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Foundation for Ancient Research & Mormon Studies

SPA-93

Randall P. Spackman

Introduction to Book of Mormon Chronology:

The Principal Prophecies, Calendars, and Dates

F.A.R.M.S. • P.O. Box 7113 • University Station • Provo, UT 84602 • (801) 378-3295 or 1-800-327-6715

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PREFACE

The technicalities of Book of Mormon chronology and astronomy are not topics of great political, ritual, moral, ethical or spiritual consequence today. These technicalities, by their very nature, do not lend themselves well to most worship service sermons or Sunday School lessons. Our world is driven by deadlines, schedules and calendars, but we are virtually unaware of the immense clock of the heavens. Even a gathering of Book of Mormon scholars will produce few cogent ideas about the chronology contained in the Book of Mormon or its application in Mesoamerica.

At the same time, the land of Mesoamerica has nurtured many groups of people who carefully marked the passage of time, recorded their calendars day by day, and studied the heavens. If the Book of Mormon is to be placed in a Mesoamerican context, then there should be a correlation between the chronology and astronomy of the Book of Mormon, the Bible, Palestine, Babylonia and Mesoamerica. In fact, there appears to be such a correlation -- not just to general time periods, but to the exact day -- thanks to the accurate time keeping of the Mesoamericans.

The chronology presented in this introduction places our Lord's birth, death and resurrection in harmony with the steady beat of time and the constant rotation of the merry-go-round universe of constellations that we perceive. For me, the calendrical, mathematical, astronomical, mythical and historical harmonies have become intertwined, and they play softly as I read the verses of the Book of Mormon or study the movements of the moon and stars on my computer. It is a song of fulfillment for the hopes and expectations of the righteous from the foundation of the world. Some, perhaps, will conclude that I have written a fantasia or fallen victim to the Siren's song. If truth and my tune are discordant, I apologize readily for the inaccuracy. I only hope that any such sour note will motivate more capable composers to find a sweeter melody.

My goal in this work has been to be accurate -- an elusive goal, given the complexity of understanding any temporal sequence. I understand the compulsive force behind that goal. I also appreciate the compelling nature of the prophecies of the Book of Mormon. The Messiah was born 600 years after Lehi left Jerusalem, just as he prophesied. The Nephites were extinct 400 years after the appearance of the Savior, just as Alma and Samuel the Lamanite prophesied. The signs of Jesus' birth and death occurred at the times known and announced years in advance by His prophets.

With deepest appreciation, I acknowledge the abundance of patience and love given to me by my wife and children during the long hours I have spent studying and organizing this topic "in my spare time." Their support has been invaluable in my quest to understand the temporal relationships recorded in the Book of Mormon. I also appreciate the encouragement extended by Professors John W. Welch, Noel B. Reynolds and John L. Sorenson with the Foundation for Ancient Research and Mormon Studies located at Brigham Young University. Their questions and suggestions have been valuable in my decisions about how this information should be organized and expressed. Of course, I take full responsibility for the views presented in this introductory paper.

Randall P. Spackman
Irvine, California
December, 1992

INTRODUCTION

The Book of Mormon is a book about time. In other words, it is a book about constant change -- change for better or worse, how to distinguish the two and how to change for the better. As a book describing change, it records events that occurred in real spatial and temporal contexts. The spatial context has received a great deal of recent attention. A fairly detailed correlation of Book of Mormon sites and Mesoamerican geography is now available (see Sorenson 1985). Parts of the temporal context have been examined briefly; however, there has not been any comprehensive correlation of the chronology of the Book of Mormon with other historical events.

The research project behind this paper began with a general examination of the accuracy of Lehi's 600-year prophecy of the Messiah's birth. The project eventually addressed 80 combinations of dates for the birth and death of the Messiah, using four ancient calendars and the length of His life as specified in the Book of Mormon. That chronological information was measured against scriptural requirements and generally accepted historical information about the Savior's birth and death. Expanding from the base established by that analysis, the departure of Lehi and his 600 years of prophecy were examined using the same four calendars and combinations of those calendars. Finally, the four ancient calendars were applied to the period of the extinction of the Nephites and the 400-year prophecies of Alma and Samuel the Lamanite.

The chronology presented in this introductory paper is not one that *must* be true. Its purpose is to improve our understanding of the Book of Mormon. Nonetheless, the issues treated in this introduction *must* be addressed by any other chronology that is proposed to be more plausible.

By Study and By Faith

The Book of Mormon prophet Alma teaches us that faith is "not a perfect knowledge" (Alma 32:26-43). He calls upon us to "awake and arouse [our] faculties, even to an experiment" upon that which we believe. As we begin to "nourish" our faith with hope, patience and diligent effort, our "understanding" will become enlightened, our faith strengthened and, eventually, our "knowledge perfect." He does not call for a rejection of rationality when dealing with matters of faith. He embraces rationality, combining it with the emotional powers of hope and belief, and the steady force of patient work.

In these latter days, we have been commanded by the Lord to increase faith throughout the earth. As part of this process, we have been commanded:

> And as all have not faith, seek ye diligently and teach one another words of wisdom; yea, seek ye out of the best books words of wisdom; seek learning, even by study and also by faith (D&C 88:118).

An article of our faith teaches us to seek for all things "virtuous, lovely, or of good report or praiseworthy" (Art. 13, Pearl; see Philippians 4:8) -- including those things that we must create with the resources God has given to us. The Book of Mormon also invites us to rely on the Holy Spirit as we investigate "the truth of all things" (Moroni 10:4-5). These invitations encourage us to find answers to the issues of Book of Mormon chronology.

The chronology of the Book of Mormon introduced in these pages was created from the combined perspectives of faith and rationality. Application of the principle of faith requires more than proof-texting with a few scriptures. Adherence to the rational principle of parsimony requires the choice of the most simple theory from among those available. The chronology presented in this paper is particularly satisfying because it is such a simple one, it correlates with the scriptural and historical requirements so well, and it provides a foundation for insight into the structure and meaning of the Book of Mormon.

Five Principal Prophecies

The chronology of the Book of Mormon is based on the fulfillment of five bold prophetic statements:

1. Lehi's prophecy that the Messiah would be born 600 years after Lehi's departure from Jerusalem (1 Nephi 10:4; 19:7-8; 2 Nephi 25:19; 3 Nephi 1). This prophecy carries the history of the Book of Mormon from its beginning with Lehi at Jerusalem to the central fact of the Messiah's birth.
2. Samuel the Lamanite's prophecy that after 5 years more had passed away, the signs of the Messiah's birth would be seen in Mesoamerica (Helaman 14:2-8; 3 Nephi 1).
3. The prophecy of Samuel the Lamanite that the signs of the Messiah's death would be experienced in Mesoamerica after the Messiah had lived for a period of 33 years (Helaman 14:20-27; 1 Nephi 19:10-12; 3 Nephi 8).
4. Nephi's prophecy that speedy destruction of his posterity would begin with the 4th generation following the Messiah's appearance as a resurrected being in Mesoamerica (1 Nephi 12:11-15; 2 Nephi 26:8-10; Alma 45:9-14; Helaman 13:5-10; 3 Nephi 27:31-32; 4 Nephi 1:18-34).
5. The prophecies of Alma and Samuel the Lamanite that the extinction of the Nephite people would be complete 400 years after the Messiah was manifest to the Nephites (Alma 45:9-14; Helaman 13:5-10; Mormon 8:6-9). These prophecies carry the Book of Mormon narrative from the central fact of the Messiah's birth to the decimation of the Nephites as a people.

Year-end Marking Phrases

These five great prophecies provide the Book of Mormon with a broad chronological structure. However, within this 1,000-year chronology, the writers' religious messages are unfolded in terms of specific events. In the text of the Book of Mormon transcribed onto metal plates by the prophet Mormon, the contrasting times of peace and tribulation, good and evil, and humility and pride are drawn less broadly by the use of different forms of year-end marking phrases.

Table I illustrates the passing of years in the balanced, parallel pattern that Mormon appears to have adopted consciously to draw attention to changes that occurred among the people. In the center of this chronological pattern are found the signs of the birth and death of the Messiah, and the appearance of the resurrected Savior in Mesoamerica. Thus, the temporal clues of year-end marking phrases are added to the bold prophetic statements to form an interwoven, didactic sequence of events.

The Measurement of Time

In the first verse of the Book of Mormon, the writer, Lehi's son Nephi, uses the word "days" three times. "Day," "days," "day-light" and "day-time" appear more than 500 times in the Book of Mormon, on average nearly once per page. The Book of Mormon also contains hundreds of other references to time. The units of time, therefore, constitute another important thread in the woven pattern of Book of Mormon events.

The word "week" appears three times in the Book of Mormon, in each case related to a discussion of worship "one day" or "once" in the week (Mosiah 18:25; Alma 31:12; 32:11). This day of worship was called the "seventh day," the "sabbath day" or the "day of the Lord." About 200 years after Lehi left Jerusalem, Jarom noted that the Nephites "observed to keep the law of Moses and the sabbath day holy unto the Lord" (Jarom 1:5).

TABLE I

YEAR-END MARKING PHRASES AND THE BOOK OUTLINE OF MORMON'S ABRIDGMENT

SUBDIVISIONS BY BOOK*	YEAR-END MARKING PHRASES**
Book of Mosiah	"making in the whole...years" (Mosiah 6:4; 29:46)
	* * *
Book of Alma	"thus ended" (Alma 3:27; 4:5,10; 8:2; 15:19; 16:9,21; 28:7,9; 35:12; 44:24; 49:29; 50:16,24,35; 51:37; 53:23; 55:35; 56:20; 57:5; 62:11,39; 63:3,6,9,16)
	* * *
Book of Helaman	"thus ended" (Helaman 1:34; 2:12; 3:18,36; 4:17; 6:1,6)
	"passed away" (Helaman 6:13,14)
	"thus ended" (Helaman 6:15,41; 10:19; 11:21,29,32,35,38; 16:9,10,24)
Book of 3 Nephi	"passed away" (3 Nephi 1:1,26,27; 2:1,4,5,6,7,8,10)
	"thus ended" (3 Nephi 2:16,18,19)
	"passed away" (3 Nephi 4:4,15; 5:7; 6:4,9)
	"thus ended" (3 Nephi 7:13)
	"passed away" (3 Nephi 7:21,23,26; 8:2)
	* * *
Book of 4 Nephi	"passed away" (4 Nephi 1:1,4,6,14,18,22,27,34,40,41,45, 47,48)
	* * *
Book of Mormon	"passed away" (Mormon 2:2,9,15; 3:1,4)
	"making in the whole...years" (Mormon 3:4)
	"passed away" (Mormon 4:10; 5:5; 6:5; 8:6)

* -- The book structure of Mormon's abridgment appears to have been given to the record by Mormon. In Helaman 2:13-14, Mormon reports that "in the end of this book ye shall see that this Gadianton did prove the overthrow, yea, almost the entire destruction of the people of Nephi. Behold I do not mean the end of the book of Helaman, but I mean the end of the book of Nephi, from which I have taken all the account which I have written." This statement may indicate that the official Nephite records were kept in a "book of Nephi," while Mormon organized his abridgment around a series of books to which he gave distinctive names.

** -- The year-end formula phrase "thus ended" also appears in the forms "thus endeth," "also ended," "ended" and "had ended." The year-end formula phrase "passed away" also appears in the form "pass away." No differentiation of the "thus ended" or "passed away" forms is made in Table I. The alternative forms appear to be grammatical, rather than substantive differences.

The word "moons," as a chronological term, appears once in the portion of the Book of Mormon translated from the plates prepared by Nephi (Omni 1:20-22). In Mormon's abridgment, which was written on other metal plates some 600 years after the Book of Omni was engraved, the words "month" and "months" appear 16 times. Several passages indicate that the "eleventh month" of the year fell in the "latter end" of the year and at "nearly the end" of the year (Alma 46:37; 48:2, 21; 49:1). These passages indicate that the Nephite year in the first century before the Messiah's birth (when the history in these passages was first recorded) probably was composed of 12 months or moons. Months and moons are cognate terms. One must be very cautious about any assumption that they refer to different calendrical periods. The observational basis for dividing a year into 12 parts is a 12-moon calendar of about 354.367 days.

The word "commencement" is used to describe a subdivision of the year 26 times. The phrase "latter end" is used to describe a subdivision of the year 8 times. In Alma 30:5-6, the year appears to be divided evenly between commencement and latter end:

> And it came to pass that in the commencement of the seventeenth year of the reign of the judges, there was continual peace. But it came to pass in the latter end of the seventeenth year, there came a man into the land . . . .

The disputes with this man Korihor, his death in the Zoramite land, the mission of Alma and Amulek to the Zoramites, the expulsion of the believers from the Zoramite land, and the preparation for war between Zoramites and Nephites all are recorded in Alma 30-35 before the year-end is marked with the words, "And thus ended the seventeenth year of the reign of the judges over the people of Nephi" (Alma 35:12). To include all of the recorded events, the "latter end" of the year seems to have been the entire second half of the year. Thus, the "latter end" of the year appears to balance the "commencement" of the year and these phrases might indicate a subdivision of the year into two equal halves.

Many other Book of Mormon units of time might be examined, but that is not the purpose of this paper. Only the combination of Nephite years into three general eras remains to be mentioned. These eras relate directly to the 600-year and 400-year prophecies that were counted by the righteous Nephites. The first era began with Lehi's departure from Jerusalem (see 2 Nephi 5:28,34). This era was counted for 609 years before it was terminated. The second era was the reign of the judges over the people of Nephi, an era which began after 509 years had passed away from the time Lehi left Jerusalem (Mosiah 29:46-47; Alma 1:1). This supplementary era continued for 100 years before it was terminated. The third era was adopted when the first two were brought to a close and it was calculated from an earlier event. Nine years after the signs of the Messiah's birth were seen, "the Nephites began to reckon their time from this period when the sign was given, or from the coming of Christ" (3 Nephi 2:5-8).

The Qualities of Time

The qualities of time make up another important thread in the interwoven patterns of religious thought expressed by Book of Mormon prophets. In 1 Nephi 10:17-22, for example, Nephi presents the unity of time from two points of view. The first is the perspective of God: He is the same for all humans, forever. The second perspective is that of the faithful: time is a probationary period during which all humans make choices to do or refrain from doing acts that ultimately will be judged by God. This unified view of God, time, good or bad choices, and God's judgment could not present a greater contrast than with the concepts of astrological and numerological fatalism interpreted by the elite Mesoamerican priesthood. The deified cycles of time counted by this privileged priesthood were cycles of determinism and imposed social control. The righteous Nephite prophets must have been concerned that their followers not fall prey to these evil beliefs.

While Nephi identifies "the course of the Lord" as "one eternal round," this is not a cycle of deified fatalism. The Nephite prophet Alma also notes that God "doth counsel in wisdom over all his works, and his paths are straight, and his course is one eternal round" (Alma 37:12). The "straight" path or course directs humans from "the gate" (2 Nephi 9:41) to "the kingdom of God" (Alma 7:19) and "eternal bliss" (Alma 37:44). Making a "straight" path is the powerful metaphor Alma uses in his poetic encouragement of the inhabitants of the city of Gideon (Alma 7:19-21). A "straight" path is the Book of Mormon metaphor for the righteous use of time. As for the course of the Lord, Alma's poem to the Gideonites repeats that it is "one eternal round." God is and will be the same God forever. With each day, He follows the same "round," circuit or cycle, like the shepherd on his customary round to watch over each of his sheep. The round of the Lord is "eternal," meaning not just forever the same, but always reliable and true, unchanging in His accessibility to those who would join His flock, and never ceasing in His efforts to drive away the wolves (see Alma's poem of the good shepherd in Alma 5:59-60).

The course of the Lord may be considered "one" in a grammatical way: the definite word "one" is an intensive substitute for the indefinite article "an." Also, the Lord's course is "one" because the Holy One worshipped by Lehi and his righteous descendants (see, e.g., 2 Nephi 2:10; Helaman 12:2; Mormon 9:14) is "one" and not many, in contrast with the several cycles of deified heavenly bodies in Mesoamerican religion. Finally, the course of the Lord is "one" in the sense that it forms a whole and may be characterized by the unity of all who *choose* to follow Him and enter His fold.

Mormon's discourse about the wickedness of his generation (Helaman 12) is filled with temporal ideas. In times of plenty, his people develop fickle hearts. The quickness of his people to turn to evil in times of ease is contrasted with their tardy return to God in times of trial. Mormon places human vanity and greed in perspective by contrasting human disobedience with the obedience of all the rest of God's creation -- the dust of the earth, hills, mountains, valleys, the whole earth, the foundations of the universe and the waters of the great deep. However, even the iniquitous eventually will obey God. They will be shut out of His presence. Mormon also teaches the principle of repentance -- change for the better. He notes that some will not repent despite the chastening of the Lord; misery will be the end of their time of probation.

In the heart of this discourse, Mormon describes the movement of the earth and the role of the sun or day in a manner that is central to his discussion of God's controlling power. His statement in Helaman 12:15 that "surely it is the earth that moveth and not the sun," is a statement of astronomical reality and religious truth. The sun does not circle the earth as the Mesoamerican astrologers asserted. The sun is circled by the earth. The sun is not a deity; it is subject to God. Mormon's statement is a clear reference to, and correction of, the scriptural report of the great battle in which Joshua (Hebrew *Yehoshua*; Greek *Jesus*) called for the sun and moon to stand still. Joshua 10:12-14 states that Joshua spoke and "the Lord hearkened unto the voice of a man." The "sun stood still in the midst of heaven, and hasted not to go down about a whole day."

Mormon's reference to this event connects the heart of his discourse with the central section of the prophecies of Samuel the Lamanite, which immediately follow (see Helaman 13:1-16:9). According to Samuel the Lamanite, a night without darkness was to be one of the principal signs of the birth of the Messiah, a child to be named "Jesus" according to revelation (Matthew 1:18-21; Luke 1:26-33; 2 Nephi 25:19-20). Three days without light were to be one of the principal signs of His death. These signs show the power of the Holy One to control the lights of heaven, the very lights that were considered to be some of the principal aspects of divinity or even deities themselves in Mesoamerican astrology. Mormon's discourse and its companion piece, Samuel the Lamanite's prophecies, in their central passages about time and heavenly bodies, contradict the most basic aspects of Mesoamerican determinism.

THE 600 YEARS PROPHESIED BY LEHI

Lehi, the first of the Book of Mormon prophets, was a descendant of Manasseh (Alma 10:3). Lehi owned land in the kingdom of Judah and a house at Jerusalem in the evil and desperate years before the destruction of Jerusalem by the Babylonians (1 Nephi 1:7; 2:4; 3:16,22-23).

In the two decades before Lehi was called to be a prophet, Babylonian and Egyptian armies butchered each other in a see-saw contest for control of Syria and Palestine. The kingdom of Judah was caught in this maelstrom. In the winter of 598-597 B.C.E., the life of Judah's king Jehoiakim came to an end under suspicious circumstances, just about the same time that Nebuchadnezzar mustered his army against Jerusalem. The Bible reports that Nebuchadnezzar besieged Jerusalem, captured the city, and sent the new king Jehoiachin into captivity in Babylonia together with the elite of Judah's society, including the craftsmen and metalworkers (2 Kings 24:10-19; 2 Chronicles 36:5-11).

The Babylonian Chronicles state that in the seventh year of Nebuchadnezzar's reign, he marched his army into Palestine and:

> encamped against the city of Judah and on the second day of the month of Addaru he seized the city and captured the king. He appointed there a king of his own choice, received its heavy tribute and sent them to Babylon (Wiseman 1956:33).

The captured king was Jehoiachin, the eighteen year old son of the late king Jehoiakim. The king of Nebuchadnezzar's choice was Zedekiah, the twenty-one year old uncle of Jehoiachin. The date of the fall of Jerusalem, 2 Addaru at the end of Nebuchadnezzar's seventh year, was March 10, 597 B.C.E. The exile of Judah's elite, powerful and skillful citizens began several weeks later, on 10 Nisanu in the beginning of Nebuchadnezzar's eighth year, April 16, 597 B.C.E.

Calendars and Dates

These dates are given in terms of the Gregorian year counting system, the one presently in use in most of the western world. The Gregorian calendar has been in use only since the sixteenth century C.E., but as a year counting system it may be extended back into ancient history long before its actual use began. The Gregorian calendar is based on a solar year consisting of about 365.2422 days.

In this paper, the years are labeled B.C.E. ("Before the Common Era") or C.E. (the "Common Era"). These names are used by some scholars to designate dates before and after the start of the Christian era. The terms B.C. ("Before Christ") and A.D. (*anno Domini* or "in the year of our Lord") are relics of the Dark Ages; they do not accurately record the meridian of time when the Savior was born.

References to dates in the Julian year counting system also may be valuable. The Julian calendar was adopted at the time of Julius Caesar, a few decades before the birth of Christ; however, this year counting system also may be extended back into ancient history. Each Julian year never varies from 365.25 days, a feature which has allowed it to be applied consistently for all types of astronomical calculations and historical correlation purposes. Many writings on ancient history and astronomy use this system. The Gregorian and Julian year counting systems coincide about 300 C.E., but they run apart at the rate of about three days every 400 years. In 597 B.C.E., Julian system dates are six days ahead of Gregorian system dates. When Julian system dates are included in the following discussion, they will be identified with a "J" (March 16J or April 22J, for example) to distinguish them from the Gregorian system dates.

The Julian system date is not to be confused with the Julian day number, which is sometimes included in the definition of a specific date. Beginning at noon, Universal Time,

on Monday, January 1J, 4713 B.C.E., Julian day numbers precisely record the passage of every day, hour, minute, second and fraction of a second in a decimal system. For example, 1:00 p.m. Universal Time, January 1, 1990 C.E. is Julian day number 2,447,893.041667. The confusing aspect of Julian day numbers is that each day begins at noon, so that 11:00 a.m. Universal Time, January 1, 1990 C.E. is Julian day number 2,447,892.958333. Thus, New Year's Day 1990 C.E. may appear to be represented by two different Julian day numbers: 2,447,892 and 2,447,893. In the discussion that follows, the Julian day number given for a particular date will be the Julian day whole number that *begins* at noon of the calendar day in question. This day count also makes calculation of the weekday very simple. When the Julian day number is divided by 7, the day is Monday if the remainder is 0, Tuesday if the remainder is 1, Wednesday if the remainder is 2, Thursday if the remainder is 3, etc.

With such accurate calendrical tools and the results of computerized astronomical calculations, ancient calendrical statements about solar and lunar eclipses can be used to identify the reigns of kings such as Nebuchadnezzar. His eighth regnal year is known to have begun with the first visibility of the crescent of the new moon on the evening before Saturday, April 7 or 13J, 597 B.C.E. (1,503,472). The date of the fall of Jerusalem to Nebuchadnezzar is Sunday, March 10 or 16J, 597 B.C.E. (1,503,444). The day that began the Jewish exile to Babylonia is Tuesday, April 16 or 22J, 597 B.C.E. (1,503,481).

Lehi's Prophetic Ministry

Zedekiah was like his older brothers and nephew who served as kings before him because he "did that which was evil in the sight of the Lord" (2 Kings 23:31-32, 36-37; 24:8-9,17-19). The wickedness of the last kings of Judah was matched by the wrongdoing of many in their courts, in the priesthood and among the people. Jewish scriptures about the last days of the kingdom of Judah (see, e.g., Jeremiah 7; Ezekiel 8) disclose a full spectrum of evils such as murder, adultery, forced labor, oppression of the weak, royal extravagance, thievery, conspiracy, idolatry in the Temple and sun worship.

> Moreover all the chief of the priests, and the people, transgressed very much after all the abominations of the heathen; and polluted the house of the Lord which he had hallowed in Jerusalem. And the Lord God of their fathers sent to them by his messengers . . . because he had compassion on his people, and on his dwelling place: But they mocked the messengers of God, and despised his words, and misused his prophets, until the wrath of the Lord arose against his people, till there was no remedy (2 Chronicles 36:14-16).

Lehi was one of the prophets sent by God to warn of the impending destruction of Jerusalem. His ministry, described briefly in the writings of his son, Nephi, began "in the commencement of the first year of the reign of Zedekiah, king of Judah . . . [when] there came many prophets, prophesying unto the people that they must repent, or the great city Jerusalem must be destroyed" (1 Nephi 1:4).

The report by Nephi is not clear whether the calling of Lehi occurred in the commencement of the first year of Zedekiah's actual rule (beginning very shortly after Nebuchadnezzar captured Jerusalem) or the first year following Zedekiah's formal coronation (which probably occurred in October 597 B.C.E.). In either case, the year 597 B.C.E. represents the earliest time when Lehi might have prophesied at Jerusalem.

Lehi's calling as a prophet came in the form of two powerful visions. The first vision occurred:

> as he went forth . . . [praying] unto the Lord, yea, even with all his heart, in behalf of his people. And . . . there came a pillar of fire and dwelt upon a rock before him; and he saw and heard much; and because of the things which he saw and heard he did quake and tremble exceedingly (1 Nephi 1:5-6).

Lehi returned to his house at Jerusalem and "cast himself upon his bed, being overcome with the Spirit and the things which he had seen." Another vision then unfolded to him (1 Nephi 1:7-14): he saw the Heavenly Court, with God seated on His throne surrounded by a council of His hosts. A being whose "luster was above that of the sun at noon-day" descended out of heaven, followed by twelve others who went forth upon the earth. The glorious messenger came to Lehi, gave him a book and commanded him to read. Lehi was filled with the Spirit of the Lord and he read, "Wo, wo, unto Jerusalem, for I have seen thine abominations!" He read further, discovering that Jerusalem "should be destroyed, and the inhabitants thereof; many should perish by the sword, and many should be carried away captive into Babylon." Lehi also learned that those who repented would not perish in the coming destruction (compare Ezekiel 9).

The calling of Lehi through a vision of the Heavenly Court is similar to the calling given to other prophets, such as Micaiah, Isaiah and Ezekiel (1 Kings 22:19-22; Isaiah 6; Ezekiel 1:1-3:21). In visions of the throne of God, these prophets were given the word of God and then sent forth to deliver it. Jeremiah asked about the false prophets of his day (Jeremiah 23:18): "For who hath stood in the counsel of the Lord, and hath perceived and heard his word? who hath marked his word and heard it?" The false prophets were not called of God in this way.

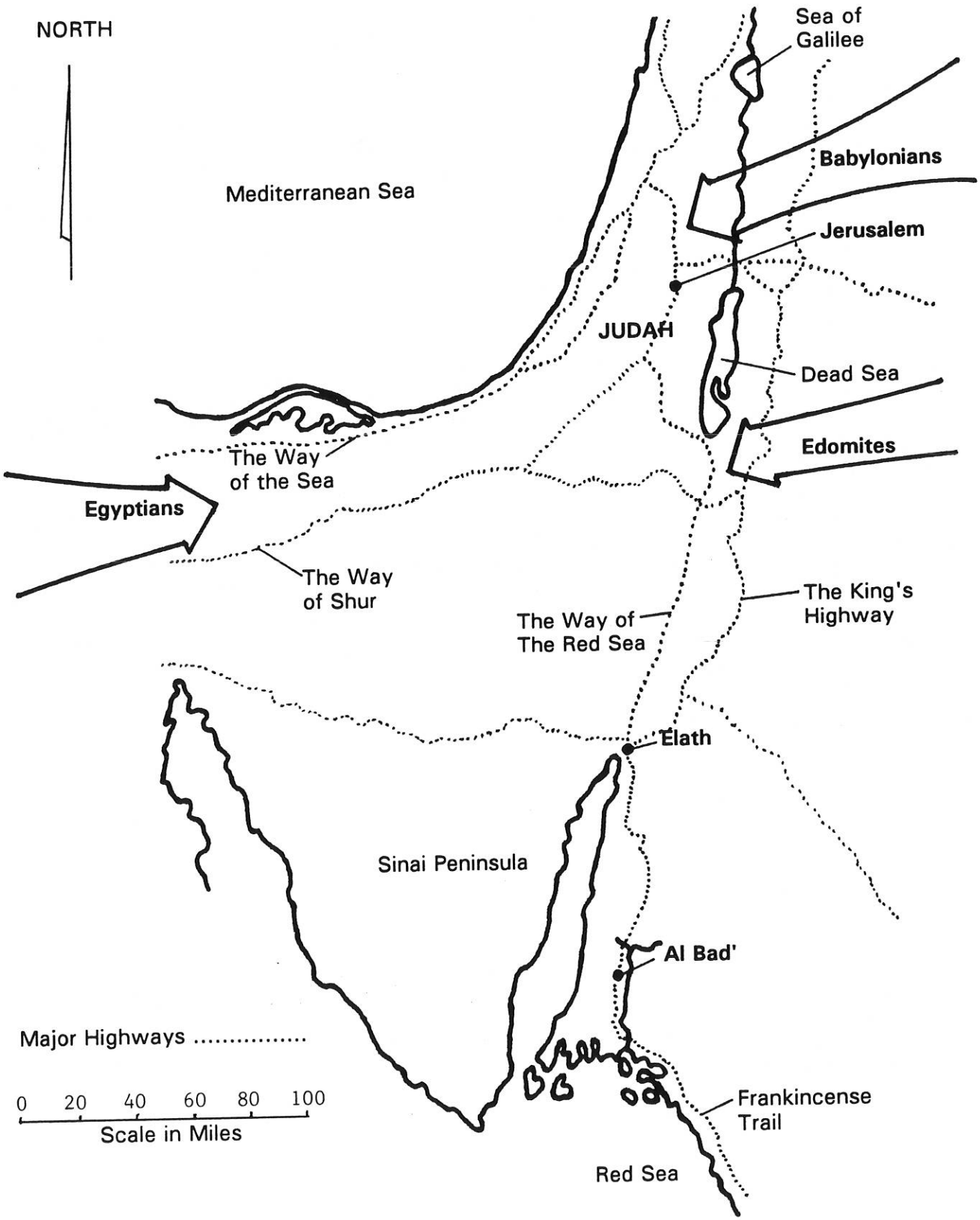
After receiving his call, Lehi declared the Lord's message to the people of Jerusalem. He testified of their wickedness. He warned them of the approaching destruction of their great city. Lehi was mocked along with the other messengers of God. When he spoke of a Messiah, a new anointed one or king yet to come, some in Jerusalem became angry and sought to take Lehi's life (1 Nephi 1:18-20; 2:1-3). Then Lehi heard the voice of the Lord in a dream commending him for his faithfulness and commanding him to escape from the kingdom of Judah with his family. 1 Nephi 2:4 records Lehi's departure in a poignant, chiastic verse:

> And it came to pass that he departed into the *wilderness*.
> And he left his *house*,
> and the *land* of his inheritance,
> and his gold, and his silver, and his *precious things*,
> and took nothing with him,
> save it were his *family*,
> and *provisions*,
> and *tents*,
> and departed into the *wilderness*.

Lehi's family traveled away from Jerusalem to "the borders near the shore of the Red Sea" in the vicinity of Elath. They continued their journey for three additional days to "the borders which are nearer the Red Sea," apparently to an oasis such as *Al Bad'* on the ancient Frankincense Trail. When they reached this resting place, Lehi spoke to his eldest son, Laman (1 Nephi 2:5-9), and expressed his desire that righteousness might flow from Laman "like unto this river," that is, like the water flowing in the nearby valley or *wadi*. In the rainy season, a *wadi* may flow temporarily with water, so the beginning of Lehi's journey appears to have begun in the rainy season (December - February).

MAP 1

JERUSALEM TO THE OASIS



Return to Jerusalem

While Lehi's family dwelt at the oasis, Lehi twice sent his sons back to Jerusalem. The first time, they obtained the scriptures and genealogy of Lehi which were engraved on brass plates held by Laban, who seems to have been a minor military leader in Jerusalem (1 Nephi 3-4). The sons of Lehi were able to enter the city during the day. One night Nephi "crept" into the city, obtained the brass plates and returned to his brothers who were waiting outside the walls. The second journey back to the land of Jerusalem was to convince Ishmael's family, who may have been related by marriage, to accompany Lehi's family into the wilderness (1 Nephi 7). The Lord softened the hearts of Ishmael's family and soon they were on their way to meet Lehi at the oasis. Thus, at the time when Lehi's sons obtained the brass plates, travel into the city of Jerusalem could be undertaken by day and night. When Ishmael's family was convinced to leave the land, travel was possible between the kingdom of Judah and the Red Sea.

Before the caravan of Lehi's sons and Ishmael's family reached the oasis near the Red Sea, Lehi's two eldest sons (Laman and Lemuel), two of Ishmael's daughters, and Ishmael's sons and their families revolted. They wanted to return to the land of Jerusalem (1 Nephi 7:6-21). As the eldest children, they were losing their lands of inheritance. They must have felt safer in the land of Judah than roaming an unknown and dangerous desert with their families. The army of Egypt had forced the Babylonians to withdraw from the land once before (in 601 B.C.E.) and now Zedekiah had forged a new alliance with Egypt. Another defeat of Babylonia may have been expected. Even if the Babylonians were to defeat the combined forces of Judah and Egypt, the rebellious family members may have believed there was little chance of being exiled to Babylonia; their families had avoided exile in 597 B.C.E. Besides, Lehi's teachings could be presented as "pro-Babylonian."

Nephi sought to convince the malcontents that there was no doubt the prophets' words would be fulfilled. Jerusalem would be destroyed and, if his brothers and their friends returned to the city, they would perish. As part of his argument, Nephi exclaimed:

> For behold, the Spirit of the Lord ceaseth soon to strive with them; for behold, they have rejected the prophets, and Jeremiah have they cast into prison. And they have sought to take away the life of my father, insomuch that they have driven him out of the land (1 Nephi 7:14).

This passage provides one of the most important clues for dating the time of Lehi's departure from Jerusalem. According to Nephi, the actions taken against Jeremiah and the other prophets were directly connected with the threats on Lehi's life. This argument was not an academic discussion between friendly brothers, but an intense debate involving life and death issues. The argument became so heated that Laman and Lemuel bound Nephi and threatened to leave him in the desert to die (1 Nephi 7:16-19). Jeremiah 37:4 states that prior to the Egyptian invasion of Palestine to attack the Babylonian army, "Jeremiah came in and went out among the people: for they had not put him in prison." Thus, the knowledge of Lehi's sons concerning Jeremiah's imprisonment places the escape of Ishmael's family after the time when the Egyptians invaded the land of Judah.

Jeremiah in Prison

During Zedekiah's reign, long-term accessibility to the city of Jerusalem was interrupted only by the Babylonian siege that preceded Zedekiah's death. In the autumn of 589 B.C.E., the Babylonian army invaded Judah to punish Zedekiah for his alliance with Egypt. The fortified cities of Judah were systematically destroyed and Jerusalem was encircled with an ever-tighter blockade. The siege of Jerusalem finally began on the tenth day of the tenth month of Zedekiah's ninth regnal year (2 Kings 25:1; Jeremiah 39:1; 52:4; Ezekiel 24:1). The date was Sunday, January 9 or 15J, 588 B.C.E. (1,506,671).

The Jews recognized from the beginning of Zedekiah's rebellion that their country was reliant on the Egyptians. Only nine years before, Judah's military leadership, many warriors and the metalworkers necessary to produce weapons and armor had been taken into exile. Ezekiel 17:15 states that Zedekiah's rebellion consisted of sending "ambassadors into Egypt, that they might give him horses and much people." Judah's preparation of its military forces was still inadequate when the Babylonians attacked in 589 B.C.E. As the Babylonian encirclement of Jerusalem became more certain, a military envoy was dispatched to obtain help from the Egyptians immediately.

When the Egyptian strike force approached Palestine, the Babylonian army withdrew from its siege of Jerusalem. For a short time, the great powers threw their armies at each other again. This respite from the siege allowed Jerusalem to open its gates and augment its siege provisions. Jeremiah attempted to leave the city to go to the land of his inheritance at Anathoth, a village located a few miles north of the city. At the city gate, Jeremiah was seized and charged with deserting to the enemy. He denied the charge, but he was quickly brought before the princes, who beat and imprisoned him. He was placed in a cistern and left to die. Through the pleadings of a Black servant in Zedekiah's household, Jeremiah was saved from the muddy cistern, but he was kept in prison until after the city was sacked by the Babylonians (Jeremiah 38-39).

The time when the siege was lifted may be estimated from dates given by Ezekiel. First, he warned of the destruction of the Egyptian army (Ezekiel 29:1-16). About three months later, he referred to a partial Egyptian defeat (Ezekiel 30:20-26). After about two more months, he wrote of their convincing defeat (Ezekiel 31:1-18). According to one theory, he heard the news in Babylonia after the events occurred and then wrote his oracles against the Egyptians. If the dates given by Ezekiel refer to when he heard the news and wrote the oracles, and if there was a time lag of one to four months between the time of the events and when Ezekiel heard the news, the five-month period when the siege was lifted would fall between August 588 B.C.E. and April 587 B.C.E.

According to a second theory, each of Ezekiel's dates refers to the time of the recorded event. If this theory is correct, then the siege of Jerusalem was lifted between January 1 or 7J (1,507,028) and June 15 or 21J (1,507,193), 587 B.C.E. For simplicity's sake, this study uses these dates to place the Babylonian withdrawal from Jerusalem in the chronology of the Book of Mormon. However, almost any set of dates for the five-month Babylonian withdrawal between August 588 B.C.E. and June 587 B.C.E. may be used without materially affecting this study's proposed chronology.

One need not suppose that Lehi's sons had to go into the city of Jerusalem to discover Jeremiah's imprisonment. Ishmael's family could have told them the news at their home in the land of Jerusalem. However, if Lehi's escape from Jerusalem came after Jeremiah was imprisoned, Lehi's family may have had direct knowledge of the imprisonment. The visions of Lehi and Ezekiel concerning the Lord's mercy for those who repent are consistent with the escape of many people from the city of Jerusalem at this time. The escapees would have responded to Jeremiah's prophetic counsel:

> Thus saith the Lord, He that remaineth in this city shall die by the sword, by the famine, and by the pestilence: but he that goeth forth to the Chaldeans shall live . . . (Jeremiah 38:2).

Immediate Destruction

Lehi's escape from Jerusalem during the lifting of the siege is implicit both in his sons' knowledge of Jeremiah's fate and in the Lord's commendation of Lehi for his faithful service (1 Nephi 2:1). Lehi's faithfulness extended to the last days of the city of Jerusalem. The Book of Mormon also states explicitly that Lehi's departure from Jerusalem came near the very end of the city's existence:

> And as one generation hath been destroyed among the Jews because of iniquity, even so have they been destroyed from generation to generation according to their iniquities; and never hath any of them been destroyed save it were foretold them by the prophets of the Lord. Wherefore, it hath been foretold them concerning the destruction which should come upon them, immediately after my father left Jerusalem; nevertheless, they hardened their hearts; and according to my prophecy they have been destroyed, save it be those which are carried away captive into Babylon (2 Nephi 25:9-10).

The "immediate" destruction of the city began when the army of Nebuchadnezzar returned to Jerusalem in June 587 B.C.E. The siege was applied with brutal force until the city's resources were depleted. With what must have been a vicious retaliation for the rebellion of Zedekiah, the Babylonian army breached the walls of Jerusalem on July 12 or 18J, 586 B.C.E. (1,507,585). The army burned the city almost a month later on August 8 or 14J, 586 B.C.E. (1,507,612).

Nephi also states that this immediate destruction fulfilled his own prophecy, in addition to those of the other prophets. The prophecy to which Nephi apparently refers is recorded in 1 Nephi 7:8-15. There he records the rebellion of his older brothers when they wanted to return to Jerusalem. Nephi not only mentions the imprisonment of Jeremiah, but he prophesies to his brothers:

> ye shall know at some future period that the word of the Lord shall be fulfilled concerning the destruction of Jerusalem; for all things which the Lord hath spoken concerning the destruction of Jerusalem must be fulfilled (1 Nephi 7:13).

The argument during the final trip to the oasis mentioned Jeremiah's imprisonment; so, Ishmael's family departed from Jerusalem after the siege was lifted. The prophecy of Nephi to the malcontents indicates that they probably were not aware of any Babylonian victory that might have increased the risk of returning to Jerusalem. Hence, the final caravan to the oasis probably departed from the land of Jerusalem before any news was received of an Egyptian defeat. In that case, the sons of Lehi and Ishmael's family left the kingdom of Judah before April 23 or 29J, 587 B.C.E. (1,507,140), the date given by Ezekiel for the first of the Babylonian victories over the Egyptian army.

An Early Departure Theory

Some have suggested that Lehi departed from Jerusalem at least eight to ten years before the city's destruction. According to this early departure theory, Lehi and his family never learned of the destruction of Jerusalem from human sources. Instead, their sole source of this knowledge was a vision supposedly given to Lehi *after* Jerusalem was destroyed. 1 Nephi 17:14 and 2 Nephi 1:4 are cited as proof texts for this theory, but when read in context, neither passage supports the theory.

In 1 Nephi 17:12-14, the Lord's promises are recounted by Nephi in an attempt to convince Laman and Lemuel to help build a ship. This scripture may be understood more easily if its parallel structure is depicted.

> For the Lord had not hitherto suffered that we should make much *fire*,
> as we journeyed in the *wilderness*;
> for he said: I will make thy food become sweet, that ye *cook* it not;
>
> and I will also be your *light*
> in the *wilderness*;
> and I will *prepare* the way before you,

if it so be that ye shall keep *my commandments*;
wherefore, inasmuch as ye shall keep *my commandments*

ye shall be *led* towards the promised land;
and ye shall *know* that it is by me
that ye are *led*.

Yea, and the Lord also said that: After ye have *arrived* in the promised land,
ye shall *know* that I, the Lord, am God;
and that I, the Lord, did *deliver* you from destruction;
yea, that I did *bring you out* of the land of Jerusalem.

Nephi and Lehi certainly knew that the Lord was God prior to their reaching the promised land. Nephi's visions of the Spirit of the Lord and the Lamb of God were received long before the dispute over building the ship (see 1 Nephi 11-14). Lehi's great prophetic visions opened the heavens to him in the first year of Zedekiah's reign. There can be no doubt that Nephi and Lehi also knew that God had brought them out of the land of Jerusalem and saved them from the destruction of the city. These were not new facts that the Lord would reveal when Lehi's colony reached the promised land. These facts were already known.

The key to understanding this scripture is its balanced, parallel format. The central stanza is important: all of God's blessings are predicated on keeping His commandments. Physical needs (fire and prepared food) and spiritual or emotional needs (enlightenment and direction) were answered in the wilderness with God's blessing. The last two stanzas balance the first two. The latter stanzas are about the promised blessings yet to be given on the way to the promised land. Although the ship and the sea are not mentioned, the message is clear: God would lead their dangerous ocean voyage.

The repetition in the final stanza completes the listing of lands (wilderness, promised land and Jerusalem) which comprised the geography of their journey. Like the second stanza, however, the emphasis in the final stanza is not on physical things, but on spiritual and emotional things. Out of the wilderness that faith must traverse would come a sure knowledge. As they kept His commandments, they would know with certainty that the Lord had directed their journey from its very beginning.

When Lehi's life was threatened, he had a dream in which the Lord commanded him to take his family into the wilderness. Once there, Laman and Lemuel murmured against him "because he was a visionary man" (1 Nephi 2:11). When he sent his sons back to Jerusalem to get the brass plates, Lehi's wife complained "that he was a visionary man; saying: Behold, thou hast led us forth from the land of our inheritance, and my sons are no more, and we perish in the wilderness" (1 Nephi 5:2).

Lehi had but one response to the disbelief of his family at the beginning of their journey and in his land of promise. At the oasis, Lehi said to his wife:

> I know that I am a visionary man; for if I had not seen the things of God in a vision I should not have known the goodness of God, but had tarried at Jerusalem, and had perished with my brethren. But behold, I have obtained a land of promise . . . (1 Nephi 5:4-5).

In reality, when Lehi was speaking, Jerusalem had not yet been destroyed and no one had perished. Lehi was thousands of miles and many years away from reaching his land of promise. However, he had seen a vision, read the heavenly book and the events which he envisioned were already present for him. He was a visionary man.

At the end of his life's journey, Lehi drew his family together one last time in the promised land. He reminded them that it was a merciful God who brought them out of Jerusalem. In a parallel format, 2 Nephi 1:1-4 also may be understood more easily.

[A]fter I, Nephi, had made an end of *teaching* my brethren,
our father, Lehi, also *spake* many things unto them,
and *rehearsed* unto them,
how *great things* the Lord had done for them
in *bringing them out* of the land of Jerusalem.

And he *spake* unto them
concerning their rebellions upon the *waters,*
and the mercies of God in *sparing their lives,*
that they were not swallowed up in the *sea.*

And he also *spake* unto them
concerning the *land of promise,* which they had obtained --
how merciful the Lord had been in *warning us*
that we should flee out of the *land of Jerusalem.*

For behold, *said* he,
I have seen *a vision,* in which I know that Jerusalem is destroyed;
and had we remained in Jerusalem *we should also have perished.*

This is Lehi's closing testament, the reaffirmation by an aged prophet of the most potent experiences of his life. It is his testimony of the great mercies of God. The Lord brought them out of the land of Jerusalem, He spared their lives, He warned them to flee from the land of Jerusalem and He saved them from perishing. In addition to these great mercies, Lehi had experienced the great things of God: in the physical world, huge oceans and great lands; and in the spiritual realm, the vision he had received -- the vision that changed his life entirely. "I have seen a vision," he told his followers. At any time following his vision in the first year of Zedekiah's reign, Lehi could have factually proclaimed, "I have seen a vision in which I know that Jerusalem is destroyed." Wickedness had destroyed it and the righteous had been spared. Lehi did not need another vision to confirm Jerusalem's destruction. The city was destroyed "immediately" after he escaped from its walls.

Travel to the Promised Land

Lehi and his followers remained at the oasis near the Red Sea until "the voice of the Lord spake unto [Lehi] . . . by night, and commanded him that on the morrow he should take his journey into the wilderness" (1 Nephi 16:9). They traveled in "nearly a south-southeast direction" for a long period, moving in accordance with the directions given by the Lord (1 Nephi 16:13-14,17,25-33). They hunted along the way and sometimes suffered from the lack of food.

Ishmael passed away and was buried at a place called "Nahom" (1 Nephi 16:34-36). From there, the caravan's course was directed "nearly eastward" and they trekked through a desolate area before reaching a land by the seashore which they called "Bountiful" because of its fruit and wild honey (1 Nephi 17:1-6). The Lord then commanded them to build a ship. When this was accomplished, a voyage was begun under the Lord's direction and protection. Finally, the voyagers reached the shores of Mesoamerica, Lehi's promised land (1 Nephi 17-18).

The report in 1 Nephi 17:4, that Lehi's colony "did sojourn for the space of many years, yea, even eight years in the wilderness" before reaching the land of Bountiful, provides explicit evidence that they began their count of time from the very beginning of Lehi's escape into the wilderness. The report also implies that the year counting system

used for at least the first few years of Lehi's 600 prophetic years was a calendar that he was familiar with in Judah.

The principal time keeping system throughout the Middle East in the sixth century B.C.E. was a 12-moon calendar (which averages 354.36705 days per year). In addition, two schematic calendars (a 360-day year in Babylonia and a 365-day year in Egypt) were used for recording and ordering data that was susceptible to mathematical analysis, such as astronomical information, business expenses, contractual requirements and rents. Nonetheless, 12-moon calendars continued in use as the principal Babylonian, Egyptian and Jewish religious calendars throughout ancient history. These religious calendars appear to have been based on direct observation of the moon by the priests to determine the times of religious festivals.

The priests also recognized that the solar year (which averages 365.2422 days per year) was about 11 days longer than the 12-moon calendar. For purposes of seasonal or agricultural rituals, the priests probably added or intercalated a 13th moon every two or three years. This was not an exact process in the time of Lehi, but it was an ancient one. Accurate intercalation schedules for adding the 13th moon were not worked out in Babylonia until the fifth century B.C.E. In Lehi's days, a 13th moon was added to the year when it became clear that the religious festivals were starting to occur too early in the agricultural or seasonal cycle.

In Egypt, the 12-moon religious calendar was intercalated with a 13th moon on just such an *ad hoc* basis, even after a mathematically-calculated lunar calendar was adopted for civil purposes. Neugebauer (1942:402-403) has commented on this calendrical complexity:

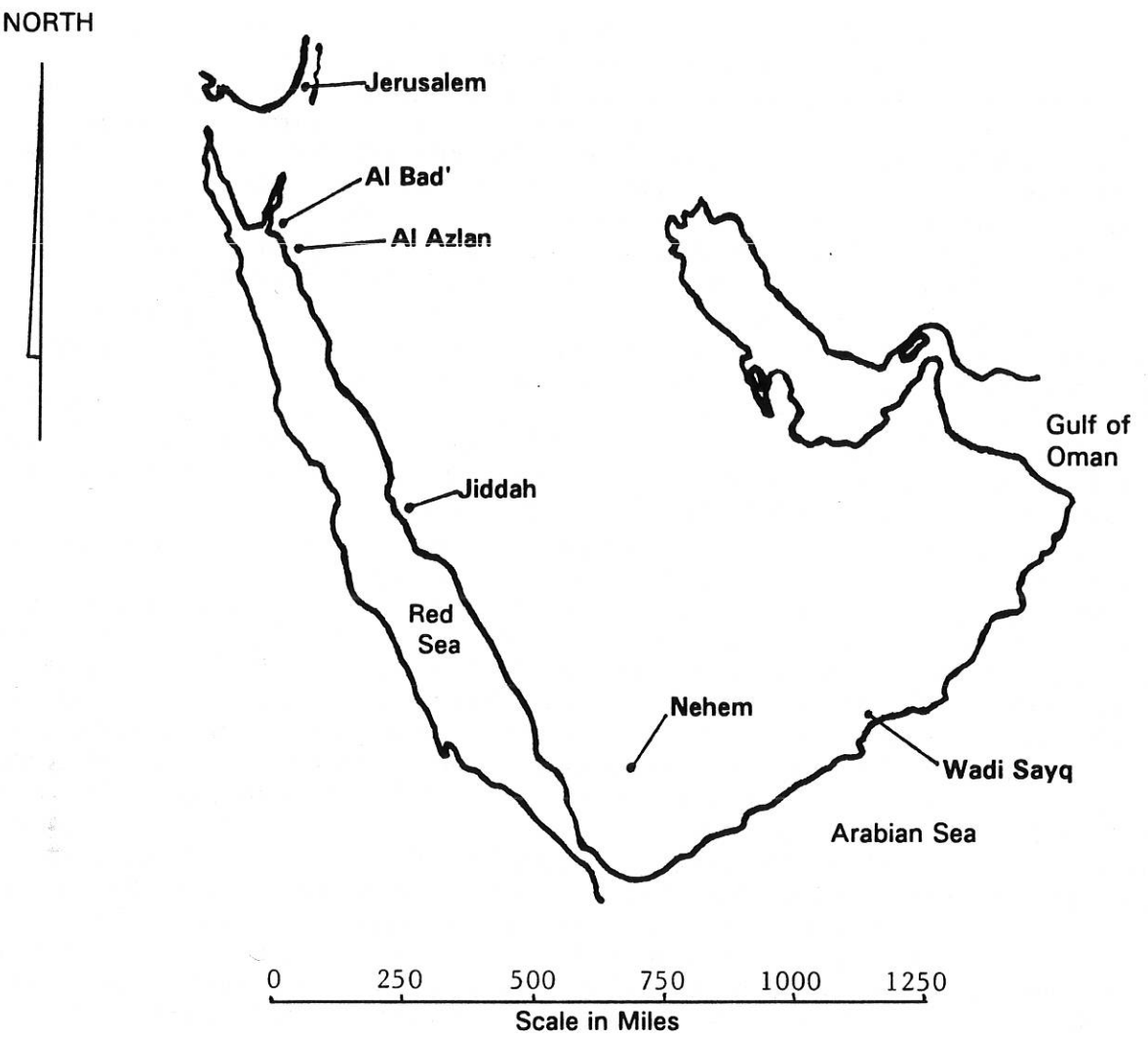
> To summarize, both the Egyptian and the Babylonian calendaric concepts display a higher complexity than is usually admitted by modern scholars. One point needs special stressing: this complexity must not be considered as the struggle of two or three competing calendaric systems in the modern sense of the word but represents the peaceful coexistence of different methods of defining time moments and time intervals in different ways on different occasions. The situation here is very much the same as in ancient metrology: no need is felt to measure, e.g., grain and silver and fishes by the same units of weight, nor is an attempt made to establish well-defined relations between these measures. Exactly in the same sense all modern talk about ancient "luni-solar calendars" constitutes an anachronism: some elements of ancient life are regulated according to the seasons; others, according to the moon . . . .

If Lehi and his descendants used an intercalated lunar calendar throughout the 600-year prophetic period, the average year would have contained nearly the same number of days as in the solar year. However, there are not 600 solar years between 587 B.C.E. (or even 597 B.C.E.) and the time of the Messiah's birth. Thus, Lehi and his descendants did not intercalate a 13th moon every two or three years. Moreover, it is unlikely that Lehi would have attempted to intercalate his calendar even for a short period of time.

The historical chronologies in the Jewish scriptures correlate with intercalated chronologies such as those of Babylonia and Assyria; so, it appears certain that the Jewish calendar authorities used some method to intercalate their 12-moon calendar. Nonetheless, intercalation is not even mentioned in the Jewish scriptures, except perhaps in a most indirect way (see 1 Kings 12; 2 Chronicles 30). If the process of intercalation at the time of Lehi was similar to the process established by the Jews after their return from the Babylonian exile, the secret methods were very closely guarded. Priesthood authorities

MAP 2

THE ARABIAN PENINSULA AND ROUTE TO "BOUNTIFUL"



POSSIBLE SITES

Al Bad' (Laman?)	1 Nephi 2:6-8
Al Azlan (Shazer?)	1 Nephi 16:11-13
Jiddah (Mountain?)	1 Nephi 16:14-31
Nehem (Nahom?)	1 Nephi 16:33-34
Wadi Sayq (Bountiful?)	1 Nephi 17:4-5

ROUTES

South-southeast from Laman to Nahom	1 Nephi 16:13-15, 33-34
Nearly eastward from Nahom to Bountiful	1 Nephi 16:34; 17:1

at the Temple controlled the calendar, at least until the rise of the Sanhedrin to power. Thus, Lehi's understanding of intercalation would have been limited to a layman's knowledge that a moon was occasionally added when the religious festivals began to appear too early in the agricultural seasons.

The traditional calendar of the Arabian desert is a non-intercalated, 12-moon calendar and such a calendar may have been in use in the desert at the time of Lehi. Furthermore, once Lehi left Judah, he would have lost any recognizable connection between the moon count and the agricultural seasons that he understood. Lehi spent the last years of his life in areas of the world with distinctly different seasons and climates than he knew in Judah. In some parts of the Arabian peninsula, for example, the monsoons would have created a summer rainy season, just the opposite from the winter rainy season in Judah. If Lehi understood the general concept of intercalation, he would have had no seasonal frame of reference in which to apply his understanding.

Lehi's colony brought seeds with them, but there is no indication that they attempted to grow crops until they reached the promised land. In Bountiful, they lived on wild fruit, meat and honey; these were the provisions they loaded onto their ship. When they set sail, they took their seeds with them. They planted the seeds when they reached the promised land (1 Nephi 8:1; 16:11; 18:6-8,23-24). Thus, there were no agricultural demands which might have required intercalation decisions between the time of Lehi's departure from Jerusalem and his arrival in the promised land.

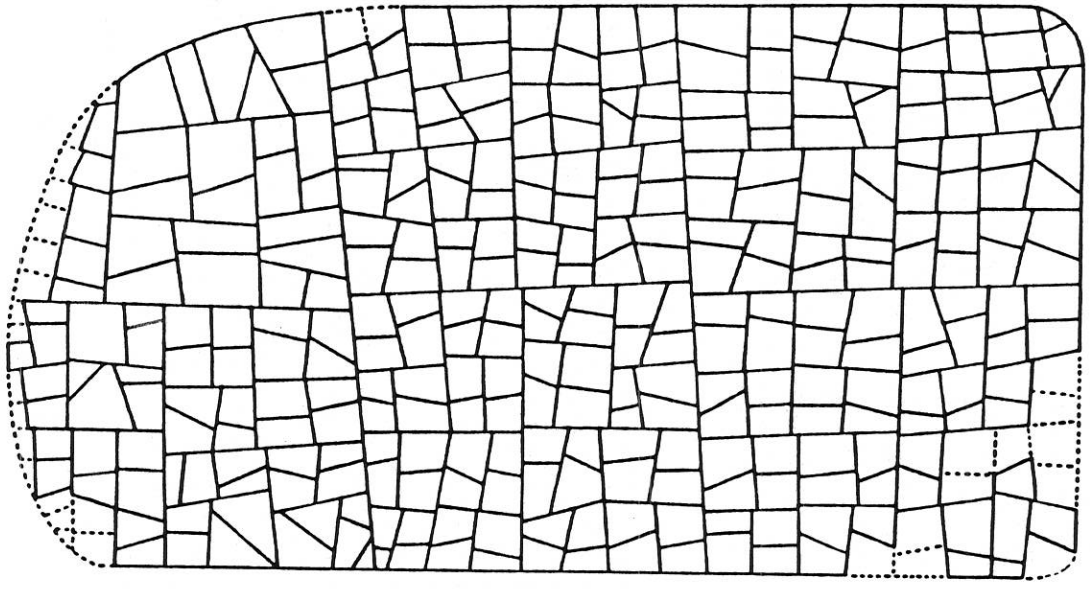
In Mesoamerica, Lehi probably would not have attempted to intercalate the calendar. Seasonal rainfall and temperatures in Mesoamerica are very different from those in Judah. More importantly, observation of the moon was an ancient practice in Mesoamerica before the time of Lehi and for hundreds of years after his colony arrived. The earliest archaeological evidence of a specific lunar calendar is the Olmec mosaic pendant from Las Bocas, Mexico, examined by Marshack (1975). The pendant is a detailed calendrical tool that originally held 354 small, shaped pieces of pyrite cemented to a ceramic base. The Las Bocas pendant indicates, among other things, that the synodic and sidereal cycles of the moon and the solar cycle had been correlated before about 1,000 B.C.E. Another picture of the 12-moon calendar appears on a green stone pendant found at La Venta, Mexico. This pendant indicates that the 354 mosaic pieces of the Las Bocas pendant unquestionably represented 12 moons. It also indicates that this 12-moon count could be disclosed to, and understood by, the common people. The esoteric information in the Las Bocas pendant, however, appears to have been reserved for calendar priests. The engraving on the La Venta pendant has been thought to be similar to the Danzantes rock sculptures of Monte Alban, Mexico, dated to about 800-400 B.C.E. — Too early

In the Classic Period of the Maya, about 300 to 900 C.E., inscriptions on stone monuments and buildings often contained lunar observations about such things as the day in the lunar month, the length of the lunar month (29 or 30 days), the number of moons completed in a lunar semester (typically made up of six moons), and the number of lunations completed in a lunar "super year" of 18-moons. Coe (1975:16) has written that "[i]n spite of claims to the contrary, the only astronomical calculations which surely are present on Maya monuments of the Classic Period are lunar . . . . [I]t is clear that the moon was felt to exert a powerful influence on terrestrial events."

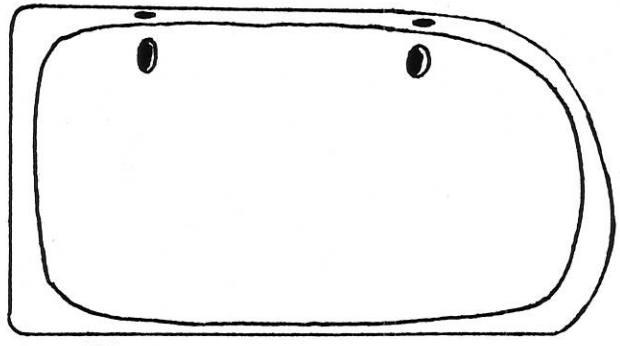
Lehi's descendants would have been in conformity with Mesoamerican astronomical and calendrical practice if they simply continued to count a 12-moon year. Moreover, the parts of the year designated "commencement" and "latter end" in the Book of Mormon may have been two six-moon semesters, in conformance with what seems to have been the lunar counting practice of Mesoamerican astronomers at the time of Mormon. By implication, the 600 years of Lehi's prophecy appear to have been counted as 600x12 or 7,200 moons, a period of about 212,620.2 days.

FIGURE 1

MOSAIC PENDANT
FROM LAS BOCAS, MEXICO



PYRITE MOSAIC FACE OF THE PENDANT
Actual Size



CERAMIC BACK OF THE PENDANT
Reduced Size

FIGURE 2

GREEN STONE PENDANT
FROM LA VENTA, MEXICO

FACE OF THE PENDANT
Actual Size

CROSS SECTION

Prospering in the Land

Lehi's colony arrived on the Pacific coast of Mesoamerica and "went forth upon the land . . . and [they] did call it the promised land." They "put all [their] seeds into the earth" and harvested "in abundance." They found "beasts in the forests of every kind . . . and all manner of wild animals, which were for the use of men" (1 Nephi 18:23-25).

> And we did find all manner of ore, both of gold, and of silver, and of copper. And it came to pass that the Lord commanded me, wherefore I did make plates of ore that I might engraven upon them the record of my people. And upon the plates which I made I did engraven the record of my father, and also our journeyings in the wilderness, and the prophecies of my father; and also many of mine own prophecies have I engraven upon them (1 Nephi 18:25; 19:1).

Even before Lehi's death, the colony was divided by continual strife among his sons. After Lehi's death, Laman and Lemuel and the sons of Ishmael eventually sought to take the life of Nephi. The Lord warned him that he "should depart from them and flee into the wilderness," together with all who would follow him. They took their "tents and whatsoever things were possible" and they traveled "in the wilderness for the space of many days" (2 Nephi 4:12-14; 5:1-7). The band of righteous Israelites found a place to settle and this time they called it the land of Nephi.

> And we did observe to keep the judgments, and the statutes, and the commandments of the Lord in all things, according to the law of Moses. And the Lord was with us; and we did prosper exceedingly; for we did sow seed, and we did reap again in abundance. And we began to raise flocks, and herds, and animals of every kind. And I, Nephi, had also brought the records which were engraven upon the plates of brass; and also the ball, or compass, which was prepared for my father by the hand of the Lord . . . . And it came to pass that we began to prosper exceedingly, and to multiply in the land (2 Nephi 5:10-13).

This separation of Nephi and his followers, "those who believed in the warnings and the revelations of God" (2 Nephi 5:6), from Laman, Lemuel, the sons of Ishmael and all of their followers, resulted in the most basic cultural distinction in Mesoamerican culture -- at least according to the view of the believers. The followers of Nephi called themselves "the people of Nephi" or the "Nephites." Their enemies, "the people who were now called Lamanites" (2 Nephi 5:14), included anyone who tried to destroy the followers of Nephi.

Despite the wars and contentions between these "two" groups, the Nephites prospered; they became adept at working with wood, metal and precious ores, and a Temple was built (2 Nephi 5:15-17). Enos, a nephew of Nephi, recorded (about 414 B.C.E.) that the Lamanites were "wild and ferocious and a blood-thirsty people, full of idolatry and filthiness, dwelling in tents and wandering about in the wilderness with a short girdle about their loins and their heads shaven . . . and they were continually seeking to destroy us" (Enos 1:20,25). Despite the wars and contentions that occasionally disrupted the peace, the people of Nephi continued to prosper and to become wealthy. Jarom, a son of Enos, recorded the passing of the 200th year from Lehi's departure from Jerusalem (in the winter of 394-393 B.C.E.). Lehi's righteous posterity:

> waxed strong in the land. They observed to keep the law of Moses and the sabbath day holy unto the Lord. They profaned not; neither did they blaspheme. And the laws of the land were exceedingly strict. . . . And we multiplied exceedingly,

> and spread upon the face of the land, and became exceedingly rich . . . (Jarom 1:5,8).

The Nephites became hardened both by their success and the harshness of their environment. There were "exceedingly many prophets" called among them to preach and encourage them to righteousness (Enos 1:22). Priests and teachers also worked in this rich and militarily successful community:

> exhorting with all long-suffering the people to diligence; teaching the law of Moses, and the intent for which it was given; persuading them to look forward unto the Messiah, and believe in him to come as though he already was (Jarom 1:11).

Sorenson (1985) has identified the city of Nephi in the land of Nephi as the ancient site known today as Kaminaljuyu, located on the continental divide in the valley of Guatemala within the boundaries of modern Guatemala City. Kaminaljuyu had become an important Mesoamerican center by 500 B.C.E. and by 300 B.C.E. it rivaled in size and splendor the great ceremonial site of Izapa, near the Guatemala border in southern Mexico.

Like Izapa, Kaminaljuyu was an important site for astronomical observation. At the latitude of these two cities, the passage of the sun across the zenith divides the solar year into 260-day and 105-day segments. Indeed, a calendrical inscription has been found at Kaminaljuyu which indicates that a unique calendar was instituted there on the spring equinox of 433 B.C.E. (Edmonson 1988:117-118). This calendar appears to be related directly to Lehi's prophecy of the Messiah's birth. And many of the calendars of Mesoamerica which were inaugurated following the time of the Messiah's birth appear to be derived from the calendar of Kaminaljuyu.

The Calendars of Mesoamerica

In addition to the lunar time periods mentioned above, which seem to have been based on actual observation of the phases of the moon, all Mesoamerica used two schematic calendars during the time period of the Book of Mormon. The most ancient of the schematic calendars was the religious calendar, sacred round or ritual almanac, as it has been variously called. The ritual almanac consisted of two separate, but related day counting systems -- one of 13 day-numbers and the other of 20 day-names. Each date was identified by a day-number and a day-name. Each of the day-numbers and day-names was deified. Every 260 (13x20) days this cycle of time recurred.

Henderson (1981:75-76) refers to the ritual almanac as "the oldest attested component of the Mesoamerican calendar . . . [and] also the most tenacious. . . . [T]he ritual almanac survives today." The 260-day ritual almanac appears as one of the day counting sequences on the Las Bocas pendant, which has been dated to about 1,000 B.C.E. Malmstrom (1981) suggests an origin for the 260-day calendar before 1,200 B.C.E. at Izapa, Mexico. Thus, the 260-day ritual almanac appears to have been in use as an astronomical and horoscopic tool for hundreds of years before Lehi's landing in Mesoamerica.

The second of the two schematic calendars is an approximation of the solar year consisting of 365 days. Unlike the Egyptian 365-day calendar (with 12 months of 30 days each followed by a five-day period), the Mesoamerican 365-day calendar has 18 months of 20 days each followed by five special days. Each of the 365 days is identified by a day-number and a month-name. Since the solar year is 365.2422 days long, the schematic 365-day calendar loses touch with solar events at the rate of about one day every four years. The time when the 365-day calendar was inaugurated is unknown, but a 365-day count appears to be part of the esoteric information contained in the Las Bocas pendant.

MAP 3

MESOAMERICA

The 365-day calendar or "civil year" and the ritual almanac were counted together in what has been called a "calendar round," a 52-year cycle made up of the lowest common multiple of the two calendars (52x365 = 73x260 = 18,980 days). Each day in the calendar round was identified by a unique set of day-numbers, day-name and month-name (see Table II); so, each named day only occurred once every 52 years. These two schematic calendars were bound together by the inhabitants of Mesoamerica for more than 2,600 years and counted virtually as one. Ritual action, agricultural and other economic activity, and civil ceremony depended on the timing demanded by the deified days of the two calendars. The failure to properly time any activity could lead to the destruction of agricultural and social enterprise.

In 1988 Edmonson published the first "comprehensive survey of the history of the unitary calendrical system of Middle American and a theory of its origin and development." According to this theory, the calendar round probably existed several hundred years before Lehi's arrival. Edmonson (1988:111-118) identified the earliest of the "summer-era" 365-day calendars (those based on a summer solstice) as Calendar A, which he provisionally named the Cuicuilco calendar. There may have been earlier solar-based calendars which used the summer solstice, winter solstice or autumn equinox, but glyphic evidence for such calendars has not yet been found. Edmonson placed the inauguration of the Cuicuilco calendar on the summer solstice of 739 B.C.E. The second of the summer-era calendars, which he called the Olmec calendar, was inaugurated about 83 years later (656 B.C.E.). Then on the spring equinox, March 21 or 26J, 433 B.C.E. (1,563,355), a new calendar was instituted at Kaminaljuyu.

The Kaminaljuyu calendar was the first of the Mesoamerican calendars to accurately reckon the length of the solar era: 1,508 years of 365 days each (550,420 days or 29 calendar rounds) were equated with 1,507 solar years. In modern mathematical terms, the Kaminaljuyu solar era represented 1,507 solar years averaging 365.24220306 days each, about four-tenths of a second per year longer than the modern estimate of 365.24219878 days per solar year. After 1,507 solar years or one Kaminaljuyu solar era, the difference between the Kaminaljuyu calendar and the modern estimate would have been about nine minutes and 17 seconds. The accuracy of the Kaminaljuyu calendar experts was remarkable. It undoubtedly drew upon a long tradition of lunar and solar observation and calendrical reckoning.

In ancient Mesoamerican terms, the calendar experts understood that in each solar era of 1,508 schematic 365-day years there existed only 1,507 real solar years. To maintain the accuracy of their calendar count, they theoretically compensated for this difference by erasing the extra 365-day period during the solar era. This was to be done by moving the final five-day period of the year forward by one 20-day month approximately every 83 years and eventually subtracting the last five-day period. In theory, about every 83 years, the calendar's New Year's Day would be shifted 20 days earlier in the year, so it would fall on the summer solstice or spring equinox again. However, this theoretical correction of the calendar was not carried out. Instead, a new calendar was created.

> Any given Middle American calendar was allowed to run its course without changing its New Year. But when a new calendar was founded, it was timed to the ongoing awareness of when the era began and when it was due to end. The Olmec calendar was a summer-era calendar based on that of Cuicuilco, the second in a potential series of eighteen such calendars to be expected at intervals of approximately 83 years. In fact, however, this summer calendar series ends with the Olmec. The reason is that the invention of the Kaminaljuyu calendar rendered the series obsolete (Edmonson 1988:116).

TABLE II

AN EXAMPLE OF THE INTERWEAVING OF THE 260-DAY RITUAL ALMANAC AND 365-DAY CIVIL YEAR

From the First Day of Olmec Calendar Year 652
Thursday, December 7 or 9J, 6 B.C.E. (1,719,574)
Day "5 Monkey" in the Ritual Almanac
0 B in the Civil Year
[Correlation Constant: 584,283]

DAY-NUMBER COEFFICIENTS OF THE RITUAL DAY-NAME "MONKEY"

CIVIL DAY NUMBERS	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	A	X	RITUAL NAMES
	5	12	6	13	7	1	8	2	9	3	10	4	11	5	12	6	13	7	1	
0																				Monkey
1																				Jaw
2																				Cane
3																				Jaguar
4																				Eagle
5																				Tree?
6																				Quake
7																				Flint
8																				Rain
9																				Lord
10																				Sun
11																				Wind
12																				House?
13																				Iguana
14																				Serpent
15																				Death
16																				Deer
17																				Rabbit
18																				Water
19					*													*		Foot

MONTHS OF THE CIVIL YEAR

The Olmec civil year shown above began on the Olmec ritual almanac day known as "5 Monkey." However, Olmec civil years were "terminally-named," i.e., identified by their 360th (18x20) day-number and day-name in the ritual almanac. As shown above, the terminal-naming day was known as "13 Foot." This same combination of day-number and day-name also occurred 260 days earlier, thereby dividing the civil year into 105-day and 260-day calendrical segments. Month-names are not known for the Olmec civil year; so, standard alphabetic symbols are used. The 20 day-numbers associated with each month of the Olmec civil year ranged from 0 to 19. The Olmec civil year began on the day known as 0 B (see generally Edmonson 1988).

The 20 days of the first month of this Olmec year would have been called: 5 Monkey 0 B; 6 Jaw 1 B; 7 Cane 2 B; 8 Jaguar 3 B; 9 Eagle 4 B; 10 Tree? 5 B; 11 Quake 6 B; 12 Flint 7 B; 13 Rain 8 B; 1 Lord 9 B; 2 Sun 10 B; 3 Wind 11 B; 4 House? 12 B; 5 Iguana 13 B; 6 Serpent 14 B; 7 Death 15 B; 8 Deer 16 B; 9 Rabbit 17 B; 10 Water 18 B; 11 Foot 19 B. The second month of the civil year would then have begun on the day 12 Monkey 0 C and the following days would have been 13 Jaw 1 C, 1 Cane 2 C, etc.

Of course, the Olmec calendar was not obsolete in the sense that people stopped using it. The Olmec calendar appears to be "the longest lived" of the Mesoamerican calendars. Edmonson (1988:20,65,227-231) has identified an Olmec date from 656 B.C.E. and another from 1522 C.E. Hence, the Olmec summer-era calendar became obsolete only to the calendar experts who found its solar era inaccurate. The Olmec calendar continued to be counted for nearly 2,000 years after the Kaminaljuyu spring-era calendar was founded.

A third Mesoamerican schematic calendar, made up of 360 days (18 months of 20 days each) and known as the Long Count calendar, seems to have been adopted in the fourth or third centuries B.C.E. This calendar apparently was not used at Kaminaljuyu, Teotihuacan or at many other non-Maya sites in Mesoamerica. Indeed, "[a]ll of the earliest archaeological evidence of the Long Count is Olmec" (Edmonson 1988:118-120).

Calendar X

In 165 B.C.E., the Teotihuacan calendar was derived from the Kaminaljuyu calendar by means of a 105-day adjustment. This adjustment was about 166 years too soon; so, the calendar experts added back 40 days into the calendar through a numeral change in the ritual almanac. Such a change showed little regard for the ritual efficacy of the 260-day calendar. Indeed, the 105-day adjustment "audaciously subtracted one full day count (260 days) from the calendar," a theoretical elimination of all of the religious performances of one ritual almanac (Edmonson 1988:121-122). Why were the calendar experts at Teotihuacan so indifferent to the rituals of the sacred round, so skilled in astronomical observation and calendrical manipulation, and so interested in a 105-day adjustment to the Kaminaljuyu calendar (which was not mathematically or observationally called for until about 1 to 5 C.E.)?

Edmonson (1988:101,122) proposed that the Tikal calendar was inaugurated in 84 C.E. by means of a 105-day adjustment to Calendar D, a purely hypothetical calendar supposedly instituted in 350 B.C.E. No glyphic evidence supports Calendar D. Its basis is mathematical necessity requiring a 125-day adjustment to the Kaminaljuyu calendar by 84 C.E. Edmonson also noted that there might have been a 105-day adjustment first, similar to the 105-day adjustment pre-figured at Teotihuacan, to create another hypothetical calendar, Calendar X, about 1 C.E. Calendar X might have been followed by a 20-day adjustment to create the Tikal calendar. No glyphic evidence supports Calendar X either.

Edmonson rejected Calendar X in favor of Calendar D because he assumed that Calendar X only existed as the direct source of the calendars of both Teotihuacan and Tikal. Since Kaminaljuyu and Teotihuacan did not have the 360-day Long Count calendar while Tikal did, Teotihuacan and Tikal probably were not both derived from Calendar X. This reason for rejecting Calendar X is enigmatic, at best. The Tikal and Teotihuacan calendars need not have been derived *directly* from the same calendar for there to have been a Calendar X. Indeed, when Edmonson accepts Calendar D as the intermediary calendar between those of Kaminaljuyu and Tikal, he assumes that the Tikal calendar had a *direct* derivation separate from the derivation of the Teotihuacan calendar.

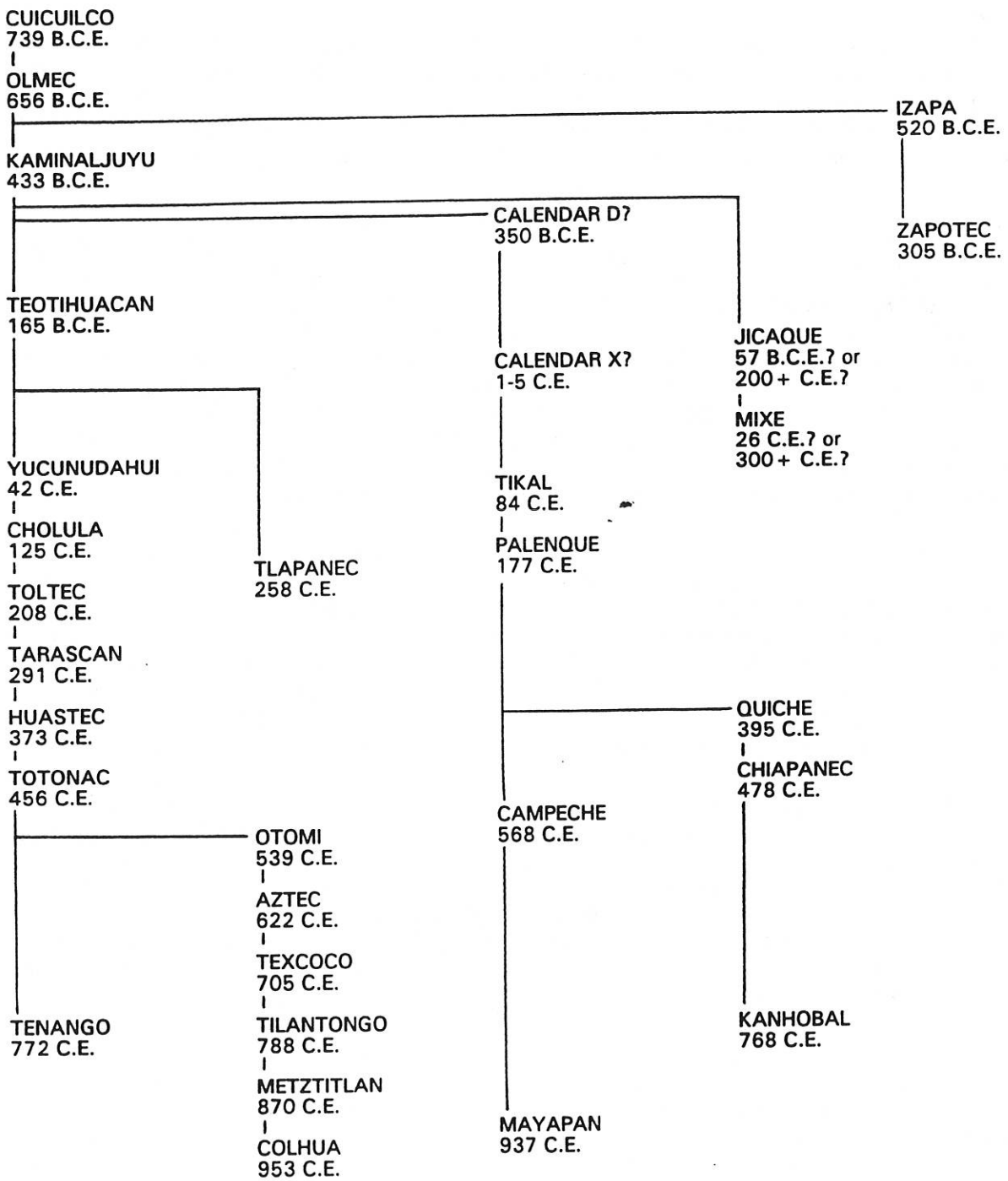
Evidence for the Teotihuacan calendar includes Stela 10 from Kaminaljuyu, which Edmonson dates to 147 B.C.E., nearly a century and a half before Calendar X may have come into existence. So, the Teotihuacan calendar could not have been derived *directly* from Calendar X. The earliest unequivocal evidence for the Tikal calendar is found on the Leiden Plaque, which was discovered on the Caribbean coast of Guatemala and dated to 320 C.E. The month glyph on the Leiden Plaque is very similar to the corresponding Olmec glyph. The Leiden Plaque also contains a Long Count date, indicating a further connection between Olmec and Tikal calendars or calendar experts (Edmonson 1988:25-27,32-33; Henderson 1981:137).

TABLE III

DERIVATION OF THE PRECLASSIC AND CLASSIC PERIOD CIVIL CALENDARS OF MESOAMERICA

With The Proposed Year of Inauguration

[Source: Edmonson 1988]



The available evidence cited by Edmonson seems to indicate a *direct* derivation of the Teotihuacan calendar from that of Kaminaljuyu before 147 B.C.E. Neither the Teotihuacan calendar nor the Kaminaljuyu calendar was associated with the Long Count calendar. On the other hand, the evidence at least suggests that the Tikal calendar was derived *directly* from an intermediary calendar influenced both by the Kaminaljuyu spring-era mathematics, the Olmec calendar and the Olmec-related Long Count calendar. Thus, based on Edmonson's evidence, there is no reason to reject Calendar X (about 1 C.E.) as the source of the Tikal calendar in favor of Calendar D (about 350 B.C.E.).

In the Grijalva River basin, the earliest evidence of the Long Count calendar has been found in close association with the Olmec calendar. This close association may be a further indication that the intermediate calendar between those of Kaminaljuyu and Tikal was adopted in the Grijalva River basin or nearby in the Olmec land bordering the narrow neck of land now known as the Isthmus of Tehuantepec. If either Calendar D or Calendar X was inaugurated in this area, it would have been associated at least geographically with the Olmec calendar and the Long Count.

The question remains: why this interest in a 105-day calendar adjustment near the time of the Savior's birth? What the Teotihuacan and Tikal calendars actually document is that a 105-day adjustment to the Kaminaljuyu calendar was both expected and carried out. Assuming that there had been no previous 20-day adjustments (i.e., no Calendar D), a 105-day adjustment to the Kaminaljuyu calendar could have been justified mathematically and observationally between September 26 or 28J, 1 C.E. (1,721,694) and November 12 or 14J, 5 C.E. (1,723,202). Calendar X could have been adopted at that time.

The Nephite calendar priests could have used the mathematical and astronomical understanding associated with the calendar round without adopting the rituals or the fatalism associated with the ritual almanac. They could have adopted the 365-day civil year, while at the same time maintaining their seven-day week and Lehi's 12-moon calendar. The Book of Mormon reports that in the fifth century B.C.E., Lehi's righteous posterity were taught by priests and teachers "to look forward" to the time of the Messiah's birth (Jarom 1:11). They knew when Lehi's 600-year period began and the length of each 12-moon year. With their Mesoamerican calendrical tools, they may have estimated the time of the Messiah's birth at the end of Lehi's 600 prophetic years. This could have been one of the two principal reasons for the inauguration of the Kaminaljuyu calendar and the deep interest in a single 105-day adjustment to that calendar.

The other reason may have had to do as much with Mesoamerican calendrical mathematics and astronomy as with the Messiah's birth. The mathematics of the calendar round divided each 365-day calendar into two parts, a 260-day year and a 105-day addition. In the Kaminaljuyu calendar, New Year's Day was the first day of the year and, after one 260-day cycle, the same ritual almanac day recurred on day 261 to create a "little" New Year's Day. In addition, the passage of the sun across the zenith divided the 365-day calendar into 260-day and 105-day segments at the latitude of Kaminaljuyu. The 105-day adjustment to the Kaminaljuyu solar era reflected the solar reality of a single 365-day calendar as viewed at the latitude of Kaminaljuyu. Moreover, the 105-day adjustment may have symbolically emphasized the 105-day segment (7x15) rather than lend any credence to the ritual notions of the 260-day segment (13x20) of the year, which the righteous Nephites would have rejected at Kaminaljuyu, in the Grijalva River basin and in the land northward where Teotihuacan was located (see, e.g., Alma 50:11; Helaman 3:3).

A note of caution is important: Kaminaljuyu or Nephi was the main urban center in the land of Nephi, the land from which Mosiah I escaped with his righteous followers and from which numerous "Lamanite" armies were dispatched to destroy the "Nephites" in the land of Zarahemla during the last two centuries before the birth of the Messiah. Thus, in the land of Zarahemla, Lehi's righteous descendants may have lost touch for a period of time with the elegant mathematics of the calendar experts at Kaminaljuyu.

Escape to Zarahemla

Apparently all of the preaching, prophesying and teaching could not withstand the corruption of riches amassed at Kaminaljuyu. Wars, contentions and dissensions continued until Mosiah I, a Nephite living in the land of Nephi, was warned by the Lord that he should flee from the land and take with him "as many as would hearken unto the voice of the Lord." After struggling through the jungle-covered mountain wilderness north of Kaminaljuyu, "admonished continually by the word of God" and "led by the power of his arm," Mosiah I and his righteous followers "came down into the land which is called the land of Zarahemla" (Omni 1:12-13).

> And they discovered a people, who were called the people of Zarahemla. Now, there was great rejoicing among the people of Zarahemla; and also Zarahemla did rejoice exceedingly, because the Lord had sent the people of Mosiah with the plates of brass which contained the record of the Jews. Behold, it came to pass that Mosiah discovered that the people of Zarahemla came out from Jerusalem at the time that Zedekiah, king of Judah, was carried away captive into Babylon (Omni 1:14-15).

The two groups united under the kingship of Mosiah I, but it was not a completely happy union: "holy prophets" contended against "false Christs," "false prophets, and false teachers;" and there were "many dissensions away unto the Lamanites," probably among the people of Zarahemla who did not want Nephite rulers or their strict religion (Words of Mormon 1:15-18). The right of the Nephites to rule the more numerous people of Zarahemla remained a key point of controversy for generations.

Mosiah II succeeded to the "Nephite" throne a few years before the death of his father, king Benjamin (Omni 1:19,23; Mosiah 6:3-4). The new king, Mosiah II:

> began to reign in the thirtieth year of his age, making in the whole, *about* four hundred and seventy-six years from the time that Lehi left Jerusalem. And king Benjamin lived three years and he died (Mosiah 6:4-5, emphasis added).

Does the word "about" in this calendrical statement indicate that the offspring of Lehi had become aware of an error in their count of the years? It might be asserted, for example, that they lost track of time during the troubles that forced Mosiah I and his righteous followers to flee into the mountainous jungle. Still, they were believers in Lehi's prophecy and probably would have continued the lunar count throughout their journey. Their jungle route is described in the Book of Mormon as one that could be traveled in less than a month, although other travelers who wandered through the jungle took a few weeks longer (Mosiah 7:2-6; 23:1-4; 24:18-25). In terms of Mesoamerican geography, the route would have crossed the mountains north of Kaminaljuyu and brought the travelers down into the Grijalva River basin to the city of Zarahemla (possibly the site known as Santa Rosa) a route on the order of about 200 to 250 miles, depending on their wanderings. Thus, if Lehi's posterity somehow lost track of the moon count at this time, it was probably for a very short period rather than the loss of one or more years. Since the only other significant sojourn in the wilderness of Mesoamerica was that of Nephi and his righteous followers, and Nephi does not use the word "about" in connection with his reporting of dates following that sojourn (see 2 Nephi 5:28,34), it seems very unlikely that there was any error in the calendar count.

One might also suppose that the word "about" indicates that Lehi's prophecy is to be understood generally, so that the calendar keepers had kept track of time in only the most general sort of way and "about" 476 years had passed away, give or take a few years. This supposition ignores both the reality of Mesoamerican time keeping and the

obsession of Lehi's righteous posterity with counting his 600 prophetic years. Moreover, the record does not say "about" 600 years, but "about" 476 years. From a purely practical standpoint, how could the calendar keepers have determined that the enthronement of Mosiah II was "about" 476 years rather than "about" some other number of years from Lehi's departure if they had not kept track of time? Is it even reasonable that the calendar keepers accurately *guessed* the birth of the Messiah would occur in 124 years? Or does this supposition actually suggest that Mormon rewrote the history of the Nephites, inserting his own calendrical dates to falsify the fulfillment of Lehi's prophecy? The Book of Mormon does not even imply such a conclusion.

The most probable explanation of the word "about" in the record of Mosiah II is that his coronation and the associated festival took place near the time of the 476th anniversary of Lehi's departure from Jerusalem. Under this interpretation, the word "about" does not indicate any slippage in the count of years. This view corresponds with that of the Book of Mormon authors. They admitted that "the mistakes of men" might have crept into their work, but they did not know of any errors (see 3 Nephi 8:2; Mormon 8:17 and the title page of the Book of Mormon).

Several scholars have drawn attention to parallels between the coronation of Mosiah II and the ancient Israelite harvest festival, the feast of Tabernacles. Christenson (1991) has noted the correspondence between ancient Mesoamerican harvest festivals held in mid-November and the coronation festival of Mosiah II. If one assumes that Lehi escaped from Jerusalem as soon after the siege was lifted as possible, then Lehi probably would have begun his 600-year count on the first new moon day that followed his departure. That day was Wednesday, January 19 or 25J, 587 B.C.E. (1,507,046). After 476 years or 5,712 moons had passed away, the beginning of the 477th year occurred with the first visibility of the new moon of November 17 or 20J, 126 B.C.E. (1,675,725), just a few days after a possible mid-November harvest festival.

Thus, the word "about" might indicate that, in a break with a long-standing Nephite tradition, king Benjamin inaugurated his son's kingship on a Mesoamerican festival day at Zarahemla, a day important perhaps in the Olmec calendrical pattern, rather than a Nephite festival day that might have once been observed in the land of Nephi. In fact, two days before the beginning of the 477th year, on Monday, November 15 or 18J, 126 B.C.E. (1,675,723), the day would have been known as 7.11.11.14.0 in the Long Count calendar; the 15th day of the 16th month (14 Q) of the Olmec 365-day calendar; and day 3 Lord (ruler or king) in the ritual almanac. The coronation of the third Nephite king in the land of Zarahemla might have been planned for, and completed on, such a chosen day, "about" 476 years after the time that the prophet Lehi departed from Jerusalem.

Calendar Tampering

The suggestion has been made that the "calendar" used by the Nephites to count Lehi's 600 years of prophecy actually may have been a combination of calendars, such as a lunar calendar followed at some point by a 360-day calendar or a 360-day calendar followed by a 365-day calendar. The most troubling aspect of such suggestions and the various combinations of calendars that are mathematically possible for counting Lehi's 600 years is whether such altered year counts smack of fakery or invention. Why would the Nephite calendar keepers believe they were empowered to tamper with the method used to count Lehi's prophetic years? Lehi apparently began the count as he camped at the oasis, using a calendar chosen for the very purpose of identifying for his posterity when the Messiah would be born. Lehi's righteous posterity kept this year count and were taught expressly to look forward to the birth of the Savior. The principal justification for maintaining the year count was its religious purpose.

If Lehi's posterity found reason enough to change the calendar used by Lehi to start the count, then the 600-year record would appear to be vulnerable to charges of

manipulation or concoction. Near the time when the prophecy was fulfilled, the non-believers were vehement in their attacks on the believers, even threatening them with execution, but no charge of calendar tampering or invention is mentioned. The charge leveled against the believers was that the time prophesied by Samuel the Lamanite more the five years earlier had passed without any appearance of the prophesied signs (Helaman 14:2-6; 3 Nephi 1:5-9). In such circumstances, it seems quite unlikely that the prophetic and religious claims of Lehi's righteous posterity would have escaped indictment for calendar tampering if there was any recollection of such a charge.

Given the longevity of both true and false claims in the context of religious antagonism, it also seems unlikely that any such indictment would have been forgotten by the non-believers, even if it was based on false information. More than 500 years after Lehi chose Nephi to be his successor because of his son's righteousness, the Book of Mormon records a personal battle in which a Lamanite king attempted to kill a Nephite on the sole justification of the traditional falsehood that Nephi was a liar who robbed his older brothers of their rightful place and possessions (Alma 20:8-30). The endurance of such hateful folklore does not indicate that Nephite record keepers could have manipulated their count of Lehi's 600 years without some challenge of fakery, innovation or conspiracy.

The Book of Mormon was written in large measure to show the manner and time in which the principal prophecies of the Nephite religion were fulfilled. Nearly 400 years after the Messiah's birth, Mormon may not have understood what type or types of calendars were used to count Lehi's 600 years. However, if a charge of calendar tampering appeared in the records he abridged, Mormon probably would have reported and refuted it. He records other charges against the Nephites and challenges to their religion, and he fully describes the Nephites' hypocrisy, pride and wickedness (see, e.g., Helaman 4; Alma 1:1-15; 10:28-11:46; 30; 3 Nephi 7:1-13; 4 Nephi 1:27-31,38-46). Mormon's silence on the issue of calendar change during the 600-year count would appear to indicate that no such charge of calendar tampering ever was brought against the Nephites. This would indicate that no change was made in the calendar used by the Nephites to record the passage of Lehi's 600 years of prophecy. In light of these considerations, this study uses a single calendar for the 600-year count, a calendar that could have been used faithfully throughout the period and that would have been compatible with the law of Moses as understood by the righteous Nephites.

Seasons of War

Sorenson (1990:445-477) has drawn attention to several passages in the Book of Mormon that indicate a connection between seasonality and warfare. Mesoamerican militiamen finished the harvest in October or early November; field preparation did not begin again until spring. In the winter dry season, trails were more passable and rivers reached their lowest point. This was the time for planned warfare.

In Alma 52-53, Mormon records that in the "latter end" of the 27th year of the era of the judges (the 536th year following Lehi's departure from Jerusalem), captain Moroni arrived at a theater of war with his army. The Lamanites refused to come out of their conquered strongholds to fight the Nephite armies. In the "commencement" of the 28th year, Moroni and the other chief captains held a council of war to devise a strategy to lure the Lamanites out of one of the captured cities. Their strategy was successful and the Nephite forces under Moroni regained possession of the city.

> And it came to pass that he did no more attempt a battle with the Lamanites in that year, but he did employ his men in preparing for war, yea, in making fortifications to guard against the Lamanites, yea, and also delivering their women and children from famine and affliction, and providing food for their armies (Alma 53:7).

Assuming that Lehi's 600-year count began with the new moon of January 19 or 25J, 587 B.C.E. (1,507,046), the 28th year of the reign of the judges began with the new moon of February 2 or 4J, 67 B.C.E. (1,696,986). The "latter end" of the 27th year included the winter dry season when armies could move about most easily. Moroni's army was prepared for battle, but the Lamanites would not venture out of their fortresses. By early February, it was clear to the Nephite captains that the opportunity for a major battle would soon be lost. Their troops would have to return to the land, to prepare for another growing season. A stratagem was devised, carried out and the city was captured. Then, as the spring rains began, some of the troops went to work "delivering their women and children from famine and affliction, and providing food for their armies."

Five more passages in the Book of Mormon state the month and year in the era of the reign of the judges when military actions were undertaken. Not all of these actions occurred in the winter dry season. Surprise attacks and guerrilla raids were always a possibility. Enos 1:20 states that the Lamanites were wild and ferocious, and "were continually seeking to destroy" the Nephites. For example, in Alma 16:1-12, a surprise attack by Lamanites is placed in the second month of the 11th year of the judges (the 520th year following Lehi's departure). The Lamanites destroyed the city of Ammonihah (the ancient site at Mirador, Mexico) in a single day, raided in the area of the city of Noah (Ocozocuautla, Mexico) and escaped with captives before the Nephites could raise "a sufficient army to drive them out of the land." The surprise nature of the attack, the lack of an adequate Nephite defense and the apparent delay in mustering a sufficient Nephite counter-attack force, all may indicate that the raid occurred in the rainy season or when the militiamen were engaged in agricultural work. Using the 12-moon Nephite calendar proposed above, the second month of the 11th year of the judges would have begun with the new moon of September 5 or 7J, 84 B.C.E. (1,690,992). Toward the end of this month, the rainy season came to an end and the harvest began.

On the tenth day of the 11th month of the 19th year of the judges, a large Lamanite army approached the rebuilt city of Ammonihah (Alma 49:1-12). The Lamanites were unprepared for the defenses they encountered and withdrew into the wilderness. The 11th month of the 19th year (528th year after Lehi's departure) began with the new moon of March 2 or 4J, 75 B.C.E. (1,694,092). The rainy season in the highland area around Mirador usually does not begin until May. Thus, a large Lamanite army in the field and a well-prepared Nephite defensive system would be consistent with this report.

In Alma 51:22-37, a series of battles are described near the end of the 25th year of the judges. The Lamanite king was killed by a Nephite captain on the last night of the 25th year and, on the following New Year's Day, the Lamanite armies retreated without a fight. According to the calendar proposed above, the first day of the 26th year of the judges (Lehi's 535th year) began with the new moon of February 25 or 27J, 69 B.C.E. (1,696,278). This report is consistent with the report of a season of war during the winter dry season and with the record of the Nephite captain stealing into the Lamanite camp in the dark of night.

The fourth military action recorded within a specific month appears in Alma 56:20, 27-28. Provisions for the armies defending a Nephite city and a reinforcement of 2,000 men (accompanied by their wives and children) arrived in the second month of the 27th year. This month began with the new moon of March 15 or 17J, 68 B.C.E. (1,696,662). Provisions from the harvest several months earlier were available. A protective force of militiamen was mustered to accompany the transport of provisions during the last part of the dry season, an excellent time to travel. The men and their families were then in position to begin the planting season at their new home and to reinforce the armies protecting the city.

Alma 56:1-57:5 records that the first battle fought by captain Helaman's army of young Lamanite converts was the decisive battle won against the most powerful Lamanite

army in that theater of war. The battle occurred on the third day of the seventh month of the 28th year (see Alma 53:8-23). The seventh month began on July 30 or August 1J, 67 B.C.E. (1,697,164). The site of the battle has been identified as the river valley near Motozintla, Mexico, a highland area near the Guatemala border. The rainy season in highland Mesoamerica generally begins in May, with most rainfall in July and September.

Helaman describes the deceptive action which his troops took to start the battle as a "stratagem" (Alma 56:30) that lured the Lamanites out of the fortifications at the captured Nephite city called Antiparah. He also reports that his commanding officer "ordered" this action. One might wonder whether the order was necessary in light of Helaman's great concern for his youthful army, and the dangers of entering a major battle in the rainy season. Perhaps the stratagem was successful in part because the Lamanites did not expect Helaman's "little sons" to be a decoy for a large Nephite army prepared for hand-to-hand combat in wet weather.

Helaman's young army, the sons of converted Lamanites, "did think more upon the liberty of their fathers than they did upon their lives; yea, they had been taught by their mothers, that if they did not doubt, God would deliver them" (Alma 56:47). Starting on the first day of the seventh month, the Lamanite army began its pursuit of the fleeing youths. On the third day, the Lamanites turned to fight the following Nephite army, routing it before Helaman's forces fell on the Lamanite rear guard. A slaughter ensued, with the Lamanites eventually surrounded and defeated. Captain Helaman then reported:

> And it came to pass that when they had surrendered themselves up unto us, behold, I numbered those young men who had fought with me, fearing lest there were many of them slain. But behold, to my great joy, there had not one soul of them fallen to the earth; yea, and they had fought as if with the strength of God; yea, never were men known to have fought with such miraculous strength; and with such mighty power did they fall upon the Lamanites, that they did frighten them; and for this cause did the Lamanites deliver themselves up as prisoners of war (Alma 56:55-56).

The only exact days mentioned in connection with large scale military actions in the book of Alma (49:1, 52:1 and 56:42) refer to the retreat of large Lamanite armies without a fight and to the miraculous protection of every member of Helaman's army in its defeat of the one of the most powerful Lamanite armies. These exact references may be compared with the two years of peace identified by the change in year-end marking phrases in the exact center of the time period covered by the book of Helaman (see Table I). In addition, the exact length of time of the Messiah's life, in terms of years and days, is given in the book of 3 Nephi, along with the last of the year-end marking phrases in that book (see 3 Nephi 8:1-5). These exact temporal references appear to be purposeful cues for identifying the most basic themes connected with the heart of the Book of Mormon: the Savior's death and resurrection, the removal of the wicked from among the Nephites, and the inauguration of a long era of peace in Mesoamerica.

Prophecies of Samuel the Lamanite

A remarkable prophet called Samuel the Lamanite entered the land of Zarahemla in the 86th year of the reign of the judges or the 595th year after Lehi left Jerusalem (Helaman 13-16). The 595th year of Lehi's 600 years of prophecy began on May 13 or 15J, 11 B.C.E. (1,717,540) and continued until May 1 or 3J, 10 B.C.E. (1,717,893). Samuel the Lamanite was sent by an angel to bring glad tidings to the Nephites about their coming Lord, but they "cast him out." When Samuel was about to return to his own land, the voice of the Lord sent him back again. He climbed onto the wall of the city of Zarahemla and prophesied of the coming Messiah. He warned them of destruction for a

perverse generation. The inhabitants of Zarahemla sought to kill him, but he escaped to the safety of his own land. Among the Nephites, he was never heard from again.

Like his forefather Lehi, Samuel is reported to have prophesied many things that "cannot be written" (see 1 Nephi 6:3; 9:1 and Helaman 14:1), but one of his prophecies recorded in Helaman 14:2-8 relates to the Messiah's birth. This prophecy is vital to understanding the time when the Savior was born. Samuel is reported to have said:

> Behold, I give unto you a sign; for *five years more* cometh,
> and behold, then cometh *the Son of God*
> to redeem all those who shall believe on *his name*.
> And behold, this will I give unto you for a sign at *the time* of his coming;
>
> for behold, there shall be *great lights in heaven*,
> insomuch that in *the night before* he cometh
> there shall be no *darkness*,
> insomuch that it shall appear unto man as if it was *day*.
> Therefore, there shall be *one day and a night and a day*,
> as if it were one *day* and there were no night;
> and this shall be unto you for *a sign*;
> for ye shall know of the *rising of the sun* and also of its setting;
> therefore they shall know of a surety that there shall be *two days and a night*;
> nevertheless the *night*
> shall not be *darkened*;
> and it shall be *the night before* he is born.
> And behold, there shall *a new star* arise, such an one as ye never have beheld;
> and this also shall be *a sign* unto you.
> And behold this is not all, there shall be *many signs and wonders in heaven*.
>
> And it shall come to pass that ye shall all *be amazed, and wonder*,
> insomuch that ye shall *fall to the earth*.
> And it shall come to pass that whosoever shall *believe* on the Son of God,
> the same shall *have everlasting life*.

The parallel structure of this prophecy is clear. The introductory stanza focuses on time and the Son of God. The concluding stanza reiterates these themes by introducing the tension between falling to earth versus eternal life, and mere amazement versus true belief in the Son of God. The phrases "great lights in heaven" and "many signs and wonders in heaven" are the beginning and ending phrases of the central stanza. These phrases balance each other and enclose the other elements of the sign: a night without darkness followed by a new star, "such an one as ye never have beheld."

At the time of Samuel's prophecy, 11 or 10 B.C.E., the appearance of the comet now known as Halley's comet would have been remembered. Chinese records state that Halley's comet was visible for 56 days between August 24 or 26J, (1,717,278) and October 18 or 20J (1,717,333), 12 B.C.E. (Ho 1962:147). A comet visible to the unaided eye for this lengthy period would have traveled near the sun and been quite bright. Thus, the inhabitants of Zarahemla had a recent comet against which to compare the new star prophesied by Samuel the Lamanite.

In the introductory stanza, the heavenly wonders are referred to as a singular "sign at the time of his coming;" so, they probably should be viewed as contemporaneous events. Signs, wonders, great lights and a new star in heaven are consistent with a single night without darkness, although one would expect the star to shine on subsequent nights.

In the 599th year after Lehi left Jerusalem, "there were great signs given unto the people, and wonders; and the words of the prophets began to be fulfilled. And angels did appear unto men, wise men, and did declare unto them glad tidings of great joy" (Helaman

16:13-14). Despite these great signs and wonders that were "wrought among the people of the Lord, and the many miracles which they did, Satan did get great hold upon the hearts of the people upon all the face of the land" (Helaman 16:23). Still, the signs in the heavens had not appeared. The 600th year passed away as well. Then, in the "commencement" of the 601st year, "there began to be greater signs and miracles wrought among the people" and "the prophecies of the prophets began to be fulfilled more fully" (3 Nephi 1:4). But the heavenly signs had not occurred.

A bitter dispute arose between the righteous and the wicked about the fulfillment of Samuel's prophecy. The unbelievers set a day when the faithful would be killed if the prophesied signs of the Messiah's birth were not seen. The leading Nephite prophet, who was also named Nephi, sorrowed for the wickedness of the people. He "bowed himself down upon the earth, and cried mightily to his God in behalf of his people." He pleaded with the Lord "all that day" and toward evening, Nephi heard the voice of the Lord saying:

> Lift up your head and be of good cheer; for behold, the time is at hand and on this night shall the sign be given, and on the morrow come I into the world, to show unto the world that I will fulfil all that which I have caused to be spoken by the mouth of my holy prophets. Behold, I come unto my own, to fulfil all things which I have made known unto the children of men from the foundation of the world . . . . And behold, the time is at hand, and this night shall the sign be given (3 Nephi 1:13-14).

As Samuel had prophesied, "at the going down of the sun there was no darkness; and the people began to be astonished because there was no darkness when the night came" (3 Nephi 1:15).

> And it came to pass that there was no darkness in all that night, but it was as light as though it was mid-day. And it came to pass that the sun did rise in the morning again, according to its proper order; and they knew that it was the day that the Lord should be born, because of the sign which had been given (3 Nephi 1:19).

A new star appeared as Samuel had prophesied, but immediately:

> there began to be lyings sent forth among the people, by Satan, to harden their hearts, to the intent that they might not believe in those signs and wonders which they had seen; but notwithstanding these lyings and deceivings the more part of the people did believe, and were converted unto the Lord (3 Nephi 1:22).

Their peace was short-lived. Within four years after the sign was given in the heavens, "the people began to forget those signs and wonders which they had heard, and began to be less and less astonished at a sign or a wonder from heaven, insomuch that they began to be hard in their hearts, and blind in their minds" (3 Nephi 2:1).

Again, if one assumes that Lehi escaped from Jerusalem as soon after the siege was lifted as possible, then Lehi would have begun his year count with the new moon of January 19 or 25J, 587 B.C.E. (1,507,046). After 600 years, 7,200 moons or 212,620.23 (600x354.36705) days had passed away, the 601st year of Lehi's prophetic period would have begun with the new moon of March 8 or 10J, 5 B.C.E. (1,719,666). In the "commencement" of this long-awaited year, the sign of the Messiah's birth was seen in the heavens and He was born at Bethlehem.

THE MESSIAH'S BIRTH

In Mesoamerica, the miraculous sign of the Savior's birth was the night filled with glorious light which preceded the day when Jesus was born (3 Nephi 1:12-20). This night in Mesoamerica occurred about eight hours later than the same night in Judaea. So, while the sign was being observed by the Nephites and Lamanites, Judaeans experienced the part of the following day from early morning (about 2:00 a.m.) through early afternoon. On the night that followed the Messiah's birth, shepherds in Judaea saw another miraculous sign while they were tending their flock. The angel of the Lord appeared and announced that "unto you is born this day . . . a Saviour, which is Christ the Lord" (Luke 2:6-12). These scriptures indicate a similarity in the miraculous signs given on both continents: brilliant light at night. The "glory of the Lord" shone about the shepherds as their vision unfolded. This glory is the luminous cloud, visible brightness and sometimes fiery manifestation of God's presence and goodness (see, e.g., Exodus 24:15-17; 2 Chronicles 7:1-3; Ezekiel 1:26-28; Matthew 17:1-9).

In addition to these manifestations of the presence and glory of the Lord, another sign appeared that could be seen across the world. A star appeared as prophesied by Samuel, a non-Nephite prophet in Mesoamerica, and by Balaam, a non-Israelite prophet in the Middle East. Balaam prophesied while Israel camped near Jericho. His words were included in Numbers 22-24, one of the oldest of Israel's scriptures. In the Dead Sea community at Qumran near the time of Jesus, a short Messianic anthology was kept that included an extract of the prophecy of Balaam (Vermes 1968:247-249). Apparently, some in Judaea still expected their Messiah to be heralded by the star Balaam had seen in a vision (Numbers 24:15-17):

> And he took up his parable and said,
> Balaam, the son of Beor hath said,
> and the man whose eyes are open hath said:
> He hath said,
> which heard the words of God,
> and knew the knowledge of the most High,
> which saw the vision of the Almighty,
> falling into a trance,
> but having his eyes open:
>
> I shall see him, but not now:
> I shall behold him, but not nigh:
> there shall come a Star out of Jacob,
> and a Sceptre shall rise out of Israel . . . .

This prophecy consists of two sets of interrelated, parallel statements. The first describes Balaam's prophecy about a person: "I shall see him" and "I shall behold him," but he is not to come in Balaam's day (when Joshua ruled Israel) and he is not nearby. Who is this person Balaam saw in vision? The prophet answers with parallel metaphors relating to gods or royalty. The person is a star from Jacob, a scepter from Israel. The star is an ancient Middle Eastern symbol identifying a god or a deified king. The "scepter" (Hebrew *shebet*) also could be a "rod" or "staff," other physical symbols of power; a "club," an instrument of judgment; a "tribe" or "clan," those who follow the same ruler; or perhaps even a "comet," a star shaped like a club or scepter. In Numbers 24:17, "comet" might be an acceptable parallel for "star" and the New English Bible so translates it.

The Magi

The wise men or Magi who came to Bethlehem apparently were the only ones in the Middle East to have recognized the time of the Messiah's birth from sighting His star. They arrived at Herod's court in Judaea, "Saying, where is he that is born King of the

Jews? for we have seen his star in the east [or as it arose], and are come to worship him" (Matthew 2:2). There would seem to have been very few Magi who journeyed to Bethlehem (though not necessarily the traditional *three* wise men). Herod would not have permitted a large group of foreigners seeking a new king to travel about Judaea unattended by a royal escort, nor would a large group have been able to leave the kingdom without being detected. Some have asserted that these few Magi were astrologers, sorcerers or magicians because many of such pretenders practiced their venal crafts throughout the ancient world (see, e.g., Acts 8:9-24; 13:4-12). However, the Magi who sought out the Messiah appear to have been righteous priests rather than deceivers.

For hundreds of years before the Savior's birth, the Magi were known as a distinct caste (perhaps originally a clan or tribe living in Media) which provided priestly service, dream interpretation and divination in the Median, Persian and Parthian Empires. Media was one of the lands to which the tribes of Israel were exiled by the Assyrians after the fall of Samaria in the eighth century B.C.E. (2 Kings 17:6; 18:11). Observation of the moon, lunar calendars and divination based on eclipses appear to have been important elements of their ancient practice. They kept fires burning day and night; so, observation of astronomical events other than eclipses also may have been part of their calendrical practice. Their ancestral religion appears to have been linked with matriarchy and the worship of a powerful mother goddess. By the seventh century B.C.E., some in Media worshipped the Holy One, Ahura-Mazda ("Wise Lord"), as the supreme deity. The Magi eventually adopted Zoroastrianism, which included the belief in a Savior who would appear in the world from the kin of Zoroaster, the prophet of the Wise One.

Toward the end of the first century C.E., Pseudo-Lucian described the Magi as "an order of seers who are dedicated to the service of the gods and who are found among the Persians, the Parthians, the Bactrians, the Chorasmians, the Areians, the Saka and the Medes. . . . They have . . . strong constitutions and live to a great age, for their profession of magi makes it incumbent on them to observe strict rules of life" (Boyce 1979:98). Their principal concerns included study, worship, ethics, purification, learning holy sayings and hymns, divination (particularly dream interpretation) and prophecy. Philo of Alexandria, a Jewish writer (about 20 B.C.E. - 54 C.E.), listed several "large associations of men of the highest excellence." From among the Persians, he included "the order of the Magi, who silently make research into the facts of nature to gain knowledge of the truth and through visions clearer than speech, give and receive the revelations of divine excellency" (*Quod Omn. Prob.* 74). Philo also contrasted the pious Magi with charlatans who took the Magian name or style upon themselves as sorcerers and magicians:

> Now the true magic, the scientific vision by which the facts of nature are presented in a clearer light, is felt to be a fit object for reverence and ambition and is carefully studied not only by ordinary persons but by kings and the greatest kings, and particularly those of the Persians, so much so that no one in that country is promoted to the throne unless he has first been admitted into this caste of Magi. But there is a counterfeit of this, most properly called a perversion of art, pursued by charlatan mendicants and parasites and the basest of the women and slave population, who make it their profession to deal in purifications and disenchantments and promise with some sort of charms and incantations to turn man's love into deadly enmity and their hatred into profound affection (*Spec. Leg.* iii.100).

Philo describes the deceptions of sorcerers and magicians in the way Manilius (early first century C.E.) describes the astrological effects of the stars. In a world filled with conflict, intrigue and arrogance, how can someone detect an enemy or a friend?

> Moreover, the stars have agreements among themselves according to special laws, and so enjoy fixed associations: upon each other they direct their gaze and to each other give ear; else they bear hatred or friendship; some are introverted and by the fullness of their self-esteem are drawn into themselves. And so sometimes goodwill exists between the stars that are opposed and war is waged between signs in alliance; signs which share no ties of place beget men attached in life-long friendship, and men born of triangles fight and shun each other in turn. For, when God brought the whole universe under law, he also set the signs at variance by distributing the affections among them and connected the vision of some, the hearing of others. Thus he composed alliances of these signs in lasting federation, that some might see and hear each other, others might love or cause injury and war, and that others might cherish an addiction to their own natures, ever in love with themselves and finding favour in their own eyes: we see most men with dispositions such as these; they owe their natures to the stars that gave them birth (*Astron.* 2.466-484).

This short passage does not describe a religion of ethics and purification, but a destructive doctrine of intrigue, alliance, conflict, war and predestination. Nonetheless, some have thought that because the Magi believed a star was the sign of a royal birth, they must have been astrologers.

Just as there were charlatans who called themselves Magi, there also were pretenders among the Chaldaeans, as another group of astronomers were known in the Parthian Empire. Philo referred to the province of the Chaldaeans as "mathematical theory, of which astronomy is a part." But he also noted that the "Chaldaean doctrine [horoscopic astrology] . . . in addition to being difficult to seize and grasp, is the cause of great evils and impiety in attributing to that which is created the powers of the Creator" (*Gen.* iii.1). Strabo, a Greek geographer (about 63 B.C.E. - 21 C.E.), reported that in Babylonia "a settlement is set apart for the local philosophers, the Chaldaeans, as they are called, who are concerned mostly with astronomy; but some of them, who are not approved of by the others, profess to be genethlialogists [horoscopic astrologers]" (*Geog.* 16.i.6). Thus, in the first centuries B.C.E. and C.E., the term Chaldaeans in the Parthian Empire apparently could be used to describe both respected astronomers and suspect astrologers. In the Roman Empire, however, the term Chaldaeans became associated primarily with astrologers, just as the term Magi seems to have become known most widely as the name for sorcerers and magicians.

When the wise men set out for Judaea, they knew they had seen the star that signified the birth of the king of the Jews. However, they had no need to turn to horoscopic astrology, whether Babylonian or Hellenistic, to determine this fact. Hellenistic astrology assumed that the earth was the center of a spherical universe. The earth is actually a medium-sized planet orbiting one of the billions of stars in the Milky Way galaxy, which is but one of billions of galaxies that make up the known universe. Babylonian astrology does not seem to have included ideas about a celestial sphere. Instead, it focused on the mathematical relationships of recurrent astronomical events. All horoscopic astrology assumed that the sun, moon, planets and stars were spirits, powers or forces governing or predestining human behavior. They have no such effect. So, to argue that astrologers in the last few centuries B.C.E. had developed a valid system for predicting human events -- let alone the birth of the Savior -- based on these false assumptions is at best, nonsensical, and at worst, deceptive and evil.

As part of an order of priests devoted to pursuits such as purification, ethics, and the study of ancient wisdom and prophecy, the Magi who traveled to Bethlehem undoubtedly were familiar with astronomy -- not as astrologers, but as priests concerned with rituals and holy days.

> Few statements are more deeply rooted in the public mind or more often repeated than the assertion that the origin of astronomy is to be found in astrology. Not only is historical evidence lacking for this statement but all well-documented facts are in sharp contradiction to it. . . . [C]alendaric problems directed the first steps of astronomy. Determination of the season, measurement of time, lunar festivals -- these are the problems which shaped astronomical development for many centuries; and we have seen that even the last phase of Mesopotamian astronomy, characterized by the mathematical ephemerides, was mainly devoted to problems of the lunar calendar (Neugebauer 1983:54-55).

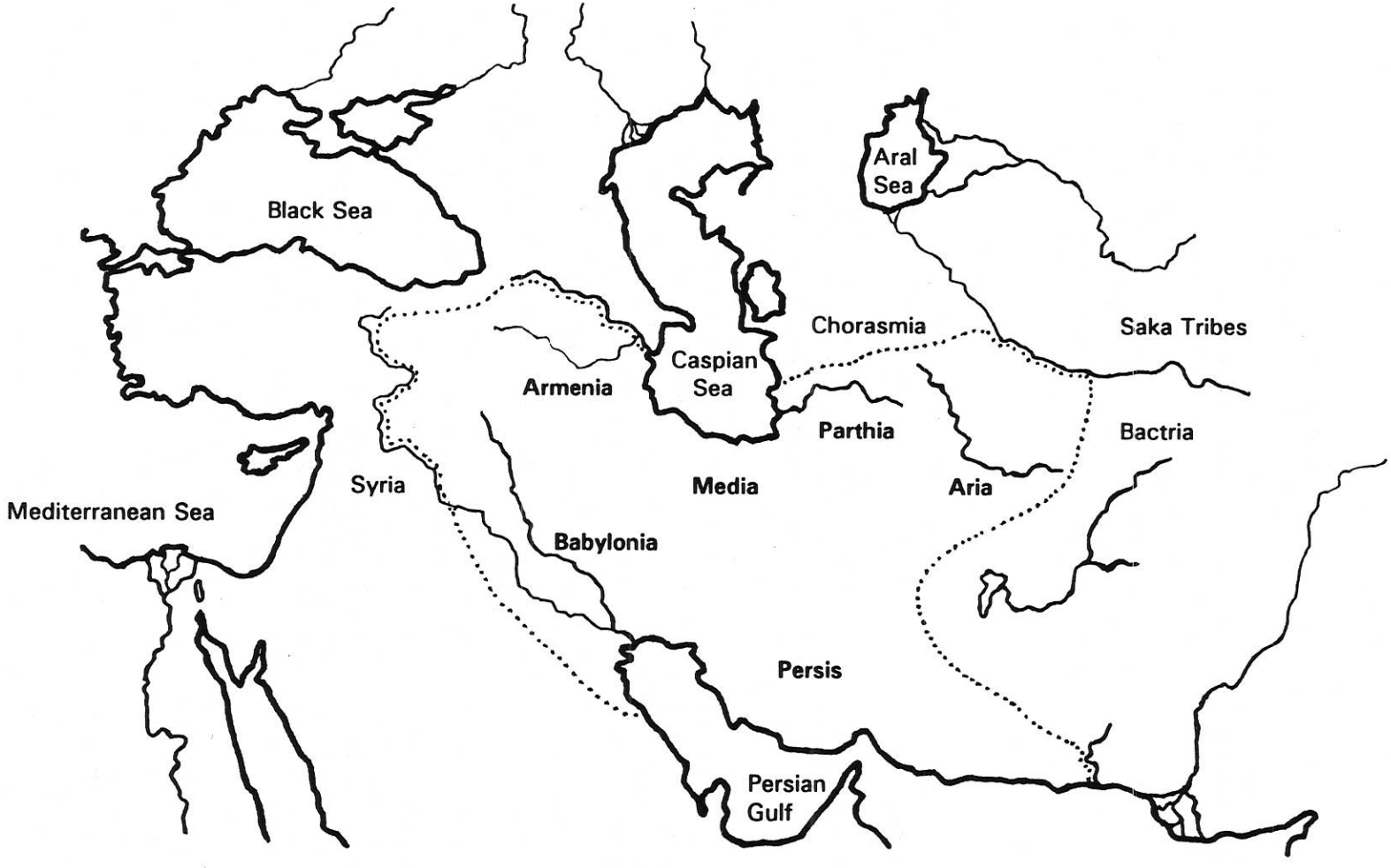
The Gospel of Matthew does not refer to the Magi in a disparaging manner. The humble birth of the Messiah and the meager circumstances of his family would not have attracted venal charlatans or impious deceivers to Bethlehem. Indeed, the Magi came to Bethlehem for the purpose of worship and they brought valuable gifts for the Messiah (Matthew 2:2,11). Hence, it appears to be more faithful to the scriptural record to consider the Magi who visited Bethlehem as wise men, priests learned in religion and science, rather than as astrologers, sorcerers or magicians.

The Magi came "from the east" (Matthew 2:1); so, they may have traveled from somewhere in the Parthian Empire. In the last three centuries B.C.E., "the east" had become a cultural magnet for those seeking wisdom in a world filled with a confusing array of gods. Parthian tolerance permitted many religions to grow unrestrained other than for political aspects. In some instances, the gods themselves seem to have been melded with each other. Yet, the temples of the individual gods and goddesses were maintained. Sumerian hymns, written in a language that had not been spoken in two millennia, were studied and carefully copied in Babylonia. Parthian kings may have worshipped primarily as Zoroastrians. Magi constituted one of the two great Councils of the Parthian Empire (the other being the Kinsmen or nobles). Nonetheless, Parthian kings normally referred to themselves as *philhellen* on their coins. Greek deities -- Pallas, Artemis, Zeus and perhaps Apollo -- also appeared on their coins. Greek language was taught, Hellenistic legal forms were used, the Seleucid calendar was maintained and Greek plays were enjoyed.

> Babylon became an admired cultural center of a world-wide empire, comparable to the position of Rome in medieval times. The thousand-year-old uninterrupted tradition attracted the admiration of the younger cultures and created the myth of Babylonian wisdom; the main object of admiration was astrology, the "Chaldean" science, which opened inexhaustible new possibilities to religious speculation. Now Persian priests, Jews and Greeks lived in Babylon, and an international idiom written in simple characters, the Aramaic, made general communication easy. Precisely this . . . internationalism created competition between national cultures. Zarathustra, Abraham, and Pythagorus were each proclaimed as the inventor of all science and creator of astronomy, astrology, and number-wisdom, and each group asserted itself to be the oldest, and consequently, the teacher of mankind. In this atmosphere of intellectual competition the Babylonian school

MAP 4

THE PARTHIAN EMPIRE



> of scribes and priests had to defend their authority. Thousands of texts of New-Babylonian, Seleucid, and Parthian times are the evidence of a Babylonian renaissance, returning even in linguistic aspects to old Sumerian traditions (Neugebauer 1983:30).

In the first century B.C.E., the Parthian Jews constituted one of the largest and most important of the Jewish communities outside of Palestine. When Herod chose a new High Priest after the capture of Jerusalem in 37 B.C.E., he chose a Parthian Jew, perhaps to win the favor of the Jews of Parthia, "whose support would be valuable if Roman power, not yet firmly established in the East, collapsed under Parthian pressure" (Smallwood 1976:64-65,120). Thus, when the Magi who visited Bethlehem came "from the east," they came from lands where religious traditions, prophetic promises, mathematical sciences and the pseudo-science of astrology, all were diligently studied and compared. The Magi who came to Bethlehem may have participated in such inquiry and comparison. They clearly understood that prophecies in the Jewish scriptures concerning a Messiah had been fulfilled.

The Day of Spiritual Famine

The wise men seem to have become familiar with what they considered to be heavenly signs prophesied in connection with the Jewish Messiah's birth. These signs had been revealed to the prophets of Israel. Amos foretold a time of spiritual famine: "Behold, the days come, saith the Lord God, that will send a famine in the land, not a famine of bread, nor a thirst for water, but of hearing the words of the Lord" (Amos 8:11). Jeremiah spoke of the return of the earth to a condition like its earliest state: "I beheld the earth, and, lo, it was without form, and void; and the heavens, and they had no light" (Jeremiah 4:23). Isaiah wrote that "the day of the Lord cometh . . . [and] the stars of heaven and the constellations thereof shall not give their light: the sun shall be darkened in his going forth, and the moon shall not cause her light to shine" (Isaiah 13:9-10). Joel also prophesied such a time: "The earth shall quake before them; the heavens shall tremble: the sun and the moon shall be dark, and the stars shall withdraw their shining" (Joel 2:10). Similar ideas of a generalized day of darkness and gloom may be found in the records of Micah (3:5-7), Zephaniah (1:14-16) and Ezekiel (32:7-8).

The Magi could have believed that a time of moral darkness and spiritual famine existed in their day. They lived in a time of almost constant foreign and civil wars, riots, savagery and disorder. When Alexander the Great conquered Persia (331-326 B.C.E.), he became notorious among the Persians as one of the worst of sinners because he killed Magi (Boyce 1979:78). About 57 B.C.E., the Parthian emperor Phraates III was murdered by two of his sons, who then battled each other for control of the Empire. Orodes II finally destroyed his brother, Mithradates III, about 55 B.C.E. In 53 B.C.E. the Parthians defeated a Roman army under Crassus and followed this with a major raid into Syria two years later. About ten years later, Parthia again invaded Syria and Asia Minor and held these areas for a couple of years. About 37 B.C.E., Orodes II turned the government over to his eldest son, Phraates IV, who immediately murdered his father and all 29 of his brothers. In 36 B.C.E. a Roman army under Mark Antony was soundly defeated by the Parthians. However, a Parthian ally in Palestine was defeated by a Roman army that assisted Herod the Great to conquer Jerusalem in 37 B.C.E. Antony later invaded Armenia and marched to the borders of Media before being forced to retreat from Armenia. A rebellion led by Tiridates II, an ally of Rome, began in 31 B.C.E. and continued for about six years before the rebels were expelled from the Parthian Empire. In 10 B.C.E., another usurper calling himself Mithradates attempted to wrest the throne from Phraates IV, but the rebellion was quickly crushed. This brief recitation of political and military struggle does not begin to chronicle the evils rampant during the first century B.C.E.

Amos also prophesied that God would "cause the sun to go down at noon" and would "darken the earth in the clear day" (Amos 8:9). Joel prophesied that the "sun shall be turned to darkness, and the moon into blood, before the great and terrible day of the Lord" (Joel 2:31). The darkened sun and twilight at noon could have been interpreted by the wise men as a total solar eclipse. The moon turned to blood is an ancient metaphor for a total lunar eclipse, when the moon becomes a dark red color. The Magi were known to be interested in prophecy associated with eclipses and to believe in the eventual birth of a Savior; therefore, an examination of solar and lunar eclipses visible in the Middle East will shed additional light on the certainty of the wise men that they had seen the star of the Jewish Messiah.

The Sun Darkened at Noon

A solar eclipse is the apparent darkening of the sun caused by the moon passing between the sun and the earth. A total solar eclipse occurs when the moon completely blocks out the visible surface of the sun or photosphere. Only the corona, the halo of light around the sun, may be seen. The sky is as dark as at twilight. A pinkish glow illuminates the entire horizon. A partial solar eclipse takes place when the moon covers only part of the photosphere. Because the photosphere is about 1,000,000 times brighter than the corona, even a partial eclipse of 99% of the photosphere results in 10,000 times more light (1%x1,000,000) reaching the earth from the photosphere than from the corona and the sky is far too bright to see the corona.

Solar eclipses are not rare. Partial eclipses occur about three times a year. Total eclipses occur every 18 months or so. Of course, eclipses visible from a fixed point on earth occur much less frequently. In the Middle East, only 18 total solar eclipses were seen in the period from 500 to 1 B.C.E., an average rate of one total solar eclipse every 27.78 years. During this same period, only seven total solar eclipses could be seen in any significant part of the region (Kudlek and Mickler 1971).

At about noon on June 28 or 30J, 10 B.C.E. (1,717,951), a total solar eclipse moved across Mesopotamia. Persepolis, Damascus and Jerusalem were south of the track of this eclipse, so their inhabitants would have experienced only a partial eclipse. The astronomical centers at Sippar and Borsippa in Babylonia, and many other cities of northern Phoenicia, Syria, Mesopotamia and Persia, fell within the path of the total eclipse. For astronomers in these cities, the eclipse may have provided an impressive testimony to their predictive skills. This was the first total solar eclipse generally visible in Mesopotamia since mid-day on April 12 or 15J, 136 B.C.E. (1,671,854). In 10 B.C.E., the astronomers had been waiting more than 125 years for a total solar eclipse that could be observed extensively. The word of this great eclipse would have been spread far and wide among the Magi and its portent would have been of deep concern. Chinese records also indicate that a comet or nova appeared sometime during 10 B.C.E. This year is several years too early for the time of the Savior's birth, but the revolt in 10 B.C.E. may have been instituted under the influence of false meanings attributed by some astrologers to the appearance of a comet and solar eclipse.

The Moon Turned to Blood

The moon revolves around the earth each month, but the angle between the moon's orbital plane and the earth's plane usually results in the moon passing either above or below the earth's shadow. Several times a year, however, the moon passes partially or totally into the earth's dark inner shadow, the umbra, resulting in a partial or total lunar eclipse. In a total lunar eclipse, the moon is entirely covered by the earth's shadow. For one or two hours, the moon then appears to be a dark red color because red light curving around the earth's atmosphere reaches the moon. A partial lunar eclipse is much less impressive: the umbra merely moves onto and then off of a portion of the moon's surface.

In the Middle East during the period from 500 to 1 B.C.E., the moon visibly "turned to blood" 192 times, once every 2.6 years (Kudlek and Mickler 1971). Two total lunar eclipses occurred in 9 B.C.E. on the nights beginning on June 1 or 3J (1,718,290) and November 26 or 28J (1,718,468). Both of these eclipses may have sparked additional interest among the Magi who were concerned with Jewish prophecies about the coming of the Messiah, but it is difficult to know what sort of meaning the Magi may have associated with these 9 B.C.E. eclipses. The next two total eclipses occurred in 5 B.C.E. on the nights beginning on March 21 or 23J (1,719,679) and September 13 or 15J (1,719,855).

The March 5 B.C.E. eclipse may have been particularly interesting to the Magi. In the Jewish calendar, March 21, 5 B.C.E. was the night of the Passover meal. This was the first total lunar eclipse of a Passover moon in the Middle East for at least 235 years and perhaps 354 years; so, the rarity of the event and its connection with the Passover theme may have drawn the interest of these Magi who were aware of Jewish prophecy. To priestly calendar keepers, this was the spring equinox. In the springtime, the first fruits sacrifices were made throughout Mesopotamia and the barley harvest began. The full moon arose about 6:04 p.m., Jerusalem time, about an hour after the last of the lambs had been sacrificed at the Temple for the Passover meal. The moon began to be eclipsed at about 7:20 p.m. One hour later the eclipse was total, with the moon shadowed to a dark red color. About 10:00 p.m. the total eclipse ended. The full moon was out of the earth's shadow completely by about 11:00 p.m.

The 5 B.C.E. Comet

Another astronomical event began in the same month as the Passover eclipse: a comet appeared. Writers familiar with the extensive records of Far Eastern astronomers have proposed that a comet was the star of the Magi at least since 1729 C.E. when the Jesuit missionary Foucquet inserted a comment pertaining to a 5 B.C.E. comet in his translation of a Chinese chronological table. A year later, Sloane referred to Foucquet's insight and concluded that 5 B.C.E. was "the true Year in which our Saviour was born" (Cullen 1979:156,159). This comet, called a "broom star" in Chinese -- a star with a long tail -- is reported to have appeared in the lunar month which began with the first visibility of the new moon on March 8 or 10J (1,719,666) and continued to the moonless night of April 5 or 7J (1,719,694), 5 B.C.E. In Babylonia, this was the month of Nisanu, the time of the New Year's festival. In Judaea, the month was Nisan, the time of Passover and the Feast of Unleavened Bread, with its first fruits celebration. In Mesoamerica, this was the first month of the 601st year of Lehi's era.

Visibility of the broom star continued for more than 70 days according to one report and for about 70 days according to another record. The comet remained visible at least two weeks longer than Halley's comet in 11 B.C.E. Observation of the comet may have continued until about June 14 or 16J, 5 B.C.E. (1,719,764). Bright, long-lasting comets appear close to the sun for a large part of their observation period. Clark, Parkinson and Stephenson (1977:446) observed that a comet visible for 70 days or longer "would be expected to reach a very brilliant maximum, probably brighter than Venus." The planet Venus is usually the brightest object in the sky except for the sun and moon. Another indication that the comet was bright and near to the sun is the report found in Matthew 2:9-10, where the wise men again saw the star they had seen in the east and "they rejoiced with exceeding great joy." Sometimes when a comet nears the sun, the two heavenly bodies collide and the comet is destroyed. On other occasions, the comet disappears as it travels by the sun; then the comet reappears as a brilliant star and moves away from the sun, eventually disappearing from sight. The 5 B.C.E. comet may have been brighter, in addition to being visible longer, than Halley's comet of 11 B.C.E. The 5 B.C.E. comet could have fulfilled the prophecy of Samuel the Lamanite that this new star would be "such an one as ye never have beheld" (Helaman 14:5).

God Is With Us

The position of the Passover eclipse in the heavens would have been examined by the wise men. When the moon rose on the evening of March 21, 5 B.C.E., it "turned to blood" as it departed from the constellation known today and 2,000 years ago, among Hellenistic astronomers, as Virgo, the Virgin (Figure 3). This sign in the heavens may have indicated to the wise men the fulfillment of Isaiah's prophecy to king Ahaz (Isaiah 7:14): "Behold a virgin shall conceive, and bear a son, and shall call his name Immanuel," which means "God is with us."

Ahaz came to the throne of Judah about 735 B.C.E. upon the death of his father, Jotham. Because Syria and Israel had combined against Judah and had attacked from the north to besiege Jerusalem, Ahaz and his court -- perhaps the whole house of David -- were fearful that they would be destroyed (2 Kings 15:37; 16:5-6; Isaiah 7:1-2). The overthrow of a king often meant the execution of all members of the royal family (see, e.g., 1 Kings 14:7-11; 15:27-29; 16:11). Such an execution of the house of David would have contradicted the promise of the Lord delivered by the prophet Nathan to David: "thy throne shall be established for ever" (2 Samuel 7:16). The Edomites also invaded Judah from the east and the Philistines invaded from the west.

In desperation, Ahaz sought an alliance with an even more powerful enemy, the Assyrians. In 734 or 733 B.C.E., the Lord sent Isaiah to Ahaz with a simple message about the threatened destruction of the house of David: "Thus saith the Lord God, It shall not stand, neither shall it come to pass" (Isaiah 7:7). Then Isaiah put Ahaz to the test, by offering him a confirmative sign from the Lord (Isaiah 7:10-16):

> Moreover, the Lord spake again unto Ahaz, saying, Ask thee a sign of the Lord thy God; ask it either in the depth, or in the height above. But Ahaz said, I will not ask, neither will I tempt the Lord. And he said, Hear ye now, O house of David; Is it a small thing for you to weary men, but will ye weary my God also? Therefore the Lord himself shall give you a sign; Behold a virgin shall conceive, and bear a son, and shall call his name Immanuel. Butter and honey shall he eat, that he may know to refuse the evil and choose the good. For before the child shall know to refuse the evil, and choose the good, the land that thou abhorrest shall be forsaken of both her kings.

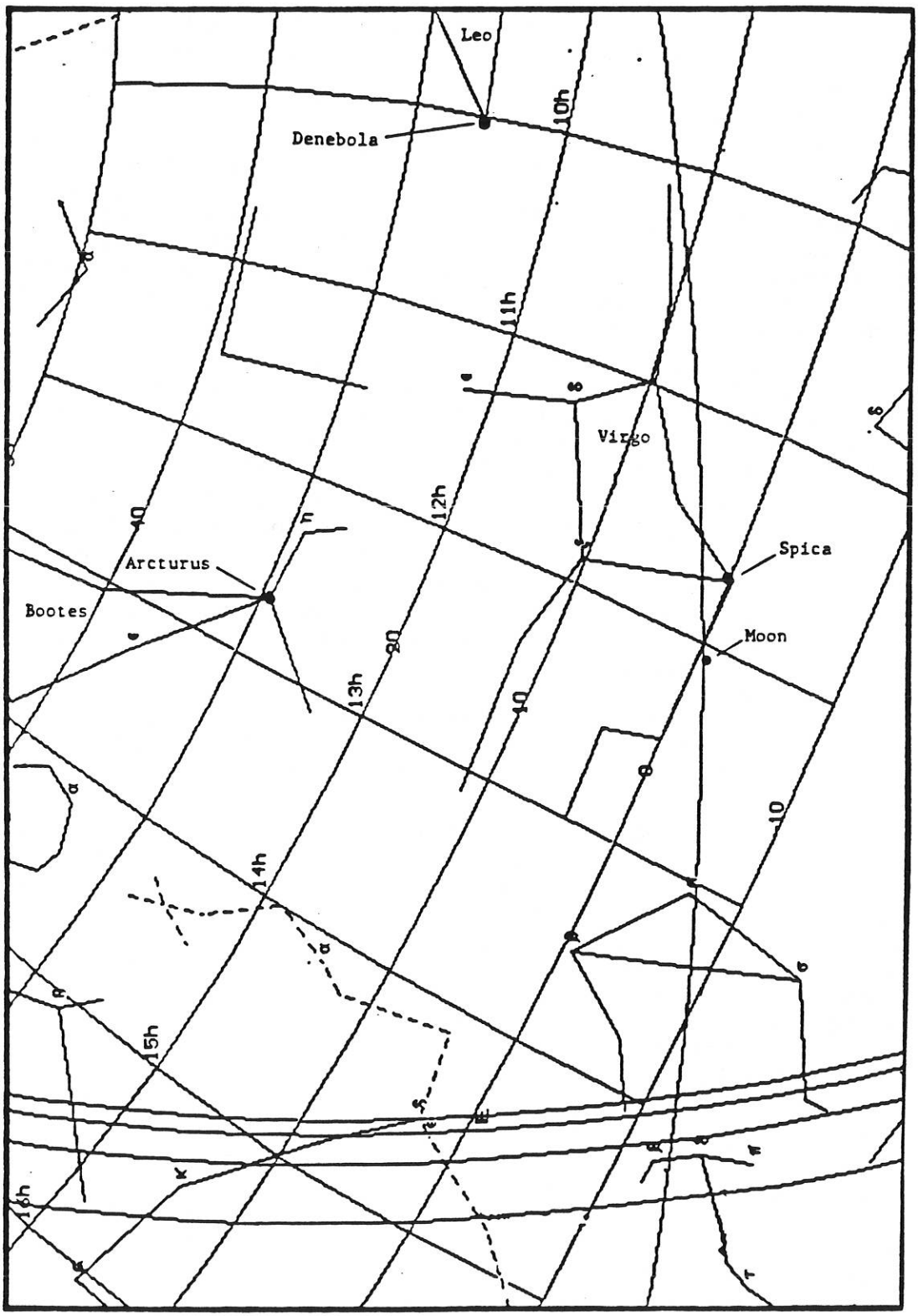
Isaiah's prophecy and the associated sign may be understood on at least three levels. First, Isaiah's promise of a child born to a young woman indicates the announcement of the birth of a royal child who would survive the threatening kings of Syria and Israel. "Certainly the name of the child is symbolic; it expresses Yahweh's saving presence with the Davidic house. Yet of greater consequence than the name is the child himself -- his identity as a royal prince and his survival" (Hayes and Irvine 1987:132). According to this interpretation, a royal child born within a few months after Isaiah's prophecy would have been able to eat butter and honey by the time the kings of Syria and Israel were eliminated. In fact, by 732 B.C.E. Syria had been overrun and its king destroyed. The land of Israel also had been plundered by the Assyrians. Israelites had been deported and the Israelite king had been assassinated. Thus, Ahaz could have seen any royal child who was born a few month's after Isaiah's prophecy as an earthly sign of the Lord's promise to preserve the house of David.

Second, the prophecy and sign can be understood in terms of the terrible effect of the fearful appeal for Assyrian help. Ahaz did not want a sign from the Lord indicating that his drastic action was wrong. He decided to trust his kingdom to the rulers and deities of Assyria. When the Syrian and Israelite kings were destroyed, Ahaz was commanded by the Assyrian king to bring the tribute of Judah to Damascus. Ahaz stripped the palace and Temple of their treasures to obtain the tribute. In Damascus, Ahaz became familiar with

FIGURE 3

TOTAL LUNAR ECLIPSE ON PASSOVER EVE

THE MOON LEAVES VIRGO, 8:00 P.M., MARCH 21 OR 23J, 5 B.C.E.,
AS VIEWED ABOVE THE EASTERN HORIZON AT JERUSALEM



an Assyrian altar and he ordered a duplicate made for the Temple. He had the altar to the Lord removed from its place of prominence, destroyed the brazen sea and changed the order of sacrifice (2 Kings 16:10-18). Thus, Ahaz plundered the palace and Temple, and introduced Assyrian deities to the Temple, just as though the house of David had been overrun by its enemies.

The decision by Ahaz to reject the Lord was a turning point in the path taken by the kings of Judah. The destruction of Syria and Israel did not protect the house of David from itself or the Assyrians. Within a few short years, Assyria attacked its foolish vassal. Then the Babylonians overcame the Assyrians, fought Egypt to a standstill, ruined Jerusalem and ended the dynasty of the house of David as a worldly power. In this historical context, surely foreseen by the Lord, the Immanuel prophecy is most significant.

> [N]o child born to a young woman in Ahaz's day is proof of God's presence in all times. But if a virgin overshadowed by God's Spirit should conceive and give birth, it would not only be a sign of God's presence with us. Better than that, it would be the reality of that experience. So Ahaz's sign must be rooted in its own time to have significance for that time, but it also must extend beyond that time and into a much more universal mode if its radical truth is to be any more than a vain hope (Oswalt 1986:211).

Nearly 600 years after the destruction of Jerusalem, the sign prophesied by Isaiah again appeared, in the ultimate sense for humankind. Mary, a maiden descended from the Davidic line, became the mother of the Messiah's mortal body. The earliest Christians fully accepted Jesus as Immanuel, the complete fulfillment of Isaiah's prophecy (Matthew 1-2; Luke 1-2; 1 Nephi 11:13-36; Alma 7:9-10).

On a third level, Isaiah's prophecy and sign may be understood in the sense of an astronomical sign "in the height above," as well as one arising as a child from the elements of Mother-earth. Isaiah calls the mother of Immanuel by the Hebrew word *'almah*, which typically means a young woman of marriageable age. In Jewish society, such an unmarried woman virtually always would have been a virgin, but the word *'almah* could apply to a married woman as well. In the Greek version of the Jewish scriptures, the translators used the Greek word *parthenos*, which typically carries the connotation of an unmarried young woman. However, if Isaiah had wanted to stress only the chastity of the mother, he could have used a legal term *betula*, "virgin." If he had not been at all concerned with the chastity of the maiden, he could have used the word *'isshah*, "woman."

Isaiah may have used *'almah* precisely because of its mythical richness and astronomical connotations. In the Middle East, the Mother-goddess was known by names such as Mah, Mamma, Mami and Ninmah. Her virginal aspects (sometimes worshipped as separate goddesses) were related to the youthful phase of the moon -- the waxing crescent; the youthful season of the year -- springtime; and the untouched part of the cosmos -- the air and heavens. With every first visibility of the new crescent moon, the virginal aspect of the Mother-goddess appeared in the heavens. With the arrival of springtime, the stars associated with the perpetual virgin appeared in their recognized places in the heavens. In Syria, the Canaanite name of the virginal goddess was *ġalmatu*, the equivalent of *'almah.* At every New Year's festival in the spring, she was greeted as "the virgin Anath" who would bear a son, the god who would die and be resurrected. Indeed, there is a Canaanite mythological text corresponding to Isaiah's prophecy word for word: "Behold, the young woman will bear a son" (Mowinckel 1956:114).

Thousands of years before the advent of horoscopic astrology, the bright star related to grain cultivation was called Ab-Sin or "furrow" by the Sumerians. Just before dawn in the wintertime, this bright star was directly overhead, a virgin "furrow" ready to

be seeded. By springtime, this bright star rose at dusk, signaling the beginning of the barley harvest, new birth in the flocks and herds, and the sacrifice of first fruits. Assyrian texts from the time of Isaiah, but probably reflecting an earlier tradition, describe the star as the ear of grain carried by the goddess Shala, "the lady of the field." This bright star, located in the constellation Virgo, was called Spica or "ear of grain" by the Romans and Greeks. Virgo was pictured carrying in one hand a spike of grain that symbolized the first fruits of the barley harvest.

During the reign of Ahaz, the destruction of Israel was accomplished by the Assyrians in the winter and spring of 722 and 721 B.C.E., about the time that Sargon II assumed the throne of Assyria. The Assyrian army destroyed the Israelite capitol city of Samaria and deported more than 27,000 Israelites. The enemies that Ahaz had feared so deeply had been destroyed and the scattering of Israel among the nations had begun. On March 12 or 19J, 721 B.C.E. (1,458,156) the full moon was "turned to blood" in a total eclipse visible in the Middle East as the moon moved out of the constellation Virgo. Thus, even the heavens associated with *'almah*, the perpetual virgin, may have signified the truth of Isaiah's words. For the exiles of Israel, on their way to lands such as Media in the Assyrian Empire, this eclipse may have become a long-remembered sign associated with the commencement of the scattering of Israel, a sign holding the promise of a future day of gathering under a true Immanuel.

Among the Medes, Persians and Parthians in the first century B.C.E., the goddess of springtime was named Anahita, the "Immaculate One" or "Great Goddess." She served as "goddess of a thousand rills" and presided over precious fertilizing waters from melting snows which turned the desert into fields and orchards. She also was charged with the fecundity of men, women, fields and herds. Her waters were pure to the Magi. It was sacrilege to pollute rivers and streams, even by washing one's hands. In the spring of 404 B.C.E., Artaxerxes II, the Persian king, was enthroned in the presence of the Magi at Anahita's temple at Parsagarda. This Persian king is thought to have been the first to erect her images throughout the Persian Empire, although her worship may go back to earlier times. A statue of the goddess may lie behind the description of the goddess in the Zoroastrian hymn sung in her honor.

> Here, the good Ardvi Sura Anahita is seen by her devotees as a beautiful maiden, very strong, full grown, high girdled, noble, of illustrious descent. On her head she has bound a golden crown with a hundred stars of eight rays . . . . Square gold earrings she wears in her ears, and a golden necklace encircles her lovely neck. A robe embroidered with gold covers her body, but her undergarment is of soft beaver skin . . . . In her hand she grasps the *baresma*, the holy bundle of twigs. Gleaming gold-incrusted shoes are on her feet. From the region of the stars she is . . . summoned by Ahura-Mazdah: "Come down, Ardvi Sura Anahita, from the stars above to the god-created earth . . ." (Olmstead 1948:471-472).

Since the grain harvest did not begin in springtime in the Persian and Median highlands, Anahita did not carry a spike of grain in her hand. Instead, she carried a holy bundle of twigs, the *baresma* or *barsom,* the "tender herbage." When an animal was sacrificed, the *baresma* was brought forward and placed on the ground as a mat on which the sacrificial meat was laid. Apparently, any man could perform a sacrifice, but the meat remained on the "tender herbage" while a Magian priest sang a hymn. Anahita was identified most often with Artemis, a Greek mountain goddess, a goddess of springtime. In Cappadocia and Cilicia, near the home of the goddess *ġalmatu*, Anahita was identified with the Mother-goddess Ma. Anahita also may have had lunar aspects because the Magi are known to have honored the bright moon, Mah.

The Son of David

The 5 B.C.E. comet appeared in a constellation called *Ch'ien-niu* by the Chinese astronomers. *Ch'ien-niu* is located in the constellation known in Hellenistic and Babylonian astronomy as Capricornus, the Goat-fish (Figure 4). The wise men may have been familiar with the ancient religious associations ascribed to Capricornus by Sumerian priests thousands of years earlier, long before the development of horoscopic astrology. The heavens were then divided into three main sections, each one governed by one of the three gods who governed the powers and subdivisions of the universe. The god An created the heavens and was associated with the lands east of Mesopotamia. Enlil, a son of An and the god of winds and weather, was associated with Mesopotamia. Enki, another son of An and the god of wisdom, governed pure waters and the fertility of field and flock. Enki was assigned to the lands west of Mesopotamia. Thus, if ancient religious lore guided the wise men in their search for a sign of the Jewish Messiah, they may have looked into that section of the heavens once associated with Enki.

Enki, or Ea as the Babylonians called him, was sometimes symbolized as a man walking in a great fish-shaped cloak with the tail at his heels. The fish was one of his symbols. He was king of the Watery Deep, the Sumerian Abzu or Babylonian Apsu. He came to earth to deliver wisdom and returned to his home in the Watery Deep. One of Ea's titles was "antelope of the subterranean ocean" and he occasionally was pictured with an ibex at his foot. The ibex was another Mesopotamian symbol of sweet underground springs, the cleansing and fertilizing waters which make up the Watery Deep. The ibex was known as a very private goat that preferred mountainous sites near springs. In the Jewish scriptures, the name of this goat was *ya'el* or "wild goat" (1 Samuel 24:2; Job 39:1; Psalm 104:18). Many centuries before the time of the wise men, Ea's original portion of the heavens was transformed into the constellation Capricornus.

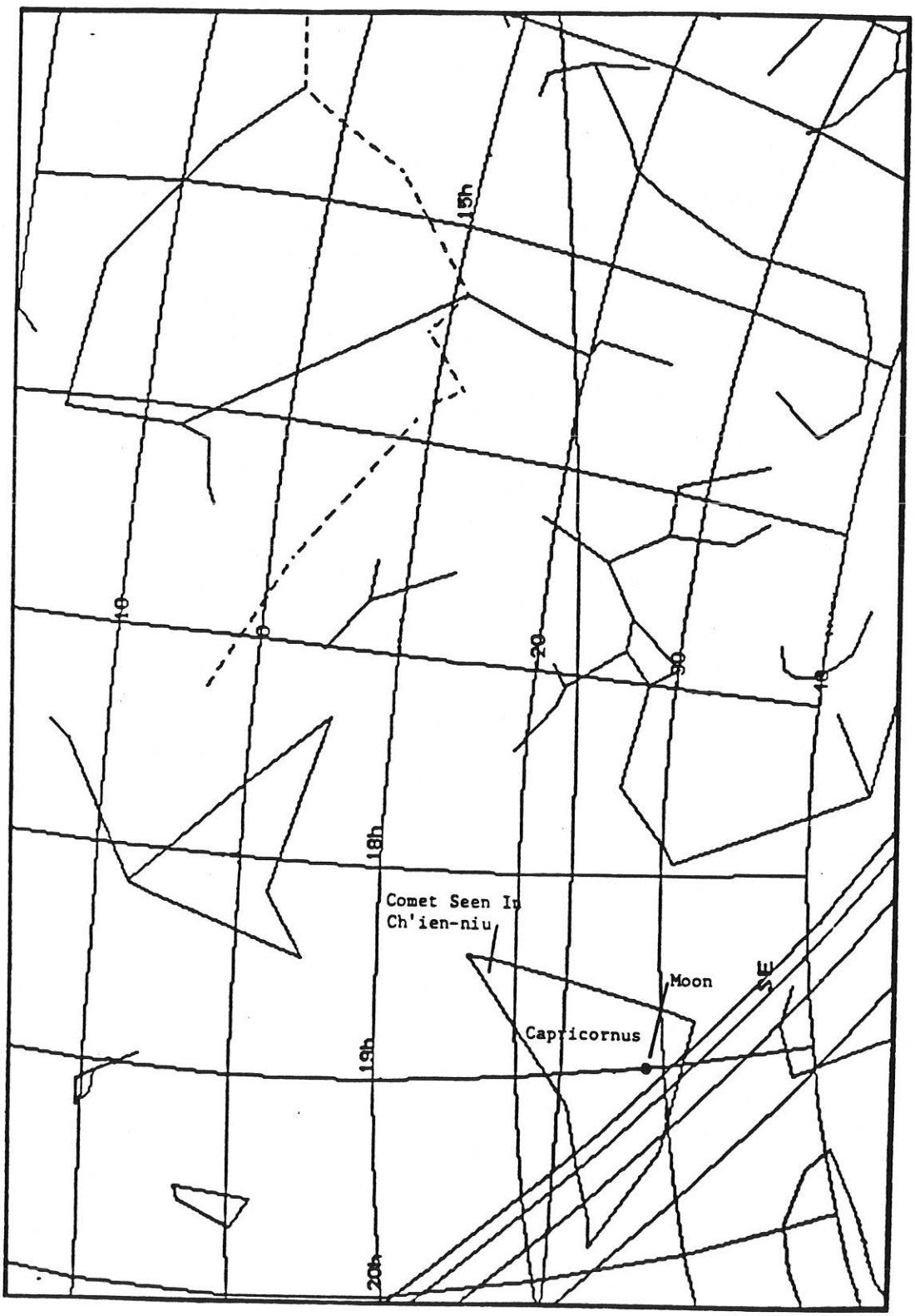
Other titles of the god Ea bear mentioning because of their relationship to the concept of the Messiah. Ea was the god of "pure life" and, in connection with this responsibility, he was the god who "knoweth the heart," the god of "the house" and the god who controlled the cleansing power of water through ritual washing. As a deity governing all life, Ea was god of "the pure crown" and "Lord of the pure oracle who giveth life to the dead." In some writings, he was considered the creator of humankind. He warned Utnapishtim to build a boat when the gods decided to flood the earth. He was the patron of artisans, metal workers and scribes. His strength was in his word, a word like a pure, gently flowing stream. He blessed fields, healed illnesses and took the side of humankind as their advocate before the gods.

In the Parthian period, many of the titles and honors of Ea had been bestowed on his "grandson," Nabu, a cosmic deity entrusted with the Tablets of Destiny, the god of water and fertility of the fields, and the god of wisdom. Nabu was the patron god of the scribes and, as scribes moved about the Middle East, so the worship of Nabu was spread far and wide. He was worshipped especially at the astronomical center at Borsippa, located just outside the city of Babylon, where Strabo (*Geog*. 16.i.6-7; ii.39) found a Chaldaean sect (which included certain non-approved astrologers) known as Borsippeni. Strabo included the Chaldaeans and the Magi among the various groups of prophets in Babylonia. One of Nabu's "wives" was the Sumerian goddess of grain, Nisaba, whose iconographic symbol was the ear of grain and whose scribal and mathematical skills once governed the grain harvests and storehouses of lower Mesopotamia. Another of Nabu's "wives" was the Babylonian goddess Tashmetum, a loving deity who granted requests and protected from evil. Whatever one may make of these ancient conceptions of Ea, Nabu and Tashmetum, their eventual representation in the stars came to be known as Capricornus, the Goat-fish, the place of the winter solstice, the lowest part of the sun's path and a natural symbol of death and resurrection.

FIGURE 4

THE POSITION OF FIRST VISIBILITY OF THE 5 B.C.E. COMET

THE MOON RISES IN CAPRICORNUS, 2 A.M., MARCH 29 OR 31J, 5 B.C.E.,
AS VIEWED ABOVE THE SOUTHEASTERN HORIZON AT BABYLON



Jesus Is Born

The first two prophesied signs, the total solar eclipse in 10 B.C.E. and the total lunar eclipse near Virgo in 5 B.C.E., were predictable by astronomers of the first century B.C.E. The eclipse near Virgo would have been particularly intriguing for astronomers because it would have been a singular eclipse -- the moon turned to blood in Virgo on the spring equinox. The moon had been eclipsed in Virgo before, but this eclipse occurred exactly on the spring equinox. Because of the slight wobble of the earth's axis and the uneven pace of the moon's orbit around the earth, such an eclipse might only occur about once every 26,000 years.

The appearance of a comet was not predictable by the wise men. Without the appearance of the new star, the other signs -- which had long been expected -- would have been meaningless. The wise men must have scanned the night sky for any new object, faint or bright. They would not have had to wait long, if they had to wait at all.

If one assumes that the total lunar eclipse near Virgo followed and signified the Messiah's birth earlier that day, 14 Nisan in the calendar of Judah, March 21 or 23J, 5 B.C.E. (1,719,679), then the first day of the Savior's life was known as the "preparation of the Passover." On the eighth day of His life, 21 Nisan, March 28 or 30J, 5 B.C.E. (1,719,686), the day of the final convocation of the Feast of Unleavened Bread, the Messiah was circumcised, becoming a Son of Abraham, Isaac and Jacob in accordance with the law of Moses, and He was given the name Jesus as specified in the angel's directions to Joseph and Mary (Leviticus 12:1-3; Matthew 1:18-25; Luke 1:26-38; 2:21). That very night, the moon that marked the time of His birth a few days earlier rose in the southeast about 2:00 a.m., March 29, 5 B.C.E. in the constellation known as Capricornus.

There are no records to indicate that the wise men saw the new star symbolizing the "scepter" of David and the "tribe" of Israel in Capricornus that night, but it was there. And it probably was visible to anyone looking for it there. All that surely can be said is that the wise men arrived at Herod's court in Judaea, "Saying, where is he that is born King of the Jews? for we have seen his star in the east [or as it arose], and are come to worship him" (Matthew 2:2).

The Death of Herod

The Gospel of Matthew states explicitly that "Jesus was born in Bethlehem of Judaea in the days of Herod the king" (Matthew 2:1; compare Luke 1:5-56). Matthew 2:2-12 describes the audience of the Magi with Herod and the visit of the Magi to Bethlehem, where they worshipped the newborn Messiah. After being warned in a dream not to return to Jerusalem, the Magi left Judaea without any further contact with Herod.

Josephus reports that near the end of Herod's long reign, an eclipse of the moon was seen on the night when two rabbis and several of their students were burned to death in accordance with Herod's order. They had been leaders in a larger group which had torn down and destroyed a gold statue of an eagle that Herod had placed in the Temple. The remains of the religious martyrs were buried without public mourning because of the threat of Herod's reprisal. Shortly after this eclipse of the moon, Herod's health declined rapidly and he died. Herod's last will and testament, created in the five days between his son Antipater's execution and Herod's own miserable death, provided for three successors: Archelaus, Antipas and Philip, each of whom was to be confirmed in his appointment by Augustus (*Ant.* XVII, vi,1-6; vii, viii,1, ix,1; *Bel.* I,xxxiii,2-8).

Passover occurred within a few weeks or perhaps a couple of months after Herod's death. As the feast approached, an intense conflict arose between the supporters of Archelaus and the gathering multitude who sought to use the occasion to mourn the martyrs. The contention escalated as the Passover pilgrims arrived at the Temple. Archelaus ordered a regiment of his soldiers to the Temple to remove troublemakers. A riot ensued and several soldiers were killed. Archelaus then called out his entire army and

cavalry. The Passover celebrants at the Temple were attacked and 3,000 people were massacred. Varus, the Roman governor of Syria, was informed of the riot. He immediately marched in force to Jerusalem and left a Roman legion there to maintain order while Archelaus traveled to Rome to obtain the emperor's confirmation of Herod's last will (*Ant.* XVII, viii,4; ix,1-3; *Bel.* II, i,1-3, iii,1).

Both Archelaus and Antipas soon left Judaea for Rome to claim their right to rule. In Jerusalem, rioting broke out again when the Roman financial officer sought to seize Herod's fortune, ostensibly to hold it for the emperor. Anarchy and terror began to spread throughout the kingdom. At the Feast of Pentecost, seven weeks after Passover, fighting in Jerusalem became intense. Varus brought two more Roman legions, four cavalry troops and a body of Syrian irregulars into Palestine to put down the revolt. Several cities in Galilee, Samaria and Judaea were sacked. Many innocents were enslaved or killed. Varus then sent Philip to Rome to plead for the rapid settlement of Herod's will (*Ant.* XVII, x, xi,1; *Bel.* II, iii-v).

Coins bearing the name of Varus have been found which are dated to the 25th through 27th years following the battle of Actium, August 31 or September 2J, 31 B.C.E. (1,710,345). The coins indicate that the governorship of Varus existed between about September 7 B.C.E. and September 4 B.C.E. The generally accepted years of his governorship are 6 through 4 B.C.E. In this three year period, one would expect to find evidence of the lunar eclipse when the martyrs were executed, of the death of Herod and of the start of the reigns of Herod's successors.

In November 8 B.C.E., a partial lunar eclipse was visible in Judaea. This eclipse occurred about 17 months before Passover 6 B.C.E., the earliest Passover when Varus might have led the Roman legions to Jerusalem. This eclipse is far too early to be the one associated with the burning of the martyrs. A total lunar eclipse in January 1 B.C.E. and a partial eclipse in December 1 B.C.E. also were visible in Judaea; however, there is no evidence that Varus was governor of Syria after 4 B.C.E. These two eclipses appear to be several years too late to be associated with the time of Herod's death. However, during the reign of Varus, there were three lunar eclipses visible in Judaea -- two total eclipses in March and September 5 B.C.E. and a partial eclipse in March 4 B.C.E. The latter eclipse is the one generally associated with Herod's death.

Josephus dated Herod's appointment as king in the first half of 40 B.C.E. and claimed that Herod died during his 37th regnal year. Josephus also dated Herod's kingship from his conquest of Jerusalem in 37 B.C.E., when he did away with the Parthian supported king and began his 34-year reign over Judaea in fact (*Ant.* XIV, xiv,5, xvi,4; XVII, viii,1). It would be foolhardy to rely on any one element of Josephus' information. For example, it now appears that Herod's Roman appointment occurred after the peace of Brundisium in October 40 B.C.E. Nonetheless, the writings of Josephus give a rough indication that Herod's death may have occurred in 4 or 3 B.C.E.

Herod's son Archelaus ruled Judaea for nine or ten years (Josephus is inconsistent). Archelaus was deposed and banished to Gaul about 6 C.E. He was replaced by a Roman governor, Quirinius, who conducted the first historically attested Roman census of Palestine in 6 C.E. Herod's son Philip died in Tiberius Caesar's 20th year. Philip reigned 37 years as tetrarch of Iturea and a coin from his 37th year has survived. Tiberius became emperor of Rome following Augustus Caesar's death on August 17 or 19J, 14 C.E. Herod's son Antipas lost his tetrarchy in Galilee and Perea during the second year of the reign of Gaius Caesar, who began to rule after Tiberius' death on March 14 or 16J, 37 C.E. Coins minted in preparation for, or during, the 43rd year of Antipas' reign have been found; so, Antipas reigned at least 42 years (*Ant.* XVII, xi,4, xiii,2; XVIII, i,1, ii,1, iv,6, v,1,4, vii,1-2; *Bel.* II, vi,3, vii,3, viii,1, ix,1,6).

These dates (and others used by Josephus) may be combined with at least 11 different year counting systems that Josephus might have used. Such research indicates

that Herod's successors probably began to reign in the years 5 through 3 B.C.E. Efforts by some authors to argue that Herod's three sons counted their reigns from 5 through 3 B.C.E., but did not actually begin their reigns until 1 B.C.E. or 1 C.E. (when these same authors suppose that Herod died) are not convincing. The present historical record is inconsistent with this argument. Those who wish to support this argument must find and correlate a new history for the Roman, Egyptian, Greek and Parthian worlds at the time of Herod's death. To posit a creative interpretation of a few comments by Josephus or to rely on a comment by a fourth or fifth century C.E. Christian apologist is insufficient work.

In summary, the present evidence indicates that Herod died late in 5 B.C.E. or early in 4 B.C.E. One Jewish tradition places his death on 7 Kislev, December 7 or 9J, 5 B.C.E. (1,719,940) following a total lunar eclipse on September 13 or 15J, 5 B.C.E. (1,719,855). A second Jewish tradition places his death on 28 Adar (actually Adar II because a second Adar was intercalated in 4 B.C.E.), March 24 or 26J, 4 B.C.E. (1,720,047) following a partial lunar eclipse on March 11 or 13J, 4 B.C.E. (1,720,034). Either of these dates is compatible with the scriptural record. Herod was alive at the time of the Messiah's birth, Passover 5 B.C.E. Herod's son "Archelaus did reign in Judaea in the room of his father Herod" (Matthew 2:22) when Jesus was a young child and his family traveled through Judaea (probably about 3 B.C.E.) on their way to Galilee from Egypt.

The Census by Quirinius

Perhaps the greatest uncertainty associated with dating the time of the Messiah's birth can be attributed to the historical comments contained in the writings of Luke (Luke 2:1-7; 3:1-2,23; 23:44-45 and Acts 5:36-37). New Testament scholars have adopted three basic theories for handling Luke's historical comments. According to one theory, Luke's history is dubious and untrustworthy; it is rejected out of hand. This theory requires the least faith in Luke's attempt to write history. According to a second theory, Luke's information may be useful, but it is "confused." For example, in a speech written by Luke and supposedly given by Rabban Gamaliel the Elder shortly after Jesus' death, Luke portrays Gamaliel speaking of the uprising of Theudas (Acts 5:36-37). The revolt of Theudas actually occurred in 44 C.E., more than ten years after the speech was supposedly given. Luke compounded his error by having Gamaliel date the rebellion of Judas the Galilean (which occurred in 6 C.E.) after the revolt of Theudas. There is no question that Luke or his sources truly confused the historical sequence.

At the time of the crucifixion of Jesus, Matthew 27:51 reports an earthquake was felt in Judaea and the veil of the Temple was "rent in twain from the top to the bottom." Luke 23:44-45 associates the damage to the veil with "a darkness over all the earth" for a period of three hours when "the sun was darkened." This appears to be a report of a solar eclipse; however, a solar eclipse is astronomically impossible at Passover, the time of the full moon. According to the most ancient Christian tradition, the crucifixion occurred in 29 C.E. and a total solar eclipse occurred in that year. Its path swept across Asia Minor and Syria, darkening the sun in Tarsus and Syrian Antioch. Since Christian tradition describes Luke as a native of Syrian Antioch, he may have experienced the eclipse near mid-day on November 22 or 24J, 29 C.E. (1,731,978), more than eight months after Passover. Again, Luke or his sources seem to be confused or simply in error.

Luke 2:1-5 records that Jesus was born when Augustus ordered a census throughout the Roman empire, but there are no contemporaneous historical records for such an empire-wide enrollment of non-citizens like Joseph and Mary. Luke says the enrollment was taken when Quirinius was governor of Syria, but the only historical census by Quirinius was made in 6 C.E., about ten years after the death of Herod. At that time, Archelaus was deposed and Judaea was annexed to Syria by the Romans. Luke states that the enrollment caused Joseph to travel from Galilee to Bethlehem and that Mary went with him; however, the census by Quirinius in 6 C.E. did not involve Galilee.

If the Messiah's birth actually occurred in 6 C.E., then Luke's information about the approximate start of Jesus' ministry in the "fifteenth year of the reign of Tiberius Caesar," when Jesus was "about thirty years of age," may be faulty (Luke 3:1-2,23). For most scholars, the date of Augustus Caesar's death, August 17 or 19J, 14 C.E. (1,726,402) is taken as the approximate beginning of the reign of Tiberius. Then depending on which year counting system one uses, the 15th regnal year of Tiberius can be calculated to have begun as early as October 27 C.E. or as late as July 29 C.E. If Jesus was born in 6 C.E. he would have been in his early or mid-twenties rather than "about thirty" when his ministry began.

An enrollment conducted by Herod, who is known to have collected certain taxes on an annual basis, has been proposed as the census that Luke or his sources later confused with the census under Quirinius. Perhaps, one of Herod's tax collections coincided with a Roman census of citizens in Syria. A second possibility is that the census which involved Joseph and Mary required a joint oath of allegiance to Herod and to Rome. The Pharisees are known to have refused to give this oath. Perhaps Herod's dispute with the Pharisees was later confused with the tax revolt of 6 C.E. Another variation of the confusion theory assumes that the tradition recorded by Luke may have placed the birth of the Messiah at the end of an Herodian reign, during a time of political upheaval, and that Luke or his sources mixed up two such troubled times. Syme (1972:600) offered this explanation of Luke's confusion:

> Two striking events in Palestinian history would leave their marks in the minds of men. First, the end of Herod in 4 B.C., second the annexation of Judaea in A.D. 6. Either might serve for approximate dating in a society not given to exact documentation. Each event, so it happened, led to disturbances. More serious were those of 4 B.C., according to Josephus. Varus the legate of Syria had to intervene with the whole of his army. But the crisis of A.D. 6 was the more sharply remembered because Roman rule and taxation were imposed.

The third basic theory for interpreting the enrollment of Quirinius has been the assertion that Quirinius actually conducted a census in Herod's realm prior to 6 C.E. There is a little circumstantial evidence and a great deal of argument in favor of this interpretation. For the purposes of this introduction, it is not relevant. Whether one theorizes that Luke or his sources confused two similar events, or accepts the circumstantial evidence of a taxation in the days of Herod, both positions imply the same chronological result: Jesus was born before the death of Herod.

The Savior's New Era in Mesoamerica

In Mesoamerica, the righteous calendar keepers did not immediately alter their calendar to reflect the birth of the Savior. They waited nine years before creating their new era calendar. By waiting nine years from March 21 or 23J, 5 B.C.E. (1,719,679), the calendar keepers were able to begin the new era in exact concordance with the Kaminaljuyu calendar. Thus, at a time when a 105-day adjustment to the spring era calendar was theoretically acceptable, a 105-day adjustment was made. The date of the Kaminaljuyu calendar was moved forward by exactly 260 days. Kaminaljuyu day 105 became day 365 and day 106 became day 001 of the new calendar (the "New Era-K" calendar).

In all likelihood, the New Era-K calendar had virtually the same features as Calendar X described by Edmonson. Since this calendar adjustment eliminated 260 days, the ritual almanac day-number and day-name for Kaminaljuyu day 106 and New Era-K day 001 remained exactly the same. This manipulation of the calendar preserved the calendrical

mathematics of the calendar round while ignoring 260 days of fatalistic ritual. Table IV presents this calendrical adjustment for the year 5 B.C.E., as though the change had been made at that time, because the righteous calendar keepers reckoned their calendar from the spring of 5 B.C.E. (3 Nephi 2:7-8):

> And *nine years* had passed away
> *from the time* when the sign was given, which was spoken of by the prophets,
> that *Christ* should come into the world.
> Now the Nephites began to reckon their time
> *from this period* when the sign was given,
> or from the coming of *Christ*;
> therefore, *nine years* had passed away.

This passage recognizes a difficulty with the New Era-K calendar. Table IV shows that the Messiah's birth occurred on the 105th day of the Kaminaljuyu year, the spring equinox, as predicted by the calendar sages more than 400 years earlier. However, the calendar adjustment described above placed the first day of the New Era-K calendar on March 22 or 24J, 5 B.C.E. Mormon's account of the change of eras reflects this temporal ambiguity because he refers to the Nephites reckoning their time "from this period when the sign was given, or from the coming of Christ."

A 105-day adjustment to the Olmec calendar to create a new calendar (the "New Era-O" calendar) would have produced an entirely new spring-era calendar reckoned "from the coming of Christ," that is, with its first day on the day of the Messiah's birth. In the Grijalva River basin, where the Nephites were located, an adjustment to the Olmec calendar would have been appropriate since the Olmec calendar was followed there. However, in Lamanite areas where the Kaminaljuyu calendar may have been kept, the converted Lamanites probably would have computed an adjustment to that calendar.

This possible distinction between Lamanite and Nephite calendars may be significant. By the 30th year of the new era, "the church was broken up in all the land save it were among a few of the Lamanites who were converted unto the true faith; and they would not depart from it" (3 Nephi 6:14). These converted Lamanites may have maintained the count of the new era according to the New Era-K calendar, particularly since it was related to the calendars of Kaminaljuyu and Teotihuacan, the predominant non-Maya urban centers south and north, respectively, of the Book of Mormon "narrow neck of land," the Isthmus of Tehuantepec.

This slight (one day) calendrical confusion also seems to figure into the issue of the exact duration of the Messiah's life described in 3 Nephi 8:1-7:

> And now it came to pass that according to *our record*,
> and we know our record to be *true*,
> for behold, it was a *just* man who did keep the record --
> for he truly did many *miracles* in the name of Jesus;
> and there was not any man who could do a *miracle* in the name of Jesus
> save he were *cleansed* every whit from his iniquity --
> and now it came to pass that if there was *no mistake* made by this man
> in the reckoning of *our time*,
>
> the thirty and third *year* had passed away;
> and the people began to look with *great* earnestness
> for the *sign* which had been given by the prophet Samuel, the Lamanite,
> yea, for the time that there should be darkness
> for the space of three *days* over the face of the land.
> And there began to be *great* doubtings and disputations among the people,
> notwithstanding so many *signs* had been given.

TABLE IV

THE BIRTHDATE OF JESUS IN THE OLMEC, KAMINALJUYU AND NEW ERA CALENDARS

DAY OF WEEK	JULIAN DATE 5 B.C.E.	JEWISH CALENDAR DATE	JULIAN DAY	OLMEC DAY	NEW ERA-O DAY	KAMINAL -JUYU DAY	NEW ERA-K DAY
FR	03-17	08 Nisan	1719673	100	-	099	-
SA	03-18	09 Nisan	1719674	101	-	100	-
SU	03-19	10 Nisan	1719675	102	-	101	-
MO	03-20	11 Nisan	1719676	103	-	102	-
TU	03-21	12 Nisan	1719677	104	-	103	-
WE	03-22	13 Nisan	1719678	105	"365"	104	-
TH	03-23	14 Nisan	1719679	106	001	105	"365"
FR	03-24	15 Nisan	1719680	107	002	106	001
SA	03-25	16 Nisan	1719681	108	003	107	002
SU	03-26	17 Nisan	1719682	109	004	108	003
MO	03-27	18 Nisan	1719683	110	005	109	004
TU	03-28	19 Nisan	1719684	111	006	110	005
WE	03-29	20 Nisan	1719685	112	007	111	006
TH	03-30	21 Nisan	1719686	113	008	112	007
FR	03-31	22 Nisan	1719687	114	009	113	008

This Table assumes that the March 21 or 23J, 5 B.C.E. birthdate was the day that followed the night without darkness in Mesoamerica, i.e., the day of "the coming of Christ" (3 Nephi 2:7-8).

The Jewish calendar is described in Appendix 1.

The hypothetical New Era-O calendar assumes that a 105-day adjustment was reckoned to have been made on March 20 or 22J, 5 B.C.E., day 105 in the Olmec calendar, changing it into day "365" by the addition of 260 days. The following day then became day 001 of the New Era-O calendar, the date of the Savior's birth.

The hypothetical New Era-K calendar assumes that a 105-day adjustment to the Kaminaljuyu calendar was calculated to have occurred on Kaminaljuyu day 105, changing it into New Era-K day "365." The following day then became New Era-K day 001. This places the first day of the new era measured from the "period when the sign was given" (3 Nephi 2:7-8) on March 22 or 24J, 5 B.C.E., perhaps the date when the sign of the new star was first seen in the heavens near dawn.

And it came to pass in the thirty and fourth *year,*
in the first *month*
on the fourth *day* of the month,
there arose a *great storm,*
such an one as never had been known in *all the land.*
And there was also a *great and terrible tempest;*
and there was *terrible thunder,*
insomuch that it did shake *the whole earth* as if it was about to divide asunder.
And there were *exceedingly sharp lightnings,*
such as never had been known in *all the land.*

The issue of a mistake possibly made by a calendar expert, one who had been cleansed of his previous iniquity, is clearly raised in this passage. For some reason, after the passage of a number of years, a question may have arisen as to the day in the new era on which the sign began or on which the Messiah was born. The one-day difference between the New Era-K and New Era-O calendars, taken together with the break up of the church, may have led to this question becoming an issue. Tables IV and V show that the New Era-O calendar provided the exact count of the Savior's lifetime, although the New Era-K calendar may have been the calendar that was ultimately preferred and adopted by the people because of its derivation from the Kaminaljuyu calendar, the acknowledged accuracy of the Kaminaljuyu solar era, and the widespread influence of Kaminaljuyu and Teotihuacan in Mesoamerica.

The immediately obvious rationale in 3 Nephi 2:4-8 for the nine-year wait to institute the era following the Messiah's birth is the political rationale. The Nephites wanted to recognize 100 years of the reign of the judges, a significant milestone in the larger Mesoamerican social system that generally was dominated by royalism. By waiting for the period between 1 and 5 C.E., the Nephite calendar keepers also could correlate their new era calendar with the existing spring era calendar at Kaminaljuyu. In addition, the Nephite sages may have calculated that by waiting until the spring equinox of 5 C.E. to make the adjustment, the Olmec summer-era calendar could be brought to a dramatic end. Some six or seven centuries earlier, the Olmec calendar round began in a year whose ritual almanac name day was 1 Lord. In the spring of 5 C.E., Olmec day 105 was named 1 Lord and it could have been chosen as the last day of the summer-era calendar -- as far as the righteous Nephites were concerned. As Table VI shows, the first day of the New Era-O calendar then would have been 2 Sun, a clearly symbolic name for a day that followed a day with no night. Indeed, the Olmec ritual almanac is one of very few Mesoamerican calendars to use the day-name "Sun" for the day-name following "Lord." Most of the Mesoamerican ritual almanacs use the word "Alligator" for this day-name. The day following 2 Sun was 3 Wind, the first day of the New Era-K calendar and a day with possible symbolic meaning to the righteous descendants of Lehi.

The calendar change in 5 C.E. also could have celebrated the birth of the Messiah in other religious terms familiar to Mesoamerican nonbelievers. The number nine had symbolic value in Mesoamerica as the number of levels of the underworld, the number of gods of the night. Nine years earlier, night had been turned into brilliant day by the sign of the Messiah's birth. The Lord of creation had been born with power over the underworld, death and hell. Hence, the righteous Nephites may have reckoned that by waiting the full nine years to adopt their spring-era calendar, their political message of freedom from tyranny could be communicated most effectively, their new calendar could be adopted within the mathematical and observational limits of the existing Mesoamerican calendar structure, and their religious statement could be made most forcefully in terms that even the most hardened Mesoamerican fatalist could understand.

TABLE V

THE DATE OF THE CRUCIFIXION IN THE OLMEC, KAMINALJUYU AND NEW ERA CALENDARS

DAY OF WEEK	JULIAN DATE 29 C.E.	JEWISH CALENDAR DATE	JULIAN DAY	OLMEC DAY	NEW ERA-O DAY	KAMINAL -JUYU DAY	NEW ERA-K DAY
FR	03-11	07 Nisan	1731720	102	362	101	361
SA	03-12	08 Nisan	1731721	103	363	102	362
SU	03-13	09 Nisan	1731722	104	364	103	363
MO	03-14	10 Nisan	1731723	105	365	104	364
TU	03-15	11 Nisan	1731724	106	001	105	365
WE	03-16	12 Nisan	1731725	107	002	106	001
TH	03-17	13 Nisan	1731726	108	003	107	002
FR	03-18	14 Nisan	1731727	109	004	108	003
SA	03-19	15 Nisan	1731728	110	005	109	004
SU	03-20	16 Nisan	1731729	111	006	110	005
MO	03-21	17 Nisan	1731730	112	007	111	006
TU	03-22	18 Nisan	1731731	113	008	112	007
WE	03-23	19 Nisan	1731732	114	009	113	008
TH	03-24	20 Nisan	1731733	115	010	114	009
FR	03-25	21 Nisan	1731734	116	011	115	010

This Table shows that the crucifixion date of March 16 or 18J, 29 C.E. was the fourth day of the New Era-O calendar, the calendar reckoned from "the coming of Christ" (3 Nephi 2:7-8; 8:1-7). The derivation of the New Era-K and New Era-O calendars is outlined in Table IV.

The derivation of the Jewish calendar is described in Appendix 1. The Jewish calendar dates shown above assume that the first day of Nisan 29 C.E. was sanctified one day earlier than usual because (1) the preceding month, Adar, would otherwise have had 30 days and the calculation rules prohibited more than 29 days in the month of Adar; (2) the Jewish year Tishri 28 C.E. to Elul 29 C.E. was the first year of the seven-year Sabbatical cycle, so the Calendar Council of the Sanhedrin would have been anxious to start the barley harvest as early as possible; and/or (3) the Calendar Council placed 14 Nisan on the day before the Sabbath for the convenience of Passover pilgrims, profit and perhaps so that a conflict could be avoided between Jesus and His followers and the Temple authorities and merchants, such as may have happened in the first year of Jesus' ministry (compare Matthew 21:12-13; 26:1-2,17; Mark 11:15-18; 14:1-2,12 and Luke 19:45-46; 22:1-2,7 with John 2:13-17).

TABLE VI

A PROBABLE TRANSITION DATE FOR THE ADOPTION OF NEW ERA CALENDARS

DAY OF WEEK	JULIAN DATE 5 C.E.	JULIAN DAY	OLMEC RITUAL ALMANAC DAY	OLMEC DAY	NEW ERA-O DAY	KAMINAL -JUYU DAY	NEW ERA-K DAY
SU	03-15	1722958	9 Eagle	100	-	099	-
MO	03-16	1722959	10 Tree?	101	-	100	-
TU	03-17	1722960	11 Quake	102	-	101	-
WE	03-18	1722961	12 Flint	103	-	102	-
TH	03-19	1722962	13 Rain	104	-	103	-
FR	03-20	1722963	1 Lord	105	"365"	104	-
SA	03-21	1722964	2 Sun	106	001	105	"365"
SU	03-22	1722965	3 Wind	107	002	106	001
MO	03-23	1722966	4 House?	108	003	107	002
TU	03-24	1722967	5 Iguana	109	004	108	003
WE	03-25	1722968	6 Serpent	110	005	109	004
TH	03-26	1722969	7 Death	111	006	110	005
FR	03-27	1722970	8 Deer	112	007	111	006

This Table presents a probable date for the transition to the new era calendars in the land of Zarahemla (they used the Olmec calendar in the Grijalva River basin) and among the converted Lamanites (perhaps they were still using the calendar from the city of Nephi or Kaminaljuyu).

The Olmec calendar had begun six or seven centuries earlier on the ritual almanac day 1 Lord. Among the righteous where the Olmec calendar was used, 1 Lord 5 C.E. was a day to celebrate the ninth anniversary of the beginning of the sign of the Messiah's birth. On this day, they also could celebrate the end of the Olmec calendar era. The following day, Saturday or Sabbath, 2 Sun, was the day to celebrate the birth of the Lord after a night with no darkness. This day became the first day of the New Era-O calendar, reckoning back nine years to the birthday of the Messiah (3 Nephi 2:7-8).

The Kaminaljuyu calendar had been inaugurated more than four centuries earlier, to predict the birth of the Messiah on day 105 of the Kaminaljuyu calendar (as shown in Table IV). On Sunday, 3 Wind 5 C.E., the New Era-K calendar began its count of the days "from this period when the sign was given" (3 Nephi 2:7-8), again reckoned back nine years perhaps to their first observation of the new star.

THE MINISTRY OF JESUS

Tables IV and V precisely identify the date of Jesus' birth and crucifixion based on the Book of Mormon record. This information may be compared with the early Christian reports about the Messiah's life and ministry. For example, the proposed birthdate for Jesus on March 21, 5 B.C.E. conforms with Luke's (3:1-2,23) description of Jesus' approximate age when His ministry began. Luke indicates that Jesus was "about thirty" when John the Baptist began his ministry in the 15th regnal year of Tiberius, which occurred between 26 and 30 C.E., depending upon when the regnal years began to be counted and the year counting system used. If Jesus was born at Passover 5 B.C.E., then at Passovers in 26 through 30 C.E., He would have turned 30 to 34 years of age. The earlier of these ages are certainly within the range of Luke's expressly vague statement that Jesus was "about thirty" at the start of His ministry.

Some also have suggested that Luke's use of the 15th year came about as a matter of calculation; that is, Luke may have known of a tradition that Jesus was crucified in the 16th year of Tiberius and Luke believed the ministry of Jesus lasted one year. Luke's historical record must be used with caution; however, in the second and third centuries C.E., virtually all of the Christian writers believed in a one-year ministry in fulfillment of Isaiah 61:1-2a, as quoted by Jesus in Luke 4:18-19:

> The Spirit of the Lord is upon me, because he hath anointed me to preach the gospel to the poor; he hath sent me to heal the broken-hearted, to preach deliverance to the captives, and recovering of sight to the blind, to set at liberty them that are bruised, to preach the acceptable year of the Lord.

Jesus read this scripture in the synagogue at Nazareth at the start of His ministry and then announced, "This day is this scripture fulfilled in your ears" (Luke 4:21). From this, a one-year ministry was deemed certain.

The Gospels are not precise in describing the length of Jesus' ministry. The Synoptic Gospels refer to one Passover in His ministry, when He cleansed the Temple and suffered crucifixion (Matthew 26:17; Mark 14:12; Luke 22:7). The Gospel of John expressly mentions three Passovers. At the first Jesus cleansed the Temple and at the third He was killed (John 2:13; 6:4; 11:55; the final Passover is also mentioned in John 12:1; 18:28,39; 19:14). Those who adopt a one-year chronology for Jesus' ministry theorize that John divided the final Passover for literary and theological purposes. They hold that the purification of the Temple "cannot have happened twice" and is "incomprehensible" at the start of the ministry (see, e.g., Von Soden 1899:802-803).

The three Passovers reported by John have led many to believe that the ministry was three years long. This theory was not favored until after the Council of Nice in 325 C.E. The influence of Eusebius of Caesarea, about 260-340 C.E., a prolific Christian writer and historian, led to the theory's acceptance. Others have interpreted the Gospel of John as describing a ministry of two years: baptism in fall or winter, followed by two years of service. This theory has gained some acceptance, but only since the Middle Ages. The three theories are shown in schematic form in Table VII. Based on these theories, the crucifixion of Jesus may have happened in the years 27 through 34 C.E.; that is, within one to three years following the 15th year of Tiberius -- or perhaps even four years depending on the time between the start of the ministries of John the Baptist and Jesus.

At the Passover when the Temple was cleansed or at the Passover of the first cleansing, if one prefers to see two cleansings in the record, Jesus had a misunderstanding with some of those present about the "temple" which was to be raised in three days and the Temple which had taken 46 years to build (John 2:13-22). The Temple of Herod was begun in his 18th regnal year, perhaps as early as 23 B.C.E. or as late as 18 B.C.E.,

TABLE VII

THE LENGTH OF JESUS' MORTAL MINISTRY

ONE-YEAR MINISTRY	TWO-YEAR MINISTRY	THREE-YEAR MINISTRY
Baptism Mt3:13; Mk1:9; Lk3:21	Baptism Mt3:13; Mk1:9; Lk3:21	Baptism Mt3:13; Mk1:9; Lk3:21
1st Passover (Mar/Apr) Jn6:4	1st Passover (Mar/Apr) Jn2:13,23	1st Passover (Mar/Apr) Jn2:13,23
Ripe Grain (Apr/Jun) Mt 12:1; Mk2:23; Lk6:1	Ripe Grain (Apr/Jun) Mt 12:1; Mk2:23; Lk6:1	Ripe Grain (Apr/Jun) Mt 12:1; Mk2:23; Lk6:1
Pentecost (May/Jun) Jn5:1*	Four Months to Harvest (Dec/Jan or Rhetorical Only) Jn4:35	Four Months to Harvest (Dec/Jan or Rhetorical Only) Jn4:35
Tabernacles (Sep/Oct) Jn7:2	Hanukkah (Nov/Dec) or Purim (Feb/Mar) Jn5:1*	2nd Passover (Mar/Apr) or Tabernacles (Sep/Oct) Jn5:1*
Hanukkah (Nov/Dec) Jn10:22	2nd Passover (Mar/Apr) Jn6:4	3rd Passover (Mar/Apr) Jn6:4
Four Months to Harvest (Dec/Jan or Rhetorical Only) Jn4:35	Tabernacles (Sep/Oct) Jn7:2	Tabernacles (Sep/Oct) Jn7:2
Final Passover (Mar/Apr) Mt26:17; Mk14:12; Lk22:7; Jn2:13,23; 11:55ff	Hanukkah (Nov/Dec) Jn10:22	Hanukkah (Nov/Dec) Jn10:22
Acceptable Year of the Lord Lk4:19; Is61:1-2	Final Passover (Mar/Apr) Mt26:17; Mk14:12; Lk22:7; Jn11:55ff	Final Passover (Mar/Apr) Mt26:17; Mk14:12; Lk22:7; Jn11:55ff

* According to the Codex Vaticanus and related texts, John 5:1 refers to "a feast of the Jews." Since the Feast of Tabernacles was known as "*the* Feast," the festival might have been Passover, Pentecost, Tabernacles, Hanukkah or Purim. In the Codex Sinaiticus and related texts, John 5:1 refers to "*the* feast of the Jews," thought to mean the Feast of Tabernacles rather than any other feast.

depending on the assumptions used by different scholars. Thus, the 47th year after construction began may have been as early as 24 C.E. or as late as 29 C.E. The Greek word used for Temple in John 2:20 is *naos,* meaning the Temple building itself. The Temple building was constructed by priests in approximately one year and five months. If the 46 years were calculated from the completion of the *naos,* then the 47th year may have begun as early as 25 C.E. or as late as 30 C.E. John appears to place this misunderstanding at the beginning of Jesus' ministry, so the ministry might have begun in 24 through 30 C.E. If the disagreement happened at the final Passover of Jesus' ministry, when the Synoptic Gospels describe the Temple cleansing, the date of the crucifixion is possible in 24 through 30 C.E.

The High Priest at the time of the crucifixion was Caiaphas, who served from 18 to 37 C.E. (see Matthew 26:3,57; John 11:49-53; 18:13-14). The Gospels (Matthew 27:2-26; Mark 15:1-15; Luke 23:1-25; John 18:28-19:16), Acts of the Apostles (4:27) and Paul's first letter to Timothy (6:13), all report the involvement of Pontius Pilate in the crucifixion of Jesus. Pilate was appointed Roman procurator of Judaea by Tiberius in 26 C.E. and remained in office for about ten years. Since the crucifixion coincided with Passover, Jesus' death may be placed between the Passovers of 26 and 37 C.E.

During Jesus' ministry, He was described as "not yet fifty years old" (John 8:57). Irenaeus, about 140 - 202 C.E., one of the earliest writers to argue against a one-year ministry, insisted that this description meant that Jesus was at least 40 years of age at the end of His ministry. Von Soden (1899:802) focused on this aspect of Jesus' age and noted that the phrase "not yet fifty years old" was part of a question posed to Jesus.

> If the foolish question, 'Thou art not yet fifty years old, and hast thou seen Abraham?' were authentic, it would only give a superior limit, plainly put as high as possible on the ground of the general impression of Jesus' appearance. From this no inference as to any number could be drawn, for among the Jews a man began to be elderly at fifty years, and the remark would have meant, 'You are still one of the younger men.' If the question is not authentic, it either testifies to the impression made by the account of Jesus in the tradition, that he was in the best years of his life . . . or else the half century, as an age which he had not yet attained, is intended to form an ironical contrast to the many centuries from Abraham to the then present time.

The age specified in John 8:57 does not present a reliable chronological limit for the ministry or age of Jesus. The time periods provided by the Gospels in connection with Jesus' ministry do not contradict a birthdate for the Messiah at Passover 5 B.C.E. However, the Gospels also do not provide an accurate or unanimous description of the time of the mortal ministry of Jesus. They provide only the broadest guideline for determining the end of Jesus' ministry.

Passover

Jesus completed His mortal ministry at the time of Passover and the Feast of Unleavened Bread. Originally, the two festivals were separate. Passover was a pastoral celebration, which for Israel commemorated the escape from Egypt (Exodus 3:18; 7:16; 12:1-28; Deuteronomy 16:1-8). The Feast of Unleavened Bread was a barley harvest festival adopted by Israel after they entered the land of Canaan (Leviticus 23:10). By the first century C.E., the festivals had been celebrated together for so long that the names "Unleavened Bread" and "Passover" were used interchangeably to refer to the entire eight-day festival. The word "Passover" also could refer to the single night's Feast of Passover or to the Passover lamb by itself.

The first of the preparations for Passover were to occur on 10 Nisan, when yearling male lambs without blemish were chosen to be the sacrificial victims. Then, on the evening that began 14 Nisan, the Unleavened Bread portion of the festival began: all leaven was removed from homes and other dwelling places, so that no contact would occur with any leaven from noon 14 Nisan through the end of the festival on 21 Nisan. Occasionally, this first day of cleansing, the first day of the combined eight-day festival, is referred to as the first day of the Feast of Unleavened Bread. The Passover lambs were slain by the thousands "between the two evenings," following the daily afternoon sacrifice about 3:00 to 5:00 p.m. on 14 Nisan and were eaten that night, 15 Nisan, as part of the Passover meal, with fruit sauce, bitter and green herbs, unleavened bread and wine. At the time of Jesus, the Passover lambs were required to be sacrificed at the Temple and the Passover meal had to be eaten within the gates of Jerusalem. Celebrants could depart from within the city walls after finishing their meal, probably because accommodations were not available for the 85,000 to 125,000 or more pilgrims who thronged the city, but they had to remain within a specially created district of Jerusalem all that night.

After the two feasts were combined, that night also became the beginning of the first day of the seven days of the Feast of Unleavened Bread. Because the night of 15 Nisan was a festival eve, the Temple gates were opened at midnight, after the Passover meal was concluded. By dawn the Temple courtyard was filled with pilgrims and residents, who were to abstain from work on both the first and last days of the festival. They gathered at the Temple in accordance with the written requirement of "an holy convocation" on both days.

On the second day of the Feast of Unleavened Bread, 16 Nisan, a special offering was begun. Leviticus 23:9-14 specified that "a sheaf of the firstfruits of your harvest" be brought to the priest and "he shall wave the sheaf before the Lord." A barley offering was reaped in the late afternoon of 15 Nisan, placed in baskets and brought to the Temple, where it was prepared as fine flour. On the morning of 16 Nisan, it was mixed with oil and frankincense. A handful of this first fruits offering was burned on the altar with other offerings. From that time forward, the pilgrims were free to return to their own cities and villages to begin the barley harvest. Those who stayed for the remainder of the festival would have enjoyed another five days of feasting, culminated by the holy convocation and day of rest on 21 Nisan. In those years where the Sabbath could be combined with 15 Nisan, as in 26 C.E. and 29 C.E., the festival would have ended with two days of rest (21 Nisan followed by the Sabbath), a much more convenient arrangement for the pilgrims and merchants than having the festival start with two days of rest.

The Crucifixion in 29 C.E.

The oldest Christian tradition holds that the year of the crucifixion was the Roman consular year *Gemino et Gemino* or 29 C.E. Clement of Alexandria, about 200 C.E., reported that the followers of Basilides (who flourished in Alexandria about 117 to 138 C.E.) believed that Jesus' ministry lasted one year from His baptism in Tiberius' 15th year to His crucifixion in the 16th year. They placed His baptism on either January 6J or 10J, 28 C.E. and His death on either March 21J, April 14J or April 20J, 29 C.E. None of these crucifixion dates was a Friday, the day before the Sabbath, and the Gospels are unanimous in placing the crucifixion on a Friday (Matthew 26:20-28:1; Mark 14:17-16:2; Luke 22:14-24:1; John 13:2-20:1). Among the Alexandrians at least, the exact day of the crucifixion had been lost. Tertullian, about 160 - 230 C.E., defined the date of the crucifixion as:

> under Tiberius Caesar, in the consulate of Rubellius Geminus and Fufius Geminus, in the month of March, at the times of the passover, on the eighth day before the Kalends of April, on the first day of unleavened bread, on which they slew the lamb at even (Finegan 1964:297-298).

Tertullian's source is not known. The consular year was 29 C.E. The eighth day before the Kalends of April was a Friday, March 23 or 25J (1,731,734); however, it was one week too late to be "the first day of unleavened bread." Saint Augustine, 354 - 430 C.E., also referred to Jesus' death on March 25J, 29 C.E., although Augustine did not specify the particular day of the Passover festival. Again, it appears that the exact day of the crucifixion had been lost or confused.

According to the Nephite calendar sage, the sign of the Messiah's death occurred on the fourth day of the 34th year from "the coming of Christ" (3 Nephi 2:7-8; 8:1-5); so, between the time of the birth and death of Jesus, 33 years and three days elapsed. These years from "the coming of Christ" appear to have been counted with the New Era-O calendar and each year consisted of 365 days. Therefore, the length of Jesus' life was 12,048 days. He was crucified on Friday, March 16 or 18J, 29 C.E. (1,731,727), day 004 in the 34th year of the New Era-O calendar (see Table V).

The Savior was considered to be the ultimate symbol of the Passover sacrifice (John 1:29,36; 18:28; 19:14; 1 Corinthians 5:7; 1 Peter 1:18-19). Consequently, one would expect that Friday, March 16, 29 C.E. was the day "on which they slew the lamb at even." Turner (1898:411-415) adopted this date as a probable crucifixion date, but it has not been accepted, probably for two reasons. First, some scholars have assumed that Passover occurred in April 29 C.E. without even considering the leap year and Sabbatical cycle requirements of the Jewish calendar. Second, even if one accepts March 29 C.E. as the month of Passover, the "preparation of the Passover" or 14 Nisan appears to fall on Saturday or Sabbath, rather than on Friday; however, this result also is based on a simplistic view of the Jewish calendar in the first century C.E.

The Sabbatical Cycle

The establishment of the Sabbatical year covenant in Judaea, at least in the form that affected the calendar in the first century C.E., occurred about four centuries before the birth of Jesus. This Sabbatical year covenant created a distinctive Jewish rhythm for adding leap years to the lunar calendar and distinguished the Jewish calendar from all the other Middle Eastern lunar calendars for at least the next 700 years. The calendar also served to base ritual authority at Jerusalem.

The Sabbatical year or seventh year of the cycle represented an acknowledgment of the sovereignty of God. Just as humans were to rest and cease to dominate nature on the Sabbath, so in the Sabbatical year they were to relax their domination of other humans and nature. In Exodus 23 and Deuteronomy 15, the seventh-year fallow, the forgiveness of debts and the release of Jewish slaves were expressly connected with the Sabbath. In the Jubilee legislation recorded in Leviticus 25, the Jubilee year which followed the seventh of Sabbatical years or 49th year (7x7) was justified by God's ultimate possession of the land and his undisputed ownership of all Israelites as His servants. This 49-year or 50-year cycle also may have had calendrical implications: 49 solar years (17,896.8678 days) are nearly the same as 606 moons (17,895.5363 days). Thus, the priests could declare 18 leap years in a 49-year period [(49x12)+18=606].

From an agricultural standpoint, every seventh year the land rested. After the Babylonian exile, Judaea followed a civil calendar that began on 1 Nisan in the spring, like the 1 Nisanu beginning of the Babylonian calendar. However, each Sabbatical year used the ancient Israelite practice of beginning the year in the autumn, on 1 Tishri, the seventh month of the civil year (see Appendix 1). Since the fallow year resulted in the depletion of foodstores and economic hardship, the length of the Sabbatical year was strictly limited to 12 months. Planting began as soon as possible after the end of the Sabbatical year.

Similarly, the first year of the cycle was limited to 12 months, so that the first barley harvest in the spring after the Sabbatical year could begin as soon as possible. The only way in which the first and seventh years of each Sabbatical cycle could be limited to

12 months each, and still keep Nisan as the month of springtime in the second year of each cycle, was to add a 13th month to every sixth year of the cycle. In the sixth year of the cycle, the people were prohibited from working the land during the month of Elul, the sixth month of the Jewish civil calendar or the 12th month of the religious calendar. Elul occurred just before the start of the Sabbatical year. The Sabbatical regulations also included a rule that only after the 12th month of the civil calendar, Adar, could a 13th month be added (Adar II) and never after the month of Elul. Hence, in the sixth year, Adar II was added in the spring and no intercalation was ever required for Elul. Intercalation of every sixth year occasionally put the month of Nisan of the Sabbatical year one month later in the spring than it otherwise would have been, but these occasional super-intercalations did not interfere with the beginning of a harvest because the Sabbatical year was a fallow year.

The other years of the Sabbatical cycle were 12 or 13 months each, depending largely on observation of agricultural and astronomical events in the early period of the development of the calendar. By the first century C.E., the calendrical decisions were governed by the Calendar Council of the Sanhedrin, made up of three members who were particularly qualified by their mathematical and astronomical talents. One of the members was the *nasi'* or patriarch of the Sanhedrin. The declaration of the start of each month was no longer merely a question of sighting the first crescent of a new moon. On the 29th day of each month, the Calendar Council met to declare or postpone for a day the declaration of the start of the next month. Their decision was known to be:

> subject to witness' reports of the time and circumstance of their sighting of the new crescent scrutinized by a court competent to check them, and only accepted if tallying with each other and not contrary to astronomical prediction, with the further proviso of agreement by the court and formal declaration of "sanctification" before night set in. Proceedings were sometimes deliberately prolonged or speeded up, with the occasional choice of some observational point favorable for early sighting of the new crescent . . . in order to avoid whenever possible a festival day, especially the Day of Atonement, falling immediately before or after the Sabbath ("Calendar," Encyclopaedia Judaica 1972, vol. 5:49).

Thus, the calculation rules of the Sabbatical cycle, and religious, political and astronomical constraints all interrelated in the timing of 1 Nisan during the first century C.E.

Sanctification of the New Moon

Nisan, the month of Passover, was the first month of the Jewish civil year, the month called "spring" or "the ripening ears of barley" in pre-exilic times (Exodus 9:31; 13:4; 23:15; 34:18; Leviticus 2:14; Deuteronomy 16:1). In Jewish tradition, Nisan was the month when the world was created, the Patriarchs were born, God spoke to Moses from the burning bush, Israel was freed from slavery in Egypt and the Tabernacle was erected. All public mourning was prohibited in Nisan because the entire month was deemed holy. In this month, salvation was expected to come.

The actual visibility of the new moon of Nisan 29 C.E. has been astronomically calculated for sunset, March 5J. Since Jewish days in the first century C.E. began at sunset; the first day of the month may have extended from sunset March 5J to sunset March 6J. In this paper, when a Jewish day is specified in the Gregorian or Julian year counting systems, it is assumed that the Jewish day began at sunset on the previous night. Still, the "sanctification" of the new moon of Nisan 29 C.E. may have been influenced by political, religious and mathematical constraints as well as, and perhaps even more than, astronomical observation. For example, the Calendar Council may have sought

to avoid having two consecutive days of rest, Sabbath/14 Nisan and the first day of the Feast of Unleavened Bread/15 Nisan at the very beginning of the festival week. There can be no question that Passover involved a great deal of commercial activity: the travel and accommodation of pilgrims, the buying and selling of sacrificial victims, and the exchanging of money (see John 2:13-17). Any restrictions on this commercial activity on 14 Nisan penalized late-arriving pilgrims and diminished profits. Furthermore, the work required to remove leaven from dwelling places might have fallen on the Sabbath for those whose circumstances did not permit them to complete the work earlier. The rule was generally accepted that Passover duties took precedence over Sabbath requirements; however, among the more conservative celebrants of the Passover, the work necessary to care for late arrivals for the feast and to cleanse dwelling places might have been repugnant if carried into the Sabbath.

Calculation rules also would have played a part in the decision of the Calendar Council. Despite the late appearance in the Talmud of the once-secret calculation rules, Jewish astronomical methods for calendrical calculations used as late as the Middle Ages were based on Babylonian methods applicable to lunar observations in the second century B.C.E. (Neugebauer 1983:58-59). Furthermore, the Talmud indicates that the calendar experts were willing to make decisions based solely on calculations long before the populace was willing to accept such methods.

According to the calculation rules, Nisan was required to be a "full" month rather than a "deficient" month; that is, to have 30 days rather than 29 days. The preceding month, Adar, was required to have 29 days, probably to ensure that Nisan was "full." Two consecutive lunar months usually equal about 59 days (2x29.53059 = 59.06118). However, lunar months can vary significantly and two consecutive months of about 30 days each could occur. In the year Nisan 28 C.E. to Adar 29 C.E., astronomical events dictated that Adar begin on February 4J and continue to March 5J, a period of 30 days -- one day too long. In addition, there already had been seven "full" months in the year and eight was the maximum number in a 12-month year. As a result, 1 Nisan may have been sanctified one day earlier than a purely astronomical approach would have allowed, so that the Calendar Council could be certain that Nisan would be a "full" month of 30 days.

The Calendar Council also had a secret rule for calculating when a leap year should be declared in the second through fifth years of the Sabbatical cycle. This rule required that 16 Nisan, the day when the first sheaf of the barley harvest was to be waved before the Lord, should be no earlier than the spring equinox. In 29 C.E., beginning the month of Nisan on March 5J or 6J would have placed 16 Nisan on March 20J or 21J, both of which were earlier than the spring equinox. This would seem to have been the perfect time to add a 13th month, Adar II, and celebrate Passover in April. However, Tishri 28 C.E. to Elul 29 C.E. was the first year of a Sabbatical cycle and declaring a leap year was prohibited.

In the 105-year Jewish calendar from 64 B.C.E. to 42 C.E. shown in Appendix 1, there are three years when 16 Nisan would have occurred before the spring equinox. One of those three years was 29 C.E. In each instance, the reason for the early start of the civil year was the rule prohibiting a leap year in the first year of a Sabbatical cycle, when economic hardships were at their worst. Given the need to start the barley harvest and replace food stores as quickly as possible, this second-year discrepancy every 35 to 50 years may have been of little concern to the members of the Calendar Council. The general populace would not have noticed any difference.

Thus, 14 Nisan 29 C.E. need not have fallen on the Sabbath. Adar was prohibited from having 30 days. The first year of the Sabbatical cycle could not be a leap year. Rules for the Sabbath and the "preparation of the Passover" might have been particularly important to the Calendar Council. The New Testament does not describe controversies over specific calendar issues, except those associated with the Jesus' understanding and application of the rules for the Sabbath (see, e.g., Matthew 12:1-14).

The Temple Cleansings

In 26 C.E., the "preparation of the Passover" when the lambs were killed, 14 Nisan, should have occurred on March 21 or 23J (1,730,636), a Sabbath day, according to a purely astronomical approach to the calendar. This was the fifth year of the Sabbatical cycle and 16 Nisan occurred after the spring equinox; so, there was no need to declare a leap year. However, the new moon of Adar 26 C.E. was visible by February 8J and the new moon of Nisan 26 C.E. was visible by March 10J; thus, Adar could have had 30 days. If the Calendar Council "sanctified" 1 Nisan a day early in 26 C.E., as the rule requiring Adar to have only 29 days would have mandated, then the Calendar Council would have avoided having two days of rest begin the festival and conflicts between Sabbath and Passover preparation rules would have been avoided.

If Jesus' ministry lasted three years, He may have cleansed the Temple on this occasion at the very beginning of His ministry (John 2:13-17). His disruption of commercial affairs in the Temple, presumably before the feast day (see John 2:23), would have created many enemies for Him among those dependent on that commercial activity. On the other hand, if the Messiah's ministry lasted only one or two years, His cleansing of the Temple at the beginning of His ministry could have been viewed as a reaction to what might have been considered by the pious to be an ill-advised "sanctification" of the new moon of Nisan one day early in 26 C.E. Then, when the Calendar Council declared the new moon one day early in 29 C.E., there may have been great concern among the Temple authorities about Jesus' appearance at that Passover festival.

Whether or not this is the sequence of events in the Messiah's life is not important for the purposes of this paper. What is important is that when this calendrical pattern is understood, one cannot assert with assurance that there were not two Temple cleansings in Jesus' ministry because one is "incomprehensible" at the beginning of the ministry. When the calendrical pattern is understood, a cleansing at the beginning of Jesus' ministry becomes quite conceivable. The Gospel record must be read with the calendar in mind.

In 29 C.E., Jesus went to the Temple in the week before Passover. He observed the commercial activity there:

> and began to cast out them that sold and bought in the temple, and overthrew the tables of the moneychangers, and the seats of them that sold doves; and would not suffer that any man should carry any vessel through the temple. And he taught, saying unto them, Is it not written, My house shall be called of all nations the house of prayer? but ye have made it a den of thieves. And the scribes and chief priests heard it, and sought how they might destroy him: for they feared him, because all the people was astonished at his doctrine (Mark 11:15-18).

His cleansing of the Temple was an act of open defiance against Temple authority and His enemies immediately placed in motion their private plan to take His life. Apparently, these leaders did not understand sacrifice and priesthood authority any better in 29 C.E. than had the Temple leaders at the time of Isaiah, more than 700 years earlier.

> Hear the word of the Lord, ye rulers of Sodom; give ear unto the law of our God, ye people of Gomorrah. To what purpose is the multitude of your sacrifices unto me? saith the Lord: I am full of the burnt offerings of rams, and the fat of fed beasts; and I delight not in the blood of bullocks, or of lambs, or of he goats. When ye come to appear before me, who hath required this at your hand, to tread my courts? Bring no more vain oblations; incense is an abomination unto me; the new moons and sabbaths, the calling of assemblies, I cannot away

> with it; it is iniquity, even the solemn meeting. Your new moons and your appointed feasts my soul hateth: they are a trouble unto me; I am weary to bear them. And when ye spread forth your hands, I will hide mine eyes from you; yea, when ye make many prayers, I will not hear: your hands are full of blood (Isaiah 1:10-15).

The Passover Atonement

The apostle Peter wrote of being "redeemed . . . with the precious blood of Christ, as of a lamb without blemish and without spot" (1 Peter 1:18-19; see Exodus 12:5; Leviticus 1:3). John the Baptist knew Jesus as "the Lamb of God, which taketh away the sin of the world" (John 1:29-34). John the Revelator, another of the Savior's apostles, described the Messiah as "the Lamb that was slain" (Revelations 5:6,12). The apostle John also reported that the capture and crucifixion of Jesus occurred on "the preparation of the passover," 14 Nisan (John 19:14). As the lambs were sacrificed in the Temple, Jesus' mortal life as "the Lamb of God" reached its culmination. According to John 19:31, the following day was "an high day," a Sabbath day combined with an important festival day, the first day of the Feast of Unleavened Bread. The apostle Paul called Jesus "our passover . . . sacrificed for us" (1 Corinthians 5:7). The apocryphal Gospel of Peter, probably written in the second century C.E., stated that the trial and crucifixion of Jesus took place "on the day before the unleavened bread, their feast" (Finegan 1964:288).

Jesus visited Bethany six days before Passover (John 12:1-8). The day was 9 Nisan, a Sunday, the first day of the week. On the following day, Monday, 10 Nisan, when the Passover sacrifice was to be chosen:

> much people that were come to the feast, when they heard that Jesus was coming to Jerusalem, took branches of palm trees, and went forth to meet him, and cried, Hosanna: Blessed is the King of Israel that cometh in the name of the Lord. And Jesus, when he had found a young ass, sat thereon; as it is written, Fear not, daughter of Sion: behold, thy King cometh, sitting on an ass's colt. These things understood not the disciples at first: but when Jesus was glorified, then remembered they that these things were written of him, and that they had done these things unto him (John 12:12-16).

Thus, on 10 Nisan, the ultimate Passover sacrifice was acknowledged and welcomed by throngs of Jews as the long awaited "King of Israel," the Messiah.

Jesus continued His ministry, cleansing the Temple and teaching His disciples and those who would listen to Him in the Temple and at Bethany during the next few days. Shortly after sunset on "the first day of unleavened bread, when they killed the passover" (Mark 14:12; compare Matthew 26:17; Luke 22:7), 14 Nisan, Jesus and His apostles approached Jerusalem, probably in a great crowd of pilgrims entering the city for the Passover. Jesus sent Peter and John ahead of the others (compare John 20:1-4), instructing them to "Go and prepare us the passover, that we may eat." In light of the thousands thronging into the city, His apostles asked:

> Where wilt thou that we prepare? And he said unto them, Behold, when ye are entered into the city, there shall a man meet you, bearing a pitcher of water; follow him into the house where he entereth in. And ye shall say to the goodman of the house, The Master saith unto thee, Where is the guestchamber, where I shall eat the passover with my disciples? And he shall shew you a large upper room

> furnished: there make ready. And they went, and found as he had said unto them: and they made ready the passover. And when the hour was come, he sat down, and the twelve apostles with him. And he said unto them, With desire I have desired to eat this passover with you before I suffer: for I say unto you, I will not any more eat thereof, until it be fulfilled in the kingdom of God (Luke 22:9-16).

The meal on Thursday night was not the Passover meal itself. A room had been obtained for the feast. Peter and John had arranged for the necessities of the feast to be delivered later that day, but the lambs had not been slain at the Temple. The Messiah desired to partake of the Passover, but He knew His time of suffering had come.

> Now before the feast of the passover, when Jesus knew that his hour was come that he should depart out of this world unto the Father, having loved his own which were in the world, he loved them unto the end. And supper being ended, . . . He riseth from supper, and laid aside his garments; and took a towel, and girded himself. After that he poureth water into a bason, and began to wash the disciples' feet, and to wipe them with the towel wherewith he was girded (John 13:1-5).

At the Passover meal, the participants were required to eat the sacrificial lamb "with your loins girded, your shoes on your feet, and your staff in your hand; and ye shall eat it in haste: it is the Lord's passover" (Exodus 12:11). This Passover meal was first eaten on the night before Israel began its journey out of Egypt to freedom, under the direction and authority of Moses (Exodus 12:21-51). At the Thursday night meal in 29 C.E., no lamb is mentioned and the Lord enacted a new ritual. Garments were laid aside and shoes were removed. The apostles' feet were washed by the Messiah, signifying in part that the journey under the Law of Moses had reached its destination. As Jesus had said earlier in His ministry, "Think not that I am come to destroy the law, or the prophets: I am not come to destroy, but to fulfil" (Matthew 5:17).

Beginning in the third century C.E., the Synoptic Gospels began to be read so that this Last Supper was the Passover meal itself. This theory misinterpreted the chronology represented in the Synoptic Gospels. For example, Luke 19:47-48 stated that during the week before Passover, Jesus "taught daily in the temple. But the chief priests and the scribes and the chief of the people sought to destroy him. And could not find what they might do: for all the people were very attentive to hear him." Matthew 26:3-5 reported that during this week a group of priests, scribes and elders met at the palace of Caiaphas, the High Priest, to discuss how "they might take Jesus by subtilty, and kill him. But they said, Not on the feast day, lest there be an uproar among the people." The Passover meal theory assumed that Jesus was arrested on the night of 15 Nisan, the great feast day, while crowds of pilgrims circulated in the district of Jerusalem, and that His crucifixion occurred during the time of the holy convocation the next morning. The enemies of Jesus were neither this bold nor this inept.

Jeremias (1955:14-60) catalogued and investigated six "quite obviously incidental comments" in all four Gospels which he believed confirm that the Last Supper was the Passover meal. First, with Jesus and the apostles all present, more than the minimum number of participants (ten) for the Passover meal were present. But every meal attended by the 12 apostles had more than ten participants; so, this detail carries no weight.

Second, the Supper took place in Jerusalem, at night. However, Jesus knew He was not going to Jerusalem to eat the Passover meal. He knew He was going to Jerusalem to be killed (Matthew 20:17-19; Mark 10:32-34; Luke 18:31-34) and He knew who would betray Him to His killers and when (Matthew 26:20-25,46-50; Mark 14:17-21,42-46; Luke 22:21-23,46-48; John 13:21-30; 18:1-9). Thus, the fact that Jesus ate a

meal with His apostles on the night before He knew He would be taken and killed at Jerusalem says nothing about this meal being a Passover meal. They were hungry the night before Passover certainly.

Third, the participants reclined as at all festal meals. Indeed, the Supper was a festal meal. It was eaten in a room prepared for the festival week. The Messiah had been born on 14 Nisan in 5 B.C.E. and on this special night, He was exactly 33 years of age according to the Jewish calendar, a propitious time for a feast. Of far more importance, bread and wine were given new meaning, garments were laid aside, and feet were washed by the greatest of servants, the Savior. The Holy Communion has been kept as a joyous meal virtually every week since the resurrection of the Messiah.

Fourth, the Passover ritual included the service of a dish followed by the breaking of bread, the drinking of wine, an interpretation of the elements of the meal and the singing of a hymn at the end of the meal. Certainly, Jesus was not prohibited from using this well-known ritual format to institute a new feast -- the feast of atonement. The Passover meal prefigured the Last Supper both as a symbol and a type; however, no lamb was eaten in this new feast and none was mentioned in the interpretation of the elements of the meal. The ritual changes were significant: the new feast was a celebration of the end of the journey and of fulfillment.

Fifth, Judas slipped away from the unfinished meal and some thought he was going to provide for the poor, a charitable custom intended to provide everyone with sufficient means to partake of the Passover sacrifice. This custom would seem to have been more charitable on 14 Nisan, before the feast was prepared, rather than on 15 Nisan, late in the evening after the Passover meal had been quickly consumed.

Sixth, following the meal, Jesus did not return to Bethany as He had on other evenings, but He remained in the garden of Gethsemane in the district of Jerusalem, as required on the night of Passover. Nonetheless, He went to the garden of Gethsemane because He knew the garden, having been there many times before (Luke 22:39; John 18:1-2). He knew why He was going to the garden and it was not to relax with all the other thousands of pilgrims after the Passover meal. As He walked with His apostles away from the city, where everyone else was congregating in anticipation of the approaching Passover, He told His closest associates: "All ye shall be offended because of me this night: for it is written, I will smite the shepherd, and the sheep of the flock shall be scattered abroad" (Matthew 26:31). He went to the garden of Gethsemane to be alone, to pray, to cleanse the dwelling place of humankind from all "leaven" -- one of the ritual tasks on 14 Nisan -- by suffering in atonement for all sins (Matthew 26:36-46; Mark 14:32-42; Luke 22:40-46).

Finally, the astronomical evidence supporting the Passover meal theory is not strong. According to this theory, the day 14 Nisan fell on a Thursday. During the rule of Pontius Pilate, this only occurred in 27 and 34 C.E., and perhaps 30 C.E., according to the astronomers. The years 27 and 34 C.E. generally have been dismissed from serious consideration because they are, respectively, too early and too late to fit the historical sequence. Thus, only the controversial year, 30 C.E., has been deemed a possible choice for the time when the Passover meal theory might have been calendrically possible.

Nonetheless, the emphasis of the scholars on the first possible visibility of the crescent of the new moon in 30 C.E. ignores the fact that the Jewish calendar was not based solely on observation. The Pharisees proposed such a calendar and it was not adopted by the Sanhedrin. Whether or not publicly acknowledged, the Jewish calendar was based on mathematical calculation from the moment a Sabbatical cycle was adopted, about four centuries before the birth of the Messiah. One cannot assume that skills in astronomical mathematics, which were fostered in Babylonia, Greece and Egypt during the same four centuries, somehow never arrived in Jerusalem. The Calendar Council was staffed with men learned in the Law of Moses, and in mathematics and astronomy.

Judas and his companions found Jesus at Gethsemane on the night of 14 Nisan. He was arrested under color of authority and abused by evil men in a procedure controlled by political intrigue. He was crucified with two thieves during the day of 14 Nisan, March 16 or 18J, 29 C.E. (1,731,727). Roman authorities presided at His execution when He died "about the ninth hour" in the mid-afternoon (Matthew 27:46-50; Mark 15:34-37; Luke 23:44-46). At that moment, the crowds were thronging the Temple and the Passover lambs began to be slaughtered by the thousands.

The Storm at Jesus' Death

Matthew 27:51 states that at the time of Jesus' death, an earthquake was felt in Judaea and the veil of the Temple was "rent in twain from the top to the bottom." Mark 15:33 merely states that "there was darkness over the whole land" for a period of three hours and then Jesus died and the veil of the Temple was rent. As noted above, Luke 23:44-45 seems to equate the darkness with an eclipse of the sun, which would have been impossible at Passover. A gathering of storm clouds seems more likely.

In Mesoamerica, the sign of the Messiah's death was "a great storm, such an one as never had been known in all the land." This storm had been prophesied by Samuel the Lamanite: "a great and terrible tempest," made more frightening and destructive by "terrible thunder . . . exceedingly sharp lightnings . . . and exceedingly great quaking of the whole earth." Fires raged in several cities. Others were buried by the earth or swallowed by the sea. The storm and earthquakes lasted for three hours (3 Nephi 8:5-9).

> And it came to pass that there was thick darkness upon all the face of the land, insomuch that the inhabitants thereof who had not fallen could feel the vapor of darkness; and there could be no light because of the darkness, neither candles, neither torches; neither could there be fire kindled with their fine and exceedingly dry wood, so that there could not be any light at all . . . . And it came to pass that it did last for the space of three days that there was no light seen; and there was great mourning and howling and weeping among all the people . . . (3 Nephi 8:20-21,23).

During the three days of darkness, a voice was heard "among all the inhabitants of the earth, upon all the face of this land, crying: Wo, wo, wo unto this people; wo unto the inhabitants of the whole earth except they shall repent" (3 Nephi 9:1-2). This voice detailed the destruction that was being visited upon the wicked. Then the voice stated:

> Behold, I am Jesus Christ the Son of God. I created the heavens and the earth, and all things that in them are. . . . I came unto my own, and my own received me not. And the scriptures concerning my coming are fulfilled. And as many as have received me, to them have I given to become the sons of God; and even so will I to as many as shall believe on my name, for behold, by me redemption cometh, and in me is the law of Moses fulfilled. . . . And ye shall offer up unto me no more the shedding of blood; yea, your sacrifices and your burnt offerings shall be done away, for I will accept none of your sacrifices and your burnt offerings. And ye shall offer for a sacrifice unto me a broken heart and a contrite spirit. . . . Therefore, whoso repenteth and cometh unto me as a little child, him will I receive, for of such is the kingdom of God. Behold, for such I have laid down my life, and have taken it up again; therefore, repent, and come unto me ye ends of the earth, and be saved (3 Nephi 9:15-22).

After many hours in the darkness, the people heard the voice again: "O ye house of Israel whom I have spared, how oft will I gather you . . . if ye will repent and return unto me with full purpose of heart. But if not . . . the places of your dwellings shall become desolate until the time of the fulfilling of the covenant to your fathers (3 Nephi 10:6-7).

The Resurrection

In Jerusalem, on the morning of the third day, Sunday, 16 Nisan, March 18 or 20J, 29 C.E. (1,731,729), the resurrected Messiah "appeared first to Mary Magdalene, out of whom he had cast seven devils" (Mark 16:9; compare Matthew 28:1-10; Luke 24:1-10; John 20:1-18). On this morning, the first fruits of the barley harvest were burned on the altar of the Temple, signifying the start of the season of harvest. The apostle Paul reminded the Corinthian Saints of this great harvest (1 Corinthians 15:20-26, 29-30):

> But now is Christ risen from the dead, and become the firstfruits of them that slept. For since by man came death, by man came also the resurrection of the dead. For as in Adam all die, even so in Christ shall all be made alive. But every man in his own order: Christ the firstfruits; afterward they that are Christ's at his coming. Then cometh the end, when he shall have delivered up the kingdom to God, even the Father; when he shall have put down all rule and all authority and power. For he must reign, till he hath put all enemies under his feet. The last enemy that shall be destroyed is death. . . . Else what shall they do which are baptized for the dead, if the dead rise not at all? why are they then baptized for the dead? And why stand we in jeopardy every hour?

THE DESTRUCTION OF THE NEPHITES

Soon after the ascension of Jesus into heaven (Acts 1:9) and "in the ending" of the 34th year of the new era, which lasted from March 13 or 15J, 29 C.E. (1,731,724) through March 12 or 14J, 30 C.E. (1,732,088), Jesus appeared in Mesoamerica to a great crowd gathered at a Nephite Temple (3 Nephi 11-28). His miraculous ministry brought a reign of peace in Mesoamerica that lasted for several generations. After 194 years of the new era had passed away, "there was still peace in the land, save it were a small part of the people who had revolted from the church and taken upon them the name of Lamanites; therefore there began to be Lamanites again in the land" (4 Nephi 1:19-21). This report was given at the time the Nephite records were transferred from one record keeper to his son; so, the revolt may have occurred a few years earlier. The 195th year of the new era began on February 2 or 3J, 190 C.E. (1,790,489). The religion and elitism associated with the ancient Mesoamerican summer solstice based calendars (Cuicuilco, Olmec, Izapa and Zapotec) appears to have been revived among the Maya with the creation of a new summer era calendar at Palenque on June 22 or 23J, 177 C.E. (1,785,881).

The Nephites continued to decline in wickedness, turning away from the Lord, and eventually becoming more wicked than the Lamanites. This evil remnant of Lehi's posterity finally suffered the desolation of their dwelling places prophesied by the Messiah (4 Nephi 1:23-49; Mormon 1-7). The Nephites were driven from their position of control in the Isthmus of Tehuantepec, the narrow neck of land between highland Mexico and southern Mexico. Toward the end of the 384th year of the new era, Mormon had written a letter to the king of the Lamanites, creating a time and a place for the final battle of their peoples. The Lamanites came to battle "in the greatness of their numbers" and destroyed the Nephites by the thousands. Mormon was killed in this battle at the beginning of the

385th year. His son Moroni survived several more decades by avoiding capture by the Lamanites. To complete the parallel pattern of dates established in his father's writings, Moroni eventually created additional plates and recorded the extinction of his people.

According to the archaeological record, in 378 and 379 C.E. "an intrusive elite of markedly Highland Mexican character" appeared in the Maya area of southern Mexico (Coggins 1979:38-50). Stela 5 at Uaxactun, directly north of Tikal, presents a foreigner with a club and spearthrower associated with the Long Count date of 8.17.1.4.12 or January 14 or 13J, 378 C.E. (1,859,135). At Tikal, Stela 4 records the accession of a new ruler, known as Curl Snout. He is shown in regalia similar to that of Teotihuacan in highland Mexico, but previously unknown at Tikal. The Long Count date associated with Stela 4 is 8.17.2.16.7 or September 1 or August 31J, 379 C.E. (1,859,730).

The 385th year of the Nephite new era began on December 19 or 18J, 379 C.E. (1,859,839). This was the time of the dry season in Mesoamerica, the period of planned warfare, just a few months after the rulers of highland Mexico seem to have consolidated power in southern Mexico. At this time, the great battle of extermination occurred for the Nephites and very few survived.

Among the Quiche Maya (then located south and west of the Grijalva River basin in one of the traditional areas of the Lamanites), a new solar era similar to that of Palenque was inaugurated on the spring equinox, March 21 or 20J, 395 C.E. (1,865,410). This new spring era calendar has survived intact to the present time (Edmonson 1988:127-128, 236-237). The Quiche calendar may be related to the fulfillment of the prophecies of Alma and Samuel the Lamanite concerning the extinction of the Nephites before the 400th year had ended. The Quiche calendar was established 399 solar years after the birth of the Messiah. Perhaps the final part of the 400th civil year was set aside for the utter destruction of all remaining Nephites. Moroni survived to see this year and he wrote:

> Behold, four hundred years have passed away since the coming of our Lord and Savior. And behold, the Lamanites have hunted my people, the Nephites, down from city to city and from place to place, even until they are no more; and great has been their fall; yea, great and marvelous is the destruction of my people, the Nephites. And behold, it is the hand of the Lord which hath done it. And behold also, the Lamanites are at war one with another; and the whole face of this land is one continual round of murder and bloodshed; and no one knoweth the end of the war (Mormon 8:6-8).

The 401st year of the Nephite new era began on December 15 or 14J, 395 C.E. (1,865,679). The prophecies had been fulfilled; wickedness had destroyed the Nephites.

THE LATTER-DAY SAINTS' TRADITION

Members of The Church of Jesus Christ of Latter-day Saints, sometimes called "Latter-day Saints," may be uncertain how the chronology outlined in these pages can be squared with the Latter-day Saints' tradition that Jesus was born on April 6 or 8J, 1 B.C.E. (1,721,156). The A.D., *anno Domini* or "in the year of our Lord" year counting system is based on the work of Dionysius Exiguus in 532 or 533 C.E. At that time, Dionysius, a monk from southern Russia who lived in Rome, calculated that the Roman year A.U.C., *ab urbe condita* or "from the founded city" 754 was the year of the Messiah's birth. Dionysius relied on the writings of Clement of Alexandria, who stated that Jesus was born in the 28th year of Augustus. The title Augustus was given to Octavian on January 16J, 27 B.C.E., A.U.C. 727 (1,711,577). Therefore, counting A.U.C. 727 as the first year of Augustus, Dionysius determined that his 28th year was A.U.C. 754. This became 1 B.C.

TABLE VIII

SUMMARY OF THE PRINCIPAL EVENTS, DATES AND CALENDARS

EVENTS	DATES	CALENDARS
Lehi Leaves Jerusalem	Shortly Before 1-25J-587 BCE (1507046)	Lehi Uses A Common Lunar Calendar
Civil Year and Common Lunar Year Fully Coordinated at Kaminaljuyu	Spring Equinox, 3-26J-433 BCE (1563355)	
Coronation of Mosiah II at Zarahemla	11-18J-126 BCE (1675723) 3 Lord 14 Q (Olmec) 7.11.11.14.0 (Long Count)	Lehi's Descendants Count His Years For 7200 Moons
Sun Darkened At Noon	6-30J-10 BCE (1717951)	
Lehi's 601st Common Lunar Year Begins	Not Later Than 3-10J-5 BCE (1719666)	Common Lunar Calendar Counted For 9 More Years Or 108 Moons
The Messiah Is Born	Spring Equinox, 3-23J-5 BCE (1719679) 14 Nisan	
Moon Turned To Blood	Passover Eve, 3-23J-5 BCE (1719679)	
New Star Appears In Capricornus	Not Later Than 3-31J-5 BCE (1719687)	
Nephite New Era Adopted	Not Later Than 11-14J-5 CE (1723202)	Civil Or 365-Day Year Counted For 400 Years -- Reckoned From The Messiah's Birth
The Messiah Is Killed	Friday, 3-18J-29 CE (1731727) 14 Nisan	
Lamanites Established Again Before Start of 195th Year	Before 2-3J-190 CE (1790489)	
Lamanites And Nephites Meet For Last Battle In 385th Year	385th Year Begins 12-18J-379 CE (1859839)	
Nephites Are Extinct By Start of 401st Year	Before 12-14J-395 CE (1865679)	

or "Before Christ" in the Dionysian year counting system and December 25J, 1 B.C. (1,721,417) was identified as the date of Jesus' birth. January 1J, A.U.C. 755 (1,721,424) began the A.D. year count. Virtually the entire western world now bases its count of years on the starting date calculated by Dionysius in the depths of the Dark Ages.

The Dionysian year counting system is wrong, however, because it started too late. The emperor died on August 19J, 14 C.E., A.U.C. 767 (1,726,402) after an actual reign as Augustus of 41 years, seven months and three days. Clement of Alexandria, in a paragraph preceding the one used by Dionysius, attributed a reign of 46 years, four months and one day to Augustus. By subtracting the longer reign from the date of Augustus' death, one can determine that Clement believed the start of the emperor's reign occurred on April 18J, 33 B.C.E., A.U.C. 721 (1,709,478). The 28th year of Augustus then would have begun on April 18J, 6 B.C.E., A.U.C. 748 (1,719,339) and ended on April 17J, 5 B.C.E. (1,719,704). The birthdate for the Messiah proposed in this paper, March 23J, 5 B.C.E. (1,719,679), fits perfectly with this interpretation of Clement's writings; however, Clement's miscalculation of the reign of Augustus resulted in the anomaly of Jesus' actual birth occurring about five years "Before Christ" in the Dionysian system.

This anomaly has not received a comprehensive review in Latter-day Saint publications because of a misunderstood phrase in a revelation written by Joseph Smith and Oliver Cowdery, and published as Section 20 of The Doctrine and Covenants of the Church of Jesus Christ of Latter-day Saints. This misunderstanding, at least in the 20th century C.E., may be attributed in large part to a mathematical miscalculation in Talmadge's study of the Messiah, Jesus The Christ. Talmadge's book has appeared in numerous editions and has been widely distributed since its first publication in 1915 C.E. In a very brief discussion of Jesus' birth, Talmadge (1962:103-104) quoted a portion of the first verse of Section 20: "The rise of the Church of Christ in these last days, being one thousand eight hundred and thirty years since the coming of our Lord and Savior Jesus Christ in the flesh . . . ." Next, in an apparent oversight, he miscalculated the effect of Zedekiah's enthronement in 597 B.C.E. and the error by Clement of Alexandria on Lehi's 600-year prophecy. Rather than seeing their cumulative effect, Talmadge calculated that they canceled each other out. He then concluded, "We believe that Jesus Christ was born in Bethlehem of Judea, April 6, B.C. 1."

McConkie (1975, vol. 1:91) wrote that Talmadge "appears" to be correct and that Lehi's prophecy would "seem to corroborate this B.C. 1 birthdate." Sperry (1960:89) wrote about this same passage in Section 20:

> One is at somewhat of a loss to understand whether or not the Lord meant that the Savior was born 1830 years ago to the day as of April 6, 1830 . . . . The only reason I bring the problem up is that some persons think that the Lord used the calendar according to our custom without attempting to be precise as to the exact day and year on which the Savior was born. [Talmadge] takes the day as given seriously and expresses his opinion that our Lord was born April 6, B.C. 1.

Ludlow's (1978:148-150) study companion to the Doctrine and Covenants simply reprinted Talmadge's discussion without any qualification. However, Ludlow also asserted that Joseph Smith "believed the Savior was crucified on April 6 in the thirty-third year of our present calendar (April 6, A.D. 33)" because on April 6, 1833 C.E., a group of Latter-day Saints met with Joseph Smith and he later recorded that "[t]he day was spent in a very agreeable manner, in giving and receiving knowledge which appertained to this last kingdom -- it being just 1800 years since the Savior laid down his life . . ." (Ludlow 1978: 151). April 6, 1833 C.E. was the Saturday following Good Friday, so it would have been natural for the Latter-day Saints to remember the Savior's crucifixion during their meeting. While Joseph Smith may have had no reason to doubt the accuracy of the Dionysian year

counting system, he knew that the Book of Mormon did not describe the lifetime of Jesus as *exactly* 33 Gregorian years (see 3 Nephi 8:5). Ludlow's interpretation, while well intentioned, reads far too much into Joseph Smith's natural and general statement. Similarly, the view that the reference to April 6 in Section 20 establishes the date of the Messiah's birth has been a well intentioned, but inaccurate interpretation.

Section 20 was written by Joseph Smith and Oliver Cowdery as they were inspired by the Lord through "the spirit of prophecy and revelation" (Joseph Smith 1946:64). Their subject was the organization of the Church of Christ (the Church was not officially known as The Church of Jesus Christ of Latter-day Saints until 1838), on "the precise day upon which, according to His will and commandment" the Lord required the Church to be organized: April 6, 1830 C.E. (2,389,549).

The date is given in the first verse of Section 20, the verse quoted in part by Talmadge, but this verse is not a complete sentence and cannot be understood by itself. The context is all important. The date is given in a four verse sentence that is followed by a single word sentence, "Amen." This two sentence paragraph is followed by four other paragraphs, each of which ends with the word, "Amen." Altogether, these five paragraphs (D&C 20:1-36) constitute the inspired testimony and revealed beliefs of the first two elders of the Church of Christ. The remainder of Section 20 primarily contains the revealed covenants and rules for governing the new Church.

The first paragraph (D&C 20:1-4) introduces the testimony, law and covenants that follow with a proclamation of praise to the Lord:

> 1 The rise of the Church of Christ in these last days, being one thousand eight hundred and thirty years since the coming of our Lord and Savior Jesus Christ in the flesh, it being regularly organized and established agreeable to the laws of our country, by the will and commandments of God, in the fourth month, and on the sixth day of the month which is called April --
>
> 2 Which commandments were given to Joseph Smith, Jun., who was called of God, and ordained an apostle of Jesus Christ, to be the first elder of this church;
>
> 3 And to Oliver Cowdery, who was also called of God, an apostle of Jesus Christ, to be the second elder of this church, and ordained under his hand;
>
> 4 And this according to the grace of our Lord and Savior Jesus Christ, *to whom be all glory*, both now and forever. Amen.

The few words emphasized in verse four represent the summation of this long and complicated sentence. They are words of praise directed by obedient servants to the Lord. They are clearly written from a human point of view.

This point of view may be distinguished from the perspective expressed by Sperry. He read the passage as though the Lord was speaking. However, it was not "the Lord [who] used the calendar" nor was it "the Lord [who] meant that the Savior was born 1830 years ago to the day as of April 6, 1830." The persons whose expressions were recorded in Section 20:1-4 were the two young men, the first elders of the Church, to whom the inspired thoughts were given. Their human perspective also can be recognized in the second paragraph (D&C 20:5-12), a testimony related to the Book of Mormon and the sameness of God; the third paragraph (D&C 20:13-16), a witness to the requirement to choose righteousness given expressly by "the elders of the church;" the fourth paragraph (D&C 20:17-28), a testimony of the need for salvation and of its provision by the Godhead; and the fifth paragraph (D&C 20:29-36), a declaration of the justification, sanctification and grace of the Savior. Throughout this summary witness to the truths held by the new Church are six testatory phrases, either we "know" or we "bear witness."

Jesus is referred to six times in these 36 verses as "our Lord" or "the Lord," rather than "your Lord" (D&C 20:1,4,16,17,29-31,35,36). Clearly, Section 20:1-36 is divinely inspired testimony and praise expressed from a human point of view. It is not a revelation spoken from the Lord's perspective: "thus saith the Lord."

The human perspective of Section 20 also may be contrasted with the distinctive diction and point of view of a contemporaneous revelation which refers to the same date. Joseph Smith (1946:74-78) wrote that after the organizational affairs and ordinances were performed on April 6, 1830 C.E., the "Holy Ghost was poured out upon us to a very great degree -- some prophesied while we all praised the Lord, and rejoiced exceedingly." Joseph Smith pronounced a new revelation for the Church, recorded in Section 21 of the Doctrine and Covenants. Unlike Section 20, this new revelation *was* given from the Lord's perspective: "thus saith the Lord God" (D&C 21:7).

In the original printed version of Section 21, the Lord referred to the Church being "organized and established in the year of *our* Lord" 1830 (emphasis added). This appears to be a direct acknowledgment by the Lord, through his mouthpiece Joseph Smith, that the year 1830 was merely a year number identified in the accepted Dionysian system. Subsequent editions of Section 21 have read "in the year of *your* Lord" (D&C 21:3, emphasis added) apparently in an editorial attempt to apply the Lord's perspective from the rest of Section 21 to the distinctly human year counting system which uses the phrase *anno Domini*. This grammatical editing does not change the basic message of Section 21. However, once the editing is understood, Joseph Smith's calendrical references -- whether he was writing as an inspired servant, speaking as the Lord's mouthpiece or simply discussing the crucifixion with his friends -- become recognizable as using the generally accepted Dionysian year counting system. Section 21 validates the proposed reading of Section 20 as a human expression of divinely inspired thought, rather than a pronouncement, "thus saith the Lord," about the actual birthdate of the Messiah.

Once the human perspective of Section 20 is recognized, the young writers' use of their own calendar according to their customs is understandable. In light of the importance of Section 20 as a document to govern the Church, one would expect that they would choose a lofty phrase like "since the coming of our Lord and Savior Jesus Christ in the flesh" instead of the more common "in the year of our Lord." One would also expect that they would make such a choice without the slightest thought as to the accuracy of the chronological calculations made nearly 1600 years earlier by Clement of Alexandria.

The inaccuracy of the Dionysian system does not reflect negatively on the choice of April 6, 1830 C.E. as the day chosen for the organization of the Church. The day was Tuesday, two days before Passover and three days before Good Friday. The very first Lord's Day sanctified by the Church was Easter Sunday, a remembrance of the resurrection of the Savior. The Latter-day Saint tradition that Jesus was born on April 6, 1 B.C. is accurate in the sense that His birthday in the first year of the Dionysian system, A.U.C. 754 or 1 B.C., was April 6 or 8J (14 Nisan). The fact that A.D. 1830 was not exactly 1830 Gregorian years from the day of Jesus' birth should present no obstacle to our complete understanding and acceptance of a year "Before Christ" as the time of the Messiah's birth. More importantly, the April 6 tradition should increase our respect for the actual, symbolic and spiritual meanings of birth, death and resurrection; scattering and gathering; organization, apostasy and restoration; Passover and Easter, associated with the date revealed to Joseph Smith on which to officially organize the Church of Christ and commence the restoration of the covenants required of Latter-day Saints.

One final note may be of interest. The 2000th anniversary of 14 Nisan 5 B.C.E. will occur on 14 Nisan, April 3, 1996 C.E. (2,450,177). That night there will be a total lunar eclipse visible at Jerusalem. This will be the first Passover eclipse visible at Jerusalem since 1772 C.E. and the sixth such occurrence since 1500 C.E. Like the rainbow (Genesis 9:8-17), the Passover eclipse signifies a covenant fulfilled by God.

APPENDIX 1

THE JEWISH CALENDAR FROM 64 B.C.E. TO 42 C.E.

Assumptions

This Jewish calendar spans fifteen Sabbatical cycles, ranging from the Roman conquest of Syria (64 B.C.E.) and Jerusalem (63 B.C.E.), through the reigns of Herod the Great, his sons and the Roman procurators, to the Roman restoration of most of Herod the Great's kingdom to his grandson, Herod Agrippa I (41 C.E.). The calendar is hypothetical and depends on the accuracy of the following assumptions for the proposed period:

1. The calendar of Judaea depended in large measure on the synodic lunar cycle to establish its months. Each month began at about the same time as the first crescent of the new moon became visible in the west at twilight. Any adjustment in the beginning of a month due to religious or political concerns, or astronomical calculations, was subject to a contrary adjustment in the next month or two, so that the first day of each month was declared at about the time of first visibility of the new crescent.
2. The first day of each month shown in this calendar is the calculated Julian calendar date following the sunset when the first crescent of the new moon would have been seen at Babylon (Parker and Dubberstein 1956). For example, in 64 B.C.E., the day 1 Tishri is shown as September 25J. Since the Jewish day lasted from sunset to sunset, the day 1 Tishri would have begun at sunset on September 24J. Occasionally, the new moon would have been visible one day earlier at Jerusalem than at Babylon; so, in any particular month this factor must be considered. Moreover, the Calendar Council might have adjusted the first day of a month for political, religious or mathematical reasons.
3. The Calendar Council (originally a priestly group, but in most if not all of the period under consideration, a select group from the Sanhedrin) controlled the sanctification of each new moon. By the time represented in this calendar, the Calendar Council had more than 300 years of continuous experience in governing the lunar calendar at Jerusalem. Members of the Calendar Council were chosen for, among other things, their astronomical and mathematical skills.
4. A year of 12 synodic lunar cycles or lunations averages 354.367 days. The 12-moon calendar was about 11 days shorter than the solar year of 365.2422 days.
5. The month names were derived in large measure from the month names of the Babylonian calendar with which the Jewish community became familiar as a result of the Babylonian exile in 586 B.C.E. During the period covered by the proposed calendar, the Babylonian Jews were one of the largest and most politically powerful communities of the Diaspora.
6. The month named "Nisan" was identified as the first month of the civil year. The 16th day of Nisan was the second day of the Feast of Unleavened Bread. This date was required by ritual to be late enough in the spring that the first fruits offering of the barley harvest could be made at the Temple on that day. Every two or three years, the Calendar Council had to add a 13th lunation or moon to the year, so that Nisan would always remain in the springtime. The month before Nisan was usually known as "Adar," but when a 13th month was added, the month before Nisan became "Adar II."
7. The Calendar Council may have relied on observations of new moons, crops and herds to determine when to sanctify an Adar II and create a leap year, but the Council also had calculation rules and access to astronomical calculations for

deciding the length of each lunar month and year, and the time to declare a leap year. These calculation rules may date from as early as about 130 B.C.E. and appear to be based on Babylonian astronomical methods.

8. The vernal equinox [March 22J or 23J (in the Julian year counting system) during the time of the proposed calendar] was chosen as the specific astronomical limit for 16 Nisan. If at all possible, 16 Nisan was to fall on or after the vernal equinox. Consequently, 1 Nisan normally had to occur on or after March 7J or 8J.

9. The Jewish calendar also utilized a mathematically structured Sabbatical cycle. In the Sabbatical cycle, each year began with Tishri, the first month of the religious year and the seventh month of the civil year. Every seven years, the land was to remain fallow. This caused severe hardships, so the seventh year could not be extended by the addition of a 13th month.

10. The Calendar Council also had a rule which prohibited them from declaring the first year of a Sabbatical cycle as a leap year. The first harvest after the fallow year was not to be postponed by the addition of a 13th month. Thus, the only way to keep 16 Nisan on or after the vernal equinox of the second year of the Sabbatical cycle (after two years that could not be leap years) was to make the sixth year of every cycle a leap year.

11. The Sabbatical cycle used in this calendar is not the cycle identified by Zuckermann in 1857 C.E. Although his table of Sabbatical years has been used by numerous Biblical scholars, it has become increasingly apparent that his Sabbatical years are one year too early. Wacholder (1976:1-45) reviewed "the entire evidence" and created a table with each cycle starting one year later than Zuckermann's original dating. The Wacholder Sabbatical cycle is used in this calendar.

12. Because the Babylonians, Egyptians and Greeks had developed mathematically calculated lunar calendars long before the time of this calendar, the Calendar Council was aware that in any 19-year period only seven leap years could be sanctified. As a result, each Sabbatical cycle was restricted from having more than three leap years and some Sabbatical cycles could only have two leap years.

13. Occasionally, a leap year might have been postponed due to famine or other emergency; however, the cycle then had to be adjusted as soon as possible. Three leap years in a row were prohibited. Once, as a result of Roman suppression in the second century C.E., three adjacent years were made leap years. This was noted in the Talmud as an exception to normal practice. The proposed calendar does not place more than two leap years in a row.

Comparison with the Modern Jewish Calendar

The modern Jewish calendar is constrained by complex calculation rules, but it is not limited by the leap year requirements of the Sabbatical cycle. Like the ancient Babylonian, Egyptian and Greek calculated calendars, the modern Jewish calendar uses a 19-year cycle to coordinate the lunar and solar years.

In the 200 years between 1801 and 2000 C.E., the day 1 Nisan in the modern Jewish calendar ranges between March 12 and April 11. In the 200 years between 1800 and 1999 C.E., the day 1 Tishri ranges between September 5 and October 5 ("Calendar: Jewish Calendar for 200 Years," Universal Jewish Encyclopedia 1948, vol. 2:634-641). These Gregorian dates may be converted into Julian dates by the addition of two days, the appropriate number of additional days in the first centuries B.C.E. and C.E. (Edmonson 1988:178). Thus, the comparable ranges would be March 14J through April 13J for 1 Nisan and September 7J through October 7J for 1 Tishri.

In 78 of the 105 years shown in the proposed calendar (74.3%), Nisan begins between March 14J and April 13J, the limits of the modern Jewish calendar. In 80 of the

years shown in the proposed calendar (76.2%), Tishri begins between September 7J and October 7J. In five of the years (4.8%), Nisan and Tishri in the proposed Jewish calendar begin after the modern Jewish calendar would allow. In 22 of the years (21.0%), Nisan begins earlier than the modern calendar permits. In 20 of the years (19.0%), Tishri begins earlier than the modern Jewish calendar allows. Thus, whether using 1 Nisan or 1 Tishri as the measurement point, the proposed calendar maintains the same type of position in the solar year as does the modern Jewish calendar in about 75% of the years. The proposed calendar occurs earlier in the solar year than the modern Jewish calendar four times more often than it occurs later.

The influence of the Sabbatical cycle on the proposed calendar can be seen in the variations in the dates when Nisan and Tishri begin. The range for 1 Nisan in the proposed Jewish calendar is from March 3J (7 B.C.E.), which occurs in the first year of a Sabbatical cycle when a leap year is prohibited, to April 21J (41 C.E.), which occurs in the sixth year of a Sabbatical cycle that contains three leap years. The range for 1 Tishri in the proposed Jewish calendar is from August 27J (7 B.C.E.), the beginning of the second year of a Sabbatical cycle after two years without a leap year, to October 15J (41 C.E.), the start of a Sabbatical year which concludes a cycle with three leap years in six years. Hence, the Sabbatical cycle can be correlated with the outer limits of the variations in this calendar.

In addition, Nisan in the proposed calendar begins earlier than Nisan in the modern Jewish calendar 22 times, 11 of which (50.0%) occur in years one and two of the Sabbatical cycle and none of which occur in years six and seven of the cycle. Tishri in the proposed calendar occurs earlier than the modern limit in 20 years, none of which occur in years one and seven of the Sabbatical cycle. Thus, the earlier Nisans and Tishris of the proposed calendar appear to be directly related to the intercalation rules relating to the sixth, seventh and first years of the Sabbatical cycle.

Nisan occurs later than the modern limit on five occasions, all of which are in the sixth year of Sabbatical cycles in which two other years were previously declared leap years. Except for the rule requiring intercalation before a Sabbatical year, none of these five years would have been intercalated and Nisan would not have started so late in the solar year. Tishri also occurs later than the modern limit in the same five Julian years and as a result of the same Sabbatical cycle rule.

Comparison with Babylonian Calendar

The relatively close positioning of the proposed Jewish calendar in line with the modern Jewish calendar is very different from its positioning with the Babylonian calendar of the same period (see Parker and Dubberstein 1956). Nisan in the proposed calendar begins earlier than Nisanu in the Babylonian calendar in 51.4% of the years and Tishri begins earlier than Tashritu in 57.1% of the years. Nisan never begins later than the Babylonian limit for Nisanu (April 22J); Tishri never begins later than Tashritu. Hence, the proposed Jewish calendar is clearly distinguishable from the Babylonian calendar in that its months begin earlier in the solar year in slightly more than half of the years and never begin later in the solar year.

The reasons for this distinct shift toward an earlier Nisan might include the difference in the time when calculation rules were adopted in Babylonia and Judaea, combined with a long term climatic trend. The Jewish calendar may have continued to depend somewhat on observation during a warming trend in the last few centuries B.C.E., while the Babylonian calendar was based on calculation almost from the middle of the first millennium B.C.E. On the religious and political levels, the early sanctification of Nisan and Tishri would have served as a constant reminder to the powerful Jewish community in Parthia that the ritual calendar of the Jews was controlled by, and the center of Judaism was located in, Jerusalem.

THE JEWISH CALENDAR FROM 64 B.C.E. TO 42 C.E.

THE JULIAN CALENDAR DATE OF THE FIRST DAY OF THE MONTH

CYCLE YEAR*	BCE	NISAN	IYAR	SIVAN	TAMMUZ	AB	ELUL	TISHRI	CHESHVAN	KISLEV	TEBET	SHEBAT	ADAR	ADAR II
1	64/63							9/25	10/25	11/24	12/24	1/22	2/21	##
1/2	63/62	3/22	4/21	5/20	6/18	7/17	8/16	9/15	10/14	11/13	12/13	1/12	2/10	-
2/3	62/61	3/12	4/10	5/10	6/8	7/7	8/5	9/4	10/4	11/2	12/2	1/1	1/30	2/28
3/4	61/60	3/29	4/28	5/27	6/26	7/25	8/24	9/22	10/22	11/20	12/20	1/18	2/17	-
4/5	60/59	3/18	4/17	5/17	6/15	7/15	8/13	9/12	10/12	11/10	12/9	1/8	2/6	-
5/6	59/58	3/8	4/6	5/6	6/4	7/4	8/3	9/2	10/1	10/30	11/29	12/28	1/26	2/25
6/7	58/57	3/26	4/25	5/24	6/23	7/23	8/22	9/21	10/20	11/19	12/18	1/16	2/14	##
7	57	3/15	4/13	5/13	6/11	7/11	8/10							
1	57/56							9/9	10/9	11/7	12/6	1/5	2/3	##
1/2	56/55	3/4	4/3	5/2	6/1	6/30	7/30	8/29	9/28	10/27	11/26	12/25	1/24	2/22
2/3	55/54	3/24	4/22	5/21	6/20	7/19	8/18	9/17	10/16	11/15	12/14	1/13	2/12	-
3/4	54/53	3/13	4/12	5/11	6/9	7/9	8/7	9/6	10/5	11/4	12/3	1/2	2/1	3/1
4/5	53/52	3/31	4/30	5/29	6/27	7/27	8/25	9/24	10/23	11/21	12/21	1/20	2/19	-
5/6	52/51	3/20	4/19	5/18	6/17	7/16	8/15	9/13	10/12	11/11	12/10	1/9	2/8	3/9
6/7	51/50	4/8	5/8	6/6	7/6	8/4	9/3	10/2	10/31	11/30	12/29	1/28	2/27	##
7	50	3/28	4/27	5/26	6/25	7/25	8/23							
1	50/49							9/22	10/21	11/19	12/19	1/17	2/16	##
1/2	49/48	3/16	4/15	5/14	6/13	7/13	8/11	9/10	10/10	11/8	12/8	1/6	2/5	3/6
2/3	48/47	4/4	5/4	6/2	7/2	7/31	8/30	9/29	10/28	11/27	12/27	1/25	2/24	-
3/4	47/46	3/25	4/23	5/23	6/21	7/20	8/19	9/18	10/18	11/17	12/16	1/15	2/13	-
4/5	46/45	3/15	4/13	5/12	6/10	7/10	8/8	9/7	10/7	11/6	12/5	1/4	2/3	3/3
5/6	45/44	4/2	5/1	5/30	6/28	7/28	8/26	9/25	10/25	11/23	12/23	1/22	2/20	3/22
6/7	44/43	4/20	5/20	6/18	7/17	8/16	9/14	10/14	11/13	12/12	1/11	2/9	3/11	##
7	43	4/10	5/9	6/8	7/7	8/6	9/4							
1	43/42							10/4	11/2	12/2	12/31	1/30	2/28	##
1/2	42/41	3/30	4/28	5/28	6/27	7/26	8/25	9/23	10/23	11/21	12/21	1/19	2/17	-
2/3	41/40	3/18	4/16	5/16	6/15	7/14	8/13	9/12	10/12	11/10	12/9	1/7	2/6	-
3/4	40/39	3/7	4/6	5/5	6/4	7/3	8/2	9/1	10/1	10/31	11/29	12/28	1/26	2/25
4/5	39/38	3/26	4/25	5/24	6/23	7/22	8/21	9/20	10/20	11/18	12/18	1/16	2/14	-
5/6	38/37	3/16	4/14	5/13	6/12	7/12	8/10	9/9	10/9	11/8	12/7	1/6	2/4	3/4
6/7	37/36	4/3	5/2	6/1	6/30	7/30	8/28	9/27	10/26	11/25	12/25	1/23	2/22	##
7	36	3/23	4/22	5/21	6/20	7/19	8/18							

THE JEWISH CALENDAR FROM 64 B.C.E. TO 42 C.E.

THE JULIAN CALENDAR DATE OF THE FIRST DAY OF THE MONTH

CYCLE YEAR*	BCE	NISAN	IYAR	SIVAN	TAMMUZ	AB	ELUL	TISHRI	CHESHVAN	KISLEV	TEBET	SHEBAT	ADAR	ADAR II
1	36/35							9/16	10/16	11/14	12/14	1/12	2/11	##
1/2	35/34	3/13	4/11	5/11	6/9	7/9	8/7	9/6	10/5	11/3	12/3	1/1	1/31	3/2
2/3	34/33	4/1	4/30	5/30	6/28	7/28	8/26	9/25	10/24	11/22	12/22	1/20	2/19	-
3/4	33/32	3/20	4/18	5/18	6/17	7/16	8/15	9/13	10/12	11/11	12/10	1/9	2/7	-
4/5	32/31	3/9	4/7	5/7	6/6	7/5	8/4	9/3	10/2	10/31	11/30	12/29	1/28	2/26
5/6	31/30	3/28	4/26	5/26	6/24	7/24	8/23	9/21	10/20	11/19	12/19	1/17	2/16	3/17
6/7	30/29	4/16	5/15	6/14	7/13	8/12	9/10	10/10	11/9	12/9	1/7	2/6	3/6	##
7	29	4/4	5/4	6/2	7/1	7/31	8/29							
1	29/28							9/28	10/28	11/27	12/27	1/25	2/24	##
1/2	28/27	3/25	4/23	5/23	6/21	7/20	8/19	9/17	10/17	11/16	12/16	1/14	2/13	-
2/3	27/26	3/14	4/13	5/12	6/10	7/10	8/8	9/7	10/6	11/5	12/5	1/3	2/2	3/4
3/4	26/25	4/2	5/2	5/31	6/29	7/29	8/27	9/26	10/25	11/24	12/24	1/22	2/21	-
4/5	25/24	3/21	4/20	5/20	6/18	7/17	8/16	9/14	10/14	11/13	12/12	1/10	2/9	-
5/6	24/23	3/10	4/9	5/9	6/7	7/7	8/5	9/4	10/4	11/2	12/1	12/31	1/29	2/28
6/7	23/22	3/29	4/28	5/27	6/26	7/26	8/24	9/23	10/23	11/21	12/21	1/19	2/17	##
7	22	3/18	4/17	5/16	6/15	7/15	8/14							
1	22/21							9/13	10/12	11/11	12/10	1/8	2/7	##
1/2	21/20	3/7	4/5	5/5	6/3	7/3	8/2	9/1	10/1	10/30	11/29	12/28	1/26	2/25
2/3	20/19	3/26	4/24	5/24	6/22	7/22	8/21	9/20	10/19	11/18	12/17	1/16	2/14	-
3/4	19/18	3/16	4/14	5/13	6/12	7/11	8/10	9/9	10/8	11/7	12/7	1/5	2/4	3/5
4/5	18/17	4/4	5/3	6/2	7/1	7/30	8/29	9/27	10/27	11/25	12/25	1/24	2/22	-
5/6	17/16	3/23	4/22	5/21	6/20	7/19	8/18	9/16	10/15	11/14	12/13	1/12	2/10	3/12
6/7	16/15	4/11	5/11	6/9	7/9	8/7	9/6	10/5	11/3	12/3	1/1	1/31	3/1	##
7	15	3/31	4/30	5/24	6/28	7/28	8/26							
1	15/14							9/25	10/24	11/22	12/22	1/20	2/19	##
1/2	14/13	3/20	4/19	5/18	6/17	7/17	8/15	9/14	10/13	11/12	12/11	1/10	2/8	-
2/3	13/12	3/8	4/7	5/6	6/5	7/5	8/4	9/2	10/2	10/31	11/30	12/29	1/28	2/26
3/4	12/11	3/28	4/26	5/26	6/24	7/23	8/22	9/21	10/20	11/19	12/19	1/17	2/16	-
4/5	11/10	3/17	4/16	5/15	6/13	7/13	8/11	9/10	10/9	11/8	12/8	1/7	2/5	-
5/6	10/9	3/7	4/5	5/4	6/3	7/2	7/31	8/30	9/29	10/28	11/27	12/27	1/26	2/24
6/7	9/8	3/25	4/23	5/23	6/21	7/20	8/18	9/17	10/17	11/15	12/15	1/14	2/12	##
7	8	3/14	4/13	5/12	6/10	7/10	8/8							

THE JEWISH CALENDAR FROM 64 B.C.E. TO 42 C.E.

THE JULIAN CALENDAR DATE OF THE FIRST DAY OF THE MONTH

CYCLE YEAR*	BCE & CE	NISAN	IYAR	SIVAN	TAMMUZ	AB	ELUL	TISHRI	CHESHVAN	KISLEV	TEBET	SHEBAT	ADAR	ADAR II
1	8/7							9/7	10/6	11/4	12/4	1/3	2/1	##
1/2	7/6	3/3	4/2	5/1	5/31	6/29	7/29	8/27	9/26	10/25	11/24	12/23	1/22	2/20
2/3	6/5	3/22	4/20	5/20	6/19	7/18	8/17	9/15	10/15	11/14	12/13	1/11	2/10	-
3/4	5/4	3/10	4/8	5/8	6/7	7/6	8/5	9/4	10/4	11/2	12/2	12/31	1/29	2/27
4/5	4/3	3/29	4/27	5/27	6/25	7/25	8/24	9/23	10/23	11/21	12/21	1/19	2/17	-
5/6	3/2	3/18	4/17	5/16	6/15	7/14	8/13	9/12	10/12	11/11	12/10	1/8	2/7	3/8
6/7	2/1	4/6	5/6	6/4	7/4	8/2	9/1	10/1	10/31	11/29	12/29	1/27	2/26	##
7	1 BCE	3/26	4/24	5/24	6/22	7/22	8/20							
1	1/1 CE							9/19	10/19	11/17	12/17	1/15	2/14	##
1/2	1/2	3/16	4/14	5/13	6/12	7/11	8/10	9/9	10/8	11/6	12/6	1/4	2/3	3/5
2/3	2/3	4/3	5/3	6/2	7/1	7/30	8/29	9/27	10/27	11/25	12/24	1/23	2/22	-
3/4	3/4	3/23	4/22	5/22	6/20	7/20	8/18	9/17	10/16	11/15	12/14	1/12	2/11	-
4/5	4/5	3/12	4/10	5/10	6/9	7/8	8/7	9/6	10/5	11/3	12/2	1/1	1/30	3/1
5/6	5/6	3/30	4/29	5/29	6/27	7/27	8/26	9/24	10/24	11/22	12/22	1/20	2/18	3/20
6/7	6/7	4/18	5/18	6/16	7/16	8/15	9/13	10/13	11/12	12/11	1/10	2/8	3/10	##
7	7	4/8	5/7	6/6	7/6	8/4	9/2							
1	7/8							10/2	11/1	12/1	12/30	1/29	2/27	##
1/2	8/9	3/28	4/26	5/25	6/24	7/23	8/21	9/20	10/20	11/19	12/18	1/17	2/16	-
2/3	9/10	3/17	4/16	5/15	6/13	7/12	8/11	9/9	10/9	11/8	12/7	1/6	2/5	-
3/4	10/11	3/7	4/5	5/5	6/3	7/2	8/1	8/30	9/28	10/28	11/27	12/26	1/25	2/24
4/5	11/12	3/25	4/23	5/23	6/22	7/21	8/19	9/18	10/17	11/16	12/16	1/14	2/13	-
5/6	12/13	3/13	4/12	5/12	6/10	7/10	8/8	9/7	10/6	11/5	12/4	1/3	2/1	3/3
6/7	13/14	4/1	5/1	5/30	6/29	7/28	8/27	9/26	10/25	11/24	12/23	1/21	2/20	##
7	14	3/21	4/20	5/19	6/18	7/18	8/16							
1	14/15							9/15	10/15	11/14	12/13	1/11	2/9	##
1/2	15/16	3/11	4/9	5/9	6/7	7/7	8/5	9/4	10/4	11/3	12/3	1/1	1/30	2/28
2/3	16/17	3/29	4/27	5/26	6/25	7/24	8/23	9/22	10/22	11/21	12/20	1/19	2/17	-
3/4	17/18	3/19	4/17	5/16	6/14	7/14	8/13	9/11	10/11	11/10	12/9	1/8	2/7	-
4/5	18/19	3/8	4/6	5/6	6/4	7/4	8/2	9/1	9/30	10/30	11/28	12/28	1/27	2/25
5/6	19/20	3/27	4/25	5/25	6/23	7/23	8/21	9/20	10/19	11/18	12/17	1/16	2/14	3/15
6/7	20/21	4/14	5/13	6/12	7/11	8/10	9/8	10/8	11/6	12/5	1/4	2/2	3/4	##
7	21	4/3	5/2	6/1	7/1	7/30	8/29							

THE JEWISH CALENDAR FROM 64 B.C.E. TO 42 C.E.

THE JULIAN CALENDAR DATE OF THE FIRST DAY OF THE MONTH

CYCLE YEAR*	CE	NISAN	IYAR	SIVAN	TAMMUZ	AB	ELUL	TISHRI	CHESHVAN	KISLEV	TEBET	SHEBAT	ADAR	ADAR II
1	21/22							9/27	10/27	11/25	12/24	1/23	2/21	##
1/2	22/23	3/23	4/21	5/21	6/20	7/20	8/18	9/17	10/16	11/15	12/14	1/12	2/11	-
2/3	23/24	3/12	4/11	5/10	6/9	7/9	8/8	9/6	10/6	11/4	12/3	1/2	1/31	3/1
3/4	24/25	3/30	4/29	5/28	6/27	7/26	8/25	9/24	10/23	11/22	12/21	1/20	2/18	-
4/5	25/26	3/20	4/18	5/18	6/16	7/16	8/14	9/13	10/12	11/11	12/11	1/10	2/8	-
5/6	26/27	3/10	4/8	5/7	6/6	7/5	8/3	9/2	10/1	10/31	11/30	12/30	1/28	2/27
6/7	27/28	3/28	4/27	5/26	6/24	7/24	8/22	9/21	10/20	11/19	12/19	1/18	2/16	##
7	28	3/17	4/15	5/15	6/13	7/12	8/11							
1	28/29							9/9	10/9	11/7	12/7	1/6	2/4	##
1/2	29/30	3/6	4/5	5/4	6/3	7/2	7/31	8/30	9/28	10/28	11/26	12/26	1/24	2/23
2/3	30/31	3/25	4/23	5/23	6/21	7/21	8/19	9/18	10/17	11/16	12/15	1/14	2/12	-
3/4	31/32	3/14	4/12	5/12	6/11	7/10	8/9	9/7	10/7	11/6	12/5	1/3	2/2	3/2
4/5	32/33	4/1	4/30	5/30	6/28	7/28	8/27	9/26	10/25	11/24	12/23	1/21	2/20	-
5/6	33/34	3/21	4/19	5/19	6/17	7/17	8/16	9/15	10/15	11/13	12/13	1/11	2/9	3/11
6/7	34/35	4/9	5/8	6/7	7/6	8/5	9/4	10/4	11/2	12/2	1/1	1/30	2/28	##
7	35	3/30	4/28	5/27	6/26	7/25	8/24							
1	35/36							9/23	10/22	11/21	12/21	1/19	2/18	##
1/2	36/37	3/18	4/17	5/16	6/14	7/14	8/12	9/11	10/11	11/9	12/9	1/7	2/6	-
2/3	37/38	3/8	4/6	5/6	6/4	7/4	8/2	8/31	9/30	10/30	11/28	12/27	1/26	2/25
3/4	38/39	3/26	4/25	5/25	6/23	7/23	8/21	9/20	10/19	11/17	12/17	1/15	2/14	-
4/5	39/40	3/15	4/14	5/14	6/12	7/12	8/11	9/9	10/9	11/7	12/6	1/5	2/3	3/4
5/6	40/41	4/2	5/2	5/31	6/30	7/30	8/29	9/27	10/27	11/25	12/24	1/23	2/21	3/22
6/7	41/42	4/21	5/21	6/19	7/19	8/18	9/17	10/16	11/14	12/14	1/12	2/11	3/12	##
7	42	4/10	5/10	6/8	7/8	8/7	9/5							

* Years in the Sabbatical cycle begin on 1 Tishri. Civil years begin on 1 Nisan.

\## Leap years are prohibited in the first and seventh years of each Sabbatical cycle.

APPENDIX 2

POTENTIAL BIRTH AND CRUCIFIXION DATES

Assumptions

These potential birth and crucifixion dates for the life of the Messiah all assume that the length of His life was 33 years and three days -- the length of time between the days of His birth and death according to the Book of Mormon calendar keeper (3 Nephi 8:5).

Four types of years are used in the following analysis to determine the number of days in the 33 years of the Messiah's life:

1. Common lunar years are made up of 12 lunar months or lunations (each of which averages about 29.53059 days); so, the common lunar year is about 354.36705 days long. The length of Jesus' life according to this year counting system is 11,697.112 days. Fractional days are disregarded in the following analysis.
2. Schematic lunar years are made up of 12 schematic months (30 days each); so, the schematic lunar year is exactly 360 days long. The Savior's lifespan in this year counting system is 11,883 days.
3. Schematic solar years are made up of a basic set of 360 days (12x30 or 18x20) combined with five additional days; so, the schematic solar year is exactly 365 days long. In this year counting system, Jesus' life is 12,048 days.
4. Common solar years are based on the astronomical relationship of the earth and sun; so, each common solar year is about 365.2422 days long. According to this system, the Messiah's life is 12,055.992 days.

The Jewish calendar used for this analysis is that described in Appendix 1 and is based on the Sabbatical cycle developed by Wacholder (1976:1-45). Many older studies dealing with the Messiah's life and crucifixion rely on the Sabbatical cycle proposed by Zuckermann in 1857 C.E. Zuckermann's cycle appears to start each Sabbatical cycle one year too early. In the time period under consideration in this analysis, the effect of this difference in Sabbatical cycles is found in the years 26, 29 and 33 C.E. In every other year represented, the birth and crucifixion dates are identical under both Sabbatical cycles.

In Table AP-I, the dates of 14 Nisan and of any Friday (or any other Friday if 14 Nisan is a Friday) during the eight-day festival of Passover and the Feast of Unleavened Bread are set forth. In the three years where the Zuckermann cycle would make a difference, additional dates are included to show that difference. It is assumed in Table AP-1 that Jesus died at the time of a Passover between 26 and 36 C.E., when Pilate was procurator of Judaea.

Table AP-II then combines the possible crucifixion dates (all Fridays identified in connection with the Passovers listed in Table AP-I) with the four potential ranges for the length of Jesus' life. In those years where 14 Nisan falls on a Saturday, it is assumed that the previous day is a possible Friday for the crucifixion if the Calendar Council declared the month of Nisan one day earlier than the new moon visibility calculated for Babylon (see Parker and Dubberstein 1956).

TABLE AP-I

THE DATE OF 14 NISAN AND THE DATE OF ANY FRIDAY OTHER THAN 14 NISAN DURING THE EIGHT-DAY FESTIVAL OF PASSOVER AND UNLEAVENED BREAD (26 TO 36 C.E.)

JULIAN DATE C.E.	JULIAN DAY	JEWISH DAY	DAY OF WEEK	CYCLE YEAR^
03-23-26*	1730636	14 Nisan	SA	05
03-29-26	1730642	20 Nisan	FR	05
04-21-26^	1730665	14 Nisan	SU	06
04-26-26^	1730670	19 Nisan	FR	06
04-10-27#	1731019	14 Nisan	TH	06
04-11-27	1731020	15 Nisan	FR	06
03-30-28	1731374	14 Nisan	TU	07
04-02-28	1731377	17 Nisan	FR	07
03-19-29*	1731728	14 Nisan	SA	01
03-25-29	1731734	20 Nisan	FR	01
04-18-29^	1731758	14 Nisan	MO	02
04-22-29^	1731762	18 Nisan	FR	02
04-07-30#	1732112	14 Nisan	FR	02
04-14-30	1732119	21 Nisan	FR	02
03-27-31	1732466	14 Nisan	TU	03
03-30-31	1732469	17 Nisan	FR	03
04-14-32	1732850	14 Nisan	MO	04
04-18-32	1732854	18 Nisan	FR	04
04-03-33#	1733204	14 Nisan	FR	05
04-10-33	1733211	21 Nisan	FR	05
05-02-33^*	1733233	14 Nisan	SA	06
05-08-33^	1733239	20 Nisan	FR	06
04-22-34#	1733588	14 Nisan	TH	06
04-23-34	1733589	15 Nisan	FR	06
04-12-35	1733943	14 Nisan	TU	07
04-15-35	1733946	17 Nisan	FR	07
03-31-36*	1734297	14 Nisan	SA	01
04-06-36	1734303	20 Nisan	FR	01

^ The Sabbatical cycle year is expressed in terms of the Wacholder cycle. In 26, 29 and 33 C.E., the time of Passover is later in the year if the Zuckermann cycle is used. These later dates and the cycle year in the Zuckermann Sabbatical cycle are noted above.

* The day before each of these dates is a possible Friday for the crucifixion if the Calendar Council sanctified the new moon of Nisan one day earlier than the new moon visibility calculated for Babylon.

\# These four dates are the most widely recognized as being astronomically possible dates for 14 Nisan at the time of the Messiah's crucifixion. However, 27 and 34 C.E. are generally considered too early and too late, respectively, to fit the historical sequence.

TABLE AP-II

POTENTIAL BIRTH AND CRUCIFIXION DATES

	COMMON LUNAR YEAR (11,697 Days)			SCHEMATIC LUNAR YEAR (11,883 Days)		
CRUCIFIXION DATE C.E.*	JEWISH DATE	JULIAN DATE	JULIAN DAY	JEWISH DATE	JULIAN DATE	JULIAN DAY
03-22-26	11 Adar	03-13-07 BCE	1718938	02 Elul	09-08-08 BCE	1718752
03-29-26	18 Adar	03-20-07 BCE	1718945	09 Elul	09-15-08 BCE	1718759
04-26-26^	16 Nisan	04-17-07 BCE	1718973	08 Cheshvan	10-13-08 BCE	1718787
04-11-27	12 Nisan	04-02-06 BCE	1719323	03 Tishri	09-28-07 BCE	1719137
04-02-28	15 Nisan	03-24-05 BCE	1719680	06 Tishri	09-20-06 BCE	1719494
03-18-29	11 Adar II	03-09-04 BCE	1720030	01 Tishri	09-04-05 BCE	1719844
03-25-29	18 Adar II	03-16-04 BCE	1720037	08 Tishri	09-11-05 BCE	1719851
04-22-29^	16 Nisan	04-13-04 BCE	1720065	06 Tishri	10-09-05 BCE	1719879
04-07-30	12 Nisan	03-29-03 BCE	1720415	02 Tishri	09-24-04 BCE	1720229
04-14-30	19 Nisan	04-05-03 BCE	1720422	09 Tishri	10-01-04 BCE	1720236
03-30-31	14 Adar II	03-21-02 BCE	1720772	05 Tishri	09-16-03 BCE	1720586
04-18-32	15 Nisan	04-09-01 BCE	1721157	06 Tishri	10-06-02 BCE	1720971
04-03-33	10 Nisan	03-25-01 CE	1721507	02 Tishri	09-20-01 BCE	1721321
04-10-33	17 Nisan	04-01-01 CE	1721514	09 Tishri	09-27-01 BCE	1721328
05-01-33^	09 Iyar	04/22/01 CE	1721535	30 Tishri	10-18-01 BCE	1721349
05-08-33^	16 Iyar	04-29-01 CE	1721542	07 Cheshvan	10-25-01 BCE	1721356
04-23-34	12 Nisan	04-14-02 CE	1721892	03 Cheshvan	10-10-01 CE	1721706
04-15-35	15 Nisan	04-06-03 CE	1722249	06 Tishri	10-02-02 CE	1722063
03-30-36	10 Adar II	03-21-04 CE	1722599	01 Tishri	09-17-03 CE	1722413
04-06-36	17 Adar II	03-28-04 CE	1722606	08 Tishri	09-24-03 CE	1722420

* Each crucifixion date is a possible Friday of the eight-day festival beginning on 14 Nisan, as identified in Table AP-I.

^ This crucifixion date is only possible under the Zuckerman Sabbatical cycle.

TABLE AP-II CONTINUED

CRUCIFIXION DATE C.E.*	SCHEMATIC SOLAR YEAR (12,028 Days) JEWISH DATE	JULIAN DATE	JULIAN DAY	COMMON SOLAR YEAR (12,055 Days) JEWISH DATE	JULIAN DATE	JULIAN DAY
03-22-26	14 Adar	03-27-08 BCE	1718587	07 Adar	03-20-08 BCE	1718580
03-29-26	21 Adar	04-03-08 BCE	1718594	14 Adar	03-27-08 BCE	1718587
04-26-26^	19 Iyar	05-01-08 BCE	1718622	12 Iyar	04-24-08 BCE	1718615
04-11-27	15 Nisan	04-16-07 BCE	1718972	08 Nisan	04-09-07 BCE	1718965
04-02-28	18 Nisan	04-08-06 BCE	1719329	11 Nisan	04-01-06 BCE	1719322
03-18-29	14 Nisan	03-23-05 BCE	1719679	07 Nisan	03-16-05 BCE	1719672
03-25-29	21 Nisan	03-30-05 BCE	1719686	14 Nisan	03-23-05 BCE	1719679
04-22-29^	20 Nisan	04-27-05 BCE	1719714	13 Nisan	04-20-05 BCE	1719707
04-07-30	15 Nisan	04-12-04 BCE	1720064	08 Nisan	04-05-04 BCE	1720057
04-14-30	22 Nisan	04-19-04 BCE	1720071	15 Nisan	04-12-04 BCE	1720064
03-30-31	18 Nisan	04-04-03 BCE	1720421	11 Nisan	03-28-03 BCE	1720414
04-18-32	19 Nisan	04-24-02 BCE	1720806	12 Nisan	04-17-02 BCE	1720799
04-03-33	14 Nisan	04-08-01 BCE	1721156	07 Nisan	04-01-01 BCE	1721149
04-10-33	21 Nisan	04-15-01 BCE	1721163	14 Nisan	04-08-01 BCE	1721156
05-01-33^	13 Iyar	05-06-01 BCE	1721184	06 Iyar	04-29-01 BCE	1721177
05-08-33^	20 Iyar	05-13-01 BCE	1721191	13 Iyar	05-06-01 BCE	1721184
04-23-34	15 Iyar	04-28-01 CE	1721541	08 Iyar	04-21-01 CE	1721534
04-15-35	18 Nisan	04-20-02 CE	1721898	11 Nisan	04-13-02 CE	1721891
03-30-36	14 Nisan	04-05-03 CE	1722248	07 Nisan	03-29-03 CE	1722241
04-06-36	21 Nisan	04-12-03 CE	1722255	14 Nisan	04-05-03 CE	1722248

* Each crucifixion date is a possible Friday of the eight-day festival beginning on 14 Nisan, as identified in Table AP-I.

^ This crucifixion date is only possible under the Zuckerman Sabbatical cycle.

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