrew ħnk
279(646) Hebrew náħal (< *naxal) 'river valley, wadi, stream'; Ugaritic nxl; Akkadian naxlu / naxallu 'wadi, gorge' > UA *naka: Ktn naka-č 'gully, ravine, cliff'

If the above terms were from later or standard Hebrew or Phoenician, like Semitic-kw is from, the five above would be UA *huppit, *huli, *humi, *hunaka, and *nawa/*no(h)o, but the fact that these Semitic-p terms are *kappit, *koli, *kamaC, *konaka, and *naka means they are from the earlier Israeli Hebrew of before 300 BC and fit the Israeli Semitic of Lehi's time. In contrast, UA words showing the pharyngeal ħ (> hw/w), from Proto-Semitic *x, are from the Phoenician-like Semitic-kw, showing the Phoenician sound correspondences, not ancient Israel's sound correspondences. So Mulek's Semitic-kw has Phoenician sound correspondences, and Lehi's Semitic-p has ancient Israel's sound correspondences. Below are examples of Semitic *x showing Mulek's Semitic-kw with Phoenician ħ > UA hu / w:

280(648) Semitic *xll: Hebrew ħaaliil 'flute, pipe' from Hebrew/Arabic *xll 'bore, pierce'; Hebrew ħll 'play the flute' and yə-ħallel 'play the flute'; Akkadian xalaalu 'to whistle'; Ethiopic xellat '(hollow) stick'; the UA forms derive from a pharyngeal ħ rather than the uvular fricative x, as seen in cognate languages Arabic, Ethiopic, and Akkadian, which means the following are of Uto-Aztecan's Sem-kw:
Tb luulu'~'uuluulu' 'play a flute' and Ca yulily 'pipe' (<yə-ħallel).
281(649) Hebrew ħṭ' / ħaaṭaa' 'miss (a mark), do wrong'; Ugaritic xṭ'; Arabic xaṭi'a 'be mistaken, to err':
UA *watiN / *waCtiC 'lose, lost, misled'.
282(853) Arabic xunpusaa' / xunpus 'beetle'; Aramaic ħippuušiit 'beetle, n.f.' > UA *wippusi 'stink beetle'.

In 282, Arabic xunpus shows that Semitic *x was the original consonant, and Aramaic ħippuušiit reflects the Northwest Semitic merger (*x and *ħ > ħ). So UA *wippusi shows Phoenician/Mulekite ħ > UA w, and UA also shows the doubled *-pp- and the exact vowels of Aramaic. An amazing match!

7.1 Some pairs of UA terms are from the same Semitic term, one from a Semitic-p form and another from Semitic-kw. From Semitic *'axar 'be in back, after, another', UA has both 283 and 284:

283(570) Lehi Semitic-p *wakay 'two, after' (*' > UA w; *x > UA k, in Semitic-p); and
284(643) Mulek Semitic-kw ahoy 'back, follow' (*' > nothing; *x > ħ > UA ho, in Semitic-kw)
285(926) Lehi Semitic-p *'agap-u 'wing, feather, arm' > *wakapu 'wing, feather' (*' > UA w; *g > UA k)
286(925) Mulek Semitic-kw *'agap-u 'wing, feather, arm' > *aŋapu 'wing, arm' (*' > nothing; *g > UA ŋ)
6(550) Lehi Semitic-p Aramaic bəsár 'flesh, penis' > UA *pisa 'penis' (*b > p; final -r no raise vowel)
222(5) Mulek Semitic-p Hebrew báášaar 'flesh, penis' > UA *kwasi 'tail, penis, flesh' (*b > kw; -r > y/i)

The last pair (6 and 222) also show a difference in accent or stressed vowel. Aramaic stresses the 2nd vowel while Hebrew stresses the 1st vowel; and notice that in both cases the stressed vowel remained as the original vowel *-a-* while the unstressed vowel changed to UA's schwa equivalent *i* in *pisa* vs. *kwasi*, respectively.

7.2 The Aramaic Features in Semitic-p

Of interest are the Aramaic features in UA's Semitic-p. The Aramaic masculine definite article suffix *-aa* is fossilized in many UA nouns, and the productive UA *-ta suffix resembles and behaves similarly to Aramaic's feminine article suffix *-*taa* 'the'. For example, (30) Aramaic di'b-aa 'wolf-the' is the source of UA *tï'pa 'wolf', not the Hebrew cognate hazzə'eb 'wolf'. Other Aramaic form.
52(604) Aramaic rə'emaan-aa / reemaan-aa 'antelope-the' > UA *tïmïna 'antelope'
29(617) Aramaic diqn-aa 'beard / chin-the' > UA *tï'na 'mouth' (from Aramaic, not Hebrew zaaqaan)
30(618) Aramaic di'b-aa 'wolf-the' > UA *tï'pa 'wolf' (from Aramaic, not Hebrew hazzə'eb)
108(743) Aramaic tuumr-aa 'palm tree-the' > UA *tu'ya 'palm tree, sp'
105(1130) Aramaic pagr-aa 'corpse-the' > Hopi pïïkya 'skin, fur'
106(1403) Syriac šigr-aa 'drain, ditch-the' > Hopi sikya 'small valley, ravine, canyon with sloped sides'

87(1409) Aramaic kuuky-aa' 'spider-the' > UA *kuukyaŋw 'spider'; Hopi kòokyaŋw 'spider'
287(1274) Aramaic kookb-aa' 'star-the' > UA *kuppaa' 'shine (of stars)'
54(889) Aramaic rakb-aa / rikb-aa 'upper millstone-the' > UA *tïppa 'mortar (and/or) pestle'

Sometimes the feminine suffix -taa '-the' is fossilized into UA forms also:
51(603) Aramaic rima / rimə-taa 'large stone-the' > UA *tïmï-ta 'rock'
288(1055) Syriac 'aamaqqə-t-aa 'lizard-the, n.f.' > UA *makkaCta(Nka)-ci 'horned toad'
289(638) Semitic *raxel 'ewe' > Mn tïhïta 'deer'; Mn tïhïya 'old buck'; NP tïhïdda 'deer'; NP(B) tïhï'ya 'deer'. Note Mn -ta 'deer' like Aramaic feminine -taa, and Mn -a matching masculine -aa in 'buck' following the last consonant -y-. So Mn has both and the genders match. The NP dialects show one of each, though the gender distinction seems lost.

290	Hebrew/Semitic sg		Hebrew/Semitic pl	maghrib Arabic	Classical Nawatl
1st	'e-/'a-	'I (verb)'	ni-/na- 'we (verb)'	n- 'I verb'	ne'wa / nehwa 'I'
2nd	ti-/ta-	'you sg (verb)'	ti-/ta- 'you pl (verb)'	t- 'you verb'	te'wa / tehwa 'you, sg'
3rd	yi-/ya-	'he (verbs)'	yi-/ya- 'they (verb)'	y- he verbs'	ye'wa / yehwa 'he'

The Classical Nawatl (CN) singular pronoun series—nehwa (I), tehwa (you), yehwa (he)—parallels the imperfective of the Aramaic 'be' verb—'ehwe, tehwe, yehwe. Though the Nawatl first person singular (I) form (nehwa) differs from the Aramaic verb form, the n- of the CN form is analogically like the fundamental n of most Semitic 'I/me' forms. In fact, the maghrib Arabic dialect did the same thing, that is, analogized the impfv verb prefixes to n-, t-, y- (Goldenberg 2001, 86), just as did the Classical Nawatl singular series—nehwa, tehwa, yehwa. The Hebrew pattern is 'ehye, tihye, yihye, with medial -y- in contrast to the -w- of Aramaic. So this UA verb matches the Aramaic pattern, not Hebrew. Reflexes of Aramaic *hawa 'he was' occur elsewhere in UA also.

7.3 Uto-Aztecan Evidence of Mispronouncing Written Records

The Semitic 'aleph or glottal stop is often used to signify a long vowel -aa- or simply the vowel -a-, but is generally thought not to be pronounced. However, in UA we see many instances of that 'aleph pronounced as glottal stop.

286(1274) Aramaic kookb-aa(') 'star-the' > UA *kuppaa' 'shine (of stars)'
291(101) Aramaic 'anáá(') > UA *nïï'
292(885) Arabic naar 'fire' but written na'r > UA *na'i- / *na'ya 'fire'
7(559) Syriac bakaa / baka' > Tb pahaa'at 'cry, bawl, howl' (Tb h < *k); Ktn paka' 'ceremonial yeller, clown who shouts all day to announce a fiesta'.
238(81) Aramaic *ħaberet > UA *hupi- > Cr hïi (because *u > Cr ï, and *-p- disappears in Cora, so Aramaic *ħaberet-taa(') 'woman' > Cr hüita'a 'woman' is a lengthy match, with ' pronounced.

In Hopi, the glottal stop often surfaces as ŋ or ŋw, as the 'aleph behaves much like the pharyngeal ʕ in the Semitic-p idiom.

87(1409) Aramaic kuuky-aa' 'spider-the' > UA *kuukyaw 'spider'; Hopi kòokyaŋw 'spider'
271(406) Egyptian b' 'ram, soul' > UA *pa'a 'bighorn sheep, all living creatures'; Hp paŋwï 'bighorn'

Chapter Eight

Mormon and Moroni's Language Dilemma

As descended from the Nephi-Muleki merger, Uto-Aztecan contains Egyptian and Semitic-p of Lehi's language, and also some of the Semitic-kw of the Mulekiyyiim. That combined state of the language gives us a window into the language of Alma's day. However, the directions of language change from Alma to Mormon and Moroni's day remain to be clarified. Was the Nephite AD 400 language related to the Nawa / Aztecan branch? Campbell's (1985, 8-13) views on the AD 800 arrival of the Aztecan Pipil in El Salvador may be relevant; and some Nawa-like features in Pano-Tacanan are consistent with Aztecan offshoots to the south. A Lehite infusion into the eastern United States also seems apparent. More research will tell much.

Some may argue that the Nephites were killed and nothing should be left of their language. However, in the text itself are references to Nephiyyiim surviving and remaining in the Americas (1 Nephi 13:30,35; 1 Nephi 15:13; 1 Nephi 22:7-8; 2 Nephi 1:5; 2 Nephi 9:53: 2 Nephi 10:19; 2 Nephi 26:15; Alma 45:13; and DC 3:16-18). Also keep in mind that during the 200 years of peace, the Nephite language, or the language(s) of the plates and scriptures, was/were likely widely read, if not adopted in part by other peoples. During the centuries when there were no -ites among them (4 Nephi 1:17), the language of the Nephiyyiim may have become widespread as the language of the prophets, prophecies, and holy writ; and some groups who were not speaking it before, but were speakers of other contemporary languages, may have learned it or adopted it in part. Then as apostasies and conflicts began, some apostate groups and Lamanite groups were perhaps speakers of the Nephite language in part or mixtures thereof (at AD 400). And throughout the millennium (from 600 BC to AD 400), various groups likely left for other areas at various times and were not involved in the final destruction, perpetuating different stages of the language at different times. So changed remnants of Lehite languages mixed with much else may exist in various parts of the Americas.

Regardless the extent, Mormon and Moroni's time was midway between Nephi and Columbus. So considerable language change and stages of change in each of the languages they were dealing with would have made abridging a thousand years of written history a formidable task. Reading Nephi's writings in Moroni's day undoubtedly required study or learning that was not common knowledge among the people, just as native speakers of modern English cannot read the Old English of AD 1000 without studying it like a foreign language. Moroni's references to imperfections (Mormon 8:12, 9:31) and weakness in writing (Ether 12:23, 40) are very understandable in light of the myriad of decisions relating to language change—whether to use older words or newer words, older or newer forms of the same word, original spellings or later spellings, original or later pronunciations, let alone possibly writing in a less familiar writing system or language. Moroni says if they had written in Hebrew, there would have been no imperfection in the record (Mormon 9:33).

If the Nephites were writing their changed Hebrew in Egyptian characters, as the one point of view suggests, and yet that process was still perplexing after 1,000 years, one must wonder whether they did it very often, or whether they had been doing it the whole 1,000 years, or whether the brass plates contained any Hebrew in Egyptian script. The fact that there would have been no imperfections if they could have written in Hebrew casts doubt on the extent of the practice of writing Hebrew in Egyptian characters, especially so far back as on the brass plates. A thousand years would be more than enough time to figure it out, whatever adjustments would have been necessary. In addition to the 1,000 years of Book of Mormon history, if, as the one view proposes, the brass plates consisted of Hebrew written in an Egyptian script, then the Nephites had a huge quantity of examples showing them how to write Hebrew in Egyptian script and doing so should not have been that perplexing. That alone may suggest that there was not much Hebrew in Egyptian script on the brass plates, and would increase the probability that the brass plates had both the Egyptian and Hebrew languages on them, each language in its own script. The brass plate record was much

larger than our Bible (1 Nephi 13:23), so if that size of textbook for writing Hebrew in Egyptian script existed among the Nephites, and if the prophet-historians read the scriptures regularly, then writing Hebrew in Egyptian script should not have been much of a mystery. The process of borrowing a writing system and adapting it to a new language occurs often, but usually stabilizes within a century or two. So the fact that writing in a Hebrew script was not a problem, while an Egyptian script was problematic, would suggest that writing Hebrew in Egyptian characters was not the custom for many Book of Mormon authors, and even less likely for brass plate writers, but may have been an innovation during Nephite history.

The Hebrew alphabet is strictly phonetic, 22 consonant symbols, so one could write either Hebrew or a Hebrew-Egyptian mix with it. But Egyptian contains hundreds of symbols, including logographic symbols for words and ideas, which logograms, if adapted to write either Hebrew or a Hebrew-Egyptian mix, would save space, but would also be a difficult adaptation, especially if the author knew his native Hebrew-Egyptian mix, but felt inadequate when wishing to write in the earlier forms of Egyptian.

Probably only in the latter days of the Nephite history was space on the plates a critical issue, when war's monopoly on time and resources effectively eliminated the manufacture of more plates. For the early authors, especially during the centuries of peace and prosperity (AD 34-200) when more plates could have been manufactured by anyone as easily as by Nephi in his life of pioneering exigencies, space was probably not the concern that it was later.

Keep in mind that Mormon was selected at age 10 for this task, and with how much tutoring? Ammaron (Mormon 1:1-3) is recorded as simply telling the 10-year-old Mormon where to find the plates at age 24. Nearly a decade before he could start studying the plates, Mormon became busy leading the Nephite armies in defense of his people from mid-teens on, and was burdened with circumstances hardly suitable for scholarly pursuits like attaining proficiency in each of the various stages of the several ancestral languages—Hebrew, Aramaic, Egyptian, the Mulekite infusion, etc. We mentioned that Ammaron's statement—"I perceive that thou … art quick to observe" (Mormon 1:2)—could be paraphrased "I can see that you're a fast learner, and that's good, because the records span a thousand years of language change for four different languages, so we need a smart kid for the job, and when you're old enough, get the records, and good luck! You'll need it." Ammaron's acquaintance with Mormon's abilities may have been from a teacher-student relationship, so undoubtedly Mormon did receive instruction, probably "in all the language" of the Nephites.

Then poor Moroni was born a generation later, perhaps 20 or 30 years further into the disintegration of Nephite society, and likely had less opportunity for learning than Mormon had. Mormon undoubtedly tutored his son Moroni between battles, but how much time was that? Or was most of the time spent in the urgency of preparing for the next battle, making arrowheads, growing crops, raising tons of dirt for fortifications, etcetera? If an unstable home environment affects kids' learning today, what would a whole unstable society and the looming cloud of destruction do to Moroni's interest in book-learning (or plate-learning)? What priority would book-learning hold in such discouraging and desperate times that not only seemed hopeless, but that prophecies said *were* hopeless? We can only guess at the details of Moroni's daily life, but they may partially explain his discouragement at his "weakness in writing" (Ether 12:23, 40).

Though able to speak much by the Holy Ghost, Moroni laments: "we could write but little, because of the awkwardness of our hands … wherefore, when we write we behold our weakness, and stumble because of the placing of our words; and I fear lest the Gentiles shall mock at our words." Then the Lord answered him, "Fools mock, but they shall mourn; and my grace is sufficient for the meek, that they shall take no advantage of your weakness." (Ether 12:23-26)

Note that the Lord did not say, "Nah, you're a good writer. Don't worry about it!" But indirectly admitted 'you're up against a tough challenge; you've inherited a linguistic multiplicity and complexity such that no one should fault whatever you come up with as your best effort'. Moroni's academic insecurity or perceived lack of writing ability is not due to lack of intelligence or capability, but is typical of an

overwhelmed struggler with a 10-to-15-language setting. It is like a sharp high school graduate being given records in Old Engish, Latin, modern English, and Old French—all contributors to our modern English language—while all around him are being spoken a dozen other contemporary languages, and then being told to summarize the records!

Moroni's comparing the Brother of Jared's overpowering writings with the Nephites' awkwardness of hands probably does not mean that Nephite hands were less dexterous or steady than Jaredite hands. It may have had something to do with writing systems: that the Jaredites' writing system flowed and fit Jared's language better than the available varieties of Nephite writing systems available for the Nephite's rapidly changing language. It also may have meant that scratching symbols on metal plates was not like writing / painting ink on papyri / paper. The Nephite Semitic (Hebrew/Aramaic) alphabet may have had more straight lines or less curved lines than Egyptian hieratic or Demotic. Trying to scratch legibly proportioned curves on metal plates would have any student complaining about writing assignments. In fact, Jacob speaks of "the difficulty of engraving our words upon plates" (Jacob 4:1).

Turning to the Nephite Semitic, the Semitic alphabet of 600 BC could write either Hebrew or Aramaic, and while the Nephites had records in Hebrew and could write in the Semitic script of the day according to the "learning of the Jews" (i.e., write Hebrew), Uto-Aztecan evidence suggests that their writing eventually included aspects of their spoken colloquial, which appears to have been an Aramaic-leaning language. Aramaic puts 'the' after the noun 'lion-the' while Hebrew puts 'the' before the noun 'the-lion'. That is but one example of many complexities that Moroni may have had to synthesize while deciding "the placing of" their words.

Another example of change is prepositions to postpositions. Some languages have prepositions, like English, most European languages and most Semitic languages, while many world languages, including UA and many (perhaps most) Native American languages, have postpositions—words "placed" after the nouns: knife-with, house-in, etc. Uto-Aztecan may show how UA changed from prepositions to postpositions: in-(the)-house > house in-it > house-in. In addition, these changes are gradual enough that a person living amidst the change can be easily bewildered. Old English 'shove' (rhymes with stove) was the correct past tense of 'shave' such that 'shaved' was incorrect … until enough people were saying 'shaved' that 'shove' became incorrect and eventually forgotten. We still have 'dove' and 'dived' but not 'shove' and 'shaved'.

An example of a quick change in languages occurs in the UA branch of Southern Numic. Whether adjectives "are placed" before or after nouns divides the world's languages such that many can be found in either camp. White Mesa Ute (WMU) at White Mesa, Utah, and Colorado Ute (CU) at Ignacio, Colorado, are closely related dialects of the same language, yet Colorado Ute's contact with Spanish and White Mesa Ute's contact with English have already changed them different directions. 'Red apple' in CU is masáana akagar 'apple red', while WMU can put the adjective on either side, i.e., akagar apus 'red apple'. Note two differences: one, CU borrowed from the Spanish word for apple 'mansana' while WMU borrowed from the English word 'apples'; two, CU has the noun-adjective order (also most frequent in Spanish), while WMU can do either noun-adjective or adjective-noun, due to contact with English for barely a century. In light of such changes in one century, think of the possible changes in ten centuries. Then picture Moroni surveying them all and having to decide which was "correct"!

In reality, linguists look at language differently than English teachers. Linguists accept as valid the way that most native speakers say something, or even all the ways that native speakers say something, while pedagogues (shall we call them/us) seem obligated to dwell on "correctness"; and "correct" usually means a language's state about a century previous. For example, 'whom' (vs. 'who') is a relic from the Old English case system that English teachers still harp on, though very few use it in every day conversation. The earlier 'clomb' giving way to present 'climbed' was far enough back that it is forgotten. During a 3-decade livelihood of teaching English and being a linguist, I alternately wore both hats most days and was fortunate

to have survived the psychological trauma of doing the two conflicting roles. (Linguists work to preserve Native languages, while the English teacher's push toward flawless fluent English, which tends to push away from Native fluency.) Nevertheless, the educational system of Moroni's day undoubtedly planted some ideas of how language was supposed to work or what was "correct" but he too was certainly bombarded with both ancient and contemporary varieties, each offering its conflicting variants and differing word orders.

In creoles (sudden language mixes), grammar often suffers the most change, and grammar is a language's system for "the placing of words"—not only the placing of words, but deciding which words to place. That is, new words often evolve to do grammatical duties. So the fact that there were several language mixing events in Nephite history—the merging of the Nephite and Mulekite languages and later influences from neighboring Native languages through the next half millennium—would guarantee more changes to the spoken idiom during the generations from Alma to Moroni. Then poor Moroni had to try to figure out the "right" way to write! There were likely differences in the language examples before him (on the plates), as well as differences at different times, e.g., 600 BC vs AD 200, and add to that the variety among the languages about him, so his bewilderment in how to "place words" is entirely understandable—lion-the or the-lion; house-in or in-(the)-house; red-apples or apples-red—especially when different orders were likely found in different stages of languages on the plates and in the languages around him.

Wherever the Nephiyyiim lived, a multitude of languages, different languages for different places, would have been influencing Nephite dialects. I say dialects plural, because they surely had a few. Thus, Mormon and Moroni may have been dealing with a number of contemporary dialects and influences in addition to the multiple languages and stages of those languages in their records of centuries past. Mormon also says that none other people knew their language (Mormon 9:34). That 'none other people knew their language' rings of a rather lonely minority, a largely outnumbered language island in a sea of many languages, which is exactly the kind of linguistic variety typical of Middle America and other populated places in ancient America. Such a variety in constant contact with each other would have most such languages in a continuous state of flux, which would encourage linguistic versatility in how "words are placed" due to the variety of ways in which all those languages place them. So when Moroni says that "we stumble because of the placing of our words," I say it was not a weakness at all, but rather was a false feeling of inadequacy in light of the sizable variety of languages that they inherited and lived among. Laboring under a false notion that only one way was correct among the many ways of 'placing words' that he saw in the records and heard in the languages about him explains Moroni's bewilderment, but is hardly a weakness.

As the Savior recommends (Ether 12:23-26), it is better to be among the meek, rejoicing in His words, than judging levels of literary eloquence.

Chapter Nine

Assimilation in Book of Mormon Names

Our purpose is to look at a handful of Book of Mormon names in a first attempt at a reciprocal enlightenment between those names and what we are learning about Lehite languages. Our purpose is not to insist on correct pronunciation, but to provide a basis for better understanding the names. The pronunciation guide at the back of the Book of Mormon lists the proper names and the proper way to mispronounce them. Perhaps it reflects the way that most English speakers would say them, I'm not sure. How the guide came about, I do not know and do not want to know. Let merciful anonymity reign.

I also do not care how the names are pronounced in Sunday School classes; I am not judgmental. Those called on to read verses often hesitate at names, unsure how to pronounce them or afraid they'll pronounce them wrong. Don't worry about it! Everyone pronounces them wrong! Even the pronunciation guide is wrong! Even the Masoretes who voweled the Hebrew Bible changed some pronunciations from what they were originally. I usually pronounce them wrong too—on purpose! I prefer not to disrupt the flow of a Sunday School class with a correct pronunciation. An accurate variant from the norm may prove a petty distraction from the Spirit and enlightenment underway—not worth the risk. So don't worry about it! Spit out your best guess, and all is well. I am not arguing for everyone to learn how to say the names correctly (though an update of the pronunciation guide would not hurt). I only hope (1) to clarify how inconsistent modern English has become for handling Biblical names and (2) to include some keys for pronouncing them, for those interested, and (3) to discover some properties of Nephite language(s) from Book of Mormon names, for those interested. Those caring for comic relief on English spelling can visit Appendix A: Spell-Bound.

In The Book of Mormon are many Biblical names, and the pronunciations of the Biblical names are available in the Hebrew Bible, and fortunately, the King James translators / transliteraters established a general consistency in the vowels at least. Pronounce the vowels like Spanish and one comes closer, because Spanish preserves the Latin vowels. When the English borrowed the Latin alphabet to write English, they at least started with Latin's correct vowel values, regardless what happened later.

So in Biblical and Book of Mormon names, four vowels (a, i, o, u) are quite consistent in preserving their original sounds as in the Latin alphabet, which English borrowed about AD 700 to write Old English:
pronounce the vowel ***a*** as the first vowel in father, bother, bought, ensemble, cough, gone, pawn;
pronounce ***i*** as in see, sea, sink, grief, and the i in machine, elite, bring, Kelli, Stefani;
pronounce ***o*** as in go, so, sew, blow, poor, wore, war, warn, though, rope;
pronounce ***u*** as in rude, blue, blew, boot, to, too, two, move, through, shoe.

Those lists of several spellings for each vowel sound illustrate the inconsistencies of English spelling, no surprise to anyone. Yet the vowels as used in Biblical and Book of Mormon names are quite consistent, with the values (sounds) specified above. The vowel e has 3 pronunciations, not nearly as many as its 8 pronunciations in non-scriptural English. In scriptures' names, ***e*** is limited to 1 of 3 pronunciations:
e approximately as in the underlined vowels of s<u>ay</u>, s<u>a</u>te, gourm<u>e</u>t, gr<u>ea</u>t, <u>ei</u>ght;
ɛ as in s<u>e</u>t, s<u>ai</u>d, b<u>ee</u>n, Sh<u>e</u>m;
ə as in th<u>e</u>, r<u>u</u>n, w<u>o</u>n, fl<u>oo</u>d, r<u>ou</u>gh, l<u>o</u>ve.
Note, *-ough-* is in 4 of the vowel sounds listed above (*a* in bought, *o* in though, *u* in through, *ə* in rough), and *-oo-* in 3 (*o* in poor, *u* in boot, *ə* in flood), and *-oCe-* in 4 (*a* in gone, *o* in rope, *u* in move, *ə* in love). Need we say more on the futility of trying to spell things like they sound in English?

The vowel pronunciations above are mostly like Spanish and are correct for the Biblical names in The Book of Mormon: Adam, Ammon (not ***æ***, as in apple, but ***a*** as in father); Abel, Abraham, Amos (not ***e*** as in angry, but ***a*** as in father); and Gad (pronounced like god). For Edom, Elam, Elijah (the initial E is ***e*** as

in angry, not ***i*** as in sing, think, eel. The ***o*** is always pronounced as in go, Jordan, Joseph, and Boaz, but not with the ***a*** sound of father or as most say the o in Babylon and Nimrod, nor the ***ə*** sound in *done*, as most English speakers say Aaron, Jacob, Sidon, Zion, Gideon. But all the final -on names all end like English *own*: Aaron, Gideon, Zion, Sidon, Babylon. The ***i*** is pronounced as in ring, drink, and much like Ishmael and Israel, but not like hi, high, or as most say Isaac. So as Spanish speakers say them (correctly), Nephi, Lehi, Levi all have the same vowel sounds as lady, navy, maybe, daisy. Thus also, the two vowels of *easy* are the sound of ***i*** in Isaac, Zion, Sidon (seed own), Isaiah, Ishmael, Israel, Sinai, Shinar, and Naphtali. The ***u*** as in Sue or cool for Samuel, Lemuel, and Saul (< šaʕul 'fox'), and Zebulun. All names in the text with initial Cu—Cumeni, Cumenihah, Cumom, and Curelom—are correctly listed as beginning with the sound ku (as in cool), except one. Cumorah should also be kumora, not kamora. Wisely, no pronunciation guide is put in the Spanish Books of Mormon, as Spanish naturally says them right.

Dipthongs (two-vowel sequences) are two different vowels: so the -a-e- in Ishmael and Israel are separate vowels -a-e-, not combined and averaged to *ə*, like the guide has them. Besides being separate vowels, they belong to separate words. In each, the 2nd morpheme (meaningful part) is -El 'God': thus, Ishmael (< yi-šmaʕ El) 'God hears' with reverse word order from English, and Israel (< yi-śra' El). Many Hebrew names beginning with i- are from the 3rd person singular prefix (yi-/yə-/ya-) of the imperfective (or present) verb, i.e., he does the verb: Isaac (< yi-ṣḥaq) 'he laughs'; Isaiah (< yə-šaʕ-Yahu) 'Yahweh saves'; Jacob (< ya-ʕaqob) 'he-grabs the heel'.

So Latin had 5 symbols to represent Latin's 5 vowel sounds—a perfect match! In contrast, borrowing Latin's 5 vowel symbols to represent the 10 vowel sounds of English is far from a perfect match and we managed to make it even further from perfect by letting almost every vowel symbol and vowel combination represent most vowel sounds. If each of the 5 symbols were to represent 2 of the 10 sounds, that would be closer, but watch what we did:

i: seat, receipt, reed, read, feet, feat, machine, sink, grieve, wavy (e, i, y; 7 spellings)
I: sit, rid, fit, busy, women, we're, here, superior, myth, sheer, hear, weird, discipline, village (a, e, i, o, u, y, that is, all five vowels plus y; 10 spellings)
e: sate, raid, fate, gourmet, feign, eight, great, say, day, guage, lingerie (a, e; 8 spellings)
ɛ: set, red, fed, bear, bare, bury, marry, many, said, leather, (h)air, their (a, e, u; 6 spellings)
æ: sat, rat, fat, laugh, lather, cow, flower (a, o; 3 spellings)
a: father, bother, sought, rot, ensemble, sergeant, caught, cough, bought, buy, heart, car, lingerie, gone (a, e, i, o, u, all five vowels; 9 spellings)
ə: some, come, rut, fun, won, one, the, bulletin, compliment, women, woman, rough, flood, love, brother, photography (a, e, i, o, u, all 5 vowels; 8 spellings)
o: go, comb, or, ore, road, so, sew, though, flow, war, wore, worn, warn, sword, door (a, e, o; 8 spellings)
U: soot, book, foot, put, full, woman, would (o, u; 4 spellings)
u: suit, boot, rude, do, move, two, to, too, womb, through, shoe, blew, blue (e, o, u; 10 spellings)

So the written vowel ***a*** represents 7 of the 10 English vowel sounds; ***e*** does 8 of the 10; ***i*** is good for 4; ***o*** yields 7 of the 10; and ***u*** does 5. Note that **ough** has 6 distinct sounds: a (thought), əf (tough), af (cough), o (though), u (through), æu (bough); and **ou** also has 6: æu (house, sour, wound), o (pour), u (soup, wound), U (could), ə (jealous), r (journey). The sequence **ea** has 7 sounds: i (beach, eat), I (hear, beard), e (great, steak), ɛ (head, bear), a (heart), ə (sergeant), r (earth). Double **oo** has 4 sounds: o (door), u (boot), U (book), ə (blood). So much for spelling things like they sound. English is no where near consistent enough to even pretend we might be able to spell things how they sound, given so many sounds for each spelling.

Considerable variety exists for consonants as well. Our so-called ***sh***-sound is represented by 7 spellings: sh (shingle); ss (pressure, permission); ti (nation); s (sure, tension, question); sch (schwa); ch (chef, chivalry, machine); and ci (musician). The ***k***-sound has 5: k (kite); ck (back); c (cat); ch (choir, mechanic); q

(quiet). Foot, phone, and rough denote 3 spellings for the ***f***-sound. Gentle, just, and edge show 3 for the ***j***-sound; and azure, measure, sabotage, and equation show 4 for the ***zh***-sound. Three pronunciations belong to the **-tion** ending: nation (sh), question (ch), and equation (zh). Then we tell school children: "Just sound it out!" No, I am not advocating the Deseret Alphabet or spelling reform (see reasons in Appendix A), but understanding the problem is helpful.

So we can be glad that the Lord was consistent (as possible with English) and gave Joseph Smith the vowels according to their original vowel sounds as pronounced in Latin (and thus also Spanish) and more like Old English rather than modern English. It was the only sensible thing to do. Anything else would have only added to the already prolific confusion that later English multiplied upon its vowels. Because the Lord was consistent, we can be confident that the vowel values of the other non-Biblical names are pronounced as outlined above. So the vowels of Laman and Alma and Rabbanah are the same as Laban and Abraham, etc.

Let's now consider what Book of Mormon terms might tell us about Book of Mormon languages. Some names are fixed from preceding cultures or older stages of the language(s), much like we English speakers use Hebrew and Latin and Celtic names, as well as English, but whose meanings may or may not be known. Similarly, the Nephiyyiim and Mulekiyyiim seem to have borrowed many Jaredite names from that preceding culture: Coriantumr, Morianton, Moron(i), etc.

Some Book of Mormon names are Biblical and their meanings are known; other names do have a Semitic or Egyptian appearance and their meanings might be guessed at with some probability; yet other names are quite unclear. Even from these names we can learn that the language was in ways different than we might assume. In Luram (a Nephite in Moroni 9:2), for example, the first two consonants L and R is a sequence non-existant in Hebrew and Egyptian. It may be a changed form or another Jaredite borrowing.

Irreantum is not a familiar term in the languages that Lehi left Jerusalem with (as far as we know). Nephi reports that "we beheld the sea, which we called *Irreantum*, which, being interpreted, is many waters" (1 Nephi 17:5). The usual words for 'sea' are Hebrew and Aramaic *yam* 'sea', Egyptian *w'd wr* 'the great green', Arabic and Aramaic *baḥr* 'sea', and others, but nothing quite like *Irreantum*. Of course, Nephi says they called the sea that. However, the usual words for 'many' and 'waters' in those same languages are hardly obvious in *Irreantum* either. Biblical Hebrew (as vowelled by the Masoretes) does not allow doubled *-rr-*, though earlier Hebrew and Arabic and Semitic did. *Irrean-* most likely derives from the root *rwy / raway* 'to water, give water'. After all, the great ocean is the great 'waterer' or 'giver of water' as it waters the whole earth. Verbal nouns of that root are *rayy-* and *riyy-*, and with the *-aan* suffix, *rayyaan* 'well-watered' is an adjective. An article would yield *arrayyaan* or *irriyyaan* 'the watering / waterer'; something from that root seems most probable. In fact, the Arabic Book of Mormon or the Native Arabic speaker who translated the Book of Mormon into Arabic lists the term as *irriyyaana*, almost exactly like the above, but with no *-tum*. That root, *rwy*, appears in UA, by the way. I agree with the Onomasticon, that the *-tum* morpheme is probably from the root *tmm*, like Hebrew *tom*, which denotes 'wholeness, completeness' to mean 'the watering wholeness' as the ocean does provide the whole of all water. The Onomasticon (https://onoma.lib.byu.edu) first option agrees on the roots, but also offers other possibilities.

Irrean- begins our discussion on the apparent vowel assimilations in Nephi's language. Both Egyptian and Proto-Semitic are thought to have originally had only three vowels with short and long distinctions—i and ii, u and uu, and a and aa. From those original vowels, Biblical Hebrew, as vowelled by the Masoretes AD 600-700, developed other vowels: o, oo, ɛ, ee, ə, plus i and ii, u and uu, and a and aa. However, those were Hebrew's vowels some 1300 years after Lehi's time.

Assimilation is when adjacent sounds affect each other and one sound becomes similar to the one next to it. Below is a vowel chart showing where in the mouth (front, back, high, low) the vowels are pronounced. We see that ***e*** is half way between ***i*** and ***a***. For ***i*** to become ***e*** when next to ***a*** is common in language change, because ***i*** changes, going toward ***a*** and coming half way to ***a***, which is ***e*** (i-a > e-a), as we

see in the chart below. And irriyyaan > irrean- is a similar assimilation. In other words, the *-e-* of *irrean-* is likely not original, but is more probably an assimilation.

	front	central	back
high	i	ï	u
mid	e	ə	o
low	æ	a	

A vowel change the other direction is equally common in languages; that is, the change of ***a*** > ***e*** when anticipating ***i*** also happens often. In fact, the Arabic forms of Lehi and Nephi are common in western Arabia, being laẖy and nafy/napy. (Lehi and Levi and Nephi have the same vowels as baby, daisy, navy.) Laẖy or Laẖi and Nafy or Napi undoubtedly exhibit the original vowels, ***a-i***, so Lehi and Nephi are assimilations from an original Laẖi and Napi, which is the assimilation of ***a*** > ***e*** before ***i***, or ***a*** going to ***e***, which is half way toward ***i*** (a-i > e-i), anticipating the next vowel to be pronounced.

Hugh Nibley, in *An Approach to the Book of Mormon* (page 289), notes the Egyptian-Hittite name of an important Old World city named Kumani, and notice that Cumeni, a Nephite city, given the very same assimilation (a-i > e-i), is otherwise identical.

The Book of Mormon's apparent Greek names—Timothy, Lachoneus, Archeantus—may be due to the very explanation Nibley offers (in *An Approach to the Book of Mormon*, 289-90): that Timothy and Lachoneus are consistent with the Greek mercantile presence in Palestine from before Lehi's time forward. Or they may be relevant to the fact that Book of Mormon authors were not able to relate one hundredth of all they knew and that a Greek group's arrival is part of the 99% not told us, or that the Mulekite or Phoenician ship had Greeks among them, or something else. While we do not know the exact history behind the Greek names, their presence in the Book of Mormon is not inconsistent with the possibilities mentioned.

A few Book of Mormon names exhibit reduplication, like Gidgiddoni and Gimgimno. Though not an overly astounding parallel, reduplication is prolific in UA also, and every branch of UA has reduplication of one kind or another, and repeating the initial syllable CVC- (C = consonant, V = vowel) is a common kind. While Egyptian also exhibits reduplication to a degree, UA expands the degree to be more frequent, but for some of the same purposes: intensity in verbs, multiple repetitions of doing the verb, plurals, etc.

The title Rabbanah is intriguing and well worth discussing. Rabbanah is used by a Lamanite servant to address Ammon: "And one of the king's servants said unto him [Ammon], 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" (Alma 18:13). Any Semitist immediately recognizes Rabb- as being from the root RBB 'great, many', the same root as Rabbi 'great one'; however, beyond that, -anah raises some interesting questions.

First of all, it would be good to understand that this is 500 years after Lehi, and 2 or 3 generations after the Nephi-Muleki merger. The Lamanite languages certainly differed from the Nephi-Muleki language. The fact that a generation before Ammon, one King Laman caused that "the language of Nephi began to be taught among" his Lamanite subjects (Mosiah 24:4) confirms that the languages were different. The idioms may have had enough words and grammar in common that the sons of Mosiah could "catch on" or grasp the basics rather quickly for rudimentary conversation. Or it is possible that the conversations happened via an areal jargon or lingua franca. Or through a translator. Or it is also possible that these missionaries were tutored during their journey toward the Lamanite lands by one familiar with the Lamanite tongue(s)—an MTC-like experience, roughly, very roughly. I mention all 4 possibilities only to emphasize that there is so much we simply do not know, and therefore we cannot assume much at all. Significant changes in languages had probably happened by this time—changes to both the Nephite and Lamanite languages.

Returning to the final -anah of Rabbanah, in agreement with https://onoma.lib.byu.edu, I think it more probable that *Rabbaan-* has the Semitic noun suffix *-aan* (Book of Mormon orthography does not distinguish long and short vowels). As mentioned in the Onomasticon, *-aan* (in Aramaic and Arabic) is cognate with Hebrew *-oon* due to the Canaanite vowel shift of long *aa* > *oo*. LDS scholars have assumed (quite naturally) that the Lehi-Ishmael party spoke Hebrew, not Aramaic. However, finding much Aramaic in UA alters that view and may clarify *Rabbanah*. The New Testament *Rabboni* 'my master' (John 20:16) has the same Semitic stem *rabb-* with the Hebrew suffix *-oon* and *-i* 'my'. Yet interestingly this Lamanite term has the *-aan* suffix like Aramaic and Arabic, not the -oon more common in Hebrew, because the Lamaniyyiim would be continuing the spoken language of the Lehi-Ishmael party, without access to the records containing Egyptian and Hebrew writing and vocabulary. In other words, the evidence in UA would suggest that the Lamanite languages would have had more Aramaic and probably less Hebrew and Egyptian than the Nephite languages had, and Rabbanah is consistent with that. Notice that I say languages plural for both, because a half millennium after the arrival and several successive dispersals (not mentioned in the text's 1%), it is guaranteed that various languages existed among Lehi's seed even by this time, due to language change and mixing with different groups in the different places that they had dispersed to.

After the *-aan*, the Aramaic suffix *-aa* 'the' seems more likely than the Onomasticon suggestion of a feminine abstract noun ending *-aa*. In some Syriac / Aramaic dialects, the suffix *-aa* 'the' becomes part of the citation form or part of the noun, similar to English 'the horse' to mean 'horse', and to Aramaic *reemaan-aa* 'antelope-the' > UA **tïmïna* 'antelope'. Similarly, Aramaic *Rabb-aan-aa* 'great one-the' or 'great one' is consistently Aramaic through all 3 morphemes, and is at least as viable as other proposals, if not more so.

The final *-h* in *Rabbanah* and in Hebrew feminine nouns *-ah* is a spelling convention in both Hebrew and English, but was not pronounced in either Hebrew or English. In Hebrew, it signified a vowel after the last consonant, whether *-aa* or *-oo*. English may have copied its existence in Hebrew: Sarah, Jonah, etc.

The term for the *Anti-Nephi-Lehi* people likely derives from Egyptian *nty* with a helping vowel *anti* to avoid an initial consonant cluster, like Coptic *ente* (https://onoma.lib.byu.edu), though the Onomasticon offers other alternatives as well. From Egyptian n(y) 'of, belonging to' (masculine sg) and nt(y) 'of, belonging to' (feminine sg) and *ntyw / ntiu* 'those of, those belonging to' (f. pl.), the feminine singular *nty* became a relative pronoun 'who, which, that' and the singular *nty / anti* often served for plural as well. Thus, *Anti-Nephi-Lehi* means 'those of, those belonging to Nephi and Lehi' (no need for 'and' in Egyptian).

Jaredite terms are a whole different matter and their language a greater mystery. We know much about Egyptian, Hebrew, Aramaic, and Arabic, though not everything of any of those ancient languages that Lehi dealt with. However, the Jaredite language is deeper into antiquity and we have no record of that original language that Noah and other exiters of the ark spoke.

In the table of nations (Genesis Chapter 10), Noah's more immediate posterity are listed, and some of their identities and destinations are vaguely available. In the subsequent settling of the earth, one little-known detail is corrected in Joseph Smith's inspired version. Genesis 11:1-4 relates how "the whole earth was of one language" and "as they journeyed from the east … they found a plain in the land of Shinar" where they built the tower, from which the Jaredites departed. The Bible's description sounds like the whole population of the earth came from that tower. However, Joseph Smith's inspired version says "that ***many*** journeyed from the east" (Genesis 11:1) to come to Shinar (Sumer), ***not everyone***. So from somewhere east of Shinar, some journeyed westward to Shinar, but not all. Others may have gone north or east, or were not eastward from Shinar to start with. In other words, not the whole earth was at the tower, and never were. Others were other places, from which we can conclude that many languages are natural descendants of Noah's idiom and were not involved in whatever happened at Babel or Sumer (Shinar) in southern Iraq (Genesis 11:5-9). Another difference is that the King James Version (10:5, 20, 31) speaks of tongues plural spoken by the sons of Japheth, and plural tongues among Ham's descendants and others of Shem, whereas

the Inspired Version (Genesis 10:3, 11, 19) says that the sons of Japheth had the same tongue (Indo-European?), and "the sons of Ham … after the same tongue" (Afro-Asiatic), but "the sons of Shem … after their tongues" plural. The fact that writing appeared in four different and distant places about the same time approximate to Noah is noteworthy: Old Egyptian in Egypt, Sumerian in Sumer/Shinar, the Indus script in ancient India, and ancient Chinese in China, though the latter's beginnings are less securely dated. Nevertheless, two of the four are far east of Shinar. What would be closest to Noah's or Jared's language? Sumerian? Or was that a confounded result left at Sumer such that a natural descendant from a non-Babel place would be nearer Noah's language? Would Proto-Afro-Asiatic be closer? –the early language that Egyptian and Semitic descend from? Or early Indo-European (IE)? Japheth's posterity seems to include IE (e.g., Javan, the Ionians / Greeks, are a branch of IE). I do not know the answers to all those questions, but pose them to highlight our collective ignorance. Egyptus may have settled her sons in Egypt (Abraham 1:21-23) before Nimrod even started the tower, which may mean that Afro-Asiatic or Egyptian at least, was not involved at Babel, which would also square with the Inspired Version's Genesis 10:11.

That probability would make the Jaredite term *deseret* 'honeybee' (Ether 2:3) another astounding piece of evidence that Joseph Smith was a prophet. Nibley (*World of the Jaredites*, 189-90) explains that Egyptian dsrt (vowels not written in Egyptian) was the name of the Red Crown, which was a symbol for the 'honeybee'. Deseret's 3 identical vowels *e-e-e* may be relaxed *æ/ɛ/ə/e* from original *a-a-a*, as Egyptian and Semitic originally had only *a, i, u*, as Arabic dialects and many languages relax *a* > *æ/ɛ/ə/e*. Likewise, Nephi and Lehi were originally Napy and Laḫy, and still are in Arabic Nafy and Laḫy, though pronounced Læḫy / Lɛḫy in some dialects. So vowel assimilations or adjustments not only happened in Lehi's language, but appear to be the case in Jaredite as well, which is no surprise, as all languages change or assimilate vowels. Regardless, Egyptian's dsrt being a symbol of the 'honeybee' and Jaredite deseret meaning 'honeybee' is an impressive match.

In conclusion, Nibley's words on Book of Mormon names (in *An Approach* …, 281-294) still serve well with minimal need for update. The Book of Mormon Onomasticon is the most thorough exploration of competing etymologies of Book of Mormon names, and is also good, though not perfect, and it is available online at https://onoma.lib.byu.edu.

Chapter Ten

Elusive Israel, DNA, and American Language Families

Another claim by the critics is that Native American DNA is 90 percent from East Asia from across the Bering Strait, thus disproving the Book of Mormon; however, that is not a complete and accurate interpretation of the data. David Stewart, M.D., in "DNA and the Book of Mormon" explains (1) that what critics call necessary evidence is not necessary, (2) that Joseph's wife cannot be expected to match Jewish women's mitochondrial DNA, (3) that we have no known samples of Josephite male Y-DNA, (4) that we have no pre-exilic Jewish DNA (from before 600 BC), (4) that even modern Jewish populations vary so much from mixing that they lack common DNA; the 'Cohen' haplotype is high in some areas, but is in only 2-3% of the Jewish population; and (5) that the DNA evidence available to date neither proves nor disproves what either side would like it to. Regarding mitochondrial DNA (through women's lines), Porter and Meldrum (2009, 149-171) see mitochondrial Haplogroup X in the Algic and other eastern U.S. groups and also in Palestine, Europe, and Mediterranean Jews as strong evidence for Book of Mormon peoples. In addition, Daniel C. Peterson (2008) edited a volume *The Book of Mormon and DNA Research*, presenting a wealth of enlightening discussion in several chapters by various authors.

John Sorenson (2013) in Chapter 12 "Human Biology" (2013, 233-254) reviews a wide variety of research in both physical morphology and the more recent molecular genetic data. While some are inconclusive, other studies in both domains suggest transoceanic arrivals into the Americas from Europe, Egypt, the Near East and the Far East via the Pacific Ocean, as well as the accepted Bering Strait infusions. The ratio or percentages of Bering Strait vs. transoceanic infusions is not yet known, but the studies cited in Sorenson (2013) suggest that the percentages of transoceanic infusions, when known, may prove higher than most expect.

Besides strong language evidence of a UA tie to the Near East, some DNA evidence suggests the same. The DNA parallels between Arabs and Uto-Aztecan peoples have been published in four different publications: Cavalli et al, Guthrie, Jett, and Leonard.[1] They note various Human Lymphocyte Antigen (HLA) rates shared by Arabs and UA peoples. For example, B21 was not found in most of indigenous America, was negligibly found near 1% in India, Japan, China, Mongolia, Malaysia, Cambodia, and the Philippines, and was not found in Australia, Micronesia, nor in most of the rest of Asia. However, 11 of the 12 areas of highest occurrence (22.2% to 6.8%) are eight Arab areas and three Uto-Aztecan peoples. In addition, both groups also share B17 and B37. (Arabs are much the same gene pool as ancient Israel.)

Most persons descend from many different ethnic ancestries. People assume that Englishmen from England who speak English are homogenously English, yet we English descend from the English (Germanic), Scottish, Irish (both Celtic), Danish, from another unknown people on the Isles before the Celts, and from the Norman French, who themselves are descended from at least four groups—the Norseman (thus Norman), the Celtic Gauls, the Germanic Franks (thus French), and the Romans, whose Latin became French in France. The Romans who ruled "England" three-plus centuries no doubt deposited their contributions to UK ancestry also. Yet we descendants only speak English, not the dozen-plus languages of our ancestors. I have a dozen lines and my wife from Argentina is descended from another dozen: Italians, Jews, Spaniards (partially descended from Romans), Celts, Arabs, Iberians, Basques, Greeks, Germanic Visigoths, Native American, etc. So our children descend from some 20 different ethnic ancestries. Some think an Argentine girl and a Rocky Mountain boy are a mixed marriage, but most of the mixing happened before we were born. We are distant cousins three ways: we both have Celtic ancestry and Germanic ancestry and Roman ancestry.

Similarly, the Native Americans' East Asian DNA is but one source of ancestry among others yet to be clarified. Even if 95% may have Asian DNA, 70% may also be of Lehi and / or 80% may also be of

Jaredite lineage, and many other kinds. Each Native American would have several of all possible strands, if not most of them, like I and my children have a dozen kinds of ancestry too.

In my classes, I often ask my Navajo students how many of them have all four grandparents' being Navajo. Few raise their hands. Then I ask how many have one or two grandparents who are of another ethnic group. Most raise their hands. Most have one or two grandparents who are Ute or Hopi or Walapai or Sioux or Hispanic or Irish, etc. Continue that pattern of ¼ or ½ of each grandparent generation not being Navajo and each is descended from many ethnicities, Navajo being only a fraction of the total and perhaps a small fraction for many Navajo individuals. A similar degree of mixing is most people's story.

Keep in mind that only 10 generations back (2 parents, 4 grandparents, 8 greats, 16 great-greats, 32, 64, 128, 256, 512) we have 1024 ancestral slots, and 20 generations back each of those has their 1024 to give each of us over a million ancestral slots only 600-700 years ago. We do not have that many ancestors because in early European villages or Native tribes or wherever, the same persons or pedigrees appear in more than one place on a pedigree. Of each individual's million-plus slots, the mitochondrial DNA (female line) reveals only one line and the Y-Chromosome DNA (male line) only one. So the two kinds of DNA most talked about are less than two-millionths of our ancestry. Twenty generations ago was about AD 1300-1500, not that far back. Double that to 40 generations back and about AD 500-800 we each have over a trillion ancestral slots, more than the population of the earth. (And some say their genealogy is done!) DNA science for same-gender lines is impressive, yet those two lines are a miniscule total of our ancestry, and we can look forward to when genetic science can better trace the randomly-alternating gender lines, which are 99.999% of our ancestry.

Matthew Roper (2008, 255) cites Steve Olson (2002, 47) in that "the amount of DNA each of us gets from any one of our 1024 ancestors 10 generations back is miniscule and we might not get any DNA from that person." If that is true of one's 1024 ancestors alive AD 1700, how much less is perceptible of the millions of ancestors alive 600 BC? So in bi-gender lines (all the millions except two), the DNA identifiability gets murky not very far back. So even if we cannot positively identify Lehite DNA (yet), that does not mean that Lehi is not widely integrated through much of the Americas.

By now it should be obvious that equating language and race is a severe oversimplification in most cases, and that one's native language often does not reflect a large percentage of one's ancestry, if any. English speakers are descended from speakers of many languages, yet most speak only English. Most Native Americans in the United States speak English though hardly of European ancestry.

After two years among the Navajo people, I dove into several languages and found that most East Asian languages have classifiers dividing nouns into categories like Athapaskan (the language family to which Navajo belongs): flat and flexible (like blankets, paper), long and flexible (like rope, snake), long and inflexible (like stick, rifle), containers (like cup), numerous small objects (like grain, pebbles), etc. Navajo and other Athapaskan languages categorize nouns into many of the same categories. Such specific alignments, not at all in Semitic or Egyptian, but abundant in Asian languages, convinced me that Navajo and its Athapaskan language family came from across the Bering Strait. The locations of most Athapaskan languages in Alaska and western Canada suggest the same, and linguistic studies now demonstrate the same.[2]

So the next question is often: "So are the Navajos not Lamanites?" They are as much of Lehi as most. Each individual is a mixture, like all Native Americans and Europeans and most of the world.

The genetic distances between various Native American groups, as calculated by Cavalli-Sforza et al (1994, 324), demonstrate that the Southern Athapaskans (Navajo and Apache) are closer genetically to other Southwest neighbors than they are to their linguistic relatives in Canada and Alaska, where most of the other Athapaskan languages are spoken. The data demonstrating these facts are available in Appendix I, but in short, the Navajo have intermarried with the Puebloans and other Southwest populations enough that they are genetically more closely related to their Southwest neighbors than they are to their northern Athapaskan-

speaking relatives. So the Navajo have ancestry from across the Bering Strait and also from Lehi, of both the Lamaniyyiim and the Nephiyyiim, as the Pueblo peoples are the latter two too, to be sure.

Relevant to all this, the author authored an article entitled "Elusive Israel and the Numerical Dynamics of Population Mixing" which appeared in *The Farms Review* (2003) and in *The Book of Mormon and DNA Research* (2008). The latter book contains several excellent articles by various authors addressing the topic of DNA and the Book of Mormon. The paper's more pertinent points include that if only 10% of each generation of an ethnic group, like the Hopi people or a Jewish community surrounded by other populations, marries outside its group, then in 9 generations (only 300 years) about 1% of the descendants of that ethnic group are still in the group, while 99% of that groups' descendants are outside the group, many of whom do not even know that they have Hopi or Jewish or whatever ancestry. Appendix G explains the math of this phenomenon for those interested. Nevertheless, the numerical dynamics of population mixing would apply to nearly all situations of two or more ethnic groups neighboring each other any length of time. True, cultural attitudes of approval or disapproval for intermarrying with other ethnic groups vary widely from situation to situation, perhaps underlying a range from 3% to 30%, instead of our arbitrary 10%. But even among the most forbidding culture, a few would choose love over cultural prohibitions (perhaps 3%) and other cultures may openly accept or possibly encourage intermarriage (30%). So even in the case of 3%, it would only take 27 generations or perhaps 900 years to reach the same 1% in and 99% out. In other words, regardless cultural attitudes, it is likely that 99+% of the posterity of every ethnic group (living next to or among other groups) is outside the group and probably do not know that they have ancestry from that group.

Appendix H delineates the mathematical probabilities that most of Europe probably has some Jewish ancestry, whether it be the 5-20% that recognized Jews have or the less than 1% that most Europeans have.

Understanding the numerical dynamics behind population mixing discourages the oversimplification that labels a person as either "of Israel" or "not of Israel" when numerical probabilities would have most of Europe and most of America having some Israeli ancestry, yet no one is "pure Israelite" and never has been, except Israel (Jacob) himself. Given that his sons did not marry sisters, even Jacob's grandchildren are only ¼ or 25% "of Israel." Israel was only one of their 4 grandparents. By the time Jacob died in Egypt, his posterity likely ranged from 1/8 to 1/32 "of Israel" and the percentages only went down from there. Matthew Roper (2008, 226-241) leads an enlightening discussion on ancient Israel's ethnic roots and varieties.

I once said to a Navajo friend that he looks more Hopi than Navajo, to me. He emphatically assured me that he is full-blooded Navajo, born of two Navajo parents, all of them fluent in Navajo, etc. We dropped the subject, but not many years later he reminded me of that conversation and told me that he had recently talked with his grandmother and learned that he does have a Hopi great-grandparent or two. Likewise, most of us are unaware of most of our ancestral lines.

This matter of actually having ancestry that cannot be substantiated applies as well to most members of the Church of Jesus Christ of Latter-Day Saints whose patriarchal blessings identify them as being 'of Ephraim'. The need to enlist the adoption option is probably not necessary in most cases. As for Europe, Joseph Smith was a good English (Smith) and Celtic/Scottish (Mac) mix, and if he was a direct descendant of Joseph of old and Ephraim, then a decent dose of the blood of Ephraim likely infused into the British Isles and northwest Europe. Significant numbers of Jews were in Rome and Spain and China and many other places before Christ was even born. Most persons in Spain and Europe likely have Jewish ancestry (or Josephite ancestry) whether presently traceable or not.

As for the Americas, one may contend that in former, less-mobile times, peoples were more homogenous than today. However, many historical 18th-century accounts in the New World relate high rates of ethnic mixing among Native Americans. Many chiefs of tribes were half of another tribe, and the rampant practice of kidnapping would guarantee much mixture. In the Old World are also many accounts (e.g., Acts 2:5-12) showing international travel and ethnic variety in many places to be as diverse as they are today.

In summary, our understanding of genetic data to date does not minimize Lehi in the Americas, as his posterity could be widespread, defusing into many areas, even though they were undoubtedly a minority among other ethnic varieties, often more numerous, throughout the Americas upon arrival. The numerical dynamics of population mixing affects the genetic heritage of Israel in at least 100 times more people than is obvious or known, and shows how most of Europe could have Jewish or Josephite ancestry, some more, some less or little, and that many, if not most, Native Americans could have Lehite ancestry, some more, some less or little, though none is pure Lehite, just as no Jews are pure Israelites either, not even at 1000 BC, let alone 3000 years later (now). This is highlighted by the fact that the Jews in China look Chinese, the Jews in Europe look European, the Jews in Africa are black, the Jews in the Arab nations look Arab, etc. So it is that most are mixtures of many ethnic ancestries. Thus, the Lehi-Ishmael posterity, though a minority, could be diffused into much of the Americas, if not most of the Americas.

1. Luca Cavalli, Paolo Menozzi, and Alerto Piazza, *History and Geography of Human Genes* (Princeton, NJ: Princeton University Press, 1994). James L. Guthrie, "Human Lymphocyte Antigens: Apparent Afro-Asiatic, Southern Asian, and European HLAs in Indigenous American Populations," *Pre-Columbian: A Journal of Long-Distance Contacts* 2 and 3 (2000, 2001): 90-163. Stephen Jett, *Ancient Ocean Crossings* (Tuscaloosa: University of Alabama Press, 2017), 345-6. Phillip Leonard and Ali Ahmad Al-Shahri, "Undeciphered Script-like Signs Shared by Oman and Colorado," *Pre-Columbian: A Journal of Long-Distance Contacts* 5/2-4, 6/1 (2011-2014): 184-88.
2. Edward J. Vajda, "A Siberian Link with Na-Dene Languages," *The Dene-Yeniseian Connection*, eds. J. Kari and B. Potter; Anthropological Papers of the University of Alaska, new series 5 (Fairbanks: University of Alaska Fairbanks, Dept of Anthropology, 2010): 33-99. Keren Rice, "Review of the Dene-Yeniseian Connection, ed James Kari and Ben A. Potter," *International Journal of American Liguistics* 77/3 (2011), 445-451. Paul Kiparsky, "New Perspectives in Historical Linguistics," *The Routledge Handbook of Historical Linguistics*, eds. C. Bowern and B. Evans (London and New York: Routledge, 2015): 64-102.

Chapter Eleven

A Word on Geography

Geography merits mention. All sciences collaborating together is the preferred strategy for figuring out a people's prehistory to the degree that each science yields its secrets. Archaeology has been the primary medium of Book of Mormon research for a century-plus. DNA has been the recent sensation and has offered insights to the degrees that it is able, mainly for the two single-gender lines, though its ability to reach very far back in the bi-gender lines is limited, which lines are 99.9% of an individual's ancestry. The text's language has been well analyzed. However, Native languages partially descended from peoples of the text constitute the silent partner in the past, unable to help the other sciences to clarify much of anything, though this book's thesis is that that is changing. While Uto-Aztecan emerges as a strong case for descending from the Nephi-Muleki merger, a few other language families show hints of promise to reveal other potential areas, descendants, and offshoots relating to peoples of the text. The previous belief of many has been that the Lehite languages were lost or eliminated as would be consistent of a small minority, and that did happen in many places, to be sure. The weakness of language is that it can easily be lost or replaced, such that peoples of the text may cease speaking their early language(s), leaving no trace of them, just as Italian or Hungarian immigrants to the United States switch to English in a couple of generations, as also some Native American groups have lost their Native language to the majority's English or Spanish in a century or two.

On the other hand, the strength of language evidence is that if enough of it has been preserved to be demonstrated linguistically, then language is among the strongest kinds of evidence. Language families cannot be fabricated. Written records unearthed in the Americas are often labeled hoaxes, DNA is often inconclusive beyond 500 years ago, the people once inhabiting an archaeological site cannot always be identified, and 'where did they come from?' or 'who are they now?' may not always be established, but language ties, when apparent, show specific ties from ancient to modern times, and the thousands of speakers of the related languages are beyond fabrication. In addition, archaeology may deal with a score of items (pottery, clothing, structures, diet, etc), and DNA has its strengths with sizable gaps; however, each language offers a lexical database in the range of 3,000 to 5,000 words, a wonderful window into a people's past.

As for geography, most LDS scholars favor a limited Book of Mormon area, but disagree on where that area was. Yes, the historic area was likely limited, but language evidence suggests that a few off-shoots spread far and wide, contributing to and mixing with a few other language families. While UA is mostly of Lehi, similar but smaller infusions seem to have spread and mixed with a few other language families in northern South America, the eastern U.S., as well as UA in western North America. As for travel, the latter-day Church moved (at 2-3 mph) from NY, to Ohio, to Missouri, back to Nauvoo, then to Utah—about 3,000 miles in 17 years (1830-1847). So for the children of Lehi to spread from southern Mexico to the Heartland (also about 3,000 miles) or over much of the Americas during their millennium of record or since is not unreasonable. Archaeologically, the only secure site is Nahom in Arabia. In the Americas several views on Book of Mormon geography have been proposed. The two most prominent are (1) Mesoamerica (southern Mexico and Guatemala), espoused by most BYU archaeologists and most thoroughly outlined by Sorenson (2013) and (2) the Heartland model centered on the Hopewell culture in the U.S. Midwest, promoted by Bruce Porter and Rod Meldrum (2009). The two groups have contended for some time, both saying that the other is wrong. I think they are both right—in ways—Mesoamerica mostly and the Heartland population as a later extension north and east from Mesoamerica, just as Uto-Aztecan is an extension north and west from Mesoamerica. The details of how and when all such happened remain to emerge, but there is strong language evidence for all such areas, as well as infusions into the northern Andes. Sorenson (2013, 631) cites several sources elaborating archaeological evidence of contact between coastal Oaxaca, Mexico and the Peru / Ecuador area of South America.

Evidence ties UA to the Nephi-Muleki merger, and 6 generations later (Mosiah, Benjamin, Mosiah/Alma, Ammon/Alma Jr, Helaman, Helaman) some of the Nephi-Muleki mixture launched into the west sea to sail to the land northward (Alma 63:4-9 and Helaman 3:3-13), probably from Middle America somewhere, which aligns well with the Mesoamerican model, though it is also convenient to the Baja California model (Rosenvall & Rosenvall 2013; achoiceland.com; bofmmodel.org), another Book of Mormon land with Book of Mormon peoples, though probably not "the" Book of Mormon land. Uto-Aztecan (UA), as the best repository of Lehite language, does not geographically support an exclusive eastern U.S. geography—an eastern U.S. extension, yes, but not an exclusive eastern U.S. geography.

The eastern United States does have a language family with significant suggestion of the same Semitic and Egyptian vocabulary as in UA, but at a lower percentage, and that needs to be thoroughly searched and established first. The language families that received Lehite infusions are not related to each other nor to UA, but only received a similar infusion that mixed with whatever else was there before.

Those whose hopes are centered in Peru, Ecuador, Columbia, etcetera, can be assured of Lehite infusions into some of those areas as well, whether the first landing place was there or not. In a nutshell, language may tell us many things and offer many leads of other happenings in other directions not yet obvious in the data of other disciplines to date.

Given the fact that Jesus taught the Nephiyyiim many things for many days, of which they were commanded not to forward very much, I would guess that He told them the future location of the New Jerusalem, which they would help build someday. So if they knew, then visiting such could have encouraged travel and movements that direction, from Mesoamerica to the Hopewell heartland. Or, even if they were not told that, the text itself says that they "did cover the whole face of the land, both on the northward and on the southward, from the sea west to the sea east" (Helaman 11:20; Helaman 3:3-4; 4 Nephi 1:23). Of course, more limitedly, that may mean covering all they knew of their more limited area; or more fully it could also mean *all the land northward*. I do not see the Rio Grande stopping progress any more then than it does now, and the width of the U.S. is much broader than the width of Mesoamerica. So why would the people not spread to the more spacious places farther northward? We cannot say that they do not travel that fast or that extensively. Remember, the pioneers traveled 3000 miles in 17 years. Then they spread over the Intermountain West, all in one lifetime (Brigham Young's). So to spread from Mesoamerica around the Gulf coast, then up the river systems—up the Rio Grande to be part of the Tanoan Puebloan peoples and up the Mississippi to the Hopewell area—during a century or two would be a more leisure advance than the saints' 3000 miles in 17 years and their spread throughout the western United States in 30 years. So perhaps we should keep an open mind while the evidence continues coming in.

Mark Alan Wright (2015, also online) in an article "Heartland as Hinterland" expresses parallel thoughts in suggesting a highly plausible reconciliation of the two views, pointing to Mesoamerica as the original core area, but explaining that does not rule out a northward extension to the eastern U.S. Exactly!

Exactly where the final battles occurred and where the Hill Cumorah or Ramah was (Nephite and Jaredite names for the same hill, Ether 15:11), I do not know, but am okay with awaiting more information. The Nephite battles lasted some 60 years, from when Mormon was 15 to 74, so who knows the extents to which the hatred and hostilities happened? I am not suggesting a cohesive, orchestrated war effort ranging from Mexico to the Midwest, but such a spread of the people and parallel disintegrations is possible.

The Tarahumara (a UA people) are still great runners who cover 100 miles a day. Geronimo (an Apache) could run 300 miles in 3 days. Many Hopi and Navajo are extraordinary long-distance runners. It was the culture of many groups, though not all individuals were so inclined. Nevertheless, the 2,000 miles from southern Mexico to Missouri, at 100 miles a day would take 3 weeks, at 50 miles a day would take 6 weeks, at 25 miles a day would take 3 months. The pioneers covered near that distance in a 3-month journey from Illinois to Utah, and the kin in both places remained in contact, occasionally visiting each other, when

transportation was 2 or 3 mph on foot or by animal, like the preceding millennia. So why should Lehite AD extensions to the U.S. Midwest be deemed improbable? Or enough contact to keep informed of each other be unlikely? If degrees of communication followed such expansions, then that same cultural contact could also aid in the deterioration in both places two or three centuries later. War follows waywardness wherever it happens. Even if the events recorded in the text were more localized, the cultural hostilities toward all Nephiyyiim could have spread to wherever they were found or were still identified as Nephiyyiim. Most Latin American countries gained independence from European countries between 1810 and 1825. The idea of independence seems to have spread quickly, from Mexico to Argentina. Some may claim that long-distance communication was better in AD 1810 than in AD 300. Really? Travel was basically 2-3 mph in both eras.

It might be worth noting that in Mormon's correspondence to his son Moroni (chapters 8 and 9) they may have been in two very different places—Mormon near where Nephites were inflicting the most horrible atrocities and Moroni where they were deciding details of baptismal policy. How many miles apart they were is hardly retrievable, but different states of civilized behavior in different places and communication over 100 miles or 1,000 miles are not out of the question. In short, regardless where the recording (on plates) was taking place, I see no obstacle to parallel happenings in parallel cultures in contact only a 3-month journey apart, when the war lasted 60 years.

Being "nearly surrounded by water" (Alma 22:32) does not match many places, but Mesoamerica fits. The Mexico-Guatemala area also allows Helaman 3:8: "They … spread … from the land southward to the land northward … to cover the face of the whole earth, from the sea south to the sea north, from the sea west to the sea east." Where else conforms with a sea in all directions? Mexico-Guatemala or perhaps Honduras-Nicaragua. Baja California and Florida lack a sea north; and Michigan lacks a sea south. Launching into the west sea to sail to the land northward also fits Mesoamerica (as launching place) and the UA populations (as landing places) along the west coasts of Mexico and Southern California after the Nephi-Muleki merger, and puts them outside the final destruction.

Several times the Book of Mormon narrative speaks of armies crossing the River Sidon (Alma 2:27, Alma 16:6, Alma 43:5) seemingly on foot. No boats or floating devices are mentioned. I have never been to southern Mexico's Rio Grijalva or Usumacinta (candidates for Sidon in Mesoamericanist thinking), but the pictures of the upstream areas look more like the San Juan River (from the Colorado mountains to Lake Powell), and I have crossed the San Juan River on foot in several places, knee- to waist-high. Indeed, the upper Grijalva appears much more crossable than the Mississippi River (the Heartland's Sidon). For an army to cross (swim) the Mississippi would leave some drowned, or at best, would have most scattered a mile or two along the opposite bank, for those arriving vs. those floating toward New Orleans.

The Heartland Model relies heavily on Joseph Smith's statements, like that in a letter to Emma about Zion's Camp "wandering over the plains of the Nephites [Ohio to Illinois]" and finding mounds of skeletons of those killed in battles (Joseph Smith Papers, D4:52-59). I have no problem with that. Some language evidence (not yet published) also suggests Nephites / Lehites were in the eastern U.S., as certain infusions appear to have come into the area, mixing with what was already there. I simply think the Lehites traveled more extensively than most others think they did. Even if there were no language evidence, Lehite mixtures are still likely. However, their presence in the east is not as language-apparent as the much stronger case of UA in the west, far away, as it appears that the two traveled northeastward and northwestward, respectively, from Central America. UA is 60-90% Near-East vocabulary while the language family in the eastern USA might have 15%. These are not related language families, but the one in the east has received a smaller infusion of UA-like lexica (Lehite vocabulary) that mixed with whatever else was already in place.

In addition to the Midwest mention, two *Times and Seasons* articles (in 1842) enthusiastically describe discoveries in Central America, as relevant to the Book of Mormon and brought to light by John

Lloyd Stephens (Andersen and Stoddard 2015, 19-20). Joseph Smith, whether the author or not, was the editor or overseer. He, John Taylor, and Wilford Woodruff were all involved in the journal at the time, and none ever spoke against the Central America option. Another recorded statement of Joseph Smith spoke of Mexico as the place where the Nephites lost their power (Mosiah Hancock autobiography).

Andersen and Stoddard (2015) raise other points from Book of Mormon geographic descriptions to suggest that the Heartland Model is not consistent with those descriptions as the exclusive Book of Mormon area. However, I like the Heartlanders and see the eastern USA is an additional area to which Lehites traveled and were prominent. Furthermore, Jaredites spread far and wide for many more centuries than the later Lehites did, and Jaredites likely left larger populations than Lehi in most places. So Jaredite mixtures in both North and South America were likely thicker in most places than Lehi was, including the eastern USA. Thus, the eastern USA had plenty of Book of Mormon peoples (both Jaredite and Lehite) mixed with much else. The Adena of the Midwest, the Olmec of Mexico, and the Chavin of the Andes were all likely part Jaredite (mixed with much else). Certain groups in northern South America similarly have UA-like lexica (Lehite) infusions into otherwise unrelated language families, in addition to Jaredite mixtures mixing with many as well.

In spite of a lack of archaeological confirmations or place names written in stone, the language picture suggests (1) widespread migrations of Lehi's posterity to a few places in both North and South America, regardless the more limited historic area; (2) and also that Lehi's posterity were a minority wherever they went, surrounded by other languages in all such places, eventually mixing with some of those other languages. Probabilities are that language traces were lost in more Lehite mixtures than those in which traces remain, and so Lehite infusions may be more numerous and widespread than many suppose.

In addition to the Lamanites, several scriptures tell us that many of Nephi's posterity survive to this day (DC 3:16-18; 1 Nephi 13:30,35; 1 Nephi 15:13; 1 Nephi 22:7-8; 2 Nephi 1:5; 2 Nephi 9:53: 2 Nephi 10:19; 2 Nephi 26:15; Alma 45:13). The destruction of a people seldom means complete annihilation (nor in Biblical history as well), but more often means that their identity or cohesive civilization ceases after being reduced by violence, though refugees and survivors and descendants of earlier departures may be many.

We know that Mulek's landing was north of Lehi's: "the Lord did bring Mulek into the land north and Lehi into the land south" (Helaman 6:10; Alma 50:11). So Zarahemla was north of the original land of Nephi, or what later became Lamanite lands. However, the Lamanites eventually scattered all over, and west of the Mississippi was one of those places evidently: "And thus you shall take your journey into the regions westward, unto the land of Missouri, unto the borders of the Lamanites" (DC 54:8); "where the city Zion shall be built … shall be on the borders by the Lamanites" (DC 28:9); "the land should be purchased … even unto the line running directly between Jew and Gentile" (DC 57:4); "that soon it may go to the Jew, of whom the Lamanites are a remnant" (DC 19:27). However, in identifying those groups as Jews or Lamanites, we should not assume that they were only that; they were undoubtedly mixtures mixed with many other ancestral lines, as we all are and as discussed in Chapter 10. Though Lehi and Ishmael were of the house of Joseph, one or both likely had some Jewish ancestry, and their wives may have had 1 to 8 Jewish great grandparents, and be partially, if not mostly, descended from the Jews of Jerusalem. Yet even though the Lehi-Ishmael party was both Josephite and Jewish, their American posterity by now are mixtures of Israel, Jaredite, Bering Strait blood, and who knows how many other ancestral lines, nor do we know the percentages. Those "of Israel" today, even orthodox Jews, may be 10% "of Israel" at best (Chapter 10). Furthermore, most of those "of Israel" no longer speak the languages of their Israeli ancestors.

In conclusion, I am not an archaeologist prepared to argue the archaeological evidence for or against anything very specific regarding the original Book of Mormon history area(s); furthermore, I am more interested in all present places to which Book of Mormon peoples and languages have presently spread, regardless where it all started. The language evidence holds enormous potential to shed light on the many

movements of the peoples of the text—movements occurring both during and after the millennium of record. The language evidence (only a fraction of which is in this book) suggests to the author's mind that such movements make many places Book of Mormon lands—much in the United States, some of Canada, all of Mexico and Baja California and Central America, and at least the northwest half of South America—regardless where they started or the historic homelands from which they spread or how small their percentages among those with whom they have mixed or whether Lehite language leftovers linger or not. Language details can often tell us where a people split off from, possibly how long ago, who they were neighbors to originally and later along the way, who they are descended from, who they are more closely related to and more distantly related to. In other words, some of history can be roughly outlined by language history. However, the linguist-hours required to do that dwarf present accomplishment as a drop in a bucket compared to what could be done.

Chapter Twelve

Conclusions

In conclusion, consider what Native American languages may or may not tell us about Book of Mormon peoples and the next steps to be investigated in order to know more. Evidence strongly suggests (1) that UA is descended from the Nephi-Muleki merger; (2) that Lehi and Nephi's languages included a knowledge of Egyptian; (3) that most UA peoples partially descend from those who sailed (via the west sea) to the land northward or walked there; (4) that the Lehi-Ishmael party seemed to be speakers of an Aramaic substrate or a Hebrew-Aramaic mix; (5) that a few South American language families contain striking suggestions of some of the same Semitic-Egyptian language that is found in UA; (6) that some eastern U.S. languages contain smaller amounts of that Semitic-Egyptian infusion; (7) however, all such language families are mixtures, not linguistically or genetically related language families; (8) DNA data to date tell us much, and more will yet be revealed.

From here, given Egyptian's component in UA, we can now work toward knowing more about exactly what kind or stage of Egyptian? From which ancient dialect of Egyptian? Was it the Late Egyptian of Joseph, Ephraim, and Manasseh's day in Egypt's north or delta region or something else?

We might expect that during the centuries of righteousness, that the scriptures became the most-read models of language (like the Bible in 19th-century America) and that such reading may have introduced some Egyptian into their speech, much like the Latin that entered English when Latin was the language of learning in the schools. However, if the Uto-Aztecan northward expansions took place about Hagoth's time, which the author surmises as probable, such that most of the Uto-Aztecans were not involved in the final destruction, then that means they departed with their language before the centuries of peace, already with a substantial amount of Egyptian in the language of the Nephiyyiim in the centuries before Christ. That brings us back to Nephi's statement that the language of his father consisted of the learning of the Jews and ***the language of the Egyptians***. Pockets of Northern Kingdom Josephites speaking Egyptian in the early first millennium BC is possible (only because almost anything is), but not necessarily probable, though Josephites maintaining ancestral records in Egyptian, liturgical texts in the language of their ancestors Joseph, Manasseh, and Ephraim, is very possible. In that way, it is not at all improbable that the Nephiyyiim intentionally incorporated some Egyptian from the brass plates into the spoken idiom, somewhat like ancient Hebrew was adopted into modern Hebrew as the language of modern Israel, regardless what everyone was speaking beforehand, and as Latin, the language of learning and books, came into English.

The possibility of identifying a language family descended from Lamaniyyiim who departed early from contact with the Nephiyyiim may help determine whether the Egyptian in UA was in the spoken language of the Lehi-Ishmael group from the beginning vs. what was later incorporated from reading the brass-plate scriptures. Some South American language families may tell us. In fact, language evidence may eventually clarify many things. One problem is that becoming an authority in UA and completing a major comparative work took 30 years, so five more language families—150 years? I have started eating vegetables. And people ask how I'll stay busy in retirement! Finding time to do research while working a fulltime job, raising a family, doing ecclesiastic duties, and keeping my immaculate yard, is like a short-order fast-food cook hoping for time to read. Retirement may allow better progress in my before-I-kick-the-bucket list, but what is really needed is more linguists than one working on it. So if any young people want to be linguists and help, contact me to avoid re-inventing my partially chiseled wheel. Such research pays nothing, but is a fascinating lifetime hobby. Many youth dream of being a movie star or pro athlete, but how many dream of being an obscure linguist, working on what few understand or care about? Maybe it is the difference between making millions vs losing only a little bit that leaves some fields wide open.

The evidence for Uto-Aztecan's descent from a stage of language about contemporary with Alma and Hagoth is that all of UA, every branch, has much of both the Nephi language components and of the Muleki language components in UA. So the whole UA language family descends from the Nephi-Muleki merger. That is, all three of the idioms mentioned (Semitic-kw and Semitic-p and Egyptian) contributed to common UA words found in the whole UA language family, in all 11 branches.

From Semitic-kw are

(222) UA *kwasï 'cook, boil, ripen' < Hebrew bašel 'cooked, ripe' and

(223) UA *kwasi 'tail, penis' < Hebrew baaśaar 'flesh, penis'.

From Semitic-p are

(8) UA *pusi 'eye' < *booṣer 'eye' and

4) UA *pow 'road' < Hebrew boo' 'way, coming'.

From Egyptian are

(195) UA *omwa 'salt' < Egyptian ḫm' 'salt',

(197) UA *kumCa 'husband' < Egyptian qm' 'create, think, engender', and

(180) UA *t/raman 'tooth, jaw' < Egyptian rmn 'side, row of rowers'.

So all three components—Semitic-kw, Semitic-p, and Egyptian—were present in what is called Proto-Uto-Aztecan, the original mixture from which all UA languages descend.

Some may object, citing glottochronology and some people's presumed time-depth of 5,000 years for UA, but holding fast to glottochronological estimates is more a hobby of anthropologists, archaeologists, and non-specialists than of linguists. Most linguists know better and view glottochronological estimates like colds—they usually pass with little permanent damage. Furthermore, glottochronology can hardly apply to language mixtures. The Semitic in Yiddish would calculate to its separating from Palestinian Semitic 10,000 years ago, though we know it was nearer 2,000 years ago.

While Semitic-p has Aramaic-like features and vocabulary, it also has Hebrew-like features. These kinds of unique sets of features are fairly typical of related languages. For example, the language of the Book of Job is unique. Though labeled Hebrew, it contains features more Arabic-like and Aramaic-like than the Hebrew of the other Biblical authors. The language of the Nabateans is primarily an Aramaic written language, but used by an Arabic-speaking substrate. Many languages are a unique combination of features of various other related languages of the family.

Semitic-kw is the probable Mulekite contribution and has some Phoenician-like characteristics. The UA plural suffix *-*ima*, like the old Northwest Semitic *-*iima*, retains the final vowel, like Ugaritic and probably Phoenician in places, but that final vowel had long been lost in Israeli Hebrew, whose suffix is -*iim*. UA's **na-* is also old and original, not like Hebrew's *ni-*. A sorting and more careful study of Semitic-kw might reveal several treasures.

Some Semitists might question an assumed lack of the common Semitic words. I say assumed, because many common Semitic words do appear in UA, though less common ones became more prevalent. Some are indeed missing—Hebrew šmʕ 'hear'—but for others, it is more a matter of reversals of prominence than lack: e.g., the common Hebrew ʕayn 'eye' does have rare appearance in UA, while the rare Semitic bṣr 'see/eye' serves as the common UA word for 'eye' (8); the common Hebrew 'iiš 'man' (36) and 'išaa 'woman' (37) are found in UA, but not as prominently as Semitic *đakar 'male, man' > UA *taka 'man' (28) and Hebrew ḫaberet > UA *hupi 'woman' (239), which occur in many more UA languages. Yet the UA basic vocabulary from Egyptian and Semitic are numerous: body parts, plant and animal terms, nouns of nature (sun, moon, star, sky, rock, water, etc.; see 9.1 in Stubbs 2023.)

Beyond UA, the value of UA for insights into other languages, or the keys available in UA to serve as keys for identifying related infusions into other language families will prove important to the larger picture. While a general acceptance among linguists of UA's tie to these Near-East languages will likely

take longer than I will last, the case of UA's Near-East tie is strong, and finding some of the same vocabulary with similar sound changes in other American language families should allow a fair hearing for the spread of Lehi's posterity to various points in the Americas. Such a spread is suggested by the fact that the language families containing striking leads, though a small percentage, are in both North and South America and are interspersed among the remaining larger percent of languages lacking such semblances. However, keep in mind that I am not saying that these language families with similar infusions are related, but only that these otherwise unrelated language families have received an infusion from a common Near-Eastern source. The contents of this book are only the tip of the future's iceberg.

The larger language picture allows the following viable hypotheses for the diffusion of Lehi-Ishmael posterity in the Americas: (1) that somewhere in Middle America was the original historic area; (2) that the UA peoples are mostly northwest extensions from that historic area, many being partially descended from those who launched into the west sea to settle west coast areas of the land northward; (3) that the eastern U.S. also has a prominent presence of Lehi; (4) that some earlier and later diffusions of Lamaniyyiim in Central and into South America may yet be traceable. The mixtures—and all are mixtures—may retain parts and pieces of their original languages sufficient to be traced, though the extraction, untangling, and demonstrating those components will take many linguist-hours.

In conclusion, the internet is multiplying misleading messages at the speed of light, yet if one digs to get the big picture of all the available information, the Book of Mormon is largely proven. Witnesses of the Spirit are indispensable, but letting misinformation mislead the masses without setting the record straight is inexcusable. Academicians supposedly encourage open-minded, independent thought or critical thinking, yet they often construe critical thinking to mean rethinking the values-system of one's upbringing, apparently confident that students will 'see the light' and be 'liberated' from the presumed 'mythologies' of religion or traditional values, but academics' responses are less than enthusiastic should such an investigation confirm what they were sure could not be so. When evidence is presented to suggest conclusions outside their paradigms, such as Semitic speakers in ancient America or support for the Book of Mormon, many of their reactions show their paradigms to be as dogmatic as they think religious ones are. Academicians claim to be open-minded seekers of truth, and minus a few duped by reality-challenged philosophers deeming truth to be ever relative or non-existent, the rest of us should work toward it. As for language evidence, keep in mind, as if 1657 matches were not enough, that there is another way to know whether the Uto-Aztecan case is valid or not: if it be truth, then it is only the beginning of findings, in Uto-Aztecan and a few other language families. Likewise, if the Book of Mormon is true, then the findings consistent with those truths have only begun to be amassed. The gap between more and more 'for' and dwindling hopes 'against' will only grow greater. The balance's steep lean between light-weight *straw* men and the eternal, weightier substance of the *gold* plates will grow to be ever more obvious.

Appendix A: Spell-Bound

(from *Morsels for the Mind*, 148-9, Stubbs, 2021, 4th edition)

English is known for exceptions to rules and inconsistencies between spelling and speech. The question often arises: why not change the spelling system and spell words how they sound? While that may seem reasonable, consider the complications.

(1) In a hope to spell words how they sound, we could ask, "How do the symbols themselves sound?" The Latin alphabet was borrowed to write English. Latin's five vowel symbols do well for writing Latin's five vowel sounds, but when we use those five symbols to write the ten vowel sounds of English, the result is far from a perfect match. Some dialects of English have more than ten vowel sounds, but for the sake of simplicity we will deal with ten. Below, we list some of the spellings used for each vowel sound; then in parentheses we list the vowels having that sound, and the total number of spellings for that sound (the vowel symbols are standard linguistic orthography; e.g., Campbell 1999, xix; Beekes 1995, 270):

i: seat, receipt, reed, read, feet, feat, machine, sink, grieve, wavy (e, i, y; 7 spellings)

I: sit, rid, fit, busy, women, we're, here, superior, myth, sheer, hear, weird, discipline, village (a, e, i, o, u, y, that is, all five vowels plus y; 10 spellings)

e: sate, raid, fate, gourmet, chalet, feign, eight, great, say, day, guage, lingerie (a, e; 8 spellings)

ɛ: set, red, fed, bear, bare, bury, marry, many, said, leather, (h)air, their (a, e, u; 6 spellings)

æ: sat, rat, fat, laugh, lather, cow, flower (a, o; 3 spellings)

a: father, bother, sought, rot, ensemble, sergeant, caught, cough, bought, buy, heart, car, lingerie, gone (a, e, i, o, u, all five vowels; 9 spellings)

ə: some, come, rut, fun, won, one, the, bulletin, compliment, women, woman, rough, flood, love, brother, photography (a, e, i, o, u; 8 spellings)

o: go, comb, or, ore, road, so, sew, though, flow, war, wore, worn, warn, sword, door (a, e, o; 8 spellings)

U: soot, book, foot, put, full, woman, would (o, u; 4 spellings)

u: suit, boot, rude, do, move, two, to, too, womb, through, shoe, blew, blue (e, o, u; 10 spellings)

Not counting diphthongs or vowel combinations, the vowel **a** represents 7 of the 10 English vowel sounds; **e** does 8 of the 10; **i** is good for 4; **o** yields 7 of the 10; and **u** does 5.

A final silent **e** is supposed to make the preceding vowel long, but it often does not: discipline, vineyard, machine, gone, one, come, love, purpose.

The glides **w** and **y** are semi-vowels, being similar to the vowels **u** and **i**, but so is English **r** and the so-called **-er** sound nearly a vowel sound, having little to do with **e**. Any of the five vowel symbols before **r** can yield the **er** sound: solar, coward, sugar, her, fir, sir, favor, work, rigor, sure, fur, urgent. Let r̲ be the vocalic r̲ symbol. In Ute and Hopi, the vowel ö sounds like English r̲, such that **iron** would be spelled **ayön**.

Note that **ough** has 6 distinct sounds: a (thought), əf (tough), af (cough), o (though), u (through), æu (bough); and **ou** also has 6: æu (house, sour, wound), o (pour), u (soup, wound), U (could), ə (jealous), r̲ (journey). The sequence **ea** has 7 sounds: i (beach, eat), I (hear, beard), e (great, steak), ɛ (head, bear), a (heart), ə (sergeant), r̲ (earth). Double **oo** has 4 sounds: o (door), u (boot), U (book), ə (blood).

Consonants vary considerably as well. Our so-called **sh**-sound is represented by 7 spellings: sh (shingle); ss (pressure, permission); ti (nation); s (sure, tension, question); sch (schwa); ch (chef, chivalry, machine); and ci (musician). The **k**-sound has 5: k (kite); ck (back); c (cat); ch (choir, mechanic); q (quiet). Foot, phone, and rough denote three spellings for the **f**-sound. Gentle, just, and edge show 3 for the **j**-sound; and azure, measure, sabotage, and equation show 4 for the **zh**-sound. Three pronunciations belong to the **-tion** ending: nation (sh), question (ch), and equation (zh). Then we tell school children: "Just sound it out!"

(2) If we spell words like they sound, then many homonyms, now distinguished in written English, would be spelled the same. Which spelling should we select for homonyms like **once** and **wants**; or **one** and **won**; or **to, too**, and **two**; or **do, due**, and **dew**; or **doe** and **dough**; or **for, fore**, and **four**? We also have homonyms like **worn** and **warn**; and **wore** and **war**; but adding **y** to the last gives us **wary**, whose vowel is like **wear**; then add **y** to **wear**, and we have **weary**, whose vowel is like **weird** and **we're**, though **were** and **worm** exhibit the more usual r-sound of any vowel-plus-r.

(3) Shall we spell foreign words how they sound—shevrolay—and obscure their origin? And how far back is foreign? Would we consider the Scandinavian loans **they, their**, and **them** foreign? Would the Latin loans into continental Germanic count as foreign: mile, dish, cup, line, street? Over 80% of the "English" vocabulary in an unabridged dictionary is from foreign sources.

(4) English pronunciation changes vowel qualities as the accent moves back and forth in related words. Should we replace **photograph** and **photography** with **fotəgræf** and **fətagrəfy**? Or should we obscure that relationship and those of other related words like **south** and **southern** to **sæuθ** and **səðrn**?

(5) The spell-binding power of visual perceptions or written orthography sometimes prevents us from hearing what we are saying: for example, not all English speakers realize that the **th**-sound is actually two sounds: one is voiced đ, as in **this**, and the other is voiceless θ, as in **think**, as different as **z** and **s**, or **v** and **f**. Consider the following abundance of **th**-sounds: Heather and Dorothy close their thick math books because their mother thinks they should bathe their brother Timothy, though the weather lacks warmth. Reversing the voicing of the two **th**-sounds yields: Heaθer and Dorođy close θeir đick mađ books because θeir moθer đinks θey should baθe θeir broθer Timođy, θough θe weaθer lacks warmđ.

(6) While our spelling system may seem archaic and outdated, the archaic spellings do give us insight into how the words were originally pronounced. When English first became a written language, words were spelled how they sounded. Thus, silent letters used to be pronounced: the l's of wa**l**k and ta**l**k, as well as **k**nif**e**'s silent **k** and **e**. The previous reality of the silent **gh** in dau**gh**ter is apparent in German to**ch**ter, Greek thu**g**ater, and Sanskrit duhitar. Compare **know** with its Greek cognate **gno**stic (knowing). Changing the spelling would remove the historical hints of language ties and original pronunciations.

(7) A change in our spelling system now would later become outdated after another century or two of inevitable language change, and the words would again not be spelled as they sound. Would we then change the spelling system again and perhaps make this a bi-centennial event?

Perhaps the alphabet does have us spell-bound or bound to the present spelling system, but 'fixing' it may create as many problems as it solves, if not more, and would certainly erase a lot of history.

Appendix B: The Subconscious Mind's Role in Language Acquisition

(from *Morsels for the Mind*, 142-146, 2021, 4th ed)

As an ESL instructor at the College of Eastern Utah's San Juan Campus, near Navajo land, I teach many native speakers of Navajo, for whom English is a second language. Doing college-level coursework in a second language is a challenge that few U.S. professors experience. In spite of two to five years of college coursework in each of five languages, I would flunk miserably if I had to write papers and absorb lectures in Arabic or Navajo, while competing with native speakers. Too many people expect that an ESL program should automatically process second language learners to become writers of relatively flawless and fluent English. They assume that English grammar is found in English textbooks. However, English textbooks contain not a hundredth of the rules and intricacies needed for fluency in English. Lack of patience toward second language learners on the part of educators is partially due to neither group understanding the nearly infinite extent of the complexities and the significant role of the subconscious mind for internalizing the rules governing those complexities (Chomsky 1957; Pinker 1995, 1-24; White 1995, 1-32). Correcting ESL papers is a linguistic adventure, which regularly illuminates oddities of English that we native speakers are hardly aware of.

For example, one ESL student wrote: "My sister uses three blankets on cold winter nights, but I use only one blanket on nights, whether winter or summer." 'On cold winter nights' is okay, but 'on nights' is not. The mistake is natural enough: if 'on ... nights' is fine with adjectives, why is it not okay without adjectives? On further investigation, the rule is verified that 'night' can be the object of the preposition 'on' only when accompanied by adjectival elements that modify or further specify the night. (An asterisk * indicates an utterance unacceptable to native speakers or one that native speakers would not say.)

1. I use three blankets on cold winter nights.	OK
2. *I use three blankets on nights.	NOT OK
3. I used three blankets on those nights. (previously specified)	OK
4. I use three blankets on nights when it is cold.	OK
5. It happened on a dark night.	OK
6. *It happened on a night.	NOT OK
7. It happened on a night that was remembered by all.	OK
8. It happened on a night in May.	OK
9. It happened on a night of suffocating darkness.	OK

Sentences 1 and 5 clearly show adjectives modifying 'night'. Sentences 4 and 7 have adjective clauses that follow and modify 'night'. Sentences 3, 8, and 9 have adjective-like specifiers that more specifically identify the night(s). In contrast, sentences 2 and 6 do not have any such adjectives or specifiers and are thus ungrammatical or sound wrong to native speakers.

What a peculiar rule! Yet typical of thousands! And how many English textbooks explain that the preposition 'on' can take 'night' as its object only if accompanied by adjectives/specifiers? None! because native speakers already know that rule ... in their subconscious minds ... though their conscious minds do not know that they know it. Yet that only begins the prepositional intricacies involving the noun 'night' as object. Note that 'in' does not require adjectives like 'on' does.

10. It happened in the night.	OK
11. *It happened on the night.	

However, 'in' does require 'the'.

12. I wake up in the night.	OK
13. *I wake up in night.	

On the other hand, ‘at’ does not allow ‘the’.

14. *I wake up at the night.
15. I wake up at night. OK

The above sentences reveal four prepositional intricacies with regard to only one noun as object of a preposition. The unacceptable (asterisked) structures are typical of what ESL students produce, and understandably so, since acceptable structures exist parallel to them. Yet we native speakers of English know all that detail, not by any conscious awareness nor from instruction, but by our subconscious minds sifting through and figuring out the acceptable structural details from thousands of sentences heard through childhood.

Another ESL error (16b below) found in student writing highlights an additional item of subconscious knowledge that we native speakers take for granted. In English we use different structures for questions as opposed to statements: ‘he went’ vs. ‘did he go?’ While they do not know it consciously, native speakers of English subconsciously know that ‘not only...’ often triggers question-like structures even in statements:

He went. (statement structure)
Did he go? (question structure)

16a. Not only did he go, but he took me with him.
16b. *Not only he went, but he took me with him.
17a. Not only am I cold, but I'm hungry too.
17b. *Not only I am cold, but I'm hungry too.

Finding a sentence like 18b in an ESL student’s writing reminded me that certain uses of the word ‘so’ also trigger similar structures:

18a. They have studied hard, and so have we.
18b. *They have studied hard, and so we have.
19a. He can jump high, but so can you.
19b. *He can jump high, but so you can.
20a. The fifth graders are working hard, but so are the fourth graders.
20b. *The fifth graders are working hard, but so the fourth graders are.
21a. I ate a piece of pie, and so did you.
21b. *I ate a piece of pie, and so you did.

Another ESL student wrote of a fellow who ‘lost his both arms’. Obviously, native speakers do not make mistakes like that, yet the mistake is quite logical in view of the fact that ‘both’ behaves syntactically much like numbers in most structures ... except that one.

22.	lost two arms	lost both arms	OK
23.	he has two	he has both	OK
24.	lost two of his limbs	lost both of his arms	OK
25.	lost his two arms	but not: *lost his both arms	

Only an ESL student would produce such a logical exception to a rule.

Consider adjectives that can be made verbs by suffixing -en: blacken, whiten, redden, but not *greenen, *yellowen, nor *brownen; we can also say shorten, fatten, soften, harden, sadden, gladden, sicken, lighten, deepen, widen, and weaken, but not *tallen, *thinnen, nor *biggen. Strengthen and lengthen are formed from nouns instead of adjectives (*strongen, *longen). How many English books teach all that? Though many

native speakers are not consciously aware of such distinctions, their subconscious knowledge of the matter prevents them from making mistakes like second language learners: *Can you smallen our homework assignment?

Consciously learning all of the structural and semantic complexities of a language is next to impossible. Few are known at the conscious level, and previously unknown subconscious rules continue to be discovered. Even second language learners learn some aspects of a second language subconsciously.

For example, the rules governing the order of adjectives are known entirely at the subconscious level by native speakers and largely by second language learners as well. English has eight or more categories of adjectives, and specific rules govern their order (Quirk and Greenbaum 403-4), yet how many native speakers (or non-native speakers) can quote the rules governing the order of adjectives? While twenty-four possible orders exist for four adjectives, usually one of the twenty four is preferred, perhaps two or three permissible.

26. the best young Japanese exchange students
27. a new gray rock retaining wall
28. the simple old brown adobe house

Very few of the other 23 possible orders for four adjectives are produced:
26a. *the Japanese young exchange best students
26b. *the exchange best Japanese young students
27a. *a rock new retaining gray wall
27b. *a retaining rock gray new wall
28a. *the adobe simple brown old house
28b. *the adobe brown old simple house

While native speakers approach 100% on order-of-adjectives tests, advanced second language learners also do fairly well without consciously knowing the rules either. In other words, even second language learners absorb more subconsciously than either they or their instructors generally realize.

Another example of subconscious language acquisition presents itself on a regular basis. Native speakers often have difficulty identifying a sentence's grammatical subject and object consciously, though they were drilled in such for most of their twelve years of public schooling. Students are taught about subjects and objects annually, yet after a summer vacation, they forget and must be retaught year after year from about fourth grade to twelfth. Then in college I put a sentence on the board, ask for the subject, and many still cannot remember how to identify subjects and objects consciously. Yet subconsciously they knew before ever starting school what subjects and objects are, and exactly where they go in a sentence's structure. Evidence for that lies in the fact that native speakers do not make errors like the following:

29. *Her saw he.
30. *Him would like to ask she to the dance.
31. *After them beat we in tennis, us treated they to dinner.
32. *The tracks were hard for I to see, but me followed they until him appeared and nearly scared I to death.

In the above sentences, the subject and object pronoun forms were simply switched. In English we have subject pronoun forms (I, he, we, they) to be used as subjects of verbs and object pronoun forms (me, him, us, them) to be used as objects of verbs and prepositions. The lack of the above kinds of errors demonstrates that students/children subconsciously internalize the distinction between subjects and objects, and know exactly where subjects and objects are respectively located, long before they ever learn the words subject and object. By age 3 or 4 their subconscious minds have analyzed the data and correctly formulated

most of the structural complexities of their native language simply through exposure to the language. Even usage errors (as English teachers call them) are learned subconsciously and according to specific patterns. For example, the first person singular object pronoun (me) is sometimes used as part of a compound or plural subject 'me and Jim went to the store', but not when singular *'me went to the store'. (I asterisk usage as a linguist rather than as an English teacher.) Though 1 to 3-year-olds do make pronoun-case errors while still internalizing structures from the data they hear, like 'me want a cookie', by age 3 or 4 most children have subconsciously figured it out and correctly put subject pronouns in subject slots and object pronouns in object slots before they even start school. Yet explanations designed to help them identify subjects and objects consciously are quickly forgotten year after year by millions of students nationwide.

Consider another example of native speakers' subconscious knowledge. In a context of playing tag, one can ask, "Who's it?" But in a context of answering the door, a person wondering who is knocking cannot use the contraction "Who's it?" but must separate the contraction and ask, "Who **is** it?" How many native speakers are consciously aware of that rule? Or how many English textbooks teach that distinction?

Navajo speakers use 'again' in interesting ways. An ESL student wrote about a horse that was owned by three successive owners:

33. First, David bought the horse from a farmer, then sold it to Jim. Jim soon realized that he could not afford to keep it, so he put it up for sale a year later, and *Harold bought the horse again*.

Harold only bought the horse once, but it was the third time that someone bought the horse. We teach students that adverbs (again) modify verbs (buy). Yet the difficulty with the last clause (in italics) shows that adverbs do not always modify only verbs, but sometimes subject-verb or verb-object combinations. If the adverb 'again' were modifying only the verb or the verb-object combination, then 'Harold bought the horse again' should be okay; for 'buying' (the horse) was happening 'again'—for the third time—even if Harold himself bought it only once. Leave it to an ESL student to dash our presumed precepts to pieces.

Another Navajo speaker wrote:

34. I had (gave birth to) Jimmy when I was seventeen, then three years later I had Nancy again.

She did bear again, but did not bear the same baby twice. So in this case, 'again' apparently modifies a verb-object combination, but the object changed, disallowing an acceptable use of 'again,' though the ESL student considered the repetition of the same subject-verb combination to warrant 'again' as okay. Other verb phrases (such as 'gave birth to') may more easily allow it: At twenty I gave birth again—this time to Nancy. In any case, the Navajo language obviously uses the iterative mode (again) differently than English 'again'.

In contrast to 'again' not being able to modify the verb-object combination when different subjects are buying a horse in succession, members of a deer-hunting group can have different subjects shooting a deer in succession while 'again' modifies the verb-object combination: 'David shot the deer; then Jim shot it again; and as it escaped over the hill to where Harold was, Harold shot it again'. What English book lists the verbs or verb-object combinations that 'again' can vs. cannot modify when the subjects change?

We could go on indefinitely, for the list of oddities is endless. The above examples are but a glimpse into the nearly infinite expanse of lexical categories, syntactic structures, and semantic dimensions of a single language. In addition to categorizations, structures, and semantics, the mutual effect of each item of each category upon every other item of the other categories creates possible combinations that run into the millions. In other words, two language elements (whether word, phrase, clause, paragraph, or story) joined together produce a language entity greater than the sum of the parts and sometimes quite different than the sum of them. The following anecdote illustrates this well:

35. Auntie is at death's door, but the doctor's trying to pull her through.

At death's door means 'deathly ill, near death', and *trying to pull someone through (an illness)* means 'attempting to help them get better'. But the juxtaposition of these two phrases does more than cancel the intended meaning of each. It backfires to mean the opposite: the doctor is trying to pull her through death's door. Similarly, the presence of any word or structure can affect the structure, meaning, or possible interpretations of every other word, phrase, or structure for quite some distance in either direction.

The nearly limitless intricacies of language are far too many to be numbered and specified, let alone learned consciously. Matters normally taught are but drops in a bucket compared to the oceans of existing intricacies. Furthermore, much of the ocean has not yet been mapped. Linguists continue discovering rules and properties previously unknown—unknown consciously, that is. For that is the crux of the matter: native speakers know the language, for the most part, subconsciously.

For that reason, the kinds of writing errors produced by native speakers of English are a relatively finite set, and that small set is the focus of most grammar books: irregular verbs, double negatives, avoiding the use of past participles for past tense (I seen it, he done it), agreement errors, fragments, run-ons, and other general editing skills. These are perhaps one-tenth of one percent of the thousands of complexities facing the second language learner. While grammar books specifically designed for ESL learners cover much more than traditional grammars do, both contain only a limited quantity of all that second language learners must master. Already fluent in English, a native speaker's task is essentially limited to learning the mechanics of writing it down and avoiding informal usage in that process. At times it appears that some will never learn that (and some never do), but it is still merely a cupful compared to the ocean of intricacies baffling ESL students. In view of that kind of potential for mistakes, one can better appreciate the plight of the second language learner.

The fact that language acquisition is largely subconscious, even for second language learners, explains another matter—a matter of perpetual frustration for teachers and learners. The basics of a language—the more common words, meanings, and structures—can be learned relatively quickly, in a year or three. However, the less common words and less frequent structures, the finer intricacies, the subtle shades of meanings, a thorough sense of the mutual effect of all these on each other, are very difficult for second language learners to master because exposure of the subconscious to these refinements is infrequent; thus, the finishing touches toward fluency—extracting this numerous host of details from rare data—continues through a lifetime.

For example, the most common 20% of the words and structures of a language may constitute 90% of all language that flows in speech or print. The second most frequent 20% might be found in say another 7% of the language output. This leaves some 60% appearing in perhaps 3% of the data; in other words, more than half of all the details of a language surface very rarely. For example, how often does the prepositional phrase 'on ... night' occur in English? The details of structure, mutual semantic effect, etc., are not easily quantifiable mathematically, especially since they are not all discovered yet. Nevertheless, these hypothetical or estimated proportions illustrate the problem. It is no wonder why the final polishing toward native-speaker-like fluency is so rarely achieved, especially when much of that 60% is not in books, but is generally known subconsciously.

Many ESL students progress very well for 2 or 3 years, but as they approach that threshold to the less frequent data, rapid improvement from that point onward can hardly be militantly expected, because the learner is now entering that formidable realm of the innumerable details of less frequent exposure.

How can we not feel compassion for ESL students grappling with such overwhelming odds? How can one view harshly an odd expression or two in light of the immensity of the task? The linguistic mountain that second language students are expected to move (or master) is enormous.

By way of solution, how can we best help ESL students learn English or help ourselves learn a second language? Of course, all of the language skills are important—listening, speaking, reading, and writing—and numerous methodologies litter the literature, explaining how best to teach those skills. Yet while a conscious focus on basic grammar, vocabulary, etcetera, is indispensable to learning the basics, lots of reading should be

the largest component of any second language program: (1) Published reading materials generally expose a second language learner's mind to a greater variety of structures, more sophisticated structures, and higher levels of vocabulary than conversation does. (2) The student can internalize the data at his/her own rate when reading, an adjustment hardly possible in conversation. (3) Reading 3 to 6 hours per day allows lots of language data to pass through both the conscious and subconscious minds for internalization, whereas it is difficult to find a person willing to converse for six hours per day, let alone at the desired level of vocabulary, rates, etc.

As I tell my ESL students, they cannot learn English or any other second language by simply taking classes in it. Passing classes provides a foundation or beginning, but learning a second language requires much more initiative, motivation, time, and effort than merely doing the assigned homework for a series of classes. In summary, I wish not to paint a hopeless picture, but only to portray the magnitude of the challenge that second language learners face, to help us better appreciate their side of the struggle and assist in that struggle.

Appendix C: An Introduction to Linguistics or Language Science

Language Families and Similarities by Coincidence, Contact, or Descent

These basics of linguistics may be skipped, skimmed, or thoroughly digested, depending on the degree one wishes to enjoy the language detail of this book. It contains helpful information for understanding language matters, yet others may prefer not being encumbered with such details and simply enjoy the findings, thoughts, and conclusions regardless one's level of understanding of the language detail. In any case, this appendix can also be periodically consulted as a reference section when needed.

A language family is a group of related languages, descended from a parent language. The parent language may be a well-known language like Latin whose descendants are Spanish, Portuguese, French, Italian, and others, or it may be an ancient proto-language, unknown except as reconstructed by linguists from the descendant languages. Knowing how languages and sounds typically change, linguists can examine a group of related languages descended from a common parent language and reconstruct many words and features of that ancient parent language, though unknown and unwritten. Such a hypothesized parent language is called a proto-language. Thus, Proto-Uto-Aztecan (PUA) is the hypothesized ancient parent language of the approximately 30 UA languages. Likewise, the parent language called Proto-Indo-European is the parent of most European languages and of several Asian languages that have been demonstrated to be related to each other. The first step is to demonstrate relatedness, as treated in Campbell and Poser, 2008.

When two languages have similar words with similar meanings, those similarities can be due to (1) chance / coincidence, (2) common descent from a common source or parent language, or (3) contact, wherein neighboring languages borrow words from each other, which borrowings are called loanwords.

Coincidence: When randomly comparing any two languages, chances are that 1% to 3% of their vocabularies can yield chance similarities. The shorter the words and the fewer the number of sounds, the higher is the probability of chance similarities. For example, 15 consonants (C) and 5 vowels (V) may yield 75 CV patterns (15 x 5; C = any consonant; V = any vowel) or 1,125 CVC patterns (15 x 5 x 15) or 5,625 CVCV patterns. When comparing the basic vocabularies of say 2000 words in two languages with short morphemes (parts with meaning) of CVC length and limited phonological inventories (small number of sounds), two matches by coincidence are likely. When adding those with "kind of similar" sounds, like b and p, or d, t, and r to count as matches, then 20 or so (1%) are likely. Languages with longer words and more sounds provide lower percentages of probability for chance similarities; nevertheless, any two languages can and do have some similarities by coincidence.

Contact: the number of loanwords between neighboring languages depends on how long they are neighbors, the people's attitudes toward their neighbors, political dominance, perceived cultural superiority, etc. For example, though English belongs to the Germanic branch of Indo-European (the larger language family), the words on a page of written English are typically about half loans—many from Latin, when Latin was the Medieval language of academia and English was not allowed in the schools, and even more from French, when the Norman French ruled England for 3 centuries, and some from Greek and other languages.

Cognates are the related words in related languages, as those words descended from the same proto-form or original ancient word. Related languages yield several of these descended sets of related words, and each set of related words is called a **cognate set**, a set of related words descended from the same proto-word.

All living (spoken) languages are always changing. Though slow, the change is inevitable. After a population separates, the languages of the separated groups gradually change. Some meanings change, and features of grammar. Some words lose sounds or change sounds; other words are replaced. In spite of the inevitable change, linguists have found that in related words the sounds change in consistent ways. For example, Proto-Indo-European (IE) *p remained p in Latin and Greek, but consistently changed to f in Germanic. When a number of words or cognate sets exemplify each sound change with a consistent pattern of sound change, with few exceptions, that pattern sets up what is called a **sound correspondence**: that is, Germanic f corresponds to Greek p, or IE *p > Greek p (> means 'became' or 'changed to'), also IE *p > Latin p, and IE *p > Germanic f. Likewise, IE *k > Greek k, > Latin k, > Germanic h. That is, because sounds do not change randomly, but in consistent patterns, the same sound will change the same way in the same language in the same phonological environment (environment of surrounding sounds). When two languages exhibit a decent percentage (say 10% or more) or a sizable number (several dozen) of their respective vocabularies to be similar in meaning and to establish a consistent system of **sound correspondences**, usually amounting to dozens or hundreds of relatable words, then the chance of such a sizable correlation of similarities happening by chance approaches zero, and the two languages or the group of languages sharing such similarities are deemed descended from a common origin.

Another way of saying "correspond to" is that Germanic f **reflects** (corresponds to) IE *p, or that f is the Germanic **reflex** of IE *p. A **reflex** can be a corresponding sound or a corresponding word: so father is the English **reflex** (cognate) of IE *pater, and f is the English **reflex** (sound correspondence) of IE *p.

Some Indo-European Cognate Sets and Sound Correspondences

English	hound	water	thou	daughter	tooth	heart	foot	father	knee	two	three
German	hund	wasser	du	tochter	zahn	herz	fuss	vater	knee	zwei	drei
Greek	kuon	hudor	su	thugater	dont-	kardia	pod	pater	gonu	duo	treis
Latin	kanis		tu		dent-	kord-	ped-	pater	genu	duo	tres
Sanskrit	śvan	udakam	tuvam	duhitar	dant-		pad	pitar	janu	duva	trayas
Hittite	--	watar	tuk	--		kart	pata		kenu	twi	tri

(Cambell 1999, 137-41; Beekes 1995, 208)

An asterisk (*) marks a hypothetical original or earlier form as reconstructed by linguists or an unattested form that is probable, though not yet certified/found/attested. One can see above in the cognate sets for 'foot' and 'father' that an original Indo-European *p consistently changed to f in English; and an original *t changed to th, as in 'thou,' 'tooth,' and 'three'; and Indo-European *k > h in the Germanic languages as in words for 'hound' and 'heart'. However, Indo-European *p, *t, *k remained p, t, and k in Latin; so the results of those sound changes provides a set of sound correspondences between Latin and English:

Proto-Indo-European	*p	*t	*k
Latin	p	t	k
English	f	th(θ)	h

Similarly, for every pair or group of related languages, a system or set of sound correspondences will emerge. One might also notice a larger pattern—that the stops (p, t, k) generally became their corresponding fricatives (f, th, h)—such that all three patterns or systems constitute a larger pattern or system: stops becoming fricatives (fricative means the friction of passing air makes the sound). Such multi-tiered patterns and systems of systems are typical of language change. And because linguists have found sound correspondences or consistent sound change to be a principle between related languages, they require that in order to prove a genetic or common-descent relationship between languages, one must establish the sound correspondences, as well as some grammatical or morphological similarities.

The word comparisons between Semitic and Uto-Aztecan, as well as between Egyptian and UA, yield a consistent set of sound correspondences, as consistent as has been established for other language families and a little more consistent than occurs within UA itself, as these ties explain many of the medial consonant clusters that have remained mostly mysterious to Uto-Aztecanists to date. Nevertheless, all language families yield a few apparent exceptions, though for some, an explanation is found later.

Glottochronology is the study of the **rates of language change**, or more specifically, rates of word retention (words kept) vs. replacement (words lost by substitution) over time. Two languages recently separated would still have a great majority of their words in common. For example, the recent separation (ca. 700 years ago) of the Apachean branch of Athapaskan has Navajo and the Apache languages generally retaining 90-97% of their vocabulary in common. In contrast, the Indo-European languages separated several millennia ago and share much smaller percentages of vocabulary, though enough to assure their relatedness. However, linguists find that **rates of language change** are subject to many variables, most of all the **type and intensity of contact** with other languages. For example, Icelandic, isolated in the Atlantic, did not change from its Old Norse ancestor as fast as Norwegian did in being more subject to other close and neighboring European languages.

Comparative size of neighboring languages matters. Native American languages in the U.S. are tremendously outnumbered, and many became moribund (nearly dead) in a few generations. Consider also the languages of immigrant families: German, Dutch, and Italian immigrants to the United States may or may not learn English; their children are often bilingual, knowing their parents' language and the more prevalent language English; however, their grandchildren are often monolingual speakers of English, who may or may not understand what their immigrant grandparents say. **Political or cultural dominance** of a language may allow the language of a ruling minority to have more influence than expected. The Norman French conquered England in 1066; though fewer in number, their political dominance in Middle English brought more French into English than the 15% of Old English that survives (was retained) into modern English.

Morphology (Word Formation) and Syntax (Word Order)

A **morpheme** is a unit of meaning, and **morphology** is the study of how morphemes combine to form words or larger units of meaning. Just as a phoneme is a segment of sound or the smallest unit of sound (consonant or vowel), a **morpheme** is the smallest unit of meaning. For example, typical morphemes in English are cat, mouse, -ness, -ful, -less, un-, dis-, and -er, in words such as use-ful, use-less, use-ful-ness, dis-heart-en-ed, un-settle-ed, un-fruit-ful, and wash-er. Morphemes can be undividable words, prefixes, or suffixes. Prefixes and suffixes are both affixes that can be combined to the front or back of a stem respectively. Irresistible contains four morphemes. Re-sist literally means 'stand back' or in order of occurrence 'back-stand'. With the suffix -able added, re-sist-able means one is 'able to stand back or stay away from something'. The Latin prefix in- (meaning not) **assimilates** or changes to **ir-** before words beginning with r. So ir-re-sist-able breaks down to not-back-stand-able, and irrevocable means not-back-call-able or not able to call back.

Some morphemes or rules for morpheme combining are **productive** and some are not. A process or phenomenon in language that still happens readily is said to be **productive**, because it still produces new forms. If a previous language rule is no longer in effect, but the results of the once existent rule are apparent, then those resultant forms are **fossilized** forms. For example, prefixing *with-* 'against' to verb forms was once a productive rule in older English, but no longer is; nevertheless, we have a number of fossilized forms resulting from that once existent rule: withstand; withhold; withdraw.

By '**rule**' linguists mean a mechanism of language usage that native speakers use to structure their language, whether consciously aware of it or not. In fact, most of what native speakers know about how they create language is subconscious knowledge. They are not even aware of most of the rules that they use to create language. For example, consider the following misuses:

*Her saw he.
*After them beat we in tennis, us treated they to dinner.
*The tracks were hard for I to see, but me followed they until him appeared and scared I to death.

These are simple reversals of subject vs. object pronoun forms, yet most five-year-old preschoolers do not make such mistakes. At the very beginnings of learning a language, a 2 or 3-year-old toddler may say something like "me want a cookie," but usually by 4 or 5, their subconscious minds have figured out what the subject forms are, what the object forms are, where the subject slots are, and where the object slots are, and get it all 95% right without any formal education. About 4th grade the formal instruction begins and is repeated for eight consecutive years until they arrive in college, where I ask them what the grammatical subject is of a sentence on the board, and a handful know consciously. So by age 20, their conscious minds cannot remember how to identify the subject after several years of teaching their conscious minds, yet their subconscious minds knew by age five before they even started school and never forgot. For several other examples of subconscious language knowledge see "The Language Instinct" (Pinker 1995) and "The Subconscious Mind's Role in Language Acquisition" (Appendix B).

Besides common vocabulary revealing consistent systems of sound correspondences, related languages normally have some similar patterns of morphology or share morphological correspondences as well. A Germanic characteristic that disappeared from English shortly after the Middle English period was **conjugated verb forms**. These were still productive ('alive and well') in the early seventeenth century when the King James scholars translated the Bible. Note how similar the conjugated verb forms of earlier English are to those of German:

I	bind	ich	binde
thou	bindest	du	bindest
he	bindeth	er	bindet

Verb conjugation patterns are part of a language's morphology, but sometimes tend to be simplified over time and often eliminated, as they were in English. Something similar might be expected to happen to Navajo over the coming decades. The conjugation patterns of Navajo verbs are more complex than any Indo-European language. That complexity and Navajo's extensive contact with English combine to make such a simplification likely. In fact, I have heard that in some areas or among some younger speakers, such simplifications are already underway. The Semitic languages also have specific verb conjugation morphology, which is no longer productive in UA, but have left hundreds of fossilized conjugated forms in UA.

Another example of shared morphology in the larger Indo-European language family is the similarity of the primary verb endings in Sanskrit, Hittite, Greek, Latin, and Gothic, an East Germanic dialect of about A.D. 900 (Beekes 1995, 232):

	Sanskrit	Hittite	Greek	Latin	Gothic (Germanic)
I (verb)	-mi	-mi	-mi	-m	-m
You (verb)	-si	-si	-si	-s	-s
He (verbs)	-ti	-ci-	-ti	-t	-t

The conjugation of the IE verb *be* also shows morphological correspondences (Campbell 1995, 318):

	Sanskrit	Hittite	Greek	Latin	Gothic	Enlgish
I am	asmi	—	eimés	sum	im	am
He is	ásti	estsi	estí	est	ist	is
They are	sánti	asantsi	eisí	sunt	sind	Spanish: son

The second row (he is) is the source of English *is* (from Germanic *ist*) and Spanish *es* (from Latin *est*). We can also see in that same line of forms that final sounds are progressively left off over time. The older languages have the longer forms.

Syntax refers to the order of words and morphemes. An example is the **basic word order** of main parts of a sentence. The basic word order of English is subject-verb-object (SVO). Other languages have very different word orders. Consider these parallel sentences in five languages:

English: The tall man ate a red apple with a knife.
Spanish: El hombre alto comió una mansana roja con (un) cuchillo.
Navajo: hastiin néz bilasáana łichí'igii beesh yee yiyíiyáá'
man tall apple red knife with it-he-ate
White Mesa Ute: pa'átïm ta'wáč aká-ġar apïs tïkkái wiíč-Im
tall man red apple ate knife-with
Hebrew: 'aakal ha-'iiš hag-gaboah 'et hat-tappuax ha-'adom bə-sakkiin
ate the-man the-tall the-apple the-red with-knife

In contrast to the word order of English (SVO), the word order of Navajo is subject-object-verb (SOV), and Hebrew is usually VSO, but can be any order, and Aramaic is often verb-final (SOV). Besides basic order of verbs, subjects and objects (SVO, SOV, VSO), some languages put adjectives before nouns, like English and Ute, while others put adjectives after nouns, like Spanish, Navajo, and Hebrew.

Interestingly, VO languages generally have **prepositions**, as do English, Spanish, German, Hebrew, Arabic, and Samoan, while verb-final languages (OV) generally have **postpositions** as do Navajo, Ute, and many Native American languages. The preposition vs. postposition phenomenon relates to OV vs. VO word order, in that these relating words often connect verbs and their objects, thus coming between them. So we frequently see verb-preposition-object in SVO languages, and object-postposition-verb in SOV languages.

Like Old English, German, Navajo, Semitic, Spanish, and many Indo-European languages, many languages have conjugated verbs as part of their morphology. In UA we see many fossilized remnants of the Semitic verb conjugations, though not any full or productive systems of Semitic conjugations. For example, from the Hebrew root ktš 'pound (in a mortar), grind' are 3 very differently shaped items:

Hebrew	UA
impfv -ktoš (< *ktusu) 'pound, grind'	*tusu 'grind' with loss of 1st C in a cluster
unattested *kitteš (< *kittaš) 'grind'	kitte / kittasu 'grind' (Yaqui)
makteš 'mortar, grinding stone'	*ma'ta 'mortar, grinding stone' and especially *mattas 'to crush, squash, vt'

Historical Linguistics and the Comparative Method

The science of linguistics has various branches. Applied linguistics applies linguistic insights to facilitate second language learning; theoretical linguistics deals with competing theories of grammar and explores how the mind creates language; sociolinguistics focuses on how language usage varies in various social contexts. Historical linguistics deals with the histories of languages or how languages change over time. Thus, language relatedness and studies in language families and how the related languages have changed from the original or proto-language all belong to the realm of historical linguistics, also called diachronic linguistics. **Synchronic** has to do with one-time (syn 'one' + chron 'time'); so a synchronic view of a language is a snapshot of it as a cohesive entity at one time. **Diachronic** refers to two different times on a spectrum, or comparing the changes in a language from this time to that time. Some features of language can be explained synchronically as the language exists at any given point; other features are better understood diachronically wherein some history of the language clarifies matters. As historical linguists compare related languages and map the changes of the various languages over time, their work is necessarily diachronic in nature. Their systematic comparisons that establish languages as related in a language family are called **the comparative method**.

The comparative method consists of (1) establishing a system of sound correspondences for (2) a sizable quantity of vocabulary; (3) identifying morphological parallels, and to lesser degrees, (4) similarities in syntax and (5) unusual semantic combinations. Syntax is limited in possible options—OV vs. VO, noun-adjective vs. adjective-noun, etc—and syntax can change quickly. Thus, categories (4) and (5) are less applicable than the first two. Yet the Egyptian and Semitic in UA provide numerous examples in all categories except (4) as syntactic options are simply not numerous, whatever the language.

The strength of the comparative method was impressively demonstrated in the discovery of Hittite. Based on evidences in the IE languages known at the time, a Swiss linguist named Ferdinand de Saussure in 1879 **reconstructed** certain laryngeals (guttural-like consonants) in the proto-forms of some IE words. (A **reconstruction** of a **proto form** is what linguists theorize the original form of a word to have been in the **proto-language** or the ancient parent language from which the later known languages are descended.) In other words, he theorized that those laryngeal consonants had existed in some original IE words even though those sounds did not clearly exist in any of the daughter languages known at the time. In 1906, the capital of the ancient Hittite Empire was discovered. In 1915, Hrozny, a Polish linguist, deciphered the Hittite language inscribed on thousands of clay tablets, and Hittite was found to be an IE language. (The Hittite word for water is watar and knee is kenu.) Not only was Hittite found to be an IE language, but Hittite contained the laryngeals that Saussure, by the comparative method, had predicted decades earlier as being in the original Proto-Indo-European language (Beekes 1995, 101-2; The New Encyclopedia Britannica 1997, 608).

Besides establishing language families, the comparative method helps to discern branches within a language family and to trace details of language change. One can imagine that an ancient unified people did not separate into 30 different groups at once, but at first there may have been a 2- or 3-way split, then some time later additional split-offs occurred, and so forth—thus, the creation of **branches** within a language family. For example, the Germanic branch of IE consists of English, German, Dutch, Icelandic, and most Scandinavian languages, except Finnish. The Germanic languages are more closely related to each other than they are to the other IE languages. The Italic or Latin branch of IE consists of Spanish, French, Italian, Portuguese, and others. Many languages of India are descendants of Sanskrit as the Indic branch.

Branches are often identified by **shared innovations** or shared retentions. A shared innovation is a new change that a branch shares among the branch languages, but not with the other languages of the family. For example, an innovation of the Germanic branch is that the voiceless stop series (p, t, k) became fricatives (f, θ, h). Shared innovations in UA are that O'odham, Pima, and the Tepehuan languages of the Tepiman

branch all have **g** corresponding to ***w** of the rest of UA, and **d** corresponding to ***y** of the rest of the family, such that the glides (w, y) become stops (g, d) at the point of approximation (near contact). When a branch of languages all share a feature or quality that the rest of the language family does not have, then it follows that that group of languages developed that feature after leaving the main body of the language family, but before splitting into the various languages of that branch.

Along with the niceties and usual consistencies revealed by the comparative method, a few inconsistencies, exceptions, and unresolved difficulties plague all language families. As Salmons (2012, 111) notes in *A History of German*, "we expect, as we saw earlier, for sound change to be regular, but we find messiness in real historic data." Sometimes a subset of irregularities are later explained by a special phonological environment or some other explanation that moves them from the "exception" pile to the "explained" pile, but such discoveries take time and are discerned only if a mind sufficiently insightful to see what no one has seen before happens along to reduce what remains mysterious. For example, after Jacob Grimm (1822) published the first Germanic sound shift, a group of unsettling exceptions continued ruining the aspired order, until Karl Verner (1877) figured out the explanation for some of the exceptions … but more than a *half century* later! May the progress of this work be granted equally spacious leniency! Yet an army of linguists works on Indo-European versus the sole soul so far in the proposed language ties of this work.

Phonology: Sounds, Sound Change, and Sound Correspondences

Phonology is **the study of sounds in language, their changes and effects on each other**. An understanding of phonology clarifies many mysteries about language. Our mouths produce consonant sounds by affecting the airflow in primarily three ways: the voicing vs. voiceless option, the manner of restricting the airflow, and the place in the mouth where that restriction happens. Thus, consonants are categorized by three features: voicing, place of articulation (contact in mouth parts), and manner of articulation:

Voicing can be perceived by putting fingers on both sides of the "Adam's apple" and saying a slow elongated *aaasssaaa*. Because all English vowels are voiced, one can feel the vocal cords vibrate while saying the voiced vowels *aaa….aaa*, but the vibration or voicing stops in the middle while saying the long voiceless …*sss*…; in contrast, when saying *aaazzzaaa*, the vibration never stops, because z is voiced. One can feel the vibration while saying **voiced** consonants (z, j, b, v, d, g, m, n), but there is no vibration, that is, no voicing while saying **voiceless** consonants (s, š/sh, č/ch, f, p, t, k).

Sounds are also classified by the **place of articulation** or the place where the airflow is most restricted. **Bilabial**s (p, b, m, f, v) are pronounced with the two lips. English f and v are actually pronounced with the top teeth and lower lip, but are close to bilabials. **Dentals** touch the tip of the tongue at or between the teeth (θ as in think, đ as in there). For **alveolar**s the tongue touches the alveolar ridge—the hard ridge behind the upper teeth (t, d, s, z, n). To do **palatals**, the tongue curves close to the soft palate curving behind and up from the harder alveolar ridge (š, ž, č, j). **Velar**s put the back of the tongue against the back of the roof of the mouth (k, g). **Uvular**s (q) are further down the back of the roof or throat from velars. We do not have uvulars in English, but Arabic uvular q vs. velar k are apparent in Arabic qalb 'heart' vs. kalb 'dog'. **Pharyngeal**s, such as the voiceless and voiced pharyngeal fricatives of Arabic are articulated at the pharynx, even further down the back of the throat than uvulars.

The **manner of articulation** is a third feature of consonant sounds. For **stops**, the airflow is stopped (p, b, t, d, k, g). For **fricative**s, the airflow is not stopped, but produces friction at the greatest restriction in the vocal tract (s, z, f, v). An **affricate** is a combination of stop plus fricative (c or ts = t + s; č/ch = t + š/sh as in kitchen), that is, it starts as a stop but quickly releases into a fricative: so t and ts(c) and s are the voiceless alveolar stop, affricate, and fricative. In contrast, d, dz, and z are the voiced alveolar stop, affricate, and fricative. For **nasal**s, the airflow passes through the nose while the oral tract is closed at the lips (m), the alveolar ridge (n), or at the velum for the velar nasal (ŋ as in sing) with the back of the tongue in a position for

saying k. The **liquid**s are l and r in English. The **glides** are y and w, slight closures of the vocal tract in the same positions in which the vowels i and u are pronounced; thus, they are also called semi-vowels. A simplified consonant chart follows:

Consonants

		bilabial	dental	alveolar	palatal	velar	uvular	pharyngeal	glottal
stops	voiceless	p		t		k	q		’
	voiced	b		d		g			
fricatives	voiceless	f	θ	s	š(sh)	x		ħ	h
	voiced	v	đ	z	ž(zh)	ġ		ʕ	
affricates	voiceless			c(ts)	č(ch)				
	voiced				ğ/j				
nasals		m		n	ñ	ŋ			
liquids				l, r					
glides		w			y				

The phonetic description of a consonant consists of voicing, place of articulation, and manner of articulation—in that order. Therefore, p is a voiceless bilabial stop; g is a voiced velar stop; s is a voiceless alveolar fricative; j is a voiced palatal affricate; etc. All nasals, vowels, liquids, and glides are voiced in English, but not necessarily in other languages. For example, Ute has some voiceless vowels and Navajo has both a voiced l and voiceless ł.

We mentioned earlier the larger pattern that the IE voiceless stops (p, t, k) became voiceless fricatives (f, θ, h) in Germanic. We also mentioned the sound changes in Tepiman of Proto-Uto-Aztecan (PUA) *y > d, and PUA *w > g. As a larger pattern, the UA glides (y, w) became voiced stops (d, g) in the Tepiman branch, doing contact at the roof of the mouth where the glides come closest (w has lip rounding in front, but like u, the back of the tongue comes close to the velum where g is pronounced).

In Semitic exists a series of pharyngealized consonants. Besides the actual pharyngeals ʕ and ħ, described below, Semitic also has the emphatics or pharyngealized ṭ and ṣ. In contrast to a regular t, the pharyngealized ṭ of Semitic is pronounced with the tongue sounding as if retroflex, mainly because the back of the tongue is approximating the pharyngeal position, which affects the vowels, darkly coloring them and drawing them to the back, as in Arabic.

Sounds not discussed below are pronounced (more or less) like English:

ŋ is a velar nasal, the ng sound in sing.

š is the sh sound of English ‘shave’ and ‘dish’; the š of Hebrew also corresponds to UA s.

c represents ‘ts’ as in ‘hits’.

č is the ch sound of ‘chop’, an allophonic variant of PUA *c (ts) above.

’ represents the Semitic aleph or glottal stop, as in English ə’o (uh oh) ‘woops’ and ə’ə ‘no’; the glottal stop also became w/o/u in UA (and became w in Arabic sometimes as well), and sometimes both a glottal stop and w (-’w- or -w’-), or round vowels adjacent to ’: o’o/u’i.

ṣ Biblical Hebrew pharyngealized or emphatic ṣ (ṣade) is here symbolized with ṣ. The Hebrew ṣ became c (ts) in the Hebrew Semitic-kw of UA and in modern Hebrew, but became s in Semitic-p. UA ṣ is said to be retroflex.

ḍ Egyptian ḍ corresponds to Hebrew ṣ, and both Egyptian ḍ and Hebrew ṣ of Semitic-p became or correspond to UA *s, though often Coptic t.

ʕ represents the Semitic ʕ (called ʕayn), a voiced pharyngeal fricative, not in European languages; it occurs twice in SaʕudiʕArabia; it has become a form of rounding (w,o,u) in UA, which is a natural change. In fact, evidence suggests that the pharyngeal ʕ was associated with rounding in Phoenician also.

ḫ is a voiceless pharyngeal fricative, a very guttural h (often transcribed as ḥ) not found in European languages; at the beginning of a word it became hu/ho in UA. Like the other pharyngeal (ʕ), ḫ also became w/o/u, a form of rounding, in non-initial positions. Interestingly, x and ḫ merged and became the same sound in Hebrew between 300 BC and Christ's time when they both became ḫ, but were different before 300 B.C. (Kutscher 1982, 13-18; Sáenz-Badillos 1993, 81). They are still separate in Arabic. The Semitic-p in UA shows the pre-300 BC distinction: the pharyngeal ḫ appears as rounded forms, while the velar x remains k-like.

x is a voiceless velar (or uvular in Semitic) fricative or soft k, as in German nacht; x became *k in UA generally.

r of both Hebrew and Egyptian changed to UA *t at the beginning of a word. When not beginning a word, r remained r in some UA languages, but changed to y/i more often in Semitic-kw; r > y/i is also common in languages world wide. Interchanges between r and l are also common in the Near East and in UA. In fact, Egyptian had only r that represented both the l and r of Coptic.

b of Hebrew became UA *kw (in dageshed positions: word initial or geminated/doubled) in the Semitic-kw infusion or contribution, but became UA *p in Semitic-p's infusion into UA.

b, d, g devoiced and became p, t, k generally, another common change in languages world wide, since p is the voiceless counter-part of b, t of d, and k of g.

ṭ of Semitic is a pharyngealized or emphatic ṭ, in which the tongue is rather retroflex or the back of the tongue does a pharyngeal while the tip of the tongue does t.

t̲ of Egyptian, i.e., the underlined t̲ was originally different from t, but not for very long, since even in Egyptian, and consistently in UA, Egyptian t̲ merged with and became t in UA (and in Egyptian).

-C is an unknown consonant that causes gemination or doubling of the next consonant. In UA, -C means a final feature (an underyling consonant) that doubles the next consonant, another common feature in many languages: like coC/com 'with/together' + labor > collaborate; com 'with' + sonare 'sound' > consonant.

Vowels are defined by the tongue's relative position to the roof of the mouth in a high-to-low, front-to-back grid: one can feel the tongue's blade near the top and front of the mouth when saying high-front i.

	front	central	back
high	i	ï	u
	I		U
mid	e	ə	o
	ɛ		
low	æ	a	

Thus, *i* is a high front vowel; *o* is a mid back rounded vowel; *a* is the low central vowel; *u* is a high back rounded vowel; *ï* is a high central vowel not found in English, but is common in Ute, Hopi, and many American languages. The vowel symbols have the following values: the i in machine, Kelli, I in sit, e in they, ɛ in set/pet, æ pat/sat (for each one the jaw drops lower though they are all pronounced in the front of the mouth. In the middle are *ə* in rut, *a* in saw. At the back are u in blue, U in book/hood, o in goal/bowl/sole/soul. For those knowing Spanish, pronounce the 5 main vowels like Spanish, which is the original Latin pronunciation.

Vowel shifts happen in many language families. English changed some of the original Latin vowel sounds in a **vowel shift**, shifting the vowels clockwise: o > a (as in top), a > æ/e (tap/tape), e > i (deep). Uto-Aztecan also does some vowel shifts. For example, Cora (Cr) and Huichol (Wc) shifted some Proto-Uto-Aztecan vowels counter-clockwise: PUA *u > ï, PUA *o > u. Classical Nawatl (CN) shifted *u one more slot: PUA *u > ï > i. So in CN, PUA *u and PUA *i merged (became the same sound) becoming CN i, so that CN i can be from either PUA *i or *u.

It is also worth noting that i and y are largely equivalent, perhaps a difference in length and/or intensity, but produced with the tongue in the same position. Say aaaiiiaaa slowly, then aia faster each time, and soon it sounds like aya. Likewise, aaauuuaaa when said faster and faster comes to sound like awa. So w and u are essentially the same sound, just as i and y are.

Typical Sound Changes and How Sounds Change

Assimilation is often the force encouraging sound change. Sounds change, but in natural ways, which are usually explainable and are seen repeatedly in language families around the world. Assimilation is when one sound becomes 'similar to' another in some way. In fact, the word *assimilation* itself is from Latin ad 'to' + similis 'like', but when combined, ad-simil…> assimilate, the -d- when next to -s- becomes -s- also, becoming similar-to the s by becoming another s: -ds- > -ss-.

The English **plural suffix -s** assimilates to the sound before it. English plural suffix -s exhibits three forms: -s, -z, -əz. A subconscious rule predicts when each occurs. The rule is that (1) final voiceless sounds take voiceless -s: tops, pots, cakes; (2) final voiced sounds take voiced -z: tabs, pods, rags, rams, cans, laws, seas; and (3) final sounds similar to the -s (alveolar and palatal fricatives and affricates) require the intervening schwa vowel ə to separate the two similar sounds; otherwise, how would we make kiss plural—by adding a third *s* and pronouncing the three s's (kisss) as a real long *sss* sound? Examples of -əz include kisses, wishes, witches, judges, quizzes. The reason that the last has the form -əz instead of -əs is because vowels are voiced in English, so the sound before the s/z is the vowel ə, a voiced sound which results in voiced z.

The same rule applies to **possessives** of the form **apostrophe plus s** (-'s): Kate's hair, the rope's strength, the cake's frosting (-s); but Bob's book, Brad's cat, the dog's house, Tom's house, the car's door, Celinda's sorrel (-z); and for the sibilants (s and č-like sounds): Mitch's cat, the mouse's hole (-əz). **Third person singular present** tense verb forms also require suffixed -s, and also abide by the same rules: he stops, licks, writes, and laughs (-s); but she sobs, swigs, hides, loves, runs, hurls, sees, and believes (-z); and he wishes, she kisses, he squeezes (-əz), and they live happily ever after.

This shows that systematic patterns govern most of what happens in language. All three suffixed -s morphemes in English obey the same phonological rules and are entirely predictable according to specific patterns known only subconsciously by most speakers. Indeed, every language is a system of systems.

A similar rule governs whether the -ed suffixed to past tense regular verbs takes on a sound like -d, -t, or -əd. When the end of the word is voiceless, the -ed becomes voiceless -t: hopped, baked, missed (mist). When the end of the word is voiced, the -ed remains voiced -d: grabbed, hugged, freed, judged, called, crammed, bulged. When the word ends with a sound articulated (pronounced) at the same place as d (-d or -t), it requires an intervening vowel to sound like -əd: roasted, plodded, plotted, and greeted.

Very often doubled letters in English are from two different sounds next to each other wherein usually the first becomes like the second, precisely because it is next to it, as in ad-simila > assimilate, mentioned above. For example, the Latin prefix *in-* 'not' remained *in-* for indecent, insufficient, and incomplete, but the alveolar nasal (n) of *in-* changed to a bilabial nasal (m) when next to bilabial p in imperfect and impossible (n > m/_p; that means n changes to m before p), becoming similar to the bilabial. The *in-* prefix was entirely assimilated before l and r, merely doubling the following consonants as in illegal, illegible (n > l/_l), irregular, and irreverent (n > r/_r). Similarly, Aramaic *'illaa* 'if not, except, unless' derives from Aramaic *'in* 'if' + *laa* 'not': 'in-laa > 'illaa 'if-not'.

Similarly, Latin com- 'with' assimilates the m to the point of articulation (place of pronunciation) of the next consonant when compounded (put together with another morpheme): a couple of examples are com 'with' + sonare 'sound' > consonant 'with sound' (m > n/_s, because n, like s, is an alveolar); and com 'with/together' + laborare 'work' > collaborate 'work with/together'.

Similarly in UA, a nasal as first consonant of a cluster often assimilates to the second consonant of that cluster (linguists use N to represent any nasal or a general nasal), so

*-Nk- > -ŋk- (the nasal N becomes velar nasal ŋ, assimilating to the velar stop k);

*-Np- > -mp- (the nasal becomes bilabial nasal m, assimilating to the bilabial stop p);

*-Nt- > -nt- (the nasal becomes alveolar nasal n, assimilating to the alveolar stop t);

The above examples show that adjacent sounds tend to affect each other, that is, assimilate to each other or become similar to each other in some way or in all ways. Another example occurs in Semitic. In Arabic qatala 'he killed' and Hebrew qaaṭal 'he killed', this cognate pair has a discrepancy in two different kinds of non-corresponding t's: Arabic's regular t and Hebrew's pharyngealized ṭ. Both languages have both, but what happened is that in certain conjugations, such as the prefix/imperfective conjugation the q and t are adjacent or next to each other: Arabic ya-qtulu, Hebrew yi-qṭol. The q and ṭ are similar in being pharyngealized deep-throated, more guttural sounds, so as they came into contact with each other, the original -qt- cluster (as we see in Arabic) assimilated to become -qṭ- in Hebrew, and thus Hebrew changed an original -t- > -ṭ- due to assimilation in the frequent clustering of -qt-.

In the above examples, we see that the environment surrounding a sound is what often triggers (causes) a sound to change. In linguistic lingo **C** means any consonant or an unknown consonant, and **V** is any or unknown vowel. Word and morpheme structures can thus be represented as CVC, CVCV, CVCCV, etc. When a consonant is between two vowels (VCV) it is said to be intervocalic, inter- 'between' vocal- 'vowel'. Two consonants together (VCCV) are called a consonant cluster (see more on clusters below).

Vowels may also assimilate or become similar to adjacent consonants—wa > wo—and similar to vowels on the other side of consonants: suka > saka. Vowels assimilate to consonants quite often in UA. For example, Semitic baraq 'lightning' > UA berok 'lightning' changes the 1st vowel from a > e, raising and fronting it toward the place of contact of r in anticipating r. Likewise, the 2nd vowel changes from a > o, moving to the mid-back vowel o, closer to where the uvular q is pronounced in anticipating it. Another instance of the uvular q changing a vowel to a back round vowel is Semitic daqal 'kind of palm tree' > UA *taku 'palm tree'. In Semitic-kw especially, liquids l and r tend to raise the vowels before them or the vowels which are anticipating them (Semitic basar > UA *kwasi 'tail'), whereas Semitic-p does not (Aramaic bəsar > UA *pisa 'penis'; Aramaic dakar > UA *taka 'man').

A vowel may also partially assimilate to preceding or following vowels: suka > soka. One may notice on the vowel chart that *o* (mid back round vowel) is halfway from *u* (high back round vowel) to *a* (low central vowel), so a change in a vowel sequence of u-a > o-a is partial assimilation. Or two vowels may level each other in a compromise—u-a > o-o; a-i > e-e—where both vowels assimilate toward each other, becoming the vowel between the two. (See the vowel chart on page 23 and notice that *o* is between *u* and *a*; and *e* is between *a* and *i*.)

Consonant harmony is when one consonant becomes like another, though separated by vowels. Consonant harmony happens often enough in Uto-Aztecan: for example, Hebrew 'ari 'lion' > UA *wari > Tubar wawi 'mountain lion'. Other examples of consonant harmony are the three Tr variants—Tr ŕata-góbutu/ ŕata-gógutu / ŕata-bobutu 'have a fever'—and Arabic *xunpusaa' / xunpus 'beetle'; Aramaic ħippuušiit 'beetle, n.f.' > UA ***wippusa > *pippusi** 'stink beetle': Ch wiposat '13-line beetle'; Mn pipóísi/piboisi 'stink beetle'; NP pipuzi 'stink beetle'; Sh pippusi 'stink beetle'. Ch reflects the original initial consonant (w), from which the others harmonized the 1st consonant to the 2nd consonant (w-p > p-p). In addition, the UA vowels too are identical to Aramaic *-i-u-i.

Palatalization is also very common in Uto-Aztecan and in languages worldwide. For example, the alveolar t often becomes palatalized to č (ch) or c (ts) before high vowels and especially high front vowels i or e, during which the tongue is close to the palate (t > č or t > c/_i). Latin *-nate* of innate keeps its *-t-* sound, but in nation, with a following *i*, it palatalizes to *-š-*. Similarly in irritate and irritation, rotate and rotation, dictate and dictation. In Uto-Aztecan, any high vowel—i, ï, u (see top line of vowel chart, p. 23)—causes palatalization of t > č or t > c in some UA languages.

Many sound changes, if not most, are due to what might be called laziness or changes toward easier pronunciation. Assimilations make differing sounds more similar and therefore easier to pronounce, so making pronunciation easier could be viewed as laziness. An example is a change from contact to

approximation or near contact, but not quite. The flap r, which involves the tongue's contact with the alveolar ridge, sometimes changes to almost contact or to y/i. The liquids becoming y/i (r > y/i; l > y/i) happens often enough. In English creoles, Dickerton (1981, 61) lists three English creoles in which 'for' became fo, fi, and foe. In Italian, many l > i, as in blanco > bianco. Lyle Campbell (1977, 97-100) shows Proto-Mayan *r > y in several Mayan languages. Also Hebrew r > UA y/i in Semitic-kw. German -r and British English and some Northeast U.S. dialects say -r as a vowel approaching the place of -r contact in a high vowel, though not quite as front as y/i, almost the high-central vowel ï of UA: German hier [hiï]; English better [bɛttï / bɛttə]. Likewise, Semitic l became y in some Ethiopic languages due to Cushitic influence (Kapeliuk 2002, 311). Other examples of change from contact to approximation are the intervocalic stops becoming fricatives: -b- > -v-, -k- > -x-, -t- > -θ-.

Another frequent change toward the easier is the change of the low vowel *a* > *ə*, because the mid-central vowel (ə) does not require the mouth to open as wide as is necessary for the lower vowel (a). In fact, any vowel *V* > *ə*, as mid-central ə is probably the easiest vowel to pronounce, because it is in the middle both directions, between high and low, and between front and back (also called the schwa vowel, the schwa in dud, sun). A prolonged utterance of əəəəəəəə does not make one sound very smart because it approximates what might come out when one is asleep with the mouth slightly open during a voiced exhale: əəəəəəəə.

Vowel centralization is, in fact, common in many languages, and involves (usually) unstressed vowels becoming centralized. One can see in the vowel chart that the vowel ə, is the mid-central vowel, the most central of all vowels, and that is exactly the vowel that most unaccented vowels become in English words of 3 or more syllables. Consider photograph and photography.

phótográph > fotəgræf

photógraphy > fətagrəfi

In phótográph the 1st and 3rd vowels are stressed and thus keep their more-or-less original values o and æ, but the unstressed 2nd vowel changes from o > ə. However, adding another syllable (-y) changes the stress pattern so that the 2nd and 4th vowels are stressed and keep their values, while the 1st and 3rd vowels both become unstressed and both become ə. Similarly, some UA languages tend to centralize unaccented vowels to UA's most central vowel ï, or sometimes to i, as i also does the stressless schwa role in UA too.

A **hyphen** signifies that something else exists in the direction of the hyphen. The prefix in- 'not, opposite' has a hyphen where the other morpheme follows. The English plural suffix -s has a hyphen on the front side to show that it comes at the end of the noun, with the word in front of it. Intervocalic consonants (between-vowel consonants) may be depicted as -r- because vowels are on both sides of it.

Lenition is a weakening of a consonant or partial loss of its definite qualities. Lenition often affects consonants between vowels. The sequence apa > aba has voiceless p becoming voiced b, because the vowels on both sides are voiced, which helped the intervening voiceless p become voiced b; likewise, aka > aga and ata > ada. These kinds of changes happened in UA and happened in the participle's change from Latin -atus > Spanish -ado. These changes are also an assimilation: the voiceless stops became voiced stops similar to the voiced vowels around them. Another common intervocalic change is frication of a stop, changing a stop to a fricative. It happened to the intervocalic Hebrew stops: -b- > -v-, -d- > -đ- (as in the), -g- > -ġ-, -p- > -f-, -t- > -θ- (as in thin), -k- > -x-. In UA, the intervocalic environment caused changes that included both frication and voicing of the originally voiceless stops, that is, voiceless stop -p- > -v-, a voiced fricative, and *aka > aġa, and *ata > ara, changing t to a Spanish flap r. Between vowels, a natural pattern of sound change is for voiceless stops to become voiced, then the voiced stops become fricatives, then the voiced fricatives disappear. The last step happened in the change from Latin to Spanish: Latin credere > creer 'believe' of Spanish, Latin legere > leer 'read'. Also Latin ego > eo > yo 'I' because e is close to i/y.

Occasionally, changes go the other way, from less intense to more intense. For example, v > w is frequent, but the change of w > v also occurs. In Hebrew, w came to be pronounced v in some Hebrew

dialects and thus in Modern Hebrew also. The name of Adam's wife Eve was originally Hewa; thus, w > v. The English name Eva at least keeps the vowels, Eve even lost the pronunciation of the last vowel as well. I have also heard some Arabic speakers pronounce Arabic w as v. Also in UA is evidence for some *w > v.

Loss of sounds over time is also frequent, especially at the beginnings and ends of words or morphemes, like the initial k and final silent e of knife, both of which used to be pronounced. All the silent e's when found at the ends of English words used to be pronounced, but they became silent or lost, though still written. Similarly, at the beginnings of words, the h in honor, hour, herb, and all initial-h words in Spanish, like hablar, hermano, etcetera, all became silent. Loss of final sounds happens in Semitic languages too. Arabic 'akala 'he ate' and Hebrew 'aakal 'he ate' show the loss of a final vowel in Hebrew. In fact, Hebrew lost most short final vowels of an earlier *-iima > -iim 'Hebrew plural suffix'; *ta-ktušu > ti-ktoš 'she pounds/grinds in a mortar'; etc. Hebrew also lost final consonants sometimes. Arabic 'akalat 'she ate' and Hebrew 'aklaa 'she ate' show loss of final t in Hebrew and loss of the middle vowel. Arabic reflects Proto-Semitic better than other Semitic languages in most ways.

Consonant clusters (groups of consonants clustered without vowels between them) may also tend to be reduced to one consonant, such as the loss of the gh sound in the cluster of -ght- in English daughter vs. German tochter (both pronounced) and Greek thugater (consonants separated, not clustered), and the loss of gh/k in night and Spanish noche vs. German nacht and Latin nokt-. We no longer pronounce the -gh- in night, but we still say the -k- in nocturnal, as an English loan from Latin. Examples of consonant loss in cluster reductions in UA include Hebrew makteš 'grinding stone' > UA *ma'ta 'grinding stone'. Many UA languages have intervocalic *-p- > -v-. That happens in Hopi, the Numic languages, and others. So when we see a -p- between vowels, it is due to an underlying consonant cluster being reduced to -p-, but showing -p- (instead of -v-) because of -Cp- or the cluster strengthening the -p-: Egyptian **ḫotpe** 'peace' > UA *hoppi > Hopi **hopi** 'peace, peaceable'; otherwise, *hopi > hovi. Also Aramaic **ḫippušit** 'beetle, n.f.' > UA ***wippusi** 'stink beetle'. The Arabic cognate **xunpus** shows a consonant cluster *-np- which always doubles the 2nd consonant in Hebrew and Aramaic (-pp-): Proto-Semitic/Arabic *-nC- > -CC-; thus, Semitic *xunpus / ḫippušit > UA *wippusi is a lengthy (6-segment) match. The -p- in UA/Chemehuevi(Ch) signifies original *-pp- in UA, and the vowels are identical to Aramaic *-i-u-i.

Relative to consonant clusters, the phonology (patterns of pronunciation) of some languages do not allow clusters. For example, 'Merry Christmas' in traditional Hawaiian is 'meli kalikimaka' because Polynesian languages do not normally allow consonants to cluster, and so the kr- and -tm- clusters of **Chr**is**tm**as are separated by vowels in the Hawaiian expression. Spanish does allow clusters, but has limits on initial clustering possibilities. For example, Spanish 'creer' starts with a cluster kr-, but English 'study' and Spanish 'estudiar' show that English allows initial st- clusters, while Spanish traditionally has not. One may also hear native Spanish speakers say a helping vowel before an initial -st- cluster, like 'estreet'.

In the English word 'strengths' [strɛŋθs], one vowel amidst six consonants separates two clusters of 3 consonants each, which shows that English has an unusual tolerance for almost intolerable clustering compared to many languages. However, the loss of initial k- in English 'knee', 'know', and 'knife' means that even cluster-tolerant English has difficulty with initial kn-. We have no trouble with the same cluster between vowels (sickness, blackness), but initial kn- is more problematic.

Some languages' phonology systems prevent speakers from ending a word with a consonant or with certain consonants. In the merger of the Semitic-p and the Semitic-kw in UA, one or both may have developed a phonology that had all or most words ending with a vowel, because UA adds a vowel to many Semitic forms that would otherwise be consonant final. Yet that is one among many matters for future study.

Consonant clusters often lose the first consonant, sometimes doubling the second. We have already seen examples in English in-legal > illegal, in-responsible > irresponsible. Originally and in written English, 'debt' has a consonant cluster, but the first consonant became silent and only the 2nd is pronounced. Liquids

(l and r) are very prone to be lost or absorbed: e.g., Latin ursus 'bear' > Spanish oso. English 'walk' and 'talk' and 'salmon' all have silent l as first consonant in consonant clusters. Similarly, the -l- was often lost as first consonant in a cluster in the change from Semitic to Uto-Aztecan also: Hebrew śəlaaw 'quail', pl: salwiim; Syriac salway 'quail'; Arabic salwaa 'quail'; Samaritan šalwi > UA *solwi 'quail': CN sool-in 'quail'; Mn sowi' 'pigeon'. So Mn lost -l- as first segment in the cluster. Latin ex- 'out' in English loans sometimes remains intact: ex-tract, ex-cept; but other times the -x- is absorbed in the cluster and only e- remains: e-mit, e-merge, e-lect, and e-radicate. Another example is English a/an. The original form is *an*, which remains *an* before a vowel (an apple, an iron), but before a consonant the pronunciation of the *n* over time became absorbed or assimilated to the following consonant, that is, -n- was lost as first consonant in the cluster; thus, (a dog (< *an dog), a cat (< *an cat). Another example is Hebrew qadqod 'head, skull' and Assyrian qaqqadu, the latter having assimilated the cluster *-dq- > -qq-. Also similar is Semitic qarqara > UA *kakkara 'quail'. Such happens repeatedly in many languages throughout the world.

Compare the following Arabic and Hebrew forms:

	Arabic	Hebrew	Uto-Aztecan
daughter	bint	batt	*pattï 'daughter' (from Semitic-p)
spike of grain	sunbul	šibbolet	*suNkwu > suŋu 'corn' (from Semitic-kw)
wheat	ɧinṭat	ɧiṭṭaa	--
beetle	xunpusaa'	ɧippušit	*wippusi 'beetle' (note Hebrew ɧ > w) (from Semitic-kw)

A pattern of *-nC- remaining - nC- in Arabic, but *-nC- > -CC- in Hebrew means the 1st consonant of the cluster was absorbed to double the 2nd, or the 1st entirely assimilated to the 2nd in Arabic. Similarly, in UA, a cluster tended to obscure the 1st C and double the 2nd: *-Ct- > -tt-, *-Ck- > -kk-. So UA/Cahuilla(Ca) mataš 'crush, squash, vt' is from UA *mattas, because a single intervocalic -t- > -l- in Ca; and Hebrew makteš 'grindstone' matches well what became a denominalized verb in Ca mataš 'crush' with *-kt- > -tt-.

Another frequent result of consonant clusters is that the 1st C of the two may become a glottal stop, in a change between remaining and disappearing, but not completely disappearing by leaving a trace of its existence in the form of a glottal stop (ʼ). In English, for example, dictate has a cluster pronounced *-kt- when pronounced carefully, but in normal rapid speech, it is often pronounced as -'t-. Mountain is often said mau'n, the t > ' and the underlined vowels are nasalized. Similarly, 'written' is often pronounced rI'n. In mountain > mau'n, the nasalized vowels are from the nasal n before the t, while rI'n has no nasal before the t and does not have its 1st V nasalized. The first consonant becoming a glottal stop happens often in UA as well: we already mentioned Hebrew makteš > UA *ma'ta 'grinding stone'.

Some consonants (like ', nasals and liquids) in some languages tend to be anticipated or fronted (put further in front from their original place). An English example is the biblical Aramaic name of ʕabed-nəgo, for which many English speakers say abindigo, with the n anticipated before the d from its original place after the d. Glottal stops are frequently anticipated in UA: e.g., Egyptian **sb'** 'star' > UA *si'po 'star': Wr so'póri; Tr se'porí. UA anticipates the glottal stop, yet reflects all 3 consonants, yet Coptic siu 'star' reflects only one, even though it is also from Egyptian sb' 'star'.

Another route to vowel loss is **accent or stress** patterns. For example, Latin fábuláre stressed the 1st and 3rd vowels, and the lack of stress on the 2nd and 4th vowels helped them both become silent in the changes from Latin to Spanish and Portuguese:

Latin fábuláre > fablar > hablar > ablar (Spanish)

Latin fábuláre > fablar > falar (Portuguese)

Losing the 2nd V caused two originally separated consonants to become a consonant cluster (Latin fábuláre > fablar). Then in that cluster, the 1st consonant was lost or assimilated to the 2nd in Portuguese, similar to what we have talked about and seen in several other languages. In Spanish, the cluster remained

intact, but the initial f > h > ø (ø means zero or nothing, that is, f became h, then h became silent or disappeared). The current spelling of Spanish is hablar; however, h is silent in Spanish, so the first and last sounds of Latin fabulare were lost, as well as the middle unaccented vowel. Because *h* is a rather weak consonant, it often becomes silent or disappears in language change.

These kinds of changes happen in many to most languages. In Uto-Aztecan, stems of CVCVCV often lose the middle V, reducing to CVCCV, then the medial (middle) consonant cluster also reduces to one consonant. This phenomenon is common in Syriac and other Aramaic dialects as well. For example, Syriac kawkab 'star', when taking on the definite article suffix -aa 'the', loses the middle vowel in Syriac kawkb-aa 'star-the' because of stress patterns similar to what we have talked about.

Pronouns

Pronouns are often portrayed in paradigms like the following:

	Singular			Plural		
	subject	object	possessive	subject	object	possessive
1st person	I	me	my/mine	we	us	our(s)
2nd person	you/thou	you/thee	your(s)	you	you	your(s)
3rd person	he/she	him/her	his/her(s)	they	them	their(s)

Besides persons (1st person speaker, 2nd person spoken to, 3rd person spoken about), number can vary as well. Many languages have singular, dual, and plural, in which case plural is 3 or more, like Navajo, Old English, and Arabic. For example, Old English had ik (I), wit (we two), and we (3 or more). Pronoun systems with 3 numbers often simplify to 2 numbers. Old English gave up its dual to make 'we' mean two or more. Navajo is in process of often having its dual cover for plural in some cases.

Some Amerindian languages have two 'we' pronouns: we-inclusive is I-and-you, to include the person(s) spoken to, and we-exclusive is I-and-he/they, to exclude the person(s) spoken to. Semitic langauges do not have the inclusive-exclusive distinction, nor does Egyptian, yet many Amerindian languages do.

Nouns Become Denominalized Verbs

Most languages make nouns from verbs and make verbs from nouns, though some do so to a greater degree than others. In English we have 'hoof it' for 'walk'; and 'she mirrors her mother's behavior' for 'she behaves like her mother' from the noun 'mirror'; and 'he bicycled to Bluff' for 'he rode/pedaled a bicycle to Bluff'. These are called denominalized verbs because a nominal (noun) is made to serve as a verb. Even 'pedal' is a denominalized verb from the noun 'pedal'. The term de-nominal verb means 'from-noun verb'.

In the change from Semitic to Uto-Aztecan, many nouns were denominalized to become verbs. In fact, Uto-Aztecan *kuppa 'shine (as stars)' is a denominalized verb from the noun mentioned above: Aramaic kawkb-aa / kookb-aa 'star-the' > UA *kuppa 'shine (as stars)' wherein the cluster *-kb- > *-pp- as we talked about above, and the vowel *a* assimilated to *w* in *-aw- > -o- > -u-.

Language Contact, Influence, Loanwords, and Mixing

Languages in contact influence each other. The type and intensity of the contact determines how they influence each other and how much. A few languages enjoy relative isolation, like Icelandic isolated in the Atlantic, though none escapes all outside influences. In fact, most languages are subject to various influences over time, and sometimes so intensely or suddenly that changes happen fast. For example, many Native American languages in the United States are dead or dying due to the overwhelming dominance of

English. Sometimes the tribe survives, but as English is learned, a bilingual generation or two eventually raises a generation of monolingual English speakers, then as the older native speakers pass on, so does the language. The numbers of speakers of Native American languages in Latin America are generally more numerous, partially because in Latin America the mandatory education for learning Spanish is often less mandatory or non-existent. Bilingual education in the U.S. can help provide some basics and an appreciation for the language and culture, but it does not produce native speakers.

One factor in language influence is numbers. When a small population dwells amidst a much larger population, the influence is usually proportionately imbalanced. As in our previous example, the nation of 300,000,000 English speakers contributed to the loss of some native languages, yet some of the native languages contributed loanwords to the much larger language despite the huge discrepancy in numbers/influence. Moccasin, tomato, coyote, and many others are loanwords into English from Native American languages, the latter two from Nawatl (Aztec), a Uto-Aztecan language.

A second factor in language influence is the relative perceived status of each language, that is, the relative cultural or political superiority. The language of a people perceived to be culturally superior usually does more influencing than being influenced and is often called a superstratum to languages receiving their influence. For example, just as Navajo was not allowed in boarding schools at one time, longer ago Latin was the language of learning and English was not allowed in the schools; and during that time, many Latin loanwords were borrowed into English, most of our big words, more academic words. The once pervasive status of Greek and Latin in academia are apparent in our medical terminology. We say cardiac arrest instead of heart-stop, five syllables instead of two, all due to previous perceptions of status. Greeks were once the dominant culture; thus, much Greek vocabulary was borrowed into Latin. Then the Romans became politically dominant, whether cultural or not, and so the rest of Europe borrowed much Latin, along with the Latin versions of their Greek loans already in Latin. While most borrowing between languages happens gradually, sometimes it is sudden and massive, more like a sudden mixing of languages.

Language mixes are many. Spanglish or border Spanish are terms often applied to the frequent mixing of English and Spanish, but usually by those who know both languages and can speak either when needed. Sometimes the language mixing becomes fixed and becomes an actual language. Modern English, for example, is a language mix of Old English and Norman French. Only 15% of Old English survived into modern English (Baugh and Cable 55), yet we still call it a Germanic language because most of the most basic words are Germanic, that is, from Old English, which was a Germanic language; e.g., body parts like head, hand, eye, and common nouns of nature like earth, water, etcetera, are Germanic. However, take almost any page of written English, look up the words to find their origin, and about half of any page or paragraph comes from French or Latin, if not more than half. In 1066 the Norman French conquered England and imposed their French as the language of the new rulers on their new land. For the next 3 centuries, the rate of French loans into English happened to such an extent that every generation of about 10 generations must have shaken / shaked their heads at the next generation's demolition of "proper" English, though the head-shakers did their share of damage, perceived by the generation preceding them. During this language mixing, English lost the case endings of nouns and the conjugation of verbs. Many irregularities of strong verbs in Germanic became "regular" verbs (with -ed past tense): shaved replaced shove as the past tense of shave; clomb became climbed; and hundreds more. In the Midwest, many are familiar with "clumb" as a past tense of climb—yesterday I clumb a tree. Most would count it as outback bad English, when in fact it is straight from Old English clomb (past tense) and is more original than the 'climbed' that we say today. In fact, those who first said 'climbed' were wrong until most were saying it, then 'clomb' became wrong. Nevertheless, the intensity of the contact during French rule in England caused English to change rapidly, and to end up as quite a language mix of Old English and French. Yet that kind of mixing of languages and peoples happens regularly. In fact, the Norman French themselves were a mixture of at least four peoples:

the Viking (Germanic) Norseman (source of Norman) who settled their area of France, and they mixed with the French, who descend from the Celtic Gauls, the Germanic Franks, and the Romans who brought the Latin language, which in that area became French. UA is also a language mix (see Chapters 6, 7, and 8).

Besides words being borrowed, language influences alter the grammar of a language as well. These grammatical changes are sometimes harder for native speakers to identify or even perceive, because, as we said previously, we mostly do grammar subconsciously, and so when bilingualism is prevalent in a border area between languages, the subconscious grammatical patterns of the two tongues can and do influence each other slowly enough that native speakers are hardly aware. For example, English *whom*, as accusative (object) form of *who*, is nearly dead as a last survivor of the Old English case system, yet most English speakers do not know how to use it and so do not, or if they do, they often use it incorrectly, because the case system in which it fits or which used to be part of the language, has all been lost for centuries.

This is all very applicable to a hypothesized arrival of Mediterranean speakers in ancient America, because the languages would differ enough that it is to be expected that such an arrival in a very different language environment would change very much. The derivational detail being lost would not be surprising, just as the Germanic case endings were lost in Middle English. The simplification or loss or fossilization of some verb conjugations would be expectable, just as English lost most of its verb conjugations.

Appendix D: The Egyptian Language

Egyptian and Semitic merit a word of introduction as this work deals with them. Semitic and Egyptian both belong to the larger grouping of Afroasiatic languages, along with other language families like Berber, Cushitic, Chadic, Omotic, in the north half of Africa.

Egyptian, like all living languages, was always changing over its 4,000-year history, from Old Egyptian (3100-2100 BC) to classical Middle Egyptian (2100-1600 BC), Late Egyptian (1600-600 BC), and then Demotic, beginning about 650BC and overlapping with and closely related to Coptic, which began being written with the Greek alphabet, and thus with vowels. This last stage of Egyptian, Coptic, continued in use more than 1,000 years, and is still the liturgical language of the Coptic Christian Church today (Allen 2010, 1). Each stage exhibited major and/or minor changes from its predecessor. In fact, as details emerge, we should be able to identify the time or stage of the Egyptian from which the Uto-Aztecan infusion originated. Relevant to that eventuality, it is important to note that "Old Egyptian and Late Egyptian are historical phases of a single dialect, or closely related ones, likely from the north, while Middle Egyptian, chronologically between those two, represents a separate dialect, most likely southern in origin. In the history of the language, therefore, Middle Egyptian somewhat interrupts and obscures the presumably direct evolution of Old Egyptian into Late Egyptian" (Allen 2013, 4). The Egyptian element in Uto-Aztecan is closely associated with the Semitic-p infusion into UA. That and other factors suggest an Israelite group was likely the bearer of both. If Israelite, keep in mind where the Israelites were in Egypt? In the north, the Delta area. So when the UA Egyptian element exhibits both Old Egyptian and Late Egyptian features, such may be significant. My premature sense of the matter is that UA is mostly of that Old-plus-Late Egyptian duality. The prefixed articles of Late Egyptian (pV-, tV-, nV-) are in UA and at least two Old Egyptian features. Tarahumara's plural prefix *i- / *ip- matches Old Egyptian i(p…) as the beginning of plural demonstrative pronouns (these/those). A second matter of Old Egyptian in UA is that the UA stative suffix -i is in all 11 branches of UA and is the oldest form (-i) of the stative suffix in Egyptian as well, though it later changed to -w in Middle Egyptian (Allen 2010, 206-7; Gardiner 1969, 234-8). UA has both -i and -wa, and some UA languages, like Hp and Tb, have both *-i-wa, as Egyptian sometimes shows both together also.

Two Egyptian stative/passive features are pervasive throughout Uto-Aztecan. In fact, one is called the old perfective from Old Egyptian and was also used as a stative, though the stative dimension continued through all stages of Egyptian even to Coptic. Stative structures present resulting states of verbs. For example, in English we have 'I do' (present) and 'I did' (past), but 'is done' expresses a present state resulting from a past action. Similarly, in Egyptian a final vowel -i at the end of verbs is the form of both the old perfective (past-tense like) and the stative (Allen 2000, 201; Gardiner 1969, 234-8). Likewise, every branch of Uto-Aztecan has exactly the same feature in which the final vowel of a transitive verb is changed to -i in order to signify the corresponding stative, intransitive, or passive verb. A few examples follow. Guarijio has transitive verbs ending in -a with corresponding intransitive verbs in -i (Miller 1996, 130):

Wr co'a 'put out fire'; Wr co'i 'be no fire';
Wr wela 'put upright/standing'; Wr weri 'be upright/standing';
Wr mo'a 'put pl obj's inside'; Wr mo'i 'enter, pl subj's';
Wr sa'wa 'cure s.o., alleviate s.th.'; Wr sa'wi 'be alleviated, go away';

Tarahumara also has such pairs of verbs' (Hilton 1993, 139):

Tr mana 'put, place, set'; Tr mani 'be (in/at a place), exist';
Tr bi'wá 'clean it'; Tr bi'wí 'be(come) clean';
Tr čiwá 'stick s.th., vt'; Tr čiwí 'be stuck, vi';

Classical Nawatl also has such pairs of verbs (Sullivan 1988, 171):

CN tla-tema 'fill, place s.th.'; CN temi 'be full, be lying down';
CN tla-kotona 'break s.th.'; CN kotoni 'be broken';

CN tla-mana ‘put s.th. on the floor’; CN mani ‘be stretched out, extended’;

CN tla-toma ‘undo s.th.’; CN tomi ‘be undone’;

Other Egyptian grammatical structures are also apparent in UA. The masculine pa-, feminine ta-, and plural na- article (‘the’) prefixes are found here and there as fossilized forms in a number of UA languages. The Egyptian structure *noun-pw* ‘he is (a/the) noun /adjective’ is found in some UA languages.

Appendix E: The Semitic Languages

The **Semitic** language family first divided into West and East Semitic. East Semitic is essentially Akkadian, which later developed into Assyrian (north) and Babylonian (south) in Mesopotamia. The Semitic family tree’s branching thereafter may ever lack consensus, but mostly following Rubin (2010, 3-6), let us consider that West Semitic divided into Modern South Arabian (a different branch than Arabic) consisting of six languages spoken in Yemen and Oman, and Central Semitic. Central Semitic then divided into Arabic, Northwest Semitic, and Ṣayhadic, also called Old South Arabian or Epigraphic South Arabian, a group of dialects found in inscriptions in western Arabia from 1000 or 700 BC to AD 600 (Rubin 2010, 13-14; Goldenberg 2012, 15-16). The Ethiopic branch (languages in/near Ethiopia) may derive from ancient Arabian languages. Regarding Arabic, Classical Arabic is the language of the Qur’aan, and, though not an ancestor, is like a sister to the parent language(s) of the various Arabic dialects spoken today. The Northwest Semitic languages referred to in this study are Hebrew / Phoenician / Canaanite (different names or dialects of the same language), and Aramaic / Syriac, and Ugaritic. Aramaic periodically gained and waned as a frequently dominant language, lingua franca, or international language in the Near East. Aramaic developed into many dialects, Biblical Aramaic (books of Daniel and some of Ezra), Jewish Aramaic, Syriac, Samaritan, Mandaic, and several others, including many modern Aramaic dialects surviving to this day.

The Semitic languages have remained in relatively close contact with each other for millennia and thus retain many morphological similarities. The Semitic languages are very verbally based with only a few basic original nouns not easily associated with a verb root, as most nouns are derived from verbs. The tri-consonantal roots change shapes and vowelings for various conjugations, participles, and nouns.

Semitic pronominal morphology on verb conjugations (pronominal is the adjective from of pronoun) consists of pronoun morphemes prefixed to the imperfective (not-completed/present/future) verb forms and other pronoun morphemes suffixed to the perfective (completed/past) verb forms:

Verbal Pronominal Suffixes of Some Semitic Languages:
Suffix verb conjugation (usually perfective/past) pronoun forms suffixed to *CaCaC-:

	Akkadian	Hebrew	Syriac	Arabic	
I verbed	-aaku	-tii	-eet	-tu	
you masc sg	-aata	-taa	-t	-ta	
you fem sg	-aati	-t	-t	-ti	
he	-	-	-	-a	
she	-at	-aa	-at	-at	
we	-aanu	-nuu	-nan	-naa	
you masc pl	-aatunu	-tɛm	-toon	-tum	
you fem pl	-aatina	-tɛn	-teen	-tunna	
they masc pl	-uu	-uu	-uun	-uu	
they fem pl	-aa	-uu	-een	-na	(Goldenberg 2012, 85)

The bound pronominal prefixes to verbs in the prefix conjugation (imperfective/present/future) are below. Some person forms include a suffix, like -uu plural, though the prefixes are the primary indicators of person:

	Akkadian	Hebrew	Syriac	Arabic (classical)
I verb	a-	’ɛ-	’-	’a- / ’u- -(u)
you masc sg	ta-	ti-/tɛ-/tə-	t-/te-	ta- / tu- -(u)
you fem sg	ta- -ii	ti-/tɛ-/tə- -ii	t- -iin	ta- / tu- -ii(na)
he verbs	i-	yi-/yɛ-/yə-	y-	ya- / yu- -(u)
she verbs	ta-	ti-/tɛ-/tə-	t-	ta- / tu- -(u)
we verb	n-	ni-/nɛ-/nə-	n-	na- / nu- -(u)
you pl masc	ta- -aa	ti-/tɛ-/tə- -uu	t- -uun	ta- / tu- -(u)
you pl fem	ta- -aa	ti-/tɛ-/tə- -naa	t- -aan	ta- / tu- -na
they masc	i- -uu	yi-/yɛ-/yə- -uu	n- -uu(na)	ya- / yu- -uu(na)
they fem	i- -aa	ti-/tɛ-/tə- -naa	n- -aan	ya- / yu- -na

(Goldenberg 2012, 86-87)

One can readily see the similar morphology among the Semitic conjugated verbs. While most Semitic verbs contain 3 consonants, Semitic (and Egyptian) have occasional quadrilateral verbs (of 4 consonants), such as Semitic prʕš ‘jump’ from which the Semitic noun parʕoš ‘flea (jumper)’ derives as a ‘jumper’. (Note UA *par’osi / *paro’osi ‘jackrabbit’ which is also a jumper and shows all four consonants and both vowels.)

The Semitic Pronouns, both the independent pronouns and the suffix pronouns, are worth noting along with the Semitic pronominal affixes on verb conjugations. The independent pronouns for Akkadian, Hebrew, Syriac, and Arabic follow. Those found in or relevant to UA forms are in bold. See UA pronouns.

	Akkadian	Hebrew	Syriac	Arabic (classical)
I	anaaku	’anooki / ’ani	’enaa /(i)**naa(’)**	’anaa’
you masc sg	atta	**’attaa**	’att	’anta
you fem sg	atti	’att	’att	’anti
he	šuu	**huu**	**huu**	**huwa**
she	šii	hii	hii	hiya
we	niinu	(’a)naħnuu / ’aanuu	ħnan	naħnu
you pl masc	attunu	**’attɛm**	’attoon	**’antum**
you pl fem	attina	’atteen(aa)	’atteen	’antunna
they masc	šunu	**heem**(maa)	hennoon	**hum**
they fem	šina	heen(naa)	nenneen	hunna

(Goldenberg 2013, 82; Lipinski 2001, 306-7)

The Semitic oblique or suffix pronouns are used as possessors, objects, and subjects (as in his/your giving me/it). Oblique generally refers to non-subject pronouns, i.e., object (of verb), dative (to/for whom given/done), and/or possessive pronouns. Again, forms appearing in UA or relevant to UA are in bold:

	Hebrew	Syriac	Arabic (classical)
I	**-ni / -i**	**-ii** / **-ay**	**-ni / -i**
you masc sg	**-kaa** / -aak	-aak / **-ay**k	-ka
you fem sg	-eek / -aak	-eek / **-ay**k	-ki
he	-(aa)**huu** /**-aaw** /**-oo**	**aaw(hi)**	**-hu/-hi**
she	**-haa / -aa**(h)	**-eeyh / -hi**	-ha
we	-nuu	-an / **-ay**n	-naa

you pl masc	**kɛm**	-koon /-**ay**koon -kum
you pl fem	kɛn	-keen /-**ay**keen -kunna
they masc	**hɛm / -aam**	hoon /-**ay**hoon hum
they fem	hɛn / -aan	heen /-**ay**heen hunna

(Goldenberg 2013, 88; Lipinski 2001, 314-15)

Masoretic Hebrew is the dialect(s) of the Hebrew Old Testament (OT) text as voweled by the Masoretes about AD 600-700. The original texts or various books of the OT were written with only consonants, like most Semitic languages, and were composed at different times, roughly ranging in date from 1200 to 300 BC. So some 1000 to 1800 years after the consonantal texts were written, the Masoretes developed a system for writing vowels and some consonant variations. The consonant variations from Proto-Semitic and probably early Hebrew to Masoretic Hebrew are that the stops became fricatives or spirants following vowels: b > v, p > f, k > x, t > θ, etcetera, but at the beginning of the word, or when doubled, or following a consonant, b remains b, p > p, etc. The same spirantization occurred in Aramaic dialects as well. However, the UA forms from Semitic do not show such spirantizations, though some spirantization happened later in some UA languages, like *p > v in some Northern Uto-Aztecan languages. So we cite non-spirantized Semitic forms, not the later spirantizations, because the spirantization was not original and is not apparent in early UA reconstructions. Arabic spirantized a couple of consonants—*p > f and *g > ǧ/j—changes from Proto-Semitic *p and *g, but again, parallels with UA do not reflect those changes.

Semitic Cognates are the similar words or groups of related words in the Semitic languages; each group of related words descends from its ancient predecessor or ancestor proto-word. For example, from Proto-Semitic ***đi'b** 'wolf' (Bennett 1998, 60) are descended Hebrew **zə'eb** 'wolf', Arabic **đi'b** 'wolf', Syriac **di'b-aa** 'wolf-the', and Aramaic di'b-aa 'wolf-the'. Initial Proto-Semitic *đ corresponds to Hebrew z, Arabic đ, Syriac d, and Aramaic d; thus, those consonants begin the respective forms in those languages; the glottal stop (', 2nd consonant) and b (3rd consonant) remain the same in those languages. This set (Semitic *đi'b wolf) has a cognate in most Semitic languages, and note UA *tï'pa 'wolf'; however, sometimes cognates appear in less than half the languages, such that the once-existing cognate did not survive or continue in all languages. This happens in all language families: some cognates continue prevalent or well represented in most lanugages, while others become sparsely represented, that is, may surface in only 2 or 3 languages, or may disappear altogether.

In this connection, sometimes the corpus or extent of an ancient language's vocabulary or cognates can hardly be known. The ancient Akkadian or Assyrian vocabulary is known to be rather voluminous as extracted from extensive records. The vocabularies of thriving modern languages with numerous native speakers, like the various Arabic dialects, can be quite thoroughly known as well. However, some ancient languages, whose records are limited, leave a proportionately limited amount of information behind and so our knowledge of them is similarly minimal. For example, the ancient Epigraphic South Arabian languages (a different branch of Semitic than the Arabic dialects) are known only by a limited number of inscriptions on rock, and are limited in content and style to legal transactions, declarations of events, tombstones, and the sort, but are lacking a rich literature or lengthy narratives with extensive amounts of language. Though a little better known than Epigraphic South Arabian, **Biblical Hebrew** is also a limited corpus. The Israelites' dialects changed through time, from Moses to Jeremiah, as all living languages always do, and each book is but a snapshot (not a photo-album) of that author's dialect in that century. So we know very little when considering all the dialects of all the centuries. The Book of Job, for example, represents its own unique dialect, and has many words which occur only once in the Old Testament (OT), though most books have theirs too. So if the whole OT has many words that made it into the text only once, how many other thousands of words in the spoken language missed out on gaining a single appearance in the OT?

A few inscriptions of ancient Hebrew also exist, but the Hebrew Old Testament text is by far most of what we know about classical or pre-exilic Hebrew (spoken before the exile or before the destruction of Jerusalem in 587 BC). After the Jewish captivity in Babylon, where Aramaic was spoken and where survivors became Aramaic speakers, Hebrew changed and much of its richness and former vocabulary had to have been lost. In fact, the post-exilic Biblical books of Daniel and parts of Ezra are written in Aramaic, not Hebrew. So what percent of the Israelite's pre-exilic spoken Semitic is found in the Masoretic Hebrew text? Would it exceed 10% or 20%? Consider, for example, that a Hebrew word for 'squirrel' does not occur in the Hebrew Old Testament text, yet the spoken language certainly had words for squirrel, and UA has 3 words for squirrel aligning with what would be the Hebrew cognate of Arabic and Aramaic words for squirrel. Arabic **singaab** 'squirrel' would correspond to Hebrew ***š/siggoob** 'squirrel' to which UA ***sikkuC** 'squirrel' corresponds perfectly (C means an underlying consonant that doubles the next consonant, and devoicing g > k, and rising of o > u, all typical of the Semitic to UA sound changes). Arabic **qarqað**aan 'squirrel' > UA ***qoŋi**- 'squirrel' does very well for 5 segments (segments are consonants or vowels) and **qarqað** is the essence of the word, -aan being a noun augment of sorts: the cluster *-rq- > -ŋ- in Northern UA, which tends to nasalize liquids (changing r and l to n or ŋ) and the velar nasal (ŋ) from a liquid and guttural (back consonant) cluster is all quite natural. Like words for squirrel, many other words and verbal conjugations would have been in the spoken language, but not in the OT text.

Two factors limit our knowledge of the pre-exilic language: besides (1) a relatively small amount of the whole language finding its way into the Israelites' texts while the language was known, (2) even their knowledge of their language deteriorated after the exile, parts becoming unrecoverable within 2 or 3 generations. Future discoveries of additional ancient texts is always possible, but as matters now stand, we know only a small percentage of the ancients' conversational vocabularies. The Bible's retention of ancient Hebrew may approximate the 15% retention (or 85% loss) of Old English in later English after French became the dominant language in English speakers' lives during the centuries after A.D. 1066.

Whenever another language of a language family is discovered, it is invariably a unique combination of features, some of which are typical and expectable and others not so typical or expected. For example, the Nabatean language, though officially considered an Aramaic dialect, is more Arabic-like than other Aramaic dialects. The language in Job has leanings that are more Aramaic- and Arabic-like than the other books of the Hebrew OT text. So to find a peculiar combination of features in UA, some more Aramaic-like and some more Arabic-like and some more Hebrew-like, but all fused with fossils of a basic Northwest Semitic conjugation system, is actually quite typical of any newly discovered relative to a group of relatives. To find cognates that match an Akkadian word or an Arabic word or an Aramaic word, but without an attested (verified) Biblical Hebrew cognate should not be thought strange at all. That is how cognates work, in any language family. Each relative has its surprise cognate contributions as well as its random voids.

'The' in Semitic is quite different in different Semitic languages. 'The' in Hebrew and Arabic is a prefix, reconstructing to something like *hal-, though *han- has also been proposed. The -l- is absorbed / assimilated to double the next consonant in Hebrew: hay-yeled 'the-boy'; ham-melek 'the-king'; haš-šaloom 'the-peace'. Various ha-/hi-/a- noun prefixes sporadically appear in UA as noun prefixes, though it is unclear what their original meaning and purpose were, yet they resemble fossilized ha- prefixes, sometimes changing the vowel ha-/hi-, though Hebrew itself also sometimes changes the vowel ha-/he-. These may more often be nouns from Semitic-kw. The Arabic article al- lost the h, but kept the l- before some consonants—al-malk 'the-king', al-walad 'the-boy'—but assimilates before other consonants—as-salaam 'the peace', að-ðakar 'the-male/man'.

Most interesting, however, are the Aramaic forms, which are abundant in UA. All Aramaic dialects suffix 'the' to definite nouns: -aa 'the' is suffixed to masculine nouns and -t-aa 'the' to feminine nouns (-taa from feminine -t- + -aa): for example, malk-aa 'king-the', malkə-taa 'queen-the'. This definite form is often

the citation form or common form of the noun. In fact, Goldenberg (2012, 133) says that in Syriac "the historically definite forms became the normal forms of nouns, unmarked for definiteness." The feminine definite suffix became part of the citation form in UA *-ta as well, though droppable when possessed as in Semitic also. We see -aa fossilized on many UA nouns that were masculine nouns in Semitic, and -taa is still productive as a general absolutive suffix on UA nouns in many branches of UA. Examples of masculine -aa:
Aramaic pagr-aa 'corpse-the' > Hp pïïkya 'skin, fur' (from dead animal) vs. Hebrew (hap-)pɛgɛr
Syriac šigr-aa 'drain, ditch-the' > Hp sikya 'small valley, ravine, canyon with sloped sides'
Aramaic rəʾemaan-aa / reemaan-aa 'antelope-the' > UA *tïmïna 'antelope'
Aramaic diʾb-aa 'wolf-the' > UA *tïʾpa 'wolf' vs. Hebrew (haz-)zə'eb 'the-wolf'
Aramaic diqn-aa 'beard-the, chin-the'> UA *tïʾna 'mouth' vs. Hebrew (haz-)zaaqaan 'beard/chin'

Even more interesting is that these suffixes -aa' and -taa' in written Aramaic actually end with a glottal stop, which either was never pronounced, only signifying the vowel -aa, or ceased being pronounced in the various Aramaic dialects, but in UA these suffixes often actually end with a glottal stop in Numic and Takic: Aramaic kookb-aa' 'star-the' > UA *kuppaa' > Serrano kupaa' 'to shine (as of the stars)'
Syriac ʾaamaqqət-aa 'lizard-the, n.f.' > UA *makkaCta 'horned toad': NP makaca'a 'horned toad'

Verbal Nouns are used in Hebrew and Arabic much more frequently than is customary in English. For example, for a narrative in Genesis 44:30-31, the King James English has five finite verbs: "when I **come** … and the lad be not with us; seeing that his life **is** bound up in the lad's life … when he **seeth** that the lad **is** not with us, he shall **die**." Yet the Hebrew has only one verb at the end "he'll die" but 3 verbal nouns and two verbless equative/copula constructions: "As/at my coming … and the lad not with us, his soul bound (adj) to his soul … as/at his seeing the lad not, he will die." Thus, Semitic often employs many verbal nouns more conveniently translated as verbs in English (Stubbs 1996c). So not surprisingly, we find many verbal nouns in UA: e.g., gəlom > UA kolom 'wrap', Hebrew *ra'oot(-aa) 'seeing (it), to see (it), infinitive/ verbal noun' > UA *ta'uta 'find', etc.

APPENDIX F: Sound Correspondences of the Semitic and Egyptian Infusions in Uto-Aztecan from Semitic-K^{w}, Semitic-p, and Egyptian: C- (initial), -C- (medial), C (all environments)

Semitic, Egyptian	UA terms from Semitic-kw in UA	UA terms from Semitic-p in UA	UA terms from Egyptian
b	kw	b/p	b/p
p	p	p	p
’	ø/’	w/’	w/’
ẖ	hu/w	hu	hu
x (> ẖ Phn)	hu/w	k/h	k
ʕ	w/o/’	w/o/u	w/o/u
ġ (> ʕ Phn)	w/o/’	k	-- (not in Egyptian)
ṣ/ḏ	c	s	s
ṭ	c/s	t/c	-- (not in Egyptian)
t	t-, medially -r-/-l-	t-, -r-/-l-	t-, -r-/-l-
d	t-, medially -r-/-l-	t-, -r-/-c-	t-, -r-/-l-
k	ø-, -k-	k	k
g	ø-, -k-, but Tak ŋ	k	k
q	ø-, -k-, but Tak ŋ	k, but Tak q	k, but Tak q
h	h/ø	’/ø	’/ø
m	m	m	m
n	n	n	n
l	l	l	-- (not in Middle Egyptian)
r	t-, medially -y-	t-, -r-	t-, -r-/-y-
đ (> z Phn)	s/c	t	-- (not in Egyptian)
z	s/c	c	-- (not in Egyptian)
θ (> š Phn)	s	s	s
s_1 (> š)	s	s	s
s_2 (> ś)	s	s	s
s_3 (> s)	s/c	s	s
y/i	y/i	y/i	y/i
w	w	w	w

Appendix G: The Numerical Dynamics of Population Mixing

The chart below shows the rapid growth of a minority population's posterity outside the original group if only 10% marry outside the group each generation. Of each 1,000 people of an original population through 9 generations (about 300 years), with each couple averaging 2.5 children who reach adulthood and marry, only 1% remain within the group and 99% are outside the original population in 3 or 4 centuries. Let's walk through the first generations. Of 1,000 persons, 900 or 90% marry within the group to form 450 couples who have 1125 children, while the 100 who marry outside the group form 100 couples (since each is marrying another outside the group) who have 250 children. The children in the group (1125) and out (250) add to 1375, such that 1125 is 82% still in the group and 250 is 18% of the group's 2nd generation posterity: those numbers in the right-hand column and the percentages in and out of the group reflect the children of that generation. The 1013 of the 2nd generation is 90% of the 1125, which 1013 make 506 couples producing 1265 children. The other 10% or 112 exit the group and with the 250 born outside the group the generation before, add to 362, who marry and those 362 couples produce 905 children of the 3rd generation, which are 42% of the group's posterity (905/2170). The 3rd generation's 1138 children still in the group form 569 couples to have 1422 of 4th generation children, while those outside of the original group in the 3rd generation are the 905 born outside the group in the 2nd generation added to the 10% (126) of the 2nd generation born in the group but who leave, to make 1031 couples outside the group in the 3rd generation, and so on. So by the 9th generation, 1% are still in the group and 99% of the group's posterity are outside the group. The numbers of persons outside the group may not grow quite as fast as the charts show, because some who leave the group will marry descendants of others who had left the group earlier, to form less than that same number of couples. Nevertheless, another generation or two would more than make up that difference such that a very small percent of the group's posterity is still in the group after a few centuries and most of the group's posterity is outside the group, many of whom would not even know they are related to that group.

	Inside the Group			Outside the group			total	
Generation	adults in	couples	children	adults out	couples	children	descendants	% in/out
1	900	450	1125 (112 exit)	100	100	250	1375	82%/18%
2 (90% of 1125 is)	1013	506	1265 (126 exit)	362 (112+250)	362	905	2170	58%/42%
3 (90% of 1265 is)	1138	569	1422 (142 exit)	1031 (126+905)	1031	2577	3999	36%/64%
4 (90% of 1422 is)	1280	640	1600 (160 exit)	2719 (142+2577)	2719	6797	8397	19%/81%
5 (90% of 1600 is)	1440	720	1800 (180 exit)	6957 (160+6797)	6957	17392	19192	9%/91%
6 (90% of 1800 is)	1620	810	2025 (202 exit)	17572 (180+17392)	17572	43930	45955	5%/95%
7 (90% of 2025 is)	1823	910	2275 (227 exit)	44132 (202+43930)	44132	110330	112605	2%/98%
8 (90% of 2275 is)	2047	1024	2560 (256 exit)	110557 (227+110330)	110557	276392	278952	1%/99%

The numerical dynamics of population mixing would apply to nearly all situations of two or more different ethnic groups neighboring each other any length of time. True, cultural attitudes of approval or disapproval for intermarrying with other ethnic groups vary widely from situation to situation, ranging perhaps from 3% to 30%, instead of our arbitrary 10%. But even among the most forbidding culture, a few would go with love over cultural prohibitions (perhaps 3%) and other cultures may be openly accepting, possibly encouraging intermarriage (30%). So even in a case of 3%, it would only take 27 generations or perhaps 900 years to reach the same 1% in and 99% out. In other words, regardless cultural attitudes, it is likely that 99+% of the posterity of every ethnic group is outside the group and probably does not know that they have ancestry from that group.

Appendix H: Jewish Diffusions into the Families of Europe

Ancestral traces from a minority population can diffuse into surrounding populations more than most are aware. Consider, for example, the surprising probability that most Europeans have Jewish ancestors. Ralph Marcus states that at the time of Christ about 10% of the Roman Empire was Jewish, comprising about 6 million of the 60 million. Because the estimate may be high—though it reflects only those known to be Jewish—let's halve it to 3 million. Of 4 possible directions—Africa, Europe, Arabia, or deeper into Aisa—let's again be overly conservative and assume that only 4% or 120,000 of the 3 million diffused in the Europe direction. Estimates of Europe's population in those times range from 30 to 40 million. Supposing 4.5 persons per family, 36 million would be about 8 million families. The 120,000 Jews (amongst Europe's 36 million, only 1 in 300, or .3%) might represent 3 generations, so perhaps 40,000 would be marrying each generation. If 1 in 20, or 2000 of the 40,000, were to marry a non-Jew, then 2000 families began their Jewish ancestry that generation. If each of those couples had 2 children that reached adulthood and married (zero population growth), then in the 2nd generation, 4000 families would receive some Jewish heritage through them, plus another 2000 Jews marrying a non-Jew of that next/2nd generation, for a total of 6000. The two offspring from each of those 6000 couples would unite with the offspring of 12,000 "gentile" families plus another 2000 marrying outside their Jewish roots for a total of 14,000 families with Jewish ancestry the 3rd generation. The pattern continues as follows:

Generation	Jews marrying non-Jews	part-Jewish persons creating families	total families acquiring Jewish ancestry
1	2000	none	2000
2	2000	4000	6000
3	2000	12,000	14,000
4	2000	28,000	30,000
5	2000	60,000	62,000
6	2000	124,000	126,000
7	2000	252,000	254,000
8	2000	508,000	510,000
9	2000	1,020,000	1,022,000
10	2000	2,044,000	2,046,000
11	2000	4,092,000	4,094,000
12	2000	8,188,000	8,190,000

In 12 generations—perhaps 400 years—the total number of affected families surpass the number of families in Europe. The numbers of families receiving Jewish genes may not grow quite as fast as outlined above, because some of those of Jewish genes would marry other outsiders who are also among those with Jewish genes, creating only one new family instead of two. Yet even so and even if the estimates are awry in other ways, another generation or few would surpass similar results. This does not mean that every family in Europe is affected in 4 centuries, because families nearer the Jewish communities would be impacted several times while families further away may not be affected at all in the early generations. However, given those numbers in 400 years, over the next 1000 or 1600 years to the present, how many families would not be found with traces of Jewish ancestry? So yes, it seems probable that most people in Europe may have at least a little Jewish ancestry, if not significant amounts, and yet be unaware. And this does not count Ephraim or others of Israel's lines in Europe. Yes, most in Europe and many other places are likely 'of Israel', the degrees or percentages of each individual are the better questions.

Appendix I: Navajo Genes Are Closer to Southwest Neighbors Than to Athapaskan Relatives

The genetic distances between various Native American groups, as calculated by Cavalli-Sforza et al (1994, 324), demonstrate that the Southern Athapaskans (Navajo and Apache) are closer genetically to other Southwest groups than they are to their linguistic relatives in Canada and Alaska where most of the other Athapaskan languages are spoken. Below, Cavalli-Sforza et al (1994, 327) portray the genetic distances between the following groups: Greenland Eskimo (GrEs), Inupik Eskimo (InEs), Aztec, O'odham or Papago (Od), Pima, Dogrib Athabaskan in Canada (DAth), Navajo (Nav), and Zuni.

	EsGr	EsIn	Aztec	Od	Pima	DAth	Nav	Zuni
GrEs	0							
InEs	278	0						
Aztec	994	1285	0					
Od	1304	1509	174	0				
Pima	953	1228	160	104	0			
DAth	1113	734	1399	1445	1065	0		
Nav	1253	1072	297	366	295	629	0	
Zuni	1088	1523	234	210	160	1682	441	0

Assuming a degree of validity to the methods by which the authors arrived at these genetic distances, we obtain much more than numbers from the above data. To get our bearings on what these numbers say, first consider two groups of related languages: the two Eskimo languages and three Uto-Aztecan languages (Nawatl, O'odham, and Pima). One can see that peoples speaking related languages are usually closely related genetically, exhibiting genetic distances generally less than 300, though exceptions abound. For example, Navajo and the northern Athapaskan group differ 629. Speakers of the two Eskimo languages exhibit a genetic distance from each other of only 278, while genetic distances of either Eskimo group to Native Americans further south are usually over 1,000. Likewise, the three Uto-Aztecan languages (Nawatl, O'odham, and Pima) show genetic distances between themselves of 174, 160, and 104, the lowest being 104 between O'odham and Pima, which is to be expected since both O'odham and Pima belong to the same Piman branch of Uto-Aztecan.

In addition to close genetic distances between speakers of related languages, one can also see that groups speaking unrelated languages, but who have been neighbors for many centuries, likewise result in lower genetic distances (i.e., more closely related genetically). For example, the distances between Zuni and O'odham (210) and between Zuni and Pima (160) are as low as between related languages, though the languages themselves are not related. This corroborates the length and geographic closeness of the neighboring relationship between these groups, who have intermarried for many generations.

Similar to the case of Zuni and the Uto-Aztecan Tepiman languages (O'odham and Pima) in close proximity for at least 1,000 years, we can also see that the Navajo are genetically closer to other Southwest groups than they are to their linguistic relatives, the Dogrib Athapaskans in Canada. The genetic distance between the Navajos and their Athapaskan cousins in Canada is 629, yet the Navajos show closer genetic ties with the Uto-Aztecan peoples--297 with the Aztecs, 366 with the O'odham, and 295 with the Pima--even though the Navajos are not now geographically very close to any of those three. However, if we keep in mind that the Ancient Pueblos were in part Uto-Aztecans (Hopi) and share enough areal language loans that the Kiowa-Tanoans were once proposed to be Uto-Aztecan relatives, then the genetic distances are not only explainable, but speak for a significant amount of mixing between the Navajos and the Uto-Aztecan relatives, that is, the Uto-Aztecan-related Puebloans. An additional possible explanation is that the Navajo may have earlier roamed further than presently recognized, if the background to the existence of the Pima

Clan among the Navajo involved more extensive contacts than are yet verifiable. Consider also Zuni's numbers with the two Athabaskan groups: 1682 with the northern Athabaskan group vs. a distance of 441 with the Navajo, again suggesting considerable mixing between the Zuni and the Navajo after the latter's arrival in the Southwest.

Charles Merbs (1992) also assembled some illuminating genetic data that parallel Cavalli-Sforza et al's findings. Merbs calculates the following allele frequencies for the following groups (Merbs 1992, 81):

	A	M	CDe
Yuman	.018	.676	.577
Zuni	.012	.758	.711
Uto-Aztecan			
O'odham (Od)	.048	.790	.625
Pima	.084	.699	.561
Hopi	.047	.542	.357
Ute	.011	.760	.524
Keresan	.056	.824	.532
Tanoan			
Tiwa	.097	.696	.500
Towa	.108	.712	.362
S. Athapaskan			
Navajo	.142	.820	.362
Apache	.199	.754	.418

The Yuman, Piman, and Ute do not belong to the Ancient Pueblo culture area, though the Utes later arrived along the northern borders of Anasazi land. On the other hand, the Zuni, Hopi, Keresan, Tiwa, and Towa are among the Southwest Pueblo groups. Regarding the A blood-type frequencies, notice that the Apache (.199) are the most distant from all else, but that the Navajos' number (.142) is actually closer to that of the Towa (.034=.142-.108) and even the Tiwa (.045=.142-.097), than to that of their "close" kin the Apaches (.057=.199-.142). The next closest is Keresan, then the Uto-Aztecan Pima, Od, and Hopi; and most distant are the Yumans, Zuni, and Ute. In spite of Merbs' observation (Merbs 1992, 77) that Athapaskans have three times the frequency of A that non-Athapaskans do (.160 to .053), that ratio of 300% greater is cut to one-tenth or 31% (.142/.108=31%) when comparing the Navajos (excluding Apaches) and the Tanoan Towa, and some of the other differences are moderate, as well. Merbs notes the difference between the Navajo and Apache numbers, suggesting that these may reflect long-time contact between the Navajos and the Pueblo groups (Merbs 1992, 77).

The difference between the Hopi and Ute numbers as highlighted by Merbs (1992, 84-85) is not surprising when we consider that the Hopi have been a part of the Pueblo culture area for a long time, while the Utes arrived rather recently after spreading out from a southern California homeland, despite the fact that the two speak linguistically related Uto-Aztecan languages.

Merbs also notes that the Navajo frequencies vary greatly from area to area. For example, the lowest M-frequency in the whole study is .542 among the Hopi at Oraibi and the highest is .917 among the Navajo at Ramah (Merbs 1992, 79), yet the Navajo M-frequencies vary so much in various areas (from .611 to .917) that they span 80% or nearly the whole range of Southwest groups generally, and interestingly the lowest Navajo frequency .611 is nearly as low as the Hopi .542 and occurs at Tuba City, which borders Hopi land. In fact, Tuba is a Hopi name. The next lowest Navajo M-frequency is .638, found at Crownpoint, New Mexico, the

eastern most area tested in this corpus, and thus the area nearest the eastern Pueblos. The Crownpoint Navajos also show a lower A-number (.126) than most other Navajos, only slightly more than the Towa's .108. Regarding CDe numbers, the Athapaskans are generally lower than other Southwesterners, Yet the Navajo number .362 is identical to the Towa, also at .362, and nearly identical to Hopi at .357, while all the other Southwest numbers in Merbs' data range from .500 to .711, except for the Apache at .418.

In summary, the Navajo have intermarried with the Puebloan and other Southwest populations enough that genetically they are more closely related to the Southwest's Pueblo peoples than they are to their northern Athapaskan-speaking relatives; that is, they have ancestry from across the Bering Strait and also of Lehi, and their Lehi component may be more prominent or more than their Athapaskan component.

Appendix J: About the Author

Brian Stubbs became interested in languages after a two-year attempt to learn Navajo, which made all else seem easier. He was first a Semitist, taking Hebrew, Arabic, as well as Egyptian, Spanish, German, and Navajo courses during a B.A. from Brigham Young University. Then he began graduate work in Semitic languages (Hebrew, Arabic, Aramaic) at the University of Utah. A professor recommended that his program include a linguistics course or two, so he took David Iannucci's "Introduction to Linguistics" and found it so fascinating that he switched to linguistics and completed an M.A. in linguistics. The presence of Iannucci, Ray Freeze, Mauricio Mixco, and Wick Miller made U of U a primary center for Uto-Aztecan studies at the time, providing Brian a good foundation in comparative UA. During that time, he could not help but notice a few hundred similarities between Uto-Aztecan and Semitic, with sound correspondences, etc. After an M.A. in linguistics, he resumed his studies in Semitic (Hebrew, Arabic, Aramaic) and completed the coursework and comprehensive exams for a PhD(ABD) in Semitic languages and linguistics, though his primary research interests remained in UA. After publishing articles on UA in the *International Journal of American Linguistics* and elsewhere (see bibliography), he decided that articles are too haphazard a way of scattering one's ideas to the four winds with hopes that subsequent scholars would gather them together for a cohesive view of one's thoughts on a matter—too optimistic and not likely. So he focused on finishing a 30-year effort to produce the comparative reference book *Uto-Aztecan: A Comparative Vocabulary* (2011), happily welcomed by Uto-Aztecan specialists and favorably reviewed in the *International Journal of American Linguistics* (Hill 2012).

Over the years, the number of additional Near-East with UA similarities that he noticed grew to dimensions difficult to ignore. Yet (in his own words): "Knowing how unwelcome such a proposal would be in the linguistic community and being a peace-loving recluse by nature, I have been in no hurry to invite the avalanche of controversy upon me. However, equally risky is pressing my luck in postponing a presentation that should preferably reside on this side of the mortal divide. So as youth becomes a more distant memory, I share these findings" in *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan* (2015, 1; 2nd edition 2023), which are the first two among future editions. As Brian says about all that he writes: "Only when I die do all drafts become final drafts."

While the emergence of the Near-East tie with UA had many scholars wishing to ignore it, many were brave enough to voice positive assessments. John S. Robertson, a leading Mayanist and Harvard trained PhD in historical linguistics, has been an avid proponent of the strength of the case, writing a review (2017) and an additional defense of it (2019). Dirk Elzinga (2016, Numic specialist) also wrote a positive review. Roger William Wescott, first in his Princeton class, PhD in linguistics, Rhodes Scholar at Oxford, President of the Linguistic Association of Canada and the United States, author of 500 articles and 40 books, calls Brian's work "a strong link." David H. Kelley, Harvard PhD who published in anthropology, linguistics, Uto-Aztecan, and contributed to the decipherment of the Mayan glyphs, said upon receiving an early draft sent him by John Sorenson: "The thick thing came in the mail and I did not want to tackle it, but dutifully opened it, intending to look at a page or two. However, I started to read and ended up reading the whole book. It is the most interesting and significant piece of research I have seen in years." Cyrus Gordon, eminent Ugaritic (Semitic) scholar, agreed with Brian's UA and Northwest Semitic reconstruction correlations (*-iima and *na-) as the two briefly conversed about his research at a conference on transoceanic evidence. Stephen Ricks, Don Parry, David Calabro, and other Semitists have endorsed Brian's work as well. PhD linguists Robert Blair, Royal Skousen, Mark Davies, Mary Ritchie Key, Eric Elliott (Luiseño specialist), and other PhD linguists specializing in UA have all spoken well of it as well. Many remain silent, but none have successfully refuted it. Two tried, but missed, as seen in Stubbs' article "Answering the Critics in 44 Rebuttal Points" available online at the *Interpreter Foundation* website. Subsequent to that work, this book, *Changes in Languages from Nephi to Now* (2016, 2020, 2025), addresses the Near-East tie with UA and other language matters relevant to the Book of Mormon.

Sources Consulted

The reference works are listed according to language or language family (Egyptian, Semitic, Yiddish, Uto-Aztecan) and then a larger bibliography of other sources.

Egyptian

Allen, James P. Middle Egyptian: An Introduction to the Language and the Culture of the Hieroglyphs, 2nd ed. Cambridge: Cambridge University Press, 2010.

Allen, James P. *The Ancient Egyptian Language: An Historical Study.* Cambridge: Cambridge University Press, 2013.

Cerny, Jaroslav. *Coptic Etymological Dictionary*. Cambridge: Cambridge University Press, 1976.

Cerny, Jaroslav, and Sarah Israelit Groll, assisted by Christopher Eyre. *A Late Egyptian Grammar*. 4th ed. Studia Pohl: Series Maior 4. Roma: Editrice Pontificio Istituto Biblico, 1993.

Hannig, Rainer. *Die Sprache der Pharaonen: Grosses Handwörter Buch: Ägyptisch – Deutsch*. Band 64. Mainz: Philipp von Zabern, 1995.

Hannig, Rainer. *Die Sprache der Pharaonen: Grosses Handwörter Buch: Deutsch – Ägyptisch*. Band 86. Mainz: Philipp von Zabern, 2000.

Faulkner, Raymond O. *A Concise Dictionary of Middle Egyptian*. London: Griffith Institute at the Oxford University Press, 1962.

Gardiner, Alan H. *Egyptian Grammar*. London: Oxford Universtiy Press, 1969.

Gee, John. Personal communication via email, 2004.

Loprieno, Antonio. Ancient Egyptian: A Linguistic Introduction. Cambridge: Cambridge University Press, 1995.

Shisha-Halevy, Ariel, ed. *Coptic Grammatical Chrestomathy*. Leuven: Peeters, 1988.

Semitic

Brown, Francis, S. R. Driver, and Charles A. Briggs. *A Hebrew and English Lexicon of the Old Testament*. Oxford: Clarendon Press, 1975.

Comprehensive Aramaic Lexicon. Cincinnati: Hebrew Union College and Jewish Institute of Religion. Online database. Searched 2012-13.

Gesenius, William. *Gesenuis' Hebrew Grammar*, eds. E. Kautzch and A. E. Cowley. London: Oxford University Press, 1910.

Goldenberg, Gideon. *Semitic Languages: Features, Structures, Relations, Processes*. Oxford: Oxford University Press, 2013.

Koehler, Ludwig, and Walter Baumgartner. 1994. *The Hebrew and Aramaic Lexicon of the Old Testament*. Revised by Walter Baumgartner and Johann Jakob Stamm; translated and edited under the supervision of M.E.J. Richardson. Leiden: E. J. Brill.

Kutscher, Eduard Yechezkel. *A History of the Hebrew Language*. Jerusalem: Magnes Press, The Hebrew University, E.J. Brill, 1982.

Lane, Edward W. 1863-1893. *An Arabic-English Lexicon*. Online. London: Williams and Norgate.

Rendsburg, Gary A. 1997. Chapter 5 "Ancient Hebrew Phonology." Online offprint from *Phonologies of Asia and Africa*. Alan S. Kaye, ed. Eisenbrauns. Read online December 12, 2013.

Rendsburg, Gary A. 2003a. "Hurvitz Redux: On the Continued Inattention to a Simple Principle of Hebrew Philology." In Ian Young, ed., *Biblical Hebrew: Studies in Chronology and Typology*, 104-128. London: T & T Clark.

Rendsburg, Gary A. 2003b. "A Comprehensive Guide to Israelian Hebrew: Grammar and Lexicon." Orient 38, pp. 5-35.

Rendsburg, Gary A. "Aramaic-like Features in the Pentateuch." Hebrew Studies 47, pp. 163-176, 2006.

Ricks, Stephen D. 1989. *Lexicon of Inscriptional Qatabanian*. Studia Pohl: Dissertationes Scientificae de Rebus Orientis Antiqui. Roma: Editrice Pontificio Instituto Biblico.

Sáenz-Badillos, Angel. *A History of the Hebrew Language*. Cambridge: Cambridge University Press, 1993.

Smith, R. Payne, and J. Payne Smith. 1999. A Compendious Syriac Dictionary. Founded on the Thesaurus Syriacus of R. Payne Smith. Edited by J. Payne Smith (Mrs Margoliouth). Ancient Language Resources. Previously published by Oxford University Press, 1902. Republished in Eugene, Oregon: Wipf and Stock Publishers, 1999.

Sokoloff, Michael. 2009. *A Syriac Lexicon*: A Translation from the Latin, Correction, Expansion, and Update of Carl Brockelmann's *Lexicon Syriacum*, first published in 1895 and later expanded 1923-1928. Winona Lake, Indiana: Eisenbrauns, and Piscataway, New Jersey: Gorgias Press.

Stubbs, Brian D. 2023. *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan.* Provo, Utah: Challex Scientific Publications, 2023.
Wehr, Hans. 1976. *A Dictionary of Modern Written Arabic*. Ed. J. Milton Cowan. New York: Spoken Language Services, Inc.
White, Marsha. 1997. Review of *Diversity in Pre-Exilic Hebrew*, by Ian Young. In *Journal of Biblical Literature*, vol. 116, no. 4.
Wright, William. *Arabic Grammar*, 3rd ed revised by W. Robertson Smith and M.J. Goege. Originally published in Latin 1844-48; then translated from the German of Caspari and revised with corrections and additions by W. Wright and published as *A Grammar of the Arabic Language* in two volumes in London: Cambridge University Press, 1896-98; then the two volumes combined to one, New York: Dover Publications, 2005.
Young, Ian. *Diversity in Pre-Exilic Hebrew.* Tübingen: J.C.B. Mohr, 1993.

Yiddish Sources

Harshaw, Benjamin. 1990. *The Meaning of Yiddish*. Berkeley: University of California Press.
Kerler, Dov-Ber. 1999. *The Origins of Modern Literary Yiddish*. Oxford Modern Languages and Literature Monographs. Oxford: Oxford University Press.
Kriwaczek, Paul. 2006. *Yiddish Civilization: The Rise and Fall of a Forgotten Nation*. New York: First Vintage Books Edition.
Spolsky, Bernard. 2014. *The Languages of the Jews: A Sociolinguistic History*. Cambridge University Press.
Weinreich, Max. 1980. *History of the Yiddish Language*. Translated by Shlomo Noble, with Joshua A Fishman. Chicago: The University of Chicago Press. First published in Yiddish as *Geshikhte fun der Yidisher shprakh*, by YIVO Institute for Jewish Research, 1973.
Wexler, Paul. 1993. *The Ashkenazic Jews: A Slavo-Turkic People in Search of a Jewish Identity*. Slavica Publishers, Inc.

Uto-Aztecan

Campbell, Lyle. *The Pipil Language of El Salvador*. Berlin: Walter de Gruyter and Co., 1985.
Cortina-Borja, Mario, and Leopoldo Valiñas C. Some Remarks on Uto-Aztecan Classification. *IJAL* 55(2): 214-39, 1989.
Fowler, Catherine S. 1983. Some Lexical Clues to Uto-Aztecan Perhistory. *IJAL* 49: 224-57.
Heath, Jeffrey. 1977. Uto-Aztecan Morphophonemics. *IJAL* 43/1: 27-36.
Heath, Jeffrey. 1978. Uto-Aztecan *na-class Verbs. *IJAL* 44/3: 211-222.
Hill, Jane H. 2001a. Proto-Uto-Aztecan: A Community of Cultivators in Central Mexico? *American Anthropologist* 103(4): 913-34.
Hill, Jane H. 2001b. Dating the breakup of Southern Uto-Aztecan. In *Avances y balances de lenguas yutoaztecas*. Homenaje a Wick R. Miller, José Luis Moctezuma Zamarrón y Jane H. Hill, eds., 345-58. Serie Lingüística. México, D.F.: Instituto Nacional de Antropología e Historia.
Hill, Jane H. 2010, March 16. New evidence for a Mesoamerican homeland for Proto-Uto-Aztecan. Proceedings of the National Academy of Sciences of the United States of America 107(11): E33.
Hill, Kenneth C. 2006, 2008. Revision and Expansion of Miller's 1988 Computerized Data Base for Uto-Aztecan Cognate Sets.
Hill, Kenneth C. 2012. Review of *Uto-Aztecan: A Comparative Vocabulary*, by Brian Stubbs. IJAL 78/4 (2012), 591-3.
Lamb, Sydney M. 1958b. Linguistic Prehistory of the Great Basin. *IJAL* 24/2: 95-100.
Langacker, Ronald W. 1977a. *Studies in Uto-Aztecan Grammar I: An Overview of Uto-Aztecan Grammar*. Dallas: Summer Institute of Linguistics.
Manaster-Ramer, Alexis. Personal communication.
Miller, Wick R. 1967. *Uto-Aztecan Cognate Sets*. Berkeley: University of California Press, 1967.
Miller, Wick R. 1984. The Classification of the Uto-Aztecan Languages Based on Lexical Evidence. IJAL 50/1:1-24.
Miller, Wick R. 1988. Computerized Database for Uto-Aztecan Cognate Sets. Unpublished monograph. Salt Lake City: Anthropology Dept., University of Utah.
Munro, Pamela. 1990. Stress and Vowel Length in Cupan Absolute Nouns. IJAL 56/2: 217-50.
Sapir, Edward. 1913, 1915. Southern Paiute and Nahuatl: a study in Uto-Aztecan, parts 1 and 2.
Part 1, 1913 in *Journal de la Société des Américanistes de Paris* 10:379-425.
Part 2, 1915 in *American Anthropologist* 17:98-120, 306-328, reprinted 1919 in JSAP 11: 443-88.
Parts 1 and 2 reprinted 1990 in *The collected works of Edward Sapir 5: American Indian Languages*, William Bright, ed., 351-444. Berlin: Mouton de Gruyter.
Stubbs, Brian D. "The Labial Labyrinth in Uto-Aztecan." *International Journal of American Linguistics* 61 (1995): 396-422.

Stubbs, Brian D. 2000a. "More Palatable Reconstructions for Uto-Aztecan Palatals." *International Journal of American Linguistics* 66 (2000a): 125-137.
Stubbs, Brian D. 2000b. The Comparative Value of Tubar in Uto-Aztecan. In *Uto-Aztecan: Structural, Temporal, and Geographic Perspectives*, Eugene H. Casad and Thomas L. Willett (eds.), 357-69. Hermosillo, Mexico: Universidad de Sonora, 2000b.
Stubbs, Brian D. 2003. New Sets Yield New Perspectives for Uto-Aztecan Reconstructions. In *Studies in Uto-Aztecan*, Luis M. Barragan and Jason D. Haugen, eds., 1-20. MIT Working Papers on Endangered and Less Familiar Languages, no. 5.
Stubbs, Brian D. 2011a. *Uto-Aztecan: A Comparative Vocabulary.* Flower Mound, Texas: Shumway Family History Services and Rocky Mountain Books and Productions.
Stubbs, Brian D., Mary Jane Yazzie, Aldean Ketchum, and Loretta Posey. 2011b. *White Mesa Ute: Dictionary and Lessons*. First preliminary edition. Sponsored and published by the White Mesa Ute Council.
Voegelin, C.F., F.M. Voegelin, and Kenneth L. Hale. *Typological and Comparative Grammar of Uto-Aztecan*. Indiana University Publications in Anthropology and Linguistics: Memoir 17, supplement to *IJAL* 28(1), 1962.

Other References

Andersen, Joe V. and Ted Dee Stoddard. "The Heartland Model: The Rest of the Story." Online at https://scripturecentral.org/archive/articles/web-article/heartland-model-rest-story, on website of Scripture Central, 2015.
Ashment, Edward H. "A Record in the Language of My Father: Evidence of Ancient Egyptian and Hebrew in the Book of Mormon." In *New Approaches to the Book of Mormon: Explorations in Critical Methodology*, ed. Brent L. Metcalfe, 329-93. Salt Lake City: Signature Books, 1993.
Ash, Michael R. "Archaeological Evidence and the Book of Mormon." Online at fairmormon.org. Read April 2015.
Baugh, Albert C., and Thomas Cable. *A History of the English Language*. 2nd ed. Englewood Cliffs, New Jersey: Prentice-Hall, 1978.
BBC news. "Unique book goes on display." Online at news.bbc.co.uk. May 26, 2003.
Beekes, Robert S.P. *Comparative Indo-European Linguistics: An Introduction*. Translated by Uva Vertalers and Paul Gabriner. Amsterdam: John Benjamins, 1995.
The Book of Mormon, most recent edition. Salt Lake City: The Church of Jesus Christ of Latter-Day Saints, 1981.
The Book of Mormon, Discussions on. Andrew H. Hedges, Keith Wilson, Todd B. Parker, and Steven C. Harper, first aired June 26, 2008; and also in Chapter 18 of
Book of Mormon Student Manual. The Church of Jesus Christ of Latter-Day Saints, 2009, also on lds.org.
Book of Mormon Central Team. "Ur of the Chaldees: Book of Abraham Insight #4." August 2, 2019. https://pearlofgreatpricecentral.org. viewed June 18, 2025.
Bramwell, E. Craig. Hebrew Idioms in the Small Plates of Nephi." *Improvement Era*, July 1961.
Brookbank, Thomas W. Hebrew Idioms and Analogies in the Book of Mormon. *Improvement Era*, December 1909-April 1910, January 1914-October 1914, December 1915.
Brown, Kent S. "New Light from Arabia on Lehi's Trail." In *Echoes and Evidences of the Book of Mormon*, eds. Donald W. Parry, Daniel C. Peterson, and John W. Welch, 55-125. Provo: Foundation for Ancient Research and Mormon Studies, 2002.
Bruhns, Karen Olsen. *Ancient South America*. Cambridge: Cambridge University Press, 1994.
Campbell, Lyle. *Quichean Linguistic Prehistory*. Berkeley: University of California Press, 1977.
Campbell, Lyle. *The Pipil Language of El Salvador*. Berlin: Walter de Gruyter and Co., 1985.
Campbell, Lyle. *American Indian Languages: The Historical Linguistics of Native America*. New York: Oxford University Press, 1997.
Campbell, Lyle. *Historical Linguistics: An Introduction*. Cambridge: MIT Press, 1999.
Campbell, Lyle, and William J. Poser. 2008. *Language Classification: History and Method*. Cambridge: Cambridge University Press.
Cavalli-Sforza, L. Luca, Paolo Menozzi, and Alberto Piazza. *The History and Geography of Human Genes*. Princeton: Princeton University Press, 1994.
Chamberlain, Alexander Francis. 1888. The Catawba Language. Toronto: Imrie and Graham.
Childs, Larry G. "Present Participle Adjuncts in the Book of Mormon." *Journal of Book of Mormon Studies* 6/1 (1997): 24-38.
Chomsky, Noam. *Syntactic Structures*. The Hague: Mouton & Co., 1957.
Compton, S.C. *Exodus Lost*. Book Surge Publishing, 2011.
Copeland, Mel. Work notes on the Pyrgi Gold Tablets. Online at academia.edu, updated February 20, 2013.
Crowell, Angela. "Hebraisms in the Book of Mormon." In *Zarahemla Record*, nos. 17-18 (summer/fall 1982):1-7, 16.
Dickerton, Derek. *Roots of Language*. Ann Arbor: Karoma Publishers, Inc., 1981.

Diamond, Jared. *Guns, Germs, and Steel: The Fate of Human Societies*. New York: Norton, 1997.
DNA vs. The Book of Mormon. Videocassette.
Brigham City, Utah: Living Hope Ministries, 2003.
Ehrman, Bart D. *Misquoting Jesus: The Story Behind Who Changed the Bible and Why*.
New York: Harper Collins, 2005.
Fagan, Brian M. *Ancient North America: The Archaeology of a Continent*. Revised and expanded edition.
First published in 1991 in the USA. London: Thames and Hudson, 1995.
Finkelstein, Israel. *The Forgotten Kingdom: The Archaeology and History of Northern Israel*.
Atlanta: Society of Biblical Literature, 2013.
Gee, John. "La trahison des Clercs: On the language and Translation of the Book of
Mormon." *Review of Books on the Book of Mormon* 6/1 (1994): 79-82, 94-99.
Gilmore, Donald Y., and Linda S. McElroy, eds. *Across Before Columbus*.
Edgecomb, Maine: NEARA Publications, 1998.
Givens, Terryl L. *By the Hand of Mormon: The American Scripture that Launched a New World
Religion*. Oxford: Oxford University Press, 2002.
Gordon, Cyrus H. *Before Columbus: Links between the Old World and Ancient America*.
New York: Crown Publishers, 1971.
Grimm, Jacob. *Deutsche Grammatik* (Germanic Grammar), 1822.
Hale, Kenneth. 1962. Jemez and Kiowa correspondences in reference to Kiowa-Tanoan. IJAL 28:1-5.
Hale, Kenneth. 1967. Toward a reconstruction of Kiowa-Tanoan phonology. IJAL 33:112-120.
Hallo, William W., and William Kelly Simpson. *The Ancient Near East: A History.*
New York: Harcourt Brace Jovanovich, 1971.
Hancock, Mosiah Lyman. Autobiography of Mosiah Hancock (1834-1907). BYU-S.
Compiled by Amy E. Baird, Victoria H. Jackson, and Laura L. Wassell (daughters of Mosiah
Hancock). At Joseph Smith Foundation, Autobiography of Mosiah Hancock (1834-1907).
Hilton, Lynn M. and Hope A. Hilton. *Discovering Lehi*. Springville, Utah: Cedar Fort Inc., 1996.
Hoskisson, Paul Y. "Ancient Near Eastern Background of the Book of Mormon."
F.A.R.M.S Reprint. Provo: 1982.
Hoskisson, Paul Y., Stephen D. Ricks, Robert F. Smith, John Tvedtnes, and others.
Book of Mormon Onomasticon. Online at onoma.lib.byu.edu.
Huber, Randall Q., and Robert B. Reed. *Comparative vocabulary: selected words in indigenous languages of Columbia*.
Santafe de Bogotá: Asociasión Instituto Lingüistico de Verano, 1992.
Irwin, Geoffrey. *The Prehistoric Exploration and Colonisation of the Pacific*.
Cambridge: University of Cambridge Press, 1992.
Jespersen, Otto. *Growth and Structure of the English Language*. 10th ed.
Chicago: University of Chicago Press, 1982.
Jett, Stephen C. "Pre-Columbian Transoceanic Contacts." *In Ancient South America*, ed. Jesse D. Jennings: 337-93.
San Francisco: W. H. Freeman and Company, 1983.
Kapeliuk, Olga. 2002. "Languages in Contact: The Contemporary Semitic World." In *Semitic Linguistics: The
State of the Art at the Turn of the 21st Century*, 307-340. Shlomo Izre'el, Ed. Israel Oriental Studies XX,
Tel-Aviv University. Jerusalem: Graphit Press Ltd and Eisenbrauns.
Kelley, David H. "Tane and Sina: A Uto-Aztecan Astronomical Cult in Polynesian."
In *Circumpacifica*, eds. Bruno Ellius and Matthias Laubscher, 137-156. Frankfurt: Peter Lang, 1990.
Klar, Kathryn Ann. 1977. Topics in historical Chumash grammar. Ph.D dissertation, University of California, Berkeley.
Knapp, A. Bernard. *The History and Culture of Ancient Western Asia and Egypt*. Wadsworth Publishing, 1988.
Larsen, Wayne A., and Alvin C. Rencher. "Who Wrote the Book of Mormon? An Analysis of
Wordprints." In *Book of Mormon Authorship*, ed. Noel B. Reynolds, 157-188.
Provo: Foundation for Ancient Research and Mormon Studies, 1982.
Lundwall, Stephen L. and Rebecca A. Lundwall. *Authentic: The Book of Mormon, Evidence of a Miracle*.
Provo: Religious Studies Center Brigham Young University, 2025.
Marcus, Ralph. "The Challenge of Greco-Roman Culture" 114-15.
McClellan, David A. "Detecting Lehi's Genetic Signature: Possible, Probable, or Not?"
In *The FARMS Review* 15/2 (2003): 35-90.
McConkie, Bruce R. *A New Witness for the Articles of Faith*.
McKinlay, Daniel, eds. Alison V. P. Coutts and Donald W. Parry. "Echoes and Evidences from the Writings of
Hugh Nibley." In *Echoes and Evidences of the Book of Mormon*, eds. Donald W. Parry, Daniel C. Peterson,
and John W. Welch, 465. Provo: Foundation for Ancient Research and Mormon Studies, 2002.

Merbs, Charles F. "ABO, MN and RH Frequencies among the Havasupai and Other Southwest Indian Groups." KIVA: The Journal of Southwestern Anthropology and History 59, no. 1 (1992): 67-88.
The New Encyclopædia Britannica, 15th ed. S.v. "Languages of the World." Vol. 22, pp. 572-796. Chicago: Encyclopædia Britannica, Inc., 1997.
Nibley, Hugh W. *Lehi in the Desert, World of the Jaredites, There Were Jaredites*. Ed John W. Welch. Salt Lake City: Deseret Book and FARMS, 1988 [1st ed., 1952], 13-18.
Nibley, Hugh W. *An Approach to the Book of Mormon.* Ed John W. Welch, 3rd ed. Salt Lake City: Deseret Book and FARMS, 1988 [1st ed., 1957].
Nibley, Hugh W. *Since Cumorah*. Ed John W. Welch. Salt Lake City: Deseret Book and FARMS, 1988 [1st ed., 1967].
Nibley, Hugh W. *The Prophetic Book of Mormon*. Ed John W. Welch. Salt Lake City: Deseret Book and FARMS, 1989.
Nichols, Joanna. *Linguistic Diversity in Space and Time*. Chicago: University of Chicago Press, 1992.
Olson, Steve. *Mapping Human History: Genes, Race, and Our Common Origins*. Boston: Houghton Mifflin, 2002.
Pack, Melvin D. *Possible Lexical Hebraisms in the Book of Mormon*. M.A. thesis. Brigham Young University, 1973.
Parry, Donald W. "Hebraisms and Other Ancient Peculiarities in the Book of Mormon." In *Echoes and Evidences of the Book of Mormon*, eds. Donald W. Parry, Daniel C. Peterson, and John W. Welch, 155-189. Provo: Foundation for Ancient Research and Mormon Studies, 2002.
Parry, Donald W. *Exploring the Isaiah Scrolls and Their Textual Variants*. Leiden: E. J. Brill, 2020. i–xiv; + 509 pages, including 5 appendices.
Parry, Donald W. and Elisha Qimron. *A New Edition of the Great Isaiah Scroll (1QIsaa): Transcriptions and Photographs*. Leiden: E. J. Brill, 1998. i–xxi; + 109 pages [Hebrew].
Parry, Donald W., and Stephen D. Ricks. The Dead Sea Scrolls: Questions and Responses for Latter-Day Saints. Provo: Maxwell Institute for Religious Scholarship, 2000.
Parry, Donald W., and Stephen D. Ricks. "Worthy of Another Look: The Great Isaiah Scroll and the Book of Mormon," Journal of the Book of Mormon and Other Restoration Scripture 20/2, 2011.
Peterson, Daniel C. "Is the Book of Mormon True?: Note on the Debate." In Neol B. Reynolds, ed., *Book of Mormon Authorship Revisited: The Evidence for Ancient Origins*, 61-93. Provo: FARMS, 1997.
Peterson, Daniel C., ed. *The Book of Mormon and DNA Research*. Provo: The Neal A. Maxwell Institute for Religious Scholarship and BYU, 2008.
Peterson, Daniel C. "A Scholarly Look at Evidence of the Book of Mormon" at www.bookofmormononline.org April 2015.
Peterson, Daniel C. "Mounting Evidence for the Book of Mormon." January 2000 Ensign. (also at lds.org)
Pinker, Steven. *The Language Instinct*. New York: William Morrow and Co., 1994. Reprint, New York: Harper Perennial, 1995.
Pickthall, Muhammad M. *The Glorious Quran: Text and Explanatory Translation*. New York: Muslim World League, 1977.
Porter, Bruce H., and Rodney L. Meldrum. *Prophecies and Promises: The Book of Mormon and the United States of America*. Salt Lake City: Digital Legend, 2009.
Quirk, Randolph, and Sidney Greenbaum. *A Concise Grammar of Contemporary English*. New York: Harcourt Brace Jovanovich, 1973.
Rask, Rasmus Kristian. Undersögelse om det bamle Nordiske eller Islandske progs Oprindelse (Investigation of the Origin of the Old Norse or Icelandic Language), 1818.
Reynolds, Noel B. 2025. "'And They Shall Write It': The Literacy and Scribalism of Abraham's Josephite Descendants," in *Abraham and His Family in Scripture, History, and Tradition*, Jeffrey M. Bradshaw, John S. Thompson, Matthew L. Bowen, and David R. Seely, editors (Provo, UT: Interpreter Foundation, 2025), 481–532.
Ricks, Stephen D. "Language and Script in the Book of Mormon." In *Insights*, March 1992.
Ricks, Stephen D. "Converging Paths: Language and Cultural Notes on the Ancient Near Eastern Background of the Book of Mormon." In *Echoes and Evidences of the Book of Mormon*, eds Donald W Parry, Daniel Peterson and John W. Welch, 389-419. Provo: Foundation for Ancient Research and Mormon Studies, 2002.
Riley, Carol L., J. Charles Kelley, Campbell W. Pennington, Robert L. Rands, eds. *Man Across the Sea: Problems of Pre-Columbian Contacts*. Austin: University of Texas Press, 1971.
Roberts, Brigham H. *Studies of the Book of Mormon*. Edited by Brigham D. Madsen. Chicago: University of Illinois Press, 1985.
Roper, Matthew. "Swimming in the Gene Pool: Israelite Kinship Relations, Genes, and Geneaology" in *The Book of Mormon and DNA Research*, 263-281. Daniel C. Peterson, ed. Provo: The Neal A. Maxwell Institute for Religious Scholarship and Brigham Young University, 2008.
Rosenvall, Lynn A., and David L. Rosenvall. *A New Approach to Book of Mormon Geography*. Olive Leaf Foundation, 2013.

Salmons, Joseph. *A History of German*. Oxford: Oxford University Press, 2012.
Sass, Benjamin Sass. *The Genesis of the Alphabet and Its Development in the Second Millennium B.C.* Wiesbaden: Otto Harrassowitz, 1988.
Shumway, Eric B. Polynesians." *Encyclopedia of Mormonism*, Vol. III: 1110-1112. New York: Macmillan, 1992.
Siebert, Frank. 1945. Linguistic classification of Catawba. IJAL 11:100-4,211-8.
Sinor, Denis. "The Hun Period." In Denis Sinor, ed. *The Cambridge History of Inner Asia*. Cambridge: Cambridge University Press, 1990.
Sjodahl, Janne M. *An Introduction to the Study of the Book of Mormon*. Salt Lake City: Deseret Press, 1927.
Skousen, Royal. "Translating the Book of Mormon: Evidence from the Original Manuscript." In Neol B. Reynolds, ed., *Book of Mormon Authorship Revisited: The Evidence for Ancient Origins*, 61-93. Provo: FARMS, 1997.
Skousen, Royal. "Oliver Cowdery as Book of Mormon Scribe." On the *Religious Studies Center* website. Online at rsc.byu.edu. February 25, 2016.
Smith, Joseph, Jr. Joseph Smith Letter to Emma Smith, 4 June 1834. Joseph Smith Papers, D4:52-59.
Smith, Joseph, and B. H. Roberts. History of the Church of Jesus Christ of Latter-Day Saints (in 7 volumes). Salt Lake City: 1902.
Smith, Robert F. "Book of Mormon Event Structure: The Ancient Near East." *Journal of Book of Mormon Studies* 5/2 (1996), 136-47.
Smith, Robert F. Personal communication Oct 31, 2015.
Smith, Robert F. "'It came to pass' in the Bible and the Book of Mormon." FARMS Preliminary Report SMI-80b
Sorenson, John L. "The 'Brass Plates' and Biblical Scholarship." In *Dialogue* X (Autumn 1977).
Sorenson, John L. *An Ancient American Setting for the Book of Mormon*. Salt Lake City: Deseret Book and FARMS, 1985.
Sorenson, John L. "The Book of Mormon as a Mesoamerican Record." In Neol B. Reynolds, ed., *Book of Mormon Authorship Revisited: The Evidence for Ancient Origins.* Provo: FARMS, 1997.
Sorenson, John L. *Images of Ancient America: Visualizing Book of Mormon Life*. Provo: Foundation for Ancient Research and Mormon Studies, 1998.
Sorenson, John L. "How Could Joseph Smith Write So Accurately about Ancient American Civilization?" In *Echoes and Evidences of the Book of Mormon*, eds. Donald W. Parry, Daniel C. Peterson, and John W. Welch, 261-306. Provo: Foundation for Ancient Research and Mormon Studies, 2002.
Sorenson, John L. *Mormon's Codex: An Ancient American Book*. Salt Lake City: Neil A. Maxwell Institute for Religious Scholarship and Deseret Book, 2013.
Sorenson, John L. and Robert F. Smith. "Barley in Ancient America." In John W. Welch, ed., *Reexploring the Book of Mormon*, 180-2. Salt Lake City: Deseret Book and Foundation for Ancient Research and Mormon Studies, 1992.
Sorenson, John L., and Martin H. Raish. *Pre-Columbian Contact with the Americas Across the Oceans: An Annotated Bibliography*, 2nd edition, revised, 2 volumes. Provo: Research Press, 1996.
Sperry, Sydney B. "The Book of Mormon as Translation English." *Improvement Era* 38 (March 1935): 141, 187-88.
Sperry, Sydney B. "The Language and Script of the Book of Mormon." In *Our Book of Mormon.* Salt Lake City: Bookcraft, 1950, 28-38.
Sperry, Sydney B. "Hebrew Idioms in the Book of Mormon." *Improvement Era* 57 (October 1954): 703, 728-29.
Stubbs, Brian D. "Book of Mormon Language." *Encyclopedia of Mormonism*, Vol. I: 179-181. New York: Macmillan, 1992.
Stubbs, Brian D. "Looking Over vs. Overlooking Native American Languages." *Journal of Book of Mormon Studies* 5/1 (1996a): 1-49.
Stubbs, Brian D. "A Lengthier Treatment of Length." *Journal of Book of Mormon Studies* 5/2 (1996b):82-97.
Stubbs, Brian D. *Rio Grande Tewa: An Indexed Vocabulary*. In preparation. 1996c.
Stubbs, Brian D. "A Short Addition to Length: Some Relative Frequencies of Circumstantial Structures." *Journal of Book of Mormon Studies* 6/1 (1997): 39-46.
Stubbs, Brian D. "Athapaskans, Puebloans, and the Ancestry of the Navajo." Monograph in preparation, 1997.
Stubbs, Brian D. "Commentary on Linguistics, Inscriptions, and Glyphs." In *Across Before Columbus*, eds. Donald Y. Gilmore and Linda S. McElroy, 245-51. Edgecomb, Maine: NEARA Publications, 1998.
Stubbs, Brian D. 2000c. "Was there Hebrew Language in Ancient America: an Interview with Brian Stubbs." *Journal of Book of Mormon Studies* 9/2 (2000c): 54-63.

Stubbs, Brian D. 2003. "Elusive Israel and the Numerical Dynamics of Population Mixing." In *The FARMS Review* 15/2: 165-182. Reprinted 2008 in *The Book of Mormon and DNA Research*, 263-281. Daniel C. Peterson, ed. Provo: The Neal A. Maxwell Institute for Religious Scholarship and Brigham Young University.

Stubbs, Brian D. 2014. The Velar Nasal ŋ of Uto-Aztecan. In *Lenguas Yutoaztecas: Acercamiento a Su Diversidad Lingüistica*, Karen Dakin y José Luis Moctezuma Zamarrón, eds, 177-89. Mexico, D. F.: Universidad Nacional Autónoma de México.

Stubbs, Brian D. 2015a. "The Proto-Uto-Aztecan Lexicon: Distribution of Cognate Sets and Language Family Prehistory." Paper delivered at the annual meeting of the Society for the Study of Indigenous Languages of the Americas, January 6-11, 2015.

Stubbs, Brian D. 2015b. "Language evidence in comparative Uto-Aztecan for a Nahuatl point of contact from and/or into Mesoamerica." Paper delivered at the Second International Conference on Mesoamerican Linguistics, California State University, Los Angeles, March 6 and 7, 2015.

Stubbs, Brian D. 2015c. Book review of *A Prehistory of Western North America: The Impact of Uto-Aztecan Languages*, by David Leedom Shaul. Albuquerque: University of New Mexico Press. In the *International Journal of American Linguistics* 81, 2015.

Stubbs, Brian D. 2021. *Morsels for the Mind Mingled with Mirth from the Mountains,* 4th edition. Blanding, Utah: Jared Berrett Publishing.

Stubbs, Brian D. 2023. *Exploring the Explanatory Power of Egyptian and Semitic in Uto-Aztecan,* 2nd edition. Provo, Utah: Challex Scientific Publications, 2023. First edition 2015.

Talmage, James E. *A Study of the Articles of Faith*. Salt Lake City: The Church of Jesus Christ of Latter-Day-Saints, 1949 [1st ed., 1913]), 291-92.

Tewa Pehtsiye: Tewa Tales. San Juan Pueblo, N.M.: San Juan Bilingual Program, 1982.

Tewa Tuukannin Ta'nin: A Tewa Reader. San Juan Pueblo, N.M.: San Juan Bilingual Program, 1984.

Tvedtnes, John A. "Hebraisms in the Book of Mormon: A Preliminary Survey." In *BYU Studies* 11 (Autumn 1970): 50-60.

Tvedtnes, John A. The Medieval Hebrew Grammarians in the Light of Modern Linguistics. Master's thesis, University of Utah, 1971.

Tvedtnes, John A. "Science and Genesis." In *Science and Religion: Toward a More Useful Dialogue* 2:42, ed. Wilford M. Hess, Raymond T. Matheny, and Donlu D. Thayer. Geneva, Illinois: Paladin, 1979.

Tvedtnes, John A. "The Isaiah Variants in the Book of Mormon." FARMS Preliminary Report. Provo: FARMS, 1981, 6-19.

Tvedtnes, John A. "Since the Book of Mormon is largely the record of a Hebrew people, is the writing characteristic of the Hebrew language." I Have a Question, *Ensign* (October 1986): 64-66.

Tvedtnes, John A. "The Hebrew Background of the Book of Mormon." In *Rediscovering the Book of Mormon*, ed. John L. Sorenson and Melvin J. Thorne. Salt Lake City: Deseret Book and FARMS, 1991), 77-91.

Tvedtnes, John A. Review of *New Approaches to the Book of Mormon: Explorations in Critical Methodology*, in *Review of Books on the Book of Mormon* 1 (1994): 8-50.

Tvedtnes, John A. "Hebrew Names in the Book of Mormon," a paper presented at the Thirteenth World Congress of Jewish Studies in Jerusalem, August 2001.

Tvedtnes, John, and Stephen Ricks. "Jewish and Other Semitic Texts Written in Egyptian Characters." *Journal of Book of Mormon Studies* 5/2 (1996): 156-163.

Verner, Karl. "Eine Ausnahme der ersten Lautverschiebung." Zeitshrift für vergleichende Sprachforschung 23:97-130. 1875.

Welch, John W. "Chiasmus in the Book of Mormon." In *Book of Mormon Authorship*: *New Light on Ancient Origins*, ed. Noel B. Reynolds. Provo: 1982.

Welch, John W. "Chiasmus in Biblical Law." In *Jewish Law Association Studies IV*, ed. B. Jackson, 5-22. Atlanta, 1990.

Welch, John W., ed. *Reexploring the Book of Mormon*. Salt Lake City: Deseret Book and Foundation for Ancient Research and Mormon Studies, 1992.

Wells, Matthew G., and John W. Welch. In John W. Welch, ed., *Reexploring the Book of Mormon*, 212-13. Salt Lake City: Deseret Book and Foundation for Ancient Research and Mormon Studies, 1992.

White, Lydia. *Universal Grammar and Second Language Acquisition*. Amsterdam: John Benjamins, 1989. Reprinted with corrections, 1995.

White, Marsha. Review of *Diversity in Pre-Exilic Hebrew*, by Ian Young.
In *Journal of Biblical Literature*, vol. 116, no. 4, 1997.
Woodruff, Wilford. In a letter to John Taylor and Council, dated 15 September 1879.
A Book of Mormon Treasury, 222-7. Salt Lake City: Bookcraft, 1959.
Wright, Mark Alan. "Heartland as Hinterland: The Mesoamerican Core and North American Periphery of Book of Mormon Geography." *Interpreter: A Journal of Mormon Scripture*, vol. 13, 111-129, 2015.
Yadin, Yigael. *Bar-Kokhba*. New York: Random House, 1971.
Yen, Douglas E. "Construction of the Hypothesis for Distribution of the Sweet Potato."
In *Man Across the Sea*, eds. Carol L. Riley et al. Austin: University of Texas Press, 1971.

Endorsements

Having twice reviewed Brian Stubbs' 2015 book, *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan*, I congratulate him on his thorough and exacting scholarship. His subsequent 2016 publication, *Changes in Languages from Nephi to Now*, provides a compelling backstory to the scholarship of his earlier publication.

–John S. Robertson, Harvard PhD in historical linguistics, retired professor and Chair of the BYU Linguistics Department, and prominent Mayan scholar

Brian's book significantly raises the level of discussion on Book of Mormon language matters.

–Noel B. Reynolds, Harvard PhD, retired professor and Vice President of BYU, and Book of Mormon scholar

Stubbs's work is an exemplary combination of faith and scholarship. His book, *Changes in Languages from Nephi to Now*, and its more technical counterpart, *Exploring the Explanatory Power of Semitic and Egyptian in Uto-Aztecan*, are essential reading for anyone interested in the languages of Book of Mormon peoples.

–David Calabro, University of Chicago PhD in Near-Eastern languages and scholar of Semitic and Egyptian studies

Brian Stubbs demonstrates that both external and linguistic evidence increasingly supports the authenticity of the *Book of Mormon*. From my standpoint, Brian's book, *Changes in Languages from Nephi to Now*, is essential reading for believers, for skeptics, and for everyone else.

–Donald W. Parry, Professor of the Hebrew Bible and Dead Sea Scrolls, and internationally recognized scholar of the Isaiah scrolls and other biblical texts.

Spell-binding … a fantastic little book … a real treat to read … I bought this book to read just the conclusions and am on my third reading … very original and important work … fascinating study … intriguing … I highly recommend this book.

--a montage of customer reviews