

Interpreting  
*Forty and Two Years*  
In the Book of Mormon

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## Interpreting *Forty and Two Years* in the Book of Mormon

Joseph Smith said that on the night of September 21, 1823, as he was praying at his family home in Manchester, New York, a light appeared in his room and increased “until the room was lighter than at noonday.” Then “a personage . . . glorious beyond all description” stood in the air beside the boy’s bed, called Joseph by name and introduced himself as “a messenger sent from the presence of God,” whose name was Moroni. He told Joseph that “a book was deposited, written upon gold plates, giving an account of the former inhabitants of this continent, and the source from whence they sprang. He also said that the fulness of the everlasting Gospel was contained in it, as delivered by the Savior to the ancient inhabitants” (JS-History 1:3, 5, 27-43).<sup>1</sup> Joseph’s saga with the Book of Mormon, which he later interpreted “by the gift and power of God” (Title Page, Book of Mormon), had begun.<sup>2</sup>

The timing of Moroni’s visit to Joseph Smith fits into the subject matter of this paper, which is about the meaning of the phrase *forty and two years* in the Book of Mormon. Moroni, the last author of the Book of Mormon, engraved the phrase three times on the gold plates, but no other Book of Mormon author used the phrase. In this paper, I briefly report my study of *forty and two years*, using a rational process to examine the text and a limited amount of relevant data from outside sources. This evidence places Moroni in a specific ancient setting on this continent, just as Joseph Smith said.<sup>3</sup>

### Interpretation Process

To study a Book of Mormon text, I have learned to apply six rational principles.<sup>4</sup> As a result, my interpretation can be explained logically, the strength of my knowledge can be reasonably judged and the knowledge can be used as a basis for further study. The first of these principles is *thoroughness*: seek for all of the relevant facts. If my search is not complete, then my knowledge may need to be changed when other relevant facts come to my attention.

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<sup>1</sup> “Joseph Smith—History: Extracts from the History of Joseph Smith, the Prophet,” *The Pearl of Great Price* (Salt Lake City, Utah: The Church of Jesus Christ of Latter-day Saints, 1981). The dates used in this paper are Gregorian calendar dates, if they occur on or after October 15, A.D. 1582, the first day of the Gregorian calendar. Before that date, they are proleptic Gregorian dates (i.e., the Gregorian calendar has been extended back from 1582 into ancient times). This approach gives a modern perspective on an ancient date.

<sup>2</sup> *The Book of Mormon* (Salt Lake City, Utah: The Church of Jesus Christ of Latter-day Saints, 1981). See also Richard Lyman Bushman, *Joseph Smith: Rough Stone Rolling* (New York: Alfred A. Knopf, 2005), 43-46, 57-83.

<sup>3</sup> The noun “continent” may be defined as “one of the main continuous bodies of land on the earth’s surface” *The Compact Edition of the Oxford English Dictionary*, two vols. (Oxford: Oxford University Press, 1971), I: 536 (“Continent”). Whether one defines Joseph Smith’s phrase *this continent* to refer to North America by itself or to the Americas as a whole, his statement is accurate.

<sup>4</sup> In reviewing John L. Sorenson’s book, *Mormon’s Map* (Provo, Utah: The Foundation for Ancient Research and Mormon Studies [“FARMS”] at Brigham Young University, 2000), I summarized the elements of a rational process with logical principles that John E. Clark, in “A Key for Evaluating Nephite Geographies,” *FARMS Review of Books* 1 (1989): 20-70, and Sorenson expressly used to interpret texts related to Book of Mormon geography. Randall P. Spackman, “Interpreting Book of Mormon Geography,” *The FARMS Review* 15/1 (2003): 19-46. At the time, my focus was directed to the principles expressed by Clark and Sorenson, and I overlooked an unstated, but rational, attitudinal principle that directly transforms each of the other interpretive principles. (Both Clark and Sorenson have exhibited the attitudinal principle in their work. See, e.g., Clark, “A Key for Evaluating Nephite Geographies,” 20; and Sorenson, *Mormon’s Map*, 125-26.) After consciously using the modified process, I have added the attitudinal principle to the list and reframed what I originally described as the initial step of a two-step process, so that it is now the first principle of a unified process. Each of the six principles (as I now understand them) can be applied throughout the studying process, as one’s knowledge increases. I think this is a more authentic, helpful way to describe the development of a rational understanding of a Book of Mormon topic. Randall P. Spackman, “Rational Interpretation of the Book of Mormon: A ‘Wrong King’ and a ‘Wrong Year’” (unpublished, 2010).

The second principle, *rational reserve*, requires an attitude of humility rather than skepticism. *Rational reserve* is curious and teachable, rather than merely doubting; *rational reserve* rejects strife. The third principle is *simplicity*: take the relevant facts into account with as small and as few assumptions as possible. Interpretation may rely on facts or on assumptions based on facts, but speculation (that may be useful for searching) is worthless as a basis for interpretation. When *thoroughness* brings a new fact within my view, *simplicity* may require me to substitute it for an assumption or to change an assumption to take the new fact into account. *Rational reserve* informs me that this process is to be welcomed.

The fourth principle, *consistency*, holds that the Book of Mormon text presents the meanings intended by the original authors and Joseph Smith. This is the logical basis for linking one word, phrase or sentence to another. Still, *rational reserve* reminds me that people make mistakes and “identical” words can have different meanings depending on their context. So, context must be studied *thoroughly* and, if it indicates a different meaning or an error, the study must include those matters. The fifth principle is *natural uniformity*, requiring me to choose meanings that rely on proven natural processes. Fiction is irrelevant. Finally, the principle of *uncertain cultural understanding* informs me that between my mind and the ancient world that once existed, there are cultural screens that restrict my view and restricted the views of the original authors and Joseph Smith. Human perceptions, memory and knowledge, and the ability to record them, are limited. The uncertainty that comes with partial sight (and perhaps occasional blindness) must be taken into account in any sound process of interpretation. When applying these six principles,<sup>5</sup> I may find relevant facts from a different author in the Book of Mormon or from outside the book. Human tendencies toward shortcuts, carelessness and social acceptance may lead one to assume the value of what is perceived to be a “traditional” or “authoritative” outside source, but in rational interpretation, this gets the cart before the horse. Rational principles first must be applied to the study of the text and only then is it possible to determine which outside sources are relevant and to support that determination logically.

### Royal Wars

On three occasions, revolt against a Book of Mormon king was timed to occur after the end of 42 years (Ether 10:8, 15, 32). The original manuscript for these verses, dictated by Joseph Smith and recorded by his scribe,<sup>6</sup> cannot be consulted because it was destroyed.<sup>7</sup> The

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<sup>5</sup> Every method of interpretation relies on procedural assumptions, whether or not they are explicit. Against the principle of thoroughness is the assumption that it is adequate to rely on the least proof possible, which for some might be no proof at all (speculation). Against the principle of rational reserve is the widespread acceptance of the symptoms of pride (i.e., skepticism, wittiness, rhetorical skill, privilege, status, wealth, etc.). The principle of simplicity is opposed by any number or mass of assumptive burdens. The principle of consistency establishes meaning, while the assumption of inconsistency promotes confusion, disinterest and deception. The principle of natural uniformity conflicts with an unlimited host of fictional assumptions and embroidered stories. Against the principle of uncertain cultural understanding are the assumptions of cultural predisposition, prejudice and ignorance.

<sup>6</sup> The chronology of the translation and more than 200 factual sources that document the chronology and process are gathered in John W. Welch, “The Miraculous Translation of the Book of Mormon,” in John W. Welch, ed., with Erick B. Carlson, *Opening the Heavens: Accounts of Divine Manifestations, 1820-1844* (Provo, Utah: Brigham Young University Press and Salt Lake City, Utah: Deseret Book, 2005), 76-213. “For 179 years this book has been examined and attacked, denied and deconstructed, targeted and torn apart like perhaps no other book in modern religious history—perhaps like no other book in *any* religious history. And still it stands. Failed theories about its origins have been born and parroted and have died—from Ethan Smith to Solomon Spaulding to deranged paranoid to cunning genius. None of these frankly pathetic answers for this book has ever withstood examination because *there is no other answer* than the one Joseph gave as its young unlearned translator. In this I stand with my own great-grandfather [George Cannon], who said simply enough, ‘No wicked man could write such a book as this; and no good man would write it, unless it were true and he were commanded of God to do so.’” Jeffrey R. Holland, “Safety for the Soul,” *The Ensign of the Church of Jesus Christ of Latter-day Saints* 39/11 (2009):89, emphasis in the original.

printer's manuscript, a copy of the original prepared for use by the typesetter of the first (1830) edition of the Book of Mormon, uses the phrase *forty & two years*.<sup>8</sup> The Book of Mormon accurately reproduces the printer's manuscript with *forty and two years*.<sup>9</sup> Thus, no material issue exists about the transfer of this text from Joseph's dictation to the printed book.

The three royal wars appear in a condensed history of Jared's family written by Moroni after about A.D. 395 (Mormon 8:6; Moroni 10:1). He said, "I take mine account from the twenty and four plates" engraved by a Jaredite named Ether (Ether 1:2). Moroni called his history "The Book of Ether,"<sup>10</sup> but also "my record concerning the destruction" of the Jaredites as a "people" (Ether 13:1). He often departed from Jaredite history to insert his own witness and warnings (e.g., Ether 2:7-12; 3:17-20; 4:1-5:6; 8:20-26; 12:6-41; 13:13) and he noted that his book held less than "the hundredth part" of the original (Ether 15:33). Thus, the textual setting of these three wars is a mixture of Ether's record, engraved perhaps about 400 B.C. (Omni 1:12-22; Ether 15:29-34) and Moroni's translation,<sup>11</sup> editing and remarks from hundreds of years later.

### Thirteen Temporal Concepts in the Book of Ether

Moroni wrote the Book of Ether under difficult conditions after the destruction of his own people, the Nephites (Mormon 8; Moroni 1). Initially, he noted there was no "room upon the plates" of his father, Mormon, "and ore have I none, for I am alone. My father hath been killed in battle, and all my kinsfolk, and I have not friends nor whither to go" (Mormon 8:5). Because he later composed and engraved much more (over a period extending about 35 years after the Nephite defeat), he apparently found a way to obtain more plates. The process of composing the book required him to select and describe only a few key stories (Ether 15:33). The physical process of engraving also involved difficulty (Ether 12:24; compare Jacob 4:1). Nonetheless, Moroni's carefully planned word patterns, using 13 time-related concepts, show painstaking attention to their choice and placement in his book.

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<sup>7</sup> Of the original manuscript, "about 25 percent of the current text" exists today. The remainder was destroyed by water and mold, between 1841 and 1882, while it was contained in the cornerstone of the Nauvoo House, a hotel in Nauvoo, Illinois. Royal Skousen, ed., *The Original Manuscript of the Book of Mormon: Typographical Facsimile of the Extant Text* (Provo, Utah: FARMS, 2001), 6-7. (A general list of extant text of the original manuscript appears on page 37 and the extant text for Ether 10 appears on pages 538-41.)

<sup>8</sup> Royal Skousen, ed., *The Printer's Manuscript of the Book of Mormon: Typographical Facsimile of the Entire Text in Two Parts, Part Two: Alma 17-Moroni 10* (Provo, Utah: FARMS, 2001), 937-939.

<sup>9</sup> Joseph Smith, Jr., author and proprietor, *The Book of Mormon* (Palmyra, New York: E.B. Grandin, 1830; Independence, Missouri: Herald Heritage Reprint, 1970), 558-560; or Wilford C. Wood, *Joseph Smith Begins His Work: Book of Mormon 1830 First Edition Reproduced from Uncut Sheets* (Salt Lake City, Utah: Publisher's Press, 1958), 558-560.

<sup>10</sup> Skousen, ed., *The Printer's Manuscript of the Book of Mormon, Part Two*, 908.

<sup>11</sup> The Nephite king Mosiah "translated and caused to be written" part of the history of the 24 plates "because of the great anxiety" of his people (Mosiah 28:11-12). For him to do so, he had to have permission from the Lord (Mosiah 8:13). Mormon reported that, when Mosiah transferred all the records to Alma, Mosiah "had kept and preserved" the records "according to the commandments of God" (Mosiah 28:11). Thus, Mosiah appears to have "kept and preserved" the record, at least in part, by choosing not to disclose the brother of Jared's vision (and perhaps other matters) along with the other parts of Jaredite history that were written at that time (see Ether 3:21; Mosiah 29:46; 3 Nephi 1:1; 2:5-7; 8:1-11:17). Was king Mosiah's translation fully published as "The Book of Ether" after the risen Messiah appeared to the Nephites? The title is not used in Mosiah 28:11-19 and the text is otherwise silent. Did Moroni use Mosiah's translation? By Moroni's time, Mosiah's translation was nearly 500 years old. Moroni clearly stated, "I take mine account from the twenty and four plates which were found by the people of Limhi, which is called the Book of Ether" (Ether 1:2). Moroni also called his own book "an abridgment taken from the Book of Ether" (Title Page, Book of Mormon). Those statements indicate that Moroni translated the 24 plates and, thus, became uniquely qualified to instruct Joseph Smith in the process. See footnotes 59 and 60 and the accompanying text.

Twelve nouns and a single gerund phrase provide context related to the phrase *forty and two years*.<sup>12</sup> These 13 time-related concepts seem to have been organized into four groups: Time, End, Year, and Day. Moroni appears to have used these concepts to structure his book in three sections (Chart 1). Section One (chapters 1-6) deals with time from the creation of the world to the founding of the Jaredites as a people (“our people,” Ether 6:19, with a “king” for “his people,” Ether 6:21-30) in the new land. Section Two (chapters 7-11) recounts the history of the ruling family from the first king, Orihah, to Ether, one of the last-recorded generation. Section Three (chapters 12-15) describes the last warring kings and the utter failure of their kingdoms.

Chart 1

Distribution of Thirteen Time-Related Concepts in the Book of Ether

<u>Word Groups and Terms</u>	<u>Section One</u>	<u>Section Two</u>	<u>Section Three</u>	<u>Total</u>
<u>Time Group</u>				
1. time	10	2	6	18
2. times	2	0	0	2
<u>End Group</u>				
3. beginning	1	4	1	6
4. end	1	0	1	2
<u>Year Group</u>				
5. year	0	0	6	6
6. years	3	19	4	26
<u>Day Group</u>				
7. day	7	1	6	14
8. days	2	34	6	42
9. morning	0	0	1	1
10. going down of the sun	0	0	1	1
11. night	1	2	12	15
12. hours	1	0	1	2
13. morrow	0	0	8	8

### *The Time Group*

The first calendar-related noun to appear in Moroni’s abridgment is *time*. This word and its plural *times* occur 12 times in Section One, and *time* also appears twice in Section Two and six times in Section Three, for a total of 20 instances. When these nouns are charted separately (Chart 2), they create a literary structure in Section One that begins with a tightly-spaced triplet

<sup>12</sup> Adverbs like *now* and *then* (e.g., Ether 1:1, 36) and adjectives like *ancient*, *many*, *few*, *old*, *young*, *new*, *first*, *second*, and *long* (e.g., Ether 1:1; 6:6, 19; 9:24; 11:10; 12:18; 13:9, 20; 14:21) are or may be time-related, but these modifiers do not appear to have been used by Moroni in a structural way. The nouns *moon*, *moons*, *planets*, *star* and *stars*, which appear elsewhere in the Book of Mormon (e.g., Omni 1:21; Alma 30:44; 3 Nephi 1:21; 8:22) and may have time-related meanings, are not included in the Book of Ether. Other terms with definite temporal meanings, such as *dawn*, *the rising of the sun*, *daytime*, *noon-day*, *mid-day*, and *evening*, are used by other Book of Mormon writers (e.g., 1 Nephi 1:9; Mosiah 18:5; Alma 34:21; 47:14; Helaman 14:4), but these terms are not in Moroni’s abridgment.

(Ether 1:3, 4) followed by a more open triplet (Ether 1:33, 43; 2:8). In a reverse pattern, Section Three ends with a more open triplet (Ether 12:18; 13:5, 31) followed by a final, tightly spaced triplet (Ether 14:29). Section Two is divided into three parts by a very widely-spaced couplet (Ether 8:26; 10:32), in each case connected with gaining and losing *power* over evil.

The structure described above (two triplets, wide couplet, two triplets) is not complete. Six more instances of Time Group terms occur in Section One. These might be viewed as two more triplets, each of which ends with the plural word *times*; however, the clear repetition of *the time* (Ether 3:21; 4:16) and *own due time* (Ether 3:24, 27) indicate a five-part pattern, which then leaves a single instance, *many times* (Ether 6:6), to close Section One and to complete Moroni's time-related themes in Section One.<sup>13</sup> The triplets establish the time of Jared and his brother, the age of "the great tower" (Ether 1:3) when the "wrath" of the Lord (Ether 1:33; 2:8) led to the mixing of languages and people. Jared urged his brother to "cry unto the Lord" (Ether 1:34-35), which he did, for a *long time*. The Lord rewarded that faith with promises of a new land and "a great nation" from their posterity (Ether 1:42-43).

Chart 2

The Time Group in the Book of Ether

Section One:	Tight triplet:	that time (Ether 1:3) that time (Ether 1:3) that time (Ether 1:4)
	Open triplet:	the time (Ether 1:33) this long time (Ether 1:43) that time (Ether 2:8)
	Chiasm:	the time (Ether 3:21) own due time (Ether 3:24) times before (Ether 3:26) own due time (Ether 3:27) the time (Ether 4:16)
	Single term:	many times (Ether 6:6)
	Section Two:	Wide couplet:
Section Three:	Open triplet:	any time (Ether 12:18) a time (Ether 13:5) which time (Ether 13:31)
	Tight triplet:	second time (Ether 14:29) second time (Ether 14:29) third time (Ether 14:29)

Then Moroni emphasized the themes of faith and vision as the central idea of the five-part form in Section One: "For [the Lord] had said unto [the brother of Jared] in times before that if he would believe in [the Lord] that he could show unto him all things—it should be shown unto

<sup>13</sup> An examination of all of Moroni's time-related themes is beyond the scope of this paper. An initial attempt to outline his themes appears in my earlier research report. Randall P. Spackman, "Forty and Two Years in the Book of Mormon" (unpublished, 2008), Appendix Three.

him; therefore, the Lord could not withhold anything from him, for he knew that the Lord could show him all things” (Ether 3:26). The brother of Jared’s greater test was that after such vision, his diligence, health and leadership had to be strong enough to follow through on what he had been shown. Lengthy pleas answered by the Lord at the great tower were insufficient. Visions were not enough. To obtain the promises, the Jaredites had to “cross the great waters” (Ether 6:3). Their faith, strength and united action led them to the seashore, built their barges and sent them to sea. During their 344-day voyage (Ether 6:11), “they did cry unto the Lord” (Ether 6:7) and they sang his praises day and night (Ether 6:9) despite the *many times* they were buried in the waves by the terrible storms at sea (Ether 6:6).

### *The End Group*

Words of the End Group (Chart 3) appear in Sections One and Three as two widely-spaced couplets. The noun *end* is followed by *beginning* in Section One (Ether 2:14; 3:15) and the reverse occurs in Section Three (Ether 13:2, 8).<sup>14</sup> The noun *beginning* refers to the time when “men were created” or “the beginning of man” (Ether 3:15; 13:2). Section Two includes the other four instances of *beginning*, where it is linked with Satan’s power to tempt men to harden their hearts, lie, seek power and murder “from the beginning” (Ether 8:15, 19, 25).

Chart 3

#### The End Group in the Book of Ether

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Section One:	Couplet:	end (Ether 2:14) beginning (Ether 3:15)
Section Two:	Four terms:	beginning (Ether 8:15, 19, 25)
Section Three:	Couplet:	beginning (Ether 13:2) end (Ether 13:8)

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### *The Year Group*

The word *years* occurs in a simple triplet in Section One (Ether 2:13, 14; 3:3). In Section Three, the word *year* appears five times (Ether 13:15, 18, 20, 23, 24), followed by a triplet of *years* (Ether 13:31; 14:3, 7), followed by a single *year* (Ether 14:11), and ending with a single *years* (Ether 15:14), as time ran out for the Jaredite kingdoms. This pattern (Chart 4) reverses the Time Group pattern, which has more terms in Section One than in Section Three. The singular *year* appears only in Section Three, the reverse of the Time Group pattern in which the plural *times* occurs only in Section One. Section Two continues this reverse relationship. The Time Group is represented by a widely-spaced couplet, but Year Group nouns appear 19 times. Moroni placed a couplet of *years* (Ether 7:4; 11:15) even more widely than the couplet of *time* (Ether 8:26; 10:32), but then within these opening and closing couplets, the other references to *years* in Section Two appear in seven generational groupings.

### *The Day Group*

Day Group words are about the sun, light and darkness (Chart 5). The word *morning* means the early part of the day when the sun appears to rise (Ether 12:3). The gerund phrase

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<sup>14</sup> As a temporal term, the noun *end* appears twice in the Book of Ether. As a spatial term, *end* appears both in singular and plural forms (Ether 2:17; 3:25; 4:18; 6:2).

*going down of the sun* (Ether 12:3) refers to sunset. The terms *day* and *night* are day-part words referring to periods of light and darkness (Ether 6:9; 15:15-17, 20-25). The word *days* designates combined periods of light and darkness, with phrases such as *many days* and *three days* indicating complete cycles of day and night or time in general (e.g., Ether 9:3, 15; 10:17; 13:28). Time could be divided into *hours* (Ether: 2:14; 15:27), but no other information about an hour is given. The *morrow* or following day begins in the morning (Ether 15:6-8, 20-26).

#### Chart 4

#### The Year Group in the Book of Ether

##### Section One:

Triplet:	four years (Ether 2:13) four years (Ether 2:14) many years (Ether 3:3)
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##### Section Two:

Wide couplet:	thirty and two years (Ether 7:4, see 11:15)
Generations:	Couplet: Omer (Ether 9:12, 15): many years; two years Couplet: Emer (Ether 9:16, 22): sixty and two years; four years Triplet: Coriantum's first wife, Coriantum and Com (Ether 9:24, 25): an hundred and two years; an hundred and forty and two years; forty and nine years Triplet: Riplakish and Morianton (Ether 10:8, 9): forty and two years; many years; many years Couplet: Kim and Levi (Ether 10:13, 15): eight years; forty and two years Triplet: Lib and Hearthom (Ether 10:29, 30): many years; twenty and four years; many years Couplet: Com (Ether 10:32): forty and two years; many years
Wide couplet:	many years (Ether 11:15; see 7:4)

##### Section Three:

Five terms:	same year (Ether 13:15) first year (Ether 13:18) second year (Ether 13:20) third year (Ether 13:23) fourth year (Ether 13:24)
Triplet:	two years (Ether 13:31) two years (Ether 14:3) two years (Ether 14:7)
Single term:	first year (Ether 14:11)
Single term:	four years (Ether 15:14)

For the Day Group, Section One begins and ends with a widely-spaced couplet of *days* (Ether 1:4; 6:11) that includes time from the creation of man to the Jaredites' landing on the shores of their new land. Following the first *days* is the term *three hours*, part of a single day (Ether 2:14). Balancing this day-part term and just before Section One's concluding *days* are



two more day-part terms: *all the day long* and *the night* (Ether 6:9). Then, positioned between these day-parts in Section One, the singular word *day* occurs six times in three couplets.

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## Chart 5

### The Day Group in the Book of Ether

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#### Section One:

Wide couplet:	days (Ether 1:4; see 6:11)
Wide triplet:	three hours (Ether 2:14; see 6:9)
Couplet one:	day (Ether 4:6-7)
Couplet two:	last day (Ether 4:10, 19)
Couplet three:	last day (Ether 5:4, 6)
Wide triplet:	all the day long (Ether 6:9; see 2:14) the night (Ether 6:9; see 2:14)
Wide couplet:	days (Ether 6:11; see 1:4)

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#### Section Two:

Subsection One:	Five terms (days/days/night/days/days: Ether 7:1, 18, 27) Five terms (days/days/night/days/days: Ether 8:4, 5; 9:3, 15) Three terms (days/day/days: Ether 9:21-23) Five terms (days/days/days/days/days: Ether 10:14, 17, 19, 30)
Subsection Two:	Four terms (days/days/days/days: Ether 10:31) Four terms (days/days/days/days: Ether 10:33; 11:1, 3, 7) Seven terms (days/days/days/days/days/days/days: Ether 11:9-12, 14) Four terms (days/days/days/days: Ether 11:18-20, 23)

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#### Section Three:

Subsection One:	Triplet (days/days/days: Ether 12:1-2) Day-part couplet (morning/going down of the sun: Ether 12:3) Single term (days of Christ: Ether 13:4) Day-part triplet (day/night/night: Ether 13:13, 14) Couplet (three days/morrow: Ether 13:28; 14:1) Day-part triplet (night/day/night: Ether 14:5, 23) Couplet (three days/morrow: Ether 14:26; 15:8)
Subsection Two:	Day one (day/night: Ether 15:15, 16) Day two (morrow/day/night: Ether 15:17) Day three (day/night: Ether 15:20) Day four (morrow/night/night: Ether 15:21, 22) Day five (morrow/night/night: Ether 15:23, 24) Day six (morrow/day/night: Ether 15:24, 25) Day seven (morrow/three hours: Ether 15:26, 27) Day eight (morrow: Ether 15:29)

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In Section Two, Moroni used terms of the Day Group 37 times. All the related details of Jaredite history have been organized into two four-part subsections, the first of which uses *days*, *night*, and *day* for its thematic order. The second subsection uses only the word *days*. With the steady passage of *days*, the record reveals the struggle of the Jaredites with spiritual

darkness. Similarly, Section Three is divided into two subsections. The first describes the Jaredites' abrupt descent into constant civil war under Coriantumr and his rivals. The second features the final eight days when the enemy kingdoms destroyed each other. The word *night* is the most frequent time-related noun in Section Three, a metaphor for Jaredite depravity. However, as the kingdoms failed, each new time of killing became simply the *morrow*. The sun rose. The killing resumed until, of all the rivals and their supporters, only Coriantumr was alive.

By his use of these 13 time-related concepts, Moroni clearly refers to the solar *day*, its subdivisions, the *morrow* that began with the *morning*, aggregated *days* and the *year*. The words *day*, *days*, *time*, and *year* may be interchanged (e.g., Ether 1:3-4; 9:16, 21-22), indicating that these concepts all relate to the sun. Moroni's only mention of astronomical observation is *the going down of the sun*. Evidently, the phrase *forty and two years* is related to the sun.

### The Seasonal Year

Another way to study the context of *forty and two years* is to look at Jaredite agriculture, a sun-related basis for their culture. The Jaredites complied with the Lord's command to take "the seed of the earth of every kind" and "flocks . . . of every kind" from their original homeland (Ether 1:41). When they reached "that great sea which divideth the lands . . . they pitched their tents . . . and dwelt in tents upon the seashore for the space of four years" (Ether 2:13). At the Lord's command, they built barges and loaded them with "all manner of food, that thereby they might subsist upon the water, and also food for their flocks and herds, and whatsoever beast or animal or fowl that they should carry with them" (Ether 6:4). No mention is made of farming at the seashore or seeds on the barges, but food for humans, birds and animals could have included seeds. When the Jaredites reached their new land, they immediately "began to till the earth" (Ether 6:13). This might mean they brought seeds and still had some on their barges, but they also could have cultivated wild native plants or plants being grown by other farmers in the land. With a food supply assured, the Jaredites "began to spread upon the face of the land, and to multiply and to till the earth; and they did wax strong in the land" (Ether 6:18). In time, their crops included "all manner of fruit, and of grain" (Ether 9:17).

During a drought, Jaredites fled to "the land southward," a "wilderness" that was "covered with animals of the forest" (Ether 9:32; 10:19, 21). When the rains returned, "there began to be fruit in the north countries" (Ether 9:35). Evidently, the fruit recovered by itself; however, the cultivation of grain seems to have required "all manner of tools to till the earth, both to plow and to sow, to reap and to hoe, and also to thresh" (Ether 10:25). The success of Jaredite farming was not merely a result of naturally growing fruit. The farmers had to know how to prepare the soil, plant, weed and harvest—and when to perform these tasks. The Jaredites knew their agricultural seasons and, thus, seem to have marked time with a solar year.

### The Numbering of Years

A third way to view the context of *forty and two years* is to look at Moroni's use of numbers. The Jaredites numbered things they observed. The record refers to eight barges, lighted by 16 shining stones (Ether 3:1; 6:1-2), and 24 friends whose families made the journey (Ether 1:39-42; 6:16). A formal numbering of the people and the choice of a king began the royal line (Ether 6:19-28). Orihah, the fourth son of Jared and the first of the Jaredite kings, fathered 23 sons and eight daughters (Ether 7:2). Others had big, numbered families, too (Ether 6:14, 20). Jaredite prophets kept a written record and two seer stones (Ether 3:22-28; 13:13-14; 15:33). In Omer's former realm, "the people of the kingdom" were reduced to "thirty souls" before Omer and those with him regained "the land of his inheritance" (Ether 9:12-13). Ether numbered the warriors fighting in two of the last battles (Ether 15:23, 25).

The Jaredites also counted and recorded numbers of days, even under the most difficult conditions at sea (Ether 6:4-11; 13:28; 14:26). *Three hours* occurs twice in the record (Ether 2:14; 15:27), the word *time* has a numerical modifier on three occasions (Ether 14:29) and *year* is similarly modified five of the six times when it appears (Ether 13:18, 20, 23, 24; 14:11). The word *years* is modified by a number 18 times (Ether 2:13, 14; 7:4; 9:15, 16, 22, 24, 25; 10:8, 13, 15, 30, 32; 13:31; 14:3, 7; 15:14) and these numbered years are particularly instructive.

### *Two and Four Years*

Moroni's references to periods of *two years* emphasize relief from sorrow, physical wounds and the destruction of war. About halfway through the book, Jaredite destruction was averted by king Omer who listened to the Lord and, eventually, enjoyed *two years* of peace (Ether 9:15). Near the end of Jaredite history, the ruin of Coriantumr's kingdom was assured by his unbelief, despite two periods of *two years* of relief (Ether 13:31; 14:3, 7). Four verses refer to three periods of *four years* related to faith and vision or disbelief and destruction (Ether 2:13, 14; 9:22; 15:14). Five more verses describe events linked to similar themes in the *same year, first year, second year, third year* and *fourth year* (Ether 13:15, 18, 20, 23, 24). When viewed in context (Chart 6), these events plainly form a fourth period of *four years*. Thus, like two-year periods, four-year periods provide both structure and theme. When interwoven with each other, these periods appear at high and low points in the Jaredite history (Chart 7).

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## Chart 6

### Four-Year Periods in the Book of Ether

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- A First Four-Year Period (Section One: Ether 2:13-15)
    - Jared, his brother and their followers arrive at the great sea and dwell in tents.
    - At the end of four years, the brother of Jared experiences a vision of the Lord.
    - For three hours, the Lord speaks to and chastises the brother of Jared.
    - Destruction is prophesied if the people fail to believe and repent.
  - B Second Four-Year Period (Section Two: Ether 9:15-22)
    - Emer's faith leads to a vision of the Lord and peace.
  - B Third Four-Year Period (Section Three: Ether 13:1-2, 4, 13-26)
    - Coriantumr leads his people to war due to their failure to believe and repent.
  - A Fourth Four-Year Period (Section Three: Ether 15:7-32)
    - Jaredite remnants live in tents near the great waters of Ripliancum.
    - At the end of four years, the final war of destruction occurs.
    - For three hours, warriors battle to the death.
    - Coriantumr's kingdom is destroyed because the king and his household failed to believe and repent.
- 

### *Three Long Lives*

After Omer's kingdom was restored to him, "in his old age he begat Emer; and he anointed Emer to reign in his stead" (Ether 9:14). The "house of Emer" prospered "and in the space of sixty and two years they had become exceedingly strong, insomuch that they became exceedingly rich" (Ether 9:16). He and his household prospered because he "did execute judgment in righteousness all his days" and "the Lord did pour out his blessings upon this land"

(Ether 9:20-21). Near the end of the 62-year period, Emer “anointed Coriantum to reign in his stead” (Ether 9:21). Emer then continued to live four more years (Ether 9:22). Coriantum’s first wife was barren and lived 102 years. Then, when Coriantum was “exceedingly old,” he “took to wife, in his old age, a young maid, and begat sons and daughters” and lived 142 years (Ether 9:23-24). All three lives seem to be remarkable examples of political and physical survival.

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### Chart 7

#### Two and Four Years in the Book of Ether

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Section One: Beginning:	Four years (Ether 2:13, 14)
Section Two: Middle:	Two years (Ether 9:15)
	Four years (Ether 9:22)
Section Three: Ending:	Four years (Ether 13:15-24)
	Two years (Ether 13:31)
	Two years (Ether (14:3, 7)
	Four years (Ether 15:14)

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#### *Five Reigns*

The reigns of four other Jaredite kings are numbered in terms of *years*. Com, the seventh generation king, reigned 49 years before one of his sons “did dethrone his father, for he slew him with his own sword” (Ether 9:25-27). Riplakish, the tenth generation, laid “heavy taxes” on his people to build “spacious buildings.” The impoverished were forced to “labor continuously.” The king also built “an exceedingly beautiful throne” and “did afflict the people with his whoredoms and abominations.” After he ruled 42 years, “the people did rise up in rebellion against him, and there began to be war again in the land, insomuch that Riplakish was killed, and his descendants were driven out of the land” (Ether 10:4-8). Kim, the 12th generation, ruled eight years before his brother “did rise up in rebellion against him, by which he did bring him into captivity; and [Kim] did remain in captivity all his days” (Ether 10:13-14). Hearthom, the 17th generation king, ruled for 24 years, but “the kingdom was taken away from him. And he served many years in captivity, yea, even all the remainder of his days” (Ether 10:30). A fifth reign involved a king named Lib, who was a contemporary of Ether and Coriantumr. During the two-year period when Coriantumr “dwelt with his army in the wilderness,” Lib briefly obtained the throne. In Lib’s *first year*, their armies met and Coriantumr “smote upon [Lib] until he died” (Ether 14:7-16). Unlike *two years* and *four years*, these five reigns do not exhibit a literary structure. Their lengths might seem to be ordinary historical facts.

#### *Rebellions*

More rebellions are measured with numbered *years*. Corihor, a grandson of the first king, “was thirty and two years old [when] he rebelled against his father, and went over and dwelt in the land of Nehor; and he begat sons and daughters.” There he raised an army and attacked his father’s kingdom, capturing his father and enslaving his father’s subjects (Ether 7:4-7). Levi, the 13th generation, was born in captivity and “did serve in captivity after the death of his father, for the space of forty and two years. And he did make war against the king of the land, by which he did obtain unto himself the kingdom” (Ether 10:9-15). The final rebellion tied to numbered years involved another noble named Com, who also was born in captivity. Eventually, he “drew away the half of the kingdom. And he reigned over the half of the kingdom forty and

two years; and he went to battle against the king, Amgid, and they fought for the space of many years” (Ether 10:32). Again, such numbered years may appear to be bland historical facts.

They are not. A thorough search identifies many instances of political intrigue, revolt, murder and war in the Book of Ether with no link to a numbered period (e.g., Ether 7:8-10, 15-18; 8:1-6; 9:1-6, 12; 10:3, 9; 11:4, 9, 15-18). Thus, it is intriguing that Moroni does not state Corihor’s age when he gained control of the kingdom or the length of his reign. Levi’s age when he rebelled and the length of his reign are not mentioned, but his 42-year period of captivity after his father’s death is numbered by Moroni. Com’s age when he rebelled, his age when he gained control of half of the kingdom, and the total length of his reign are not listed, but the 42-year period when Com ruled only half the kingdom is listed. Is there more in the Book of Ether than meets the literary or historical eye? *Thoroughness* and *rational reserve* promote a broader inquiry. Were the numbers used by Moroni critical to his message?

### Moroni’s Choice of Specific Numbers

The phrase *forty and two years* has a numerical context in the Book of Ether related to Moroni’s choice of certain numbers (Chart 8). That his choices were purposeful is indicated by a mathematical analysis of these numbers and their placement in the Book of Ether.

Chart 8  
Moroni’s Numbered Years

<u>Specified Periods</u>	<u>References</u>
two years	(Ether 9:15; 13:31; 14:3, 7)
four years	(Ether 2:13, 14; 9:22; 15:14)
eight years	(Ether 10:13)
twenty and four years	(Ether 10:30)
thirty and two years	(Ether 7:4)
forty and two years	(Ether 10:8, 15, 32)
forty and nine years	(Ether 9:25)
sixty and two years	(Ether 9:16)
an hundred and two years	(Ether 9:24)
an hundred and forty and two years	(Ether 9:24)

For example, 32 instances of *year* and *years* appear in the record. Based on Ether 1:2 and 15:33, I may assume these periods were a sample chosen by Moroni from a larger set of *years* in Ether’s full record and I can analyze the positions of these sample periods by separating them into eight cases where the quantity of time is unspecified (*many years*) and 24 cases that may be quantified directly or indirectly. In a Wald-Wolfowitz Runs Test, this eight/24 sample is not demonstrably random ( $p = 0.59966$ ). Eighteen times, Moroni identified multiple *years* with a number (Chart 8). To some, the phrases *same year*, *first year*, *second year*, *third year*, and *fourth year* (Ether 13:15, 18, 20, 23, 24; 14:11) might be considered one-year periods, but they have not been treated as single numbered *years* because Moroni did not use the term *one year* in his abridgement.<sup>15</sup> The 32 cases of *year* and *years* may be separated into an 18/14 sample: 18 cases where Moroni numbered his chosen *years* and the remaining 14 instances.

<sup>15</sup> Moroni’s father, Mormon, used the phrase *one year* (Alma 3:26); so, the term existed in Moroni’s day.

This sample also is not demonstrably random ( $p = 0.32268$ ). Thus, his placement and choice of these terms were not clearly random, but that does not guarantee they were intentional.

Four of Moroni's numbered years appear to be part of an incomplete geometric progression: 2, 4, 8, \_\_, 32. This progression (in which each succeeding number is doubled) would be complete if number 16 was added and if number 24 was not in an intervening position where number 16 would be expected. The fact of the text, however, is that number 24 appears and number 16 does not; so, if this is an intentional list, Moroni wanted the progression to include only the three smallest numbers: 2, 4 and 8.

The incontestable evidence that these doubling numbers were an intentional geometric progression appears with the arithmetic progression related to the three largest numbers. This arithmetic progression uses succeeding odd numbers (1, 3 and 5) with the numbers 20 and 42:  $62 = 42 + (1 \times 20)$ ;  $102 = 42 + (3 \times 20)$ ; and  $142 = 42 + (5 \times 20)$ .<sup>16</sup> To be thorough, this study must also note the repetition of the number 20 (the number of Time Group terms) and the number 42 (the three royal wars and the number of occurrences of the noun *days*).

More facts of the text are Moroni's use of the noun *day* 14 times and the noun *night* 15 times, together with the phrase *from the morning, even until the going down of the sun* (Ether 13:3) as another way to describe a *day*. The equations suggested by these terms are:  $14 + 15 = 29$  or  $15 + 15 = 30$ ; and  $29 + 30 = 59$ . Since Moroni's use of all these numbers was evidently intentional, the meaning of *forty and two years* would appear to be related to the numbers 20, 42 and 59 (or its components). Moroni unmistakably organized the numbered *years* of the Book of Ether in a mathematical way, in addition to his literary techniques and historical approach.

#### Astronomical Analysis

Moroni's numbered years also have an astronomical context that may be examined in keeping with the principle of *natural uniformity*. Thirteen astronomical cycles have the highest potential for being viewed with the unaided eye.<sup>17</sup> The average intervals for these 13 visible periods can be compared with Moroni's specified periods and potential Jaredite calendars. To carry out this analysis, the Jaredite calendar was assumed to be 400 days or less. With a 400-day calendar, Coriantum (142 Jaredite years) would have lived 155.5 solar years. Some might think that is possible, but there are no reliable birth and death records proving such longevity in

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<sup>16</sup> The notion that there might be another equation associated with the arithmetic progression—that is,  $42 = 42 + (0 \times 20)$ —is rejected on four grounds. First, the arithmetic progression is composed of numbers representing the three longest periods specified by Moroni and, like the reverse literary relationship of Time and Year Group terms, these longest periods may be viewed as a type of mathematical reverse of the geometric progression composed of the three shortest of the numbered periods. Second, the 42-year period is clearly associated with human choices, while the periods of 62, 102, and 142 years are linked to descriptions of human longevity. Third, in the listing of numbered years, the set (62, 102, 142) is separated from the potentially-related number 42 by an intervening number 49—just as the set (2, 4, 8) is separated from the potentially-related number 32 by an intervening number 24. Finally, the arithmetic progression is based on odd numbers (1, 3 and 5) and zero is not an odd number.

<sup>17</sup> The motions of the sun, moon and five brightest planets are usually ones most visible to the unaided eye. David H. Levy, with John O'Byrne, consultant ed., *Skywatching* (Berkeley, California: The Nature Company, 1994), 54. Their average cycles include the sun's sidereal year (365.2422 days); the moon's synodic cycle (29.5306 days) and sidereal cycle (27.3217 days); Mercury's synodic cycle (115.88 days) and sidereal cycle (87.97 days); Venus' synodic cycle (583.92 days) and sidereal cycle (224.701 days); Mars' synodic cycle (779.94 days) and sidereal cycle (686.98 days); Jupiter's synodic cycle (398.88 days) and sidereal cycle (4,332.589 days); and Saturn's synodic cycle (378.09 days) and sidereal cycle (10,759.22 days). Sidereal and synodic cycle data for the planetary intervals may be found on the general NASA website at <http://nssdc.gsfc.nasa.gov/planetary>; see also Mark R. Chartrand III, *The Audubon Society Field Guide to the Night Sky* (New York: Alfred A. Knopf, 1991), 625-69. The planet Uranus may be visible to the unaided eye during its maximum apparent magnitude, but it moves very slowly through the stars (a sidereal cycle of about 84.01 solar years). Chartrand, *Audubon Society Field Guide*, 662-4.

the past.<sup>18</sup> In addition, the calendar probably had more than 136 days. With a 136-day calendar, Corihor's age when he rebelled would have been about 11.9 solar years. Most likely, he rebelled and went to the land of Nehor, there to beget sons and daughters, when he was a young man. Age 12 was assumed to be as young as the record would suggest. Within these limits, 264 schematic calendars (which repeat the same number of days each year) and 28 observational calendars were identified, combined with Moroni's ten specified periods and the 13 visible astronomical cycles, and then sorted for significant conjunctions.

The most stringent sorting was based on the assumption that ancient record keepers might have seen and recorded conjunctions with the longest cycle (the sidereal cycle of Saturn, which lasts about 29.46 solar years), if such conjunctions occurred within a single moon (about 29.5306 days) before or after the end of each Saturn sidereal cycle. The lengths of the other cycles were then scaled down by the same proportion (0.279%) to determine the time range to be considered for a significant conjunction. For the sidereal cycle of the moon, which reoccurs most often, a conjunction had to be almost exact (within less than two hours before or after the end of the cycle) to be considered a significant conjunction.

Nothing of material value came from studying the observational calendars. Of their 290 significant conjunctions, 280 occurred solely by definition<sup>19</sup> and the remaining ten were spread among nine calendars. Similarly, when Moroni's three longevity-related periods<sup>20</sup> were examined separately, no distinct pattern of significant conjunctions with schematic calendars emerged. However, for Moroni's seven choice-related periods,<sup>21</sup> two types of schematic calendars<sup>22</sup> exhibited four or more significant conjunctions.

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<sup>18</sup> In the mid-18th century, the French naturalist Georges Buffon understood that humans, no matter what their class or race, rarely exceeded 100 years of age. Nonetheless, reports of people living more than 150 years were accepted even by the educated in the 20th century. William R. Clark, *A Means to an End: The Biological Basis of Aging and Death* (New York: Oxford University Press, 1999), 14. A few people have claimed great longevity, but these types of claims have been discredited over the years and are not considered reliable. Tom Kirkwood, *Time of Our Lives: The Science of Human Aging* (Oxford: Oxford University Press, 1999), 39-51; Clark, *A Means to an End*, 13-15.

<sup>19</sup> Because each of the 28 observational calendars was based on a particular astronomical cycle, the ten periods of days for that calendar always showed an exact conjunction with the cycle on which the calendar was based. For example, the observational calendar of 177.1836 days (six synodic cycles of the moon), simply by definition, always exhibited conjunctions with the moon's synodic cycle (29.5306 days).

<sup>20</sup> The three longer periods mentioned by Moroni (Chart 8) measured the physical and political longevity of Emer, Coriantum and Coriantum's first wife. These three longer periods are a temporally distinct group because of the arithmetic progression discussed above, the thematic distinction from the seven shorter periods (longevity vs. choice), and the astronomical contrast with the choice-related group. Based on these distinctions, I suggest that the two longest periods will lose their sense of impossibility if all three periods are viewed as being measured by a calendar that had significantly fewer days than a solar year. See footnote 46.

<sup>21</sup> The seven shorter periods shown in Chart 8 were used with the making of human choices in a political or religious context. A king chose his successor or went to war, a son or a people chose to rebel, a brother chose to enslave his brother, a prophet failed to call upon God, etc.

<sup>22</sup> A third class of schematic calendar with significant conjunctions included some of the large prime number calendars. For example, the 229-day calendar had three significant conjunctions with the sidereal cycle of Mars and one each with the synodic cycles of Mercury and Venus. If the Jaredites used a schematic calendar and it was astronomically related, then the 229-day calendar may be a possible candidate. But how would the Jaredites have chosen to count Mercury, Venus and Mars cycles with a calendar consisting of 229 days? Did they count 9,618 consecutive days and, at the same time, note that 83 synodic cycles of Mercury were completed in the same number of days? Did they then factor 9,618 to learn that the largest factor was 229? And did they then choose 229 days as their calendar? Or did they simply pick 229 days out of the air and discover later that 42 (229-day) years correlated well with Mercury's synodic cycle? And why would the Jaredites have chosen to count a series of Mercury cycles by inventing a large prime number calendar when they could simply maintain a straight-forward count of such cycles?

The 13-based type or class included calendars of 390 and 195 days (six and four significant conjunctions, respectively, all with the synodic cycle of Mars). So, if the Jaredite calendar was schematic and if Moroni selected his seven choice-related years for their links to the Mars synodic cycle, a 13-based calendar might be considered. The database included five of such calendars: 143, 195, 260, 325 and 390 days. If this possibility is viewed with Moroni's 13 time-related concepts and his repetition of the numbers 20 and 42, then a 260-day (13x20) calendar could be linked directly with *forty and two years*. Forty-two (260-day) years (10,920 days) cover 14 average Mars synodic cycles (10,919.16 days) almost exactly. Nonetheless, this solution has no other significant conjunctions and does not use the number 59.

The other calendrical class, the 73-based calendars, included those of 365 and 292 days (six conjunctions each) and 146 and 219 days (five and four conjunctions, respectively). Their 21 significant conjunctions were related primarily to the synodic cycle of Venus (14 conjunctions), but also to the solar year and lunar sidereal cycle (two conjunctions each) and Mars and Saturn sidereal cycles. Of these four potential calendars, the 365-day calendar seems to be the most likely to have been used by the Jaredites. Only the 365-day calendar closely tracks the seasonal year. None of the other calendars exhibited more significant conjunctions than the 365-day calendar. Moroni's single astronomical phrase, *the going down of the sun*, is not about the moon or a planet. With a 365-day calendar, a 42-year period provides a time when solar observation (15,340.1724 days) and calendar counts (15,330 days) could be easily checked (15,330+10 = 15,340 days). The number 15,340 is evenly divisible by Moroni's numbers 13, 20 and 59. Also, a 59-day count (representing a doubled lunar synodic period or 59.0612 days) could provide a means for coordinating calendar, sun and moon. A 520-moon (doubled 13x20) period (15,355.912 days) could be checked against the 365-day calendar and solar year (15,330+26 or 15,340+16 = 15,356 days). Once these 13-, 20-, 59- and 365-day counts were recorded for a single 42-year cycle, visual checking and detailed cyclical recording could have occurred day-by-day for subsequent cycles. As the text may suggest about vision, each four-year period may have been a ritualized time to note the movement of the seasons as the 365-day calendar cycled out of synchronization with the sun and moon.<sup>23</sup> Thus, when Moroni's choice of numbered years is viewed from an astronomical standpoint, a series of 59 260-day periods, a doubled 260-moon period, and a 365-day calendar counted 42 times seem to be the periods most likely to be linked with 42 solar years and the phrase *forty and two years*.

#### Forty-Two-Year Cycles in the Book of Mormon

Book of Mormon authors also recorded 42-year periods outside the Book of Ether, but they did not use the term *forty and two years*. Accordingly, to interpret these periods correctly, three textual issues must be understood: multiple calendars, chronological gaps and lost text. The issue of multiple calendars relates to the Nephites' two religious eras. Their Christian era was counted with a spring-equinox-initiated 365-day calendar,<sup>24</sup> making it comparable in length

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Because of these considerations, large prime number calendars have not been considered likely candidates for measuring the Jaredite year.

<sup>23</sup> The solar year is approximately 365.2422 days per year; so, a calendar with only 365 days will, with the passage of years, gradually result in seasons and solar events (such as solstices, equinoxes and zenith passages) occurring later and later in the 365-day calendar. In the Julian calendar introduced in 45 B.C., a leap-year correction advanced the date of New Year by one day every four years (hence, over each four-year period the calendar averaged 365.25 days per year). This leap-year adjustment was a bit too long; so, in A.D. 1582, Pope Gregory XIII decreed that the day after October 4 would be October 15 and, in the future, only century years divisible by 400 would be leap years (thus, over millennia the Gregorian calendar will average 365.2425 days per year). Anthony F. Aveni, *Empires of Time: Calendars, Clocks, and Cultures* (New York: Basic Books, 1989), 114-117. See footnote 45.

<sup>24</sup> My argument for a 365-day calendar as the one used for measuring the Nephite/Christian Era was based on four components: (1) the birth-date of Jesus in 5 B.C. before the death of Herod; (2) the length of Jesus' life specified



to the proposed Jaredite calendar. Its use indirectly confirms the Jaredites' reliance on a 365-day calendar for counting *forty and two years*. However, for 600 years before the Christian era began, Lehi's religious era was counted with a 12-moon calendar (354.3672 days).<sup>25</sup> Because of the nearly 11-day difference in these calendars, 12-moon years must be converted into 365-day years before periods of 42 (365-day) years can be identified.

Five chronological gaps occur in the record. First, after 55 (12-moon) years had elapsed following Lehi's escape from Jerusalem, his son Nephi then "saw that he must soon die;" so, he gave his religious record (the "small plates") to his brother Jacob and "anointed a man to be a king and a ruler over his people" (Jacob 1:1-12). The gap between the end of the 55th year and the royal accession is unknown, but it may have been short since Nephi's death was at hand. For this study, the gap is assumed to be at least ten days, but not more than two moons (59 days). Next, Mosiah's royal accession at Zarahemla occurred when "about" 476 (12-moon) years had elapsed after Lehi's escape (Mosiah 6:4). The adverb "about" does not mean record keepers lost count of time and guessed how much had passed away; it means the accession was near, but not on, the 476th anniversary of Lehi's departure.<sup>26</sup> This unknown period is assumed to be no more than one moon (30 days) before or after the end of the 476th year.

Third, after Mosiah reigned for about 32 years, the risk of political instability increased because all his sons refused the throne (Mosiah 29:1-3). He decreed the reign of judges (chosen by the "voices" of the people) and he passed away "in the thirty and third year of his reign, being sixty and three years old" (Mosiah 29:4-46). The length of his reign also must take into account the report that he was "in the thirtieth year of his age" (29 years old) when he became king (Mosiah 6:4). However, if he did not reign a full 33 years, how could he have been

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in 3 Nephi 8:5; (3) the ancient Christian tradition that the year of Jesus' death was the Roman consular year *Gemino et Gemino* or A.D. 29; and (4) the historical events recorded in Mesoamerica during A.D. 378 and 379. Of the 80 birth- and death-date and calendar combinations I proposed as possible alternatives, I think the most likely date for Jesus' birth is 14 Nisan, the Preparation of the Passover, March 21, 5 B.C. (Julian day number 1719679), the spring equinox. This was the middle of the lunar month identified in Chinese records when a long-lasting "broom star," a comet with a long tail, appeared (a "new star," not a conjunction of old ones; 3 Nephi 1:21). By using the 365-day calendar and the length of Jesus' life (12,048 days) that is recorded in 3 Nephi 8:5, Jesus' death is then placed on Friday, March 16, A.D. 29 (Julian day number 1731727), a possible 14 Nisan, in the Roman consular year *Gemino et Gemino*. (This possibility requires a consideration of vital issues, such as the structure of the Jewish calendar, the Sabbatical cycles, the political/economic factors in New Moon sanctification, the two instances of Jesus cleansing the Temple and the Passover atonement—in addition to one-dimensional astronomical computations.) My preferred choice places the first day of the Nephites' 385th year, the year of their destruction, on December 19, A.D. 379 (Julian day number 1859839). Randall P. Spackman, "Introduction to Book of Mormon Chronology: The Principal Prophecies, Calendars, and Dates" (Provo, Utah: FARMS, 1993), 51-70. This was the time (A.D. 378-379) when war costumes associated with Teotihuacan in central Mexico first appeared in engravings at Uaxactún and Tikal in northern Guatemala. See, e.g., Linda Schele and David Freidel, *A Forest of Kings: The Untold Story of the Ancient Maya* (New York: Quill/William Morrow and Company, 1990), 144-164. Of course, the Nephite adoption of a 365-day calendar for measuring the spring-era from the birth of Jesus does not mean that a 365-day calendar was not previously in use in the areas where Nephites lived, in use by Nephites, and in use by others (including Jaredites) long before the extended family of Lehi arrived in their new land.

<sup>25</sup> Randall P. Spackman, "The Jewish/Nephite Lunar Calendar," *Journal of Book of Mormon Studies* 7/1 (1998):48-59. My proposal of a 12-moon lunar calendar that establishes a workable, text-based, 600-year connection between Lehi's departure from Jerusalem late in Zedekiah's reign and a birth-date for the Messiah before Herod's death in 5 or 4 B.C. received an immediate, but brief rejoinder as to the time of Lehi's departure. David Rolph Seely and JoAnn H. Seely, "Lehi & Jeremiah: Prophets, Priests & Patriarchs," *Journal of Book of Mormon Studies* 8/2 (1999): 28. Two years later, David Rolph Seely joined with S. Kent Brown to publish a tradition-driven counterargument to my proposed time for Lehi's departure. S. Kent Brown and David Rolph Seely, "Jeremiah's Imprisonment and the Date of Lehi's Departure," *The Religious Educator* 2/1 (2001):14-32. The willingness of these scholars to grapple with Book of Mormon chronology in print is to be applauded, and their textual search and issue identification have value, but their interpretive process and results were seriously defective, as I have shown in Spackman, "Rational Interpretation of the Book of Mormon," 18-86 and Chart III).

<sup>26</sup> Spackman, "Introduction to Book of Mormon Chronology," 27-28.

63 when he died? The two calendars give the most likely answer. Nephites counted 12 moons for their year, but when Nephite kings began to rule at Zarahemla, the people there were likely using the same calendar as the defunct Jaredite kingdoms<sup>27</sup>—a solar-based calendar of 365 days. Hence, Mosiah's age increased more than 33 (12-moon) years (at least 11,695 days), but his official reign<sup>28</sup> was less than 33 (365-day) years (at most 12,044 days).

Fourth, "the reign of the judges" began just before Mosiah died.<sup>29</sup> The Nephites' calendar continued to be a 12-moon year, but it apparently did not begin on the same day as the years of Lehi's religious era. In Mosiah 29:44-47 and 3 Nephi 1:1; 2:5-8, the years are recorded in a specific order: the first year of the judges began (and later years ended) before the end of a year of Lehi's era. Also, Mosiah died after the reign of the judges began, but evidently before the end of the 509th year of Lehi's religious era (Mosiah 29:46). Even so, the overlap was short because the end of the 100th year of the judges, expected to be listed in 3 Nephi 2:5 (compare Helaman 16:24-25; 3 Nephi 1:1, 4, 26-28; 2:1, 4), is described as 100 years passing away "since the days of Mosiah." In this study, the overlap of the two eras is assumed to be not fewer than ten nor more than 30 days.<sup>30</sup> Fifth, the signs of the Messiah's birth appeared "in the commencement" of the 92nd year of the judges (3 Nephi 1:4-21); that is, during the first six-moon semester of that year.<sup>31</sup> This gap is assumed to range from ten days to 176 days (one day less than six moons).

Finally, between April 12 and June 14, 1828, Joseph Smith dictated the first 116 pages of his original manuscript (the Book of Lehi and, apparently, the first two chapters of the Book of Mosiah). During the next month, these pages were lost or stolen when his scribe, Martin Harris, took them to show his family. To recover part of the lost history, Joseph was commanded by the Lord to translate the small plates Nephi had given to his brother Jacob (which Mormon had

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<sup>27</sup> Coriantumr, the last of the Jaredite kings to survive the destruction of their kingdoms, "was discovered by the people of Zarahemla; and he dwelt with them for the space of nine moons" (Omni 1: 21). Hence, the people of Zarahemla were near or actual contemporaries of the Jaredites toward the end of Jaredite history. The phrase *nine moons* was written on the small plates by a Nephite, who used the terms of his lunar calendar.

<sup>28</sup> The king's regnal years were probably counted by "his priests" or record keepers, rather than the priests of the Nephite church (compare Mosiah 25:19-24; 26:1-12; 27:1). Given the Nephite use of 42-year periods to measure time from Lehi's departure from Jerusalem and from the institution of Nephite kings (as discussed in this paper), a 365-day calendar may have been understood and counted "according to the reigns of the kings" (Jacob 1:9-14), i.e., as a second calendar, virtually from the time Lehi's extended family arrived in their new land.

<sup>29</sup> A number of considerations may have gone into the decision to change the name of the Nephite era. First, the Nephite descendants of Lehi were a minority in the land of Zarahemla (Mosiah 25:1-3). Second, the people living in the land of Zarahemla included descendants of Jewish nobles who had themselves escaped from Jerusalem at the time of Lehi (Omni 1:13-19; Mosiah 25:2; Helaman 6:10; 8:21; Ezekiel 17:22-23). Third, some of the Lamanites were descendants of Lehi (Jacob 1:13-14) and they were enemies of the people of Zarahemla (Omni 1:17, 24; Words of Mormon 1:13-14). Fourth, time from the departure of Lehi was measured to record the fulfillment of a 600-year Messianic expectation (1 Nephi 10:4; 19:7-8; 2 Nephi 25:19). Fifth, freedom of belief was permitted in the land of Zarahemla (Alma 1:17-22; 4:6-10; 30:7, 11) and perhaps many of the people of Zarahemla (including judges) were not believers in the expectation of a Messiah. Thus, while some of the structure of a 12-moon calendar was adopted for the era of the judges, the Nephites may have found it religiously and politically unwise to have their calendar refer to Lehi, rather than to the new political order of the judges chosen by the "voice of this people" (Mosiah 29:25-29, 39).

<sup>30</sup> One might assume that with a calendar measured by moons, the difference between the two eras had to have been measured in terms of one or more whole moons or synodic lunations. However, in a culture accustomed to day-by-day record keeping, moons could just as easily be counted from, for example, the fifth day of the moon or the twenty-first day of the moon.

<sup>31</sup> Nephite 12-moon years appear to have been divided into six-moon semesters, the "commencement" and the "latter end." Spackman, "The Jewish/Nephite Lunar Calendar," 52-57.

affixed to his plates).<sup>32</sup> Thus, the sparse historical notes of the spiritually-focused small plates provide just a few dates that can be used in the search for 42-year counts.

*Record Keepers and Forty-Two-Year Periods*

Two authors in the small plates directly recorded the passage of a 42-year period, but measured with their 12-moon years (Chart 9). The first period began when Jacob’s grandson, Jarom, noted that 238 years of Lehi’s era had passed away “after the manner of wars, and contentions, and dissensions” (Jacob 7:27; Jarom 1:1, 13). His son, Omni, engraved a note that 276 years had elapsed with “many season of peace” and “many seasons of serious war and bloodshed.” In the next sentence, apparently written six years later, he reported that 282 years had gone by (Omni 1:3). His son, Amaron, wrote that 320 years had elapsed “and the more wicked part of the Nephites were destroyed” (Omni 1:5). In each case (238 to 282 and 276 to 320), the reported time was 44 (12-moon) years (15,592 days)—the equivalent of 42 (365-day) years plus 262 days of the 43rd (365-day) year.

Chart 9  
Nephite Record Keepers

<u>42-Year Cycles</u>	<u>Year*</u>	<u>Record Keeper</u>	<u>Notes**</u>
	238 NLE	Jarom	
	276 NLE	Omni	
1x42 = 42	282 NLE	Omni	42 years from 238
1x42 = 42	320 NLE	Amaron	42 years from 276
	26 NCE	Nephi	Peace, justice and equity in the land
2x42 = 84	110 NCE	Amos	No contention in the land
2x42 = 84	194 NCE	Amos	Revolt from the church had begun
	305 NCE	Ammaron	111 years passed away
3x42 = 126	320 NCE	Mormon	15 more years passed away

\* NLE refers to the Nephite/Lehite Era. NLE began with the escape of Lehi’s family from Jerusalem (1 Nephi 2:1-4). NLE assumes the Nephites counted each year with a twelve-moon calendar. NCE refers to the Nephite/Christian Era. NCE assumes a beginning date on the day following the night when the signs of the Messiah’s birth were seen in Nephite lands (3 Nephi 1:1-21; 2:4-8). NCE assumes a Nephite year counted by a schematic 365-day calendar.

\*\* References: Jarom 1:13; Omni 1:3, 5; 3 Nephi 6:1-4; 4 Nephi 1:18-21, 47-49; Mormon 1:2-5.

Centuries later, Mormon received the Nephite records from another family of record keepers<sup>33</sup> who also counted 42-year periods. In the 26th year of the Nephite/Christian Era, a

<sup>32</sup> Skousen, ed., *The Original Manuscript of the Book of Mormon*, 5-6; Welch, “The Miraculous Translation of the Book of Mormon,” 87-88; *The Doctrine and Covenants* (Salt Lake City, Utah: The Church of Jesus Christ of Latter-day Saints, 1981), Sections 3 (Introduction) and 10:38-42.

<sup>33</sup> In the introduction to the book now called “Third Nephi” within the Book of Mormon, Mormon traced this family back to Alma, “a descendant of Nephi who was the son of Lehi, who came out of Jerusalem.” At the end of his book now known as “Fourth Nephi,” Mormon noted that the last record keeper of the family, Ammaron, finished his work and hid the records when 320 years of the Nephite/Christian Era had passed away (4 Nephi 1:48-49). See also

record keeper named Nephi noted that peace, equity and justice reigned among his people (3 Nephi 6:1-4). His grandson, Amos, obtained the records 84 years later, when the people “were in one, the children of Christ” (4 Nephi 1:15, 17). Amos kept the records 84 years and “there was still peace in the land, save it were a small part of the people who had revolted from the church” (4 Nephi 1:20). The next record keeping son, also named Amos, recorded history for another 111 years and then Ammaron, a brother, kept them for 15 years more (4 Nephi 1:21, 47-48), for a total of 126 years.<sup>34</sup> Ammaron hid the records at a time of great iniquity (4 Nephi 1:45-49). Each of these periods (84 or 126 years) consisted of multiples of a 42-year count linked to record keeping. Like solar cycles, these counts repeated serially for 294 (7x42) years.

#### *Forty-Two-Year Cycles from the Anointing of Nephi’s Successor*

The 21st through 23rd years of the judges all ended in peace (Alma 50:17-18, 23-24). This was the beginning of the 12th 42-year cycle of Nephite rulership (Chart 10) and “there never was a happier time among the people of Nephi, since the days of Nephi, than in [these] days.” From Nephi’s anointing of the first king to the reign of the judges, about 454 (12-moon) years had passed away (the range is 160,794 to 160,863 days). From the start of the reign of judges, another 7,796 days passed away before the 23rd year began (when a total of 168,590 to 168,659 days had passed away). Eleven cycles of 42 (365-day) years is 168,630 days. Thus, this report referring back to *the days of Nephi* is about the happy and peaceful end and beginning of 42 year cycles counted from the start of Nephite kingship.

Forty-two years later, the 65th year of the judges ended at a time of apparent peace (Helaman 6:7-14) when nearly 519 (12-moon) years of Nephite rulership had elapsed. In the next year, the 520th year of Nephite rulership, the chief judge, Cezoram, was “murdered by an unknown hand.” His son “who had been appointed by the people in his stead, was also murdered. And thus ended the sixty and sixth year” (Helaman 6:15). Hence, as the 13th 42-year cycle of Nephite rulership began, duly appointed Nephite chief judges were targeted for death by a secret society (“Gadianton’s robbers and murderers;” Helaman 6:18).

The 14th 42 year cycle of Nephite rulership began near the end of the 17th (365-day) year of the Nephite/Christian Era. The leader of the Gadianton society had demanded a year earlier that the Nephites “yield up” their cities, lands, possessions and political rule or face destruction. Instead, the Nephite governor gathered all his followers and their families, flocks, herds and substance into one area. Armies were organized, fortifications were built, and there they “did dwell . . . and they did fear the words which had been spoken by [their governor], insomuch that they did repent of all their sins; and they did put up their prayers unto the Lord their God, that he would deliver them in the time that their enemies should come down against them to battle” (3 Nephi 3:1-25). In the 18th year of the Nephite/Christian Era, Gadianton armies invaded the Nephites’ deserted lands (3 Nephi 4:1), but they did not attack the fortified Nephite position until the following year (3 Nephi 4:5-15).

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Spackman, “The Jewish/Nephite Lunar Calendar,” 59; idem, “Rational Interpretation of the Book of Mormon,” 18-86 and Chart III.

<sup>34</sup> These texts inform us that the official record keeping function could be bestowed on children. Amos the elder, who must have been young when he received the records 84 years earlier, delivered them to a very young son because Amos the younger was officially responsible for the records for the next 111 years. Ammaron (most likely a half-brother or other relative who could be referred to as a brother) had to be very old when the ten-year-old Mormon was chosen as the next official record keeper. This pattern is reminiscent of a kingship pattern in the Book of Ether. A king sometimes fathered his successor when the king was old: Orihah/Kib; Kib/Shule; Omer/Emer; Coriantum/Com; Morianton/Kim; and Kim/Levi. These patterns indicate that official Nephite record keepers and Jaredite kings were not alone in their tasks, but had older assistants during the early stages of their official duties and, at times, younger assistants and younger wives for bearing successors when the record keepers or kings were old.

## Chart 10

### Cycles from the Institution of Nephite Rulership

<u>42-Year Cycles</u>	<u>Year*</u>	<u>Events</u>	<u>Notes**</u>
	56 NLE	Nephi's successor reigns	Start of 42-year counts
11x42 = 462	22 NJE	Peace and happiness	Refers back to days of Nephi
12x42 = 504	65 NJE	Great joy and peace	Revolt in 1st year of 13th cycle
13x42 = 546	17 NCE	Preparation for siege	Invasion in 1st year of 14th cycle
14x42 = 588	59 NCE	Peace in the land	Zarahemla rebuilt

\* See Chart 9 for the definitions of NLE and NCE. NJE refers to the Nephite/Judges Era. NJE began with the institution of the reign of the judges (Mosiah 29). NJE assumes the Nephites counted each year with a twelve-moon calendar.

\*\* References: Jacob 1:1-12; Alma 50:17-24; Helaman 6:7-14; 3 Nephi 3; 4:1-4; 4 Nephi 1:4, 14-18.

The 15th 42-year cycle began near the end of the 59th year of the Nephite/Christian Era, a year in which “there still continued to be peace in the land” (4 Nephi 1:4, 6). Then Mormon wrote: “[T]he Lord did prosper them exceedingly in the land; yea . . . even that great city Zarahemla did they cause to be built again. . . . [T]here was no contention among all the people, in all the land” (4 Nephi 1:7-8, 13). Thus, the 15th 42-year cycle, linked to the first Nephite king 588 (14x42) years earlier, began with many years of peace and with the rebuilding of Zarahemla, the city that had been a center of Nephite rulership for hundreds of years.

#### *Forty-Two-Year Cycles from Lehi's Escape*

Another series of 42-year cycles was linked to Lehi's escape from Jerusalem (Chart 11). The first of these cycles recorded in the available text relates to the enthronement of king Mosiah. His reign began “about” 476 (12-moon) years after Lehi left Jerusalem (Mosiah 6:3-4). These 476 years (168,679 days) were 49 days more than 462 (365-day) years. The 11th 42-year cycle had just ended or was just ending (11x42 = 462). After years of war, Zarahemla was at peace and king Benjamin chose this time to transfer royal power to his son (Words of Mormon 1:12-18; Mosiah 1-6), near the start of the 12th 42-year cycle from Lehi's escape.

In the last year of the 12th 42-year cycle, Alma, a former chief judge at Zarahemla, went to preach repentance in the city of Ammonihah, but he was reviled and cast out (Alma 8:3, 6-13). As he traveled away from the city, an angel commanded him to return and said, “[S]ay unto them, except they repent the Lord God will destroy them. For . . . they do study at this time that they may destroy the liberty of thy people” (Alma 8:3-17). Alma quickly returned to the city, where he was cared for by Amulek, who also had seen an angel. When they taught their message (Alma 8:18-29; 9-13), they were imprisoned and some of their followers were sacrificed (Alma 14:1-22). After they had “suffered for many days” in prison, a great earthquake occurred and the persecuting officials were killed. “And Alma and Amulek came forth out of the prison, and they were not hurt” (Alma 14:23-28). They were then commanded to leave the city; so, they traveled to the land of Sidom, where they found some of their followers who had escaped the religious purge (Alma 15:1). Soon, Lamanites attacked Ammonihah “and began to slay the people and destroy the city. . . . [B]efore the Nephites could raise a sufficient army to drive them out of the land, they had destroyed the people who were in the city . . . and taken

others captive into the wilderness” (Alma 16:2-3). The exact date of the city’s destruction (specified with a day, month and year) is the only exact date in the Book of Mormon that was recorded twice (Alma 16:1).<sup>35</sup> This date falls within a range of 15,272 to 15,621 days after the accession of Mosiah and within a range of 183,920 to 183,940 days after Lehi left Jerusalem. Since one 42-year cycle is 15,330 days and 12 cycles is 183,960 days, the Lamanite attack apparently occurred near the end of both of these cycles.

Chart 11

Cycles following Lehi’s Escape from Jerusalem

<u>42-Year Cycles</u>	<u>Year*</u>	<u>Events</u>	<u>Notes**</u>
	1 NLE	Lehi leaves Jerusalem	Start of year count
11x42 = 462	476 NLE	Consecration of Mosiah	
12x42 = 504	11 NJE	Destruction of Ammonihah	
13x42 = 546	54 NJE	Rebellion	
14x42 = 588	97 NJE	Wickedness abounds	
21x42 = 882	300 NCE	Nephites equally wicked	
23x42 = 966	385 NCE	Nephites more wicked	1st year of 24th cycle

\* See Charts 9 and 10 for the definitions of NLE, NJE and NCE.

\*\* References: 1 Nephi 2:1-4; Mosiah 6:4; Alma 16:1-3; Helaman 3:36-37; 4:1-2; 3 Nephi 2:1-4; 4 Nephi 1:42-46; Mormon 6:1-10.

The 13th 42-year cycle from Lehi’s escape (the second cycle after Mosiah’s consecration) ended in the 54th year of the reign of the judges. This was a time of peace, but “exceedingly great pride.” In the prior year, the chief judge died and “his eldest son Nephi began to reign in his stead . . . with justice and equity” (Helaman 3:36-37). However, some viewed this as a time for revolt. Hence, in the 54th year, “there were many dissensions in the church, and there was also a contention among the people, insomuch that there was much bloodshed. And the rebellious part were slain and driven out of the land, and they did go unto the king of the Lamanites.” The dissenters sought to convince the Lamanites that it was time for war, but the Lamanites were “exceedingly afraid” throughout the 55th year of the judges (Helaman 4:1-3). Forty-two years later, the 97th year of the judges was listed in a series of years that followed the signs of the Messiah’s birth, when “there was great wickedness in the land,” but war did not begin until seven more years had elapsed. Then war spread throughout the land until the 17th year of the Christian era, when the Nephites unified for siege (3 Nephi 3), as noted above.

An 84-year period links Mormon’s reports about the worsening condition of the Nephites and their final destruction. After Mormon’s statement that 260 years had elapsed from the Messiah’s birth, he recorded that “the wicked part of the people began again to build up the secret oaths and combinations” and the Nephites “began to be proud in their hearts, because of their exceeding riches, and . . . when three hundred years had passed away, both the people of Nephi and the Lamanites had become exceedingly wicked one like unto another” (4 Nephi 1:42-46). In the 300th year, the 21st 42-year cycle counted from Lehi’s escape came to an end. In

<sup>35</sup> This date is the third of eight dates in the Book of Mormon that are specified by day, month and year (Alma 10:6 [1]; 14:23 [2]; 16:1 [3]; 49:1 [4]; 52:1 [5]; 52:19; 53:10-23; 56:30-41, 42 [6]; 56:1 [7]; 3 Nephi 8:5 [8]).

following years, “blood and carnage spread throughout all the face of the land” (Mormon 2:8), until “every heart was hardened, so that they delighted in the shedding of blood continually” (Mormon 4:11), with captives used “as sacrifices unto their idol gods” (Mormon 4:14). Then in a number of battles, the Lamanites defeated and uprooted the Nephites (Mormon 4-5), whose “wickedness [had come to] exceed that of the Lamanites” (Moroni 9:20). In the 384th year, the 23rd 42-year cycle counted from Lehi’s departure from Jerusalem came to an end. In the 385th year, the Lamanites came to battle in such great numbers that the Nephites were “hewn down” and destroyed as a “people” (Mormon 6:5, 8, 10).

*The Nephite/Christian Era*

The textual analysis concludes with a series of cycles (Chart 12) that began at a time of intense religious persecution. Some saw “greater signs and greater miracles” when Lehi’s 600-year religious era came to a close (3 Nephi 1:1-4). Others said the time of the Messiah’s birth had passed and they set a date when, if the prophesied signs had not been seen, the believers were to be killed (3 Nephi 1:5-9). Not waiting for the date of the threatened civil war, the new record keeper named Nephi immediately “cried mightily” for God’s intervention. He was told that “on this night shall the sign be given, and on the morrow come I into the world” (3 Nephi 1:10-21). The Nephite/Christian Era began (3 Nephi 2:5-8). When the 42nd year of this new era passed away, it was noted that there was “peace in the land” (4 Nephi 1:5-6).

Chart 12

Cycles from the Messiah’s Birth

<u>42-Year Cycles</u>	<u>Year NCE*</u>	<u>Events</u>	<u>Notes**</u>
	1	Organized persecution	Signs of the Messiah’s birth
1x42 = 42	42	Peace in the land	
5x42 = 210	210	Organized persecution	
9x42 = 378	379	Mormon leads war effort	1st year of 10th cycle
10x42 = 420	421	Moroni ends his record	1st year of 11th cycle

\* See Chart 9 for the definition of NCE.

\*\* References: 3 Nephi 1:4-21; 2:5-8; 4 Nephi 1:4-6, 24-33; Mormon 5:1-5; Moroni 10:1-2.

The Nephite culture of peace after the appearance of the risen Messiah included holding their substance in common (4 Nephi 1:3), but in the 168th (4x42) year after his resurrection, some “who were lifted up in pride” ended the practice and created “churches unto themselves to get gain” (4 Nephi 1:24-26). When 210 (5x42) years of the Nephite/Christian Era had passed, a “church” arose that denied the Messiah and “did persecute the true church of Christ . . . [and] did exercise power and authority over the disciples of Jesus” (4 Nephi 1:27-30).

About nine 42-year cycles (378 years) of the era passed away and Mormon, the former leader of the Nephite armies, saw the Lamanites were about to destroy his people “and they gave me command again of their armies, for they looked upon me as though I could deliver them . . . [T]he Lamanites did come against us . . . [but] they did not [prevail] at that time . . . and thus, three hundred and seventy and nine years passed away” (Mormon 5:1, 5).

Just before the destruction of the Nephites, Mormon gave his engraved plates to Moroni (Mormon 6:6; 8:1-2), who seems to have been told to record conditions when 400 years had passed away (Words of Mormon 1:1-2; Moroni 9:22-24). Moroni survived the fulfillment of the 400-year prophecies of destruction (Alma 45:9-14; Helaman 13:5-10; Mormon 6:1-8:13; see also 1 Nephi 12:11-15; 2 Nephi 26:8-10). Moroni then hid his father's book and disappeared, so far as the record is concerned. Later, he was able to make or obtain plates; so, he retrieved the hidden plates and wrote a postscript to his father's book (Mormon 8:14-9:37).

At that time or later, he engraved his abridgement of the Book of Ether, thereby completing his father's original plan for the Book of Mormon (Mosiah 28:19). He also wrote a conclusion (Book of Moroni; Title Page, Book of Mormon).<sup>36</sup> Summing up, he wrote, "Now I, Moroni . . . write unto my brethren, the Lamanites; and I would that they should know that four hundred and twenty [10x42] years have passed away since the sign was given of the coming of Christ. And I seal up these records, after I have spoken a few words by way of exhortation unto you" (Moroni 10:1-2). To his "beloved brethren" (Moroni 10:18)—the Lamanite remnant who through the mercy and wisdom of God would survive the devastation to follow (e.g., 1 Nephi 12-14; Enos 1:11-16; Mormon 7; Moroni 10:3)—he wrote, "remember that every good gift cometh of Christ" (Moroni 10:18). He had survived 42 years of threats on his life since Mormon's resumption of Nephite military leadership. He had completed his father's book and was about to hide it away until the time God would reveal it. With faith in the Messiah, he had survived to the 421st year. "And Christ truly said unto our fathers: If ye have faith ye can do all things which are expedient unto me" (Moroni 10:23).

#### Forty-Two-Year Cycles in Mesoamerica

More 42-year periods are recorded in the Book of Mormon, but the foregoing examples provide an adequate introduction to the time-frame and themes associated with *forty and two years* in the Book of Ether and elsewhere in the Book of Mormon. This time-frame may be examined not only in its Book of Mormon context (and with relevant mathematics and astronomy), but also on the ground in the context of an ancient American culture. Over the past century, geographic comments in the Book of Mormon have been linked to a limited area in southern Mexico, Guatemala and El Salvador<sup>37</sup> and with many aspects of the local culture.<sup>38</sup> In the same century, the term "Mesoamerica" was created to describe both a larger zone in the southern part of the North American continent<sup>39</sup> and the dominant cultural tradition in that zone at the time of the Spanish Conquest.<sup>40</sup> According to that tradition, a fatalistic superstition

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<sup>36</sup> Sidney B. Sperry, "Moroni the Lonely: The Story of the Writing of the Title Page to the Book of Mormon," *Journal of Book of Mormon Studies* 4/1 (1995): 255-9; Clyde J. Williams, "More Light on Who Wrote the Title Page," *Journal of Book of Mormon Studies* 15/2 (2001): 28-9.

<sup>37</sup> John L. Sorenson, *The Geography of Book of Mormon Events: A Source Book*, Revised (Provo: FARMS, 1992), 20-35.

<sup>38</sup> See, e.g., John L. Sorenson, *An Ancient American Setting for the Book of Mormon* (Salt Lake City, Utah: Deseret Book and Provo, Utah: FARMS, 1985); idem, *Images of Ancient America: Visualizing Book of Mormon Life* (Provo: FARMS Research Press, 1998).

<sup>39</sup> Paul Kirchhoff, "Mesoamerica," *Acta Americana* 1 (1943): 92-107. Geographically defined, Mesoamerica includes "most of central, southern, and southeastern Mexico (and encompasses the Yucatán Peninsula), Guatemala, Belize, and the westernmost portions of Honduras and El Salvador." Michael D. Coe, *Breaking the Maya Code* (New York: Thames and Hudson, 1992), 58. Edmonson refers to this land by a similar English name, "Middle America," or by the Aztec name, "Anahuac," the land between the seas. Munro S. Edmonson, *The Book of the Year: Middle American Calendrical Systems* (Salt Lake City, Utah: University of Utah Press, 1988), 1-2.

<sup>40</sup> Mesoamericans were farmers (peppers, squash, beans and maize), who lived in villages, towns and cities and traded in organized markets. Although their culture was not identical everywhere, they had books and held many



governed much of human life.<sup>41</sup> For millennia, unique 260-day<sup>42</sup> and 365-day<sup>43</sup> calendars shaped that fatalism by linking the gods revealed by each day with astronomical events,<sup>44</sup> agriculture, territory, birth, death, social class, marriage, political fortune, war, etc.<sup>45</sup> These calendars and their related themes are linked directly to the Book of Mormon by the 42-year period.<sup>46</sup> Moroni's mention of three periods in the Book of Ether, and Moroni's, Mormon's and other Book of Mormon authors' allusions to such cycles make that link unmistakable.<sup>47</sup>

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common beliefs, such as the certainty that one's own blood (or a captive's) must be spilled to honor one's ancestors and the gods, and a 260-day ritual calendar for timing such ceremonies. Coe, *Breaking the Maya Code*, 59.

<sup>41</sup> For Mesoamericans, the basic unit of time was the day. The Maya called it *kin*, a term that also meant *sun* and *time*. Their 20 day-names and 13 day-numbers were gods. Each day was more than a reminder of the gods; the day revealed the gods through space and motion. For example, a day identified by the day-name for the maize god, a young deity considerate of human beings, could be a day for confidence and success. However, on the death-god's day, a malevolent pall filled the land. The people were accustomed by their tradition to accept such superstitions with approval and resignation. Aveni, *Empires of Time*, 193-195, 197.

<sup>42</sup> Only Mesoamericans measured time with a 260-day calendar and a few still use it in highland Guatemala. Anthony F. Aveni, *Skywatchers of Ancient Mexico* (Austin: University of Texas Press, 1980), 148. Such use appears to have been unbroken, unlike the use made by "New Age" religionists, whose discovery of the ancient Mesoamerican calendars appears to be relatively recent. See footnote 55 and Robert K. Sittler, "The 2012 Phenomenon: New Age Appropriation of an Ancient Mayan Calendar," *Nova Religio* 9/3 (2006): 24-38. The 260-day ritual calendar was "the centerpiece of the Maya calendar system." Aveni, *Empires of Time*, 197. As the "most important calendrical cycle of the . . . Mesoamerican peoples," it is also known as "the *tzolkin*, 'sequence of days,' the *sacred almanac*, or the *Sacred Round*," a day-by-day count that combines serial cycles of 13 day-numbers and 20 day-names. Michael P. Closs, "The Mathematical Notation of the Ancient Maya," in Michael P. Closs, ed., *Native American Mathematics* (Austin: University of Texas Press, 1986), 294, emphasis in the original.

<sup>43</sup> Mesoamericans also utilized a *vague year* or *haab*, a 365-day calendar with 18 named months of 20 days each (one day when the month was "seated," often numbered 0 by modern scholars, followed by days numbered 1 through 19) and a short 19th month, a five-day period known as "the resting or sleep" of the year. Closs, "The Mathematical Notation of the Ancient Maya," 295; Schele and Freidel, *A Forest of Kings*, 81.

<sup>44</sup> With the Julian calendar, the difference of 0.2422 days between the solar year and the whole-day (or 365-day) calendar was handled by adding a day to the calendar every four years. This kept the relationship of astronomical events, such as solstices, equinoxes and zenith passages, relatively stable with the calendar days. See footnote 24. The Julian calendar resulted in 20 days being added to the calendar every 80 years. The Mesoamerican record keepers adopted the opposite approach, an "anti-leap-year" method that (once understood) assumed a 20-day month had been erased from their continuous 365-day calendar count approximately each 83 years. According to their calculations, 1,508 of their counted (365-day) years could be equated with 1,507 solar years; so, over that lengthy period, one (365-day) year had to be erased. As a practical matter, the record keepers just founded a new calendar timed by their knowledge about the start and predicted end of the 1,507-year solar era and their current solar observation. The first of these exact 1,507-year solar eras (with founding calendar) appears to have been instituted at Kaminaljuyu on the spring equinox in 433 B.C. Edmonson, *The Book of the Year*, 111-17, 189, 274-77.

<sup>45</sup> For Mesoamericans, life was a constant interweaving of natural and human activity with their calendars. In terms of the omens linked to the 365-day calendar, agricultural success meant farmers had to plant before the rains came (but premature or late planting could result in a disappointing yield or none at all). With excess rainfall, crops could rot in the field; with inadequate rainfall, crops could wither. The correct ritual behavior, however, was governed by the auguries linked to the 260-day calendar. Rites and feasts required specific ceremonies (normally with sacrifices). Incorrect, ignored, forgotten or prevented rituals could mean failure, not only of the crops, but of social undertakings like a marriage, political or military alliance, or trading venture. Well-timed ceremonies could ensure both survival and prosperity. Arthur G. Miller, *Maya Rulers of Time* (Philadelphia: University Museum, University of Pennsylvania, 1986), 17-18.

<sup>46</sup> Moroni did not have to use numbers to mention the time listed in Chart 8. He could have kept the temporal structure of the Book of Ether by using modifiers such as *many*, *some*, *few*, *same* and *next*, which appear elsewhere in the Book of Mormon (Ether 9:12, 29; 11:10; 13:15; Alma 49:12). However, he chose to use specific numbers. He also separated the numbered years into two groups, those associated with stories about human choices (seven shorter periods) and those related to reports about longevity (three longer periods). The longevity-related progression suggests a connection between these periods, the 42-year period, and odd numbered multiples of a 20-count. The connection surely could have been a 260-day calendar. If Moroni referred to a 260-day calendar when describing the 62, 102 and 142 years associated with the lives of Emer, Coriantum, and Coriantum's first wife, then these periods

Historical events with 42-year links appear in ancient Mesoamerican records. For example, an account of Aztec history from northern Mesoamerica states that the Mexica settled in Chapultepec for 42 years, but in the 43rd year there, they were captured and moved to Colhuacan.<sup>48</sup> Other examples from southern Mesoamerica and hundreds of years earlier begin with the day when the city Quiriguá was “joined” to its neighbor, Copán. Forty-two years later (counted with exactly 520 moons), the king of Copán who “joined” the two cities, Smoke-Imix-God K, died. His son, 18-Rabbit-God K took the throne 21 days later and ruled into his 43rd year. Then 18-Rabbit was captured by rebels from Quiriguá and killed. Thirty-nine days later, Smoke-Monkey, a grandson of Smoke-Imix began to rule at Copán. He remained on the throne for nearly 11 years, but died on the exact 520th-moon anniversary of another lunar date inscribed at Copán.<sup>49</sup> This recital of 42-year periods related to Mesoamerican nobles could go on and on, but this paper is not the place for such narratives. Instead, I will report a few highlights of a statistical analysis of 550 Mesoamerican dates<sup>50</sup> that were examined for 42-year cycles. The earliest date in the database was in 679 B.C.<sup>51</sup> and the latest was in A.D. 1486,<sup>52</sup> inclusively spanning a total of 790,381 days (more than fifty-one cycles of 42 years each). The four 42-year measurements described above were used to sort the data: 15,330 days (based on the 365-day calendar); 15,340 days (based on 59- and 260-day counts); 15,340.1724 days (42 observed solar years); and 15,355.9068 days (520 observed moons).

Mesoamerican events associated with 42-year periods could be linked to exact 42-year measurements (e.g., two kings of Copán died precisely 15,356 days following a previously recorded event), but other events could take place months later (e.g., the sacrifice of 18-Rabbit occurred 308 days into his 43rd regnal year). However, in the statistical analysis reported in this paper, a 42-year link between dates was considered to be intentional only if the dates were

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will convert, respectively, into about 44, 73 and 101 solar years. As converted, the two longer periods lose any hint of improbability that otherwise exists with a so-called “literal” interpretation of the Book of Mormon—an interpretation that assumes some year-length longer than 260 days as the calendar on which Moroni’s three larger numbers were based. The use of a 260-day calendar for the prosperity of the house of Emer suggests that Emer reigned for a complete 42-year cycle, plus a little more than two solar years, well past the 43rd year when dissension, rebellion, assassination and war seemed to be fostered by superstitions of calendrical divination and blood sacrifice.

<sup>47</sup> Mormon and Moroni chose to forego any type of extended discussion of their calendrical system. When describing the corrosive world that surrounded the Nephites and Jaredites, their moral leaders restricted most discussions of the details associated with murderous combinations and idolatrous beliefs and practices (Alma 37:24-32; Mormon 4:10-12; Ether 8:18-26). Nonetheless, it seems clear that cyclical periods identical to those found in Mesoamerican inscriptions influenced events among Nephites and Lamanites, and before them, among the Jaredites. Apparently, the 42-year cycle was one of the most important and constant of those cyclical periods.

<sup>48</sup> Edmonson, *The Book of the Year*, 52.

<sup>49</sup> Schele and Freidel, *A Forest of Kings*, 28-30, 313-319. The lunar date associated with Smoke-Monkey’s death is found in John H. Linden, “Glyph X of the Maya Lunar Series: An Eighteen-Month Lunar Synodic Calendar,” *American Antiquity* 51 (1986): 129.

<sup>50</sup> The dates were obtained from the following sources: Herbert J. Spinden, *A Study of Maya Art* (New York: Dover Publications 1975, republication of original, Cambridge, Massachusetts: Peabody Museum, 1913); Sylvanus Griswold Morley, *An Introduction to the Study of the Maya Hieroglyphs* (Washington, D.C.: Smithsonian Institution, Bureau of American Ethnology, Bulletin 57, 1915); Schele and Freidel, *A Forest of Kings*; Linden, “Glyph X of the Maya Lunar Series: An Eighteen-Month Lunar Synodic Calendar,” 128-132; Edmonson, *The Book of the Year*; Linda Schele and Peter Matthews, *The Code of Kings* (New York: Scribner, 1998); and Peter D. Harrison, *The Lords of Tikal* (London, Thames and Hudson, 1999).

<sup>51</sup> This is a possible date depicted on an ear-spool. Edmonson, *The Book of the Year*, 20. Some of Edmonson’s earlier dates are not supported by typical historical inscriptions, but since they are based on other inscribed dates and the facts of Mesoamerican calendrical mathematics, they are included in the database.

<sup>52</sup> Edmonson, *The Book of the Year*, 57. Edmonson includes other dates after the arrival of the Spanish invaders, but none of these later dates was included in the database because of the issue of calendrical mixing.

linked by an exact 42-year measurement, or within four days before or after such a measurement. The probability that any two of the 550 dates were linked by chance with an exact 42-year count is about three out of 100. This probability increases to about three out of ten for the chance linking of two dates with a 42-year count plus or minus four days.

Within these parameters, the 550 dates were sorted into the five types of pairs shown in Chart 13. The largest numbers of exact 42-year pairs were linked by the 365-day calendar (16 instances) and 260-day calendar (ten instances), followed by lunar observation (five instances) and solar observation (three instances).

Chart 13

Mesoamerican Historical Dates Linked by Forty-Two-Year and Calendar Round Periods

Cycle Length	Exact Pairs**	1-Day Pairs***	2-Day Pairs	3-Day Pairs	4-Day Pairs	Total Pairs
15,330*	16	20	18	18	14	86
15,340*	10	14	11	18	8	61
15,340.1724*	3	17	8	19	14	61
15,355.9068*	5	13	23	22	17	80
42-Year Pairs	34	64	60	77	53	288
Calendar Round Pairs	12	16	6	8	17	59
Total Pairs	46	80	66	85	70	347

\* In numbers of days.

\*\* Total pairs linked by the specified period.

\*\*\* Exact periods plus or minus the specified number of days. Dates linked in one cycle length might also be linked in other cycle lengths.

Many dates were linked multiple times (Chart 14), but only dates linked with the 365-day and 260-day calendars were part of the largest groups (four related dates with the same cycle length). When all of the dates with multiple links were accounted for, a total of 308 dates (56% of the database) exhibited one or more 42-year links with each other. These 308 dates appeared in the combined groups of linked dates depicted in Chart 15. The royalty of Copán mentioned above were related to one of the 11-date groups. The earliest date in this group was in A.D. 454 (recorded at Yaxchilán), while the last date was in 1127 (recorded with respect to a king of Colhuacan), some 672 (16x42) solar years later. The 11 dates exhibited a total of 15 42-year links with each other.

The longest exact 520-moon period in the database is ten cycles, ranging from A.D. 372 to 793. The ending date in 793 is also linked by four exact 15,340-day periods to a date in 625. The entire group includes 11 more related dates, ranging from 594 B.C. to A.D. 878, a period of 35 (520-moon) cycles plus four days. The second longest exact 15,330-day series is 13 cycles ranging from A.D. 870 to 1416, and this latter date is linked by 16 exact 15,340-day cycles to a date in 744. These three dates are part of a nine-date group. The earliest date in this group occurred in 618, three exact 15,330-day cycles before another related date recorded in 744.

Chart 14  
Linked Dates and Cycle Length

Cycle Length	Two** Dates	Three Dates	Four Dates	Total Dates
15,330*	80***	60	20	160
15,340*	90	54	28	172
15,340.1724*	94	27	0	121
15,355.9068*	96	24	0	120
Calendar Round	94	12	0	106
Total Dates	454	177	48	679

\* In numbers of days.

\*\* Dates linked in one cycle length might also be linked in other cycle lengths.

\*\*\*Total dates linked in a group of the specified size.

The longest exact period counted with 15,340-day cycles is 19 cycles ranging from 321 B.C. to A.D. 478. These dates occur in a four-date group and one of the other dates establishes the longest exact period counted with 15,330-day cycles (26 cycles) linking 321 B.C. with A.D. 772. This 26-cycle period is equal to 21 cycles of the Mesoamerican “Calendar Round” of fifty-two (365-day) years<sup>53</sup> or 18,980 days:  $21 \times 52 \times 365 = 26 \times 42 \times 365 = 398,580$  days, a period of 1,092 (365-day) years.<sup>54</sup> Over the same number of 42-year cycles, the 15,330-day count will have aggregated a 260-day difference (ten days per cycle) from the 15,340-day count:  $(26 \times 15,330) + 260 = (26 \times 15,340)$ .

<sup>53</sup> Schele and Freidel, *A Forest of Kings*, 81. The shortest period of time in which the same day-names and day-numbers in the 260-day and 365-day calendars repeat is 18,980 days. The 42-year cycle, measured as a 15,340-day period, represents the shortest period of time when solar events (solstices, equinoxes and zenith passages) recur with the same name in the 260-day calendar (suggesting, perhaps, that 42-year lunar/solar cycles pre-dated the institution of the 365-day calendar and Calendar Round).

<sup>54</sup> The beginning date is recorded at Copán, but the event associated with the date is not mentioned. Schele and Freidel, *A Forest of Kings*, 484 n.7. The ending date is the *tun*-ending (9.17.1.0.0 in the Mayan Long Count) celebrated at Naranjo. Spinden, *A Study of Maya Art*, 181. This “Long Count” (the name given to the calendar by modern scholars) measured whole days from a zero-date that seems to have been considered the start of the current (and fourth) Mayan version of creation. Its data typically included the number of whole days (up to 19), then the number of 20-day months (up to 17), followed by the number of iterations of a 360-day year or *tun* (up to 19), followed by the number of 20-*tun* repetitions or *katun* (up to 19), followed by the number of 400-*tun* repetitions or *baktun* (up to 13)—and perhaps on and on in additional multiples of 20 to infinity (at least for hypothetical calculation). In modern notation, these numbers are usually depicted in reverse order, such as, 9 baktuns, 17 katuns, 1 tun, 0 months and 0 days or 9.17.1.0.0. (the first *tun*-ending date in the 17th *katun* of the 9th *baktun* noted above). The zero-date of the current creation was identified as the Calendar Round beginning on 4 *Ahau* (in the 260-day calendar) 8 *Cumku* (in the 365-day calendar) 13.0.0.0.0 (in the Long Count) and was followed by the day 5 *Imix* 9 *Cumku* 0.0.0.0.1. With the day-names, day-numbers and Long Count thus settled, Mayan calendars simply cycled forward day by day. On December 21, A.D. 2012 (according to one method for correlating Gregorian and Mayan calendars) or December 23, 2012 (according to another method), the day will be known as 4 *Ahau* 3 *Kankin* 13.0.0.0.0; 13 baktuns will have ended since the zero-date more than five millennia earlier. The ancient Maya did not think this benchmark to be the termination point of this creation, as some have proposed. Schele and Freidel, *A Forest of Kings*, 81-82. See also Sitler, “The 2012 Phenomenon: New Age Appropriation of an Ancient Mayan Calendar,” 24-38.

Chart 15  
Group Size with Dates Linked by Forty-Two-Year Periods

Group Size	Number of Groups	Total Dates
2	51	102
3	17	51
4	9	36
5	3	15
6	5	30
7	3	21
8	1	8
9	1	9
11	2	22
14	1	14
Total	93	308

The earliest date in the database that may have initiated a count of 42-year cycles occurred in 679 B.C. (34 520-moon cycles minus four days counted to a date in A.D. 752). Neither date is linked by 42-year cycles or Calendar Rounds to any other date in the database. The earliest date that may have initiated a Calendar Round period was in 667 B.C. (two exact Calendar Rounds ending on a date in 563 B.C.) These two dates were connected by exact Calendar Round periods to a date in 355 B.C. that has been proposed as the inaugural date of the Mesoamerican Long Count.<sup>55</sup> All three of these dates were linked by 42-year cycles to other dates to create a group of 38 dates linked by 42-year and Calendar Round periods (Chart 16).

Chart 16  
Group Size with Dates Linked by Forty-Two-Year and Calendar Round Periods

Group Size	Number of Groups	Total Dates
2	36	72
3	19	57
4	10	40
5	5	25
6	5	30
7	1	7
9	2	18
11	2	22
14	1	14
15	1	15
16	1	16
38	1	38
Total	84	354

<sup>55</sup> Edmonson, *The Book of the Year*, 23.

The last date in the database that may have initiated a 42-year count occurred in A.D. 832 (a single 15,330-day cycle minus three days counted to a date in 874). Neither of these dates was linked by 42-year or Calendar Round periods to any other date. The last date that may have begun a Calendar Round period was in A.D. 873 (six Calendar Rounds minus one day counted to a date in 1185). This latter date was not linked to any other dates, but the 873 date was linked by 42-year cycles to two earlier dates in 621 and 747, and the 747 date was linked by a single Calendar Round (minus four days) to another date in 695. A total of 354 dates (64% of the database) had links to other dates by one or more of these ancient measurements.

### The Mesoamerican Era of Mormon and Moroni

This statistical analysis and these long-term Mesoamerican counts provide a basis for understanding the 42-year and Calendar Round periods related to the timing of Moroni's visit with Joseph Smith in 1823 and the planned (and executed) delivery of the plates to Joseph four years later. However, to understand this timing, one must understand that more than 2,400 years ago, Mesoamerican record keepers knew that 29 Calendar Rounds covered 1,508 (365-day) years ( $29 \times 52 \times 365 = 550,420$  days) and 1,507 observed solar years (550,419.9954 days).<sup>56</sup>

The record keepers also knew that four years later, the 36th cycle of 42-year periods counted with the 365-day calendar ( $36 \times 42 \times 365 = 551,880$  days) ended about one day ahead of 1,511 solar years (551,880.9642 days), thereby confirming that the following Calendar Round had begun with the four-year solar period expected by the record keepers. More importantly, in terms of the 13-, 20- and 59-day counts, a period of 36 (15,340-day) cycles ended after 552,240 days and differed from 1,512 (36x42) observational solar cycles (552,246.2064 days) by about 6.2 days or about one day's difference to be accounted for every six 15,340-day periods. Once the record keepers had worked out these calendrical and observational relationships, they could make solar predictions exactly, something they apparently did when they created a spring-era (365-day) calendar at Kaminaljuyu in 433 B.C.<sup>57</sup>

Moroni visited the 17-year-old Joseph Smith three times during the night of September 21-22, 1823, with essentially the same message each time. To emphasize that message further, Moroni reiterated all of it again and part of it a fifth time during the daylight hours of September 22, 1823 (JS-History 1:27-53).<sup>58</sup> As planned, after four years of training the young man, Moroni finally delivered the plates to the adult Joseph for translation shortly after midnight on

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<sup>56</sup> This also is a relatively exact lunar period:  $9 \times 19 \times 109$  moons or 550,420.8534 days, calculated using the moon's average synodic cycle (29.5306 days). Of course, lunar synodic cycles usually vary a bit from the average; so, the ancients may have thought the period of 550,420 days was an exact lunar period.

<sup>57</sup> Edmonson, *The Book of the Year*, 25-27. The institution of the Kaminaljuyu calendar on the spring equinox in 433 B.C. would have permitted a spring-era 105-day "anti-leap-year" adjustment in A.D. 1-5 (by moving the calendar's name-day ahead by 260 days). Compare Edmonson, *The Book of the Year*, 101, 121-122. This possibility is consistent with the nine-year wait to coordinate lunar and 365-day calendars with the birth-date of the Messiah, as recorded in 3 Nephi 2:7-8. Spackman, "Introduction to Book of Mormon Chronology," 20-24, 51-56.

<sup>58</sup> Joseph Smith recounted his final visit with Moroni on September 22, 1823, at the hill later called Hill Cumorah: "I made an attempt to take [the plates] out [of the stone box in which they lay], but was forbidden by the messenger, and was again informed that the time for bringing them forth had not yet arrived, *neither would it until four years from that time*, but he told me that I should come to that place precisely in one year from that time, and that he would there meet with me, and that I should continue to do so until the time should come for obtaining the plates. Accordingly, as I had been commanded, I went at the end of each year, and at each time I found the same messenger there, and received instruction and intelligence from him at each of our interviews, respecting what the Lord was going to do, and how and in what manner his kingdom was to be conducted in the last days." JS-History 1: 53-54, emphasis added. See also Bushman, *Joseph Smith: Rough Stone Rolling*, 44-45; Mark Ashurst-McGee, "Moroni as Angel and as Treasure Guardian," *The FARMS Review* 18/1 (2006): 35-100.

September 22, 1827 (JS-History 1:54, 59-60).<sup>59</sup> This four-year period was not merely the time required for Joseph to reach adulthood (three years and three months would have been adequate) nor did it signal the end of Moroni's education of Joseph.<sup>60</sup>

When the dates of those events are reckoned back 29 Calendar Rounds (from the first visit) and 36 42-year cycles measured with the 365-day calendar (from the delivery of the gold plates), the beginning dates fall shortly before the autumn equinox in A.D. 316. The 321st (365-day) year of the Nephite/Christian Era began on January 4, 316.<sup>61</sup> During the 321st Nephite year, "about the time that Ammaron hid up the records unto the Lord, he came unto" the ten-year-old Mormon and called him to be the next Nephite record keeper (Mormon 1:1-5). Mormon fulfilled his assignment by recording "a full account of all the wickedness and abominations" of his time on the plates prepared for detailed Nephite history (Mormon 2:17-18). In addition, on his own plates, "these few plates" containing the Book of Mormon, he wrote an abridged history starting with the time of Lehi at Jerusalem and ending after the final battle in the land Cumorah in which the Nephites were destroyed (Mormon 6:5-7:10). Before he could write more, he died at the hands of his enemies (Mormon 8:2-3). Moroni later finished his father's work, including the Book of Ether (Mormon 8:1; Mosiah 28:19), set forth his own final witness of the Messiah and then hid the plates of the Book of Mormon (Moroni 10; Title Page, Book of Mormon).

In 1823, Moroni visited Joseph Smith, the prophesied translator of the book (Isaiah 29:9-14; 2 Nephi 3:6-21; 27:1-26), called him to the task, and began to train him within a uniquely Mesoamerican four-year period that began 29 Calendar Rounds from the year of Mormon's calling. Joseph Smith's receipt of the gold plates in 1827 not only began his work to interpret the plates into English, but it added new significance to the ancient themes linked with the phrase *forty and two years*.<sup>62</sup> He later wrote: "Our motto, then, is Peace with all! . . . We want to live in peace with all men."<sup>63</sup> With that peaceful goal, he also stated, "I intend to lay a foundation that will revolutionize the whole world."<sup>64</sup> He began to lay that revolutionary foundation for peace, in earnest, by accepting his call from Moroni, the last record keeper (who held "the keys of the record of the stick of Ephraim;" D&C 27:5) and receiving the plates of the Book of Mormon from Moroni four years later or 36 42-year cycles from the year of Mormon's calling.

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<sup>59</sup> See also Bushman, *Joseph Smith: Rough Stone Rolling*, 58-61.

<sup>60</sup> Welch, "The Miraculous Translation of the Book of Mormon," 83-97; Bushman, *Joseph Smith: Rough Stone Rolling*, 19, 61-70, 76-79.

<sup>61</sup> As briefly described in footnote 26, the start of the Nephite/Christian Era appears to have begun on March 21, 5 B.C. (Julian day 1719679) and time was measured with a 365-day calendar. Hence, the 321st Nephite year began when 116,800 days had passed away, on January 4, A.D. 316 (Julian day 1836479).

<sup>62</sup> Based on the information presented in this paper, some may "think" that I believe or advocate one or more of the following ideas: (a) that 260- or 365-day or 12-moon calendars are God's calendars since they are scriptural and, thus, sacred; (b) that I advocate numerological, astrological or other idolatrous beliefs or practices; (c) that new or modified doctrines or future events may be revealed through or with such calendars, beliefs or practices; (d) that Latter-day Saints, in general, believe any or all of such notions; (e) that Latter-day Saints should search for special meanings associated with any of such periods in their own or their family's history; (f) that LDS church leaders are not teaching or delivering necessary, adequate or up-to-date doctrines or religious practices; and/or (g) that LDS church leaders are teaching or delivering unnecessary or inadequate doctrines or religious practices. Such ideas are irrational and false; I do not believe or advocate them, nor does this paper support any of them in any way.

<sup>63</sup> *Teachings of the Presidents of the Church: Joseph Smith* (Salt Lake City, Utah: The Church of Jesus Christ of Latter-day Saints, 2007), 343, 348 ns.4 and 5, quoted, respectively, from an 1844 article published at Nauvoo, Illinois, in the *Times and Seasons* (dated February 15, 1844), under the direction of Joseph Smith and from a letter from Joseph Smith and others, dated June 21, 1834, Clay County, Missouri.

<sup>64</sup> *Teachings of the Presidents of the Church: Joseph Smith*, 512, 516 n.10, from a speech given by Joseph Smith on August 29, 1842, in Nauvoo, as reported by William Clayton.