

The Hebrew Calendar: Critical Tool in Utilizing the Bible's Chronological Clues

Precise knowledge of ancient calendars is indispensable in determining the years when certain events occurred. Other than rarely documented solar eclipses, the most valuable data available to the chronologer are those which provide us with the day of the lunar cycle coupled with the day of the week when an event occurred (for example, Exod 16:1; Josh 5:11-12).¹ The Bible provides these clues quite sparingly, and in the opinion of this researcher, on purpose. We shall see that these data are worth their weight in gold when it comes to narrowing the search for the year(s) in which the clues fall. These clues are only valuable to us chronologically in the context of the calendar which Yahweh revealed to Moses. The following discussion will help us to comprehend how and why the information in Exod 16:1ff (one month after the Exodus) and Josh 5:11-12 (entrance into Canaan) is specific to the years 1490 and 1450. It is the firm conviction of this writer that Yahweh deliberately provided just enough chronological information—from Exodus 16, Joshua 5:10-12, Dynasty XVIII in Egypt, and the Jubilee Cycle—to pinpoint the year of Israel's seminal events. Those who insist on rabbinic interpretations for the start of a day, the calculation of months, and determination of Passover, which were later developments within Judaism, will not be happy with the following grammatical-historical study. We are only interested, for the purposes of this chronological inquiry, in understanding matters as defined in the time Moses, not according to later traditions of Judaism.

Determining the Biblical Calendar

We will seek to establish definitions and criteria for calendrical determination as they were understood in the time Moses, not according to later traditions of Judaism, which are important only insofar as they provide a contrast for customs as they stood in the Torah. Three basic issues are involved in determining the biblical calendar, (1) when a month begins, (2) when a day begins, and (3) when to intercalate a 13th month to keep the Passover and fall festival in its proper season.² All three of these issues are critical to dating the Passover of Josh 5:11-12.

The determination of an accurate date for the Passover in Josh 5:10 may involve some controversy, not because the Bible is unclear about it, but because vacillation in rabbinic Judaism has obfuscated the original determination of its date. Even the most basic issue of what determines the beginning of a biblical day must be addressed in order to ascertain whether the Passover was sacrificed at the end of 13 Nisan or mid-afternoon of 14 Nisan. The first question we must ask is, "Thirteen or fourteen days from what?" What exactly determined the start of a Hebrew month, the lunar conjunction--was it 29 or 30 days after the last visible crescent, or was the lunar conjunction estimated and made day 1? We address this issue first because it is the easiest. One must realize the empirical nature of the Mosaic calendar, where the months began (as with most other ANE and

¹ Another kind of absolutely datable clue is one that provides the days of the lunar month plus a date from an independent second calendar (Thutmose III's lunar festivals and some 5th C. royal Persian records).

² This is necessary due to the fact that 12 lunar months equal only 354 days, 11¼ days short of a solar year. Three intercalary months were inserted every eight years in order to keep the festivals in their seasons.

Mediterranean cultures) with observation of the moon's first visible crescent, from which day 13 days were counted off to arrive at the evening of 14 Nisan.

When Do Hebrew Months Begin - The Conjunction or the Lunar Crescent?

The ancient Jews certainly had the ability to use astronomy and mathematical calculation in order to estimate with accuracy lunar conjunctions (the dark phase of the moon, the time when the moon is directly between the earth and the sun). While in Babylonian exile the Jews came into contact with an astronomically-sophisticated culture that was the envy of the known world.³ Yeshua of Nazareth's contemporary, Philo of Alexandria, knew that "the period between one [lunar] conjunction and the next [could be] accurately calculated in the astronomical schools." (Philo, Colson, *The Special Laws II*, XXVI, 140)⁴ Now despite this capability, we find numerous Jewish sources telling us they went to the trouble of convening every month a special Sanhedrin to validate the *sighting* of the first lunar crescent. In fact, the Talmud records no controversy against the view that the crescent began the month. Lunar conjunctions and the molad of Tishri played no role in calculating any Jewish months prior to the 4th century. *Encyclopedia Judaica* states:

Originally, the New Moon was allegedly not fixed by astronomical calculations, but was solemnly proclaimed after witnesses had testified to the reappearance of the crescent of the moon. The rabbinical authorities hold that on the 30th day of each month, the members of the High Court assembled in a courtyard in Jerusalem named Beit Ya'asek, where they waited to receive the testimony of two reliable witnesses; they then sanctified the New Moon. If the moon's crescent was not seen on the 30th day, the New Moon was automatically celebrated on the 31st day.⁵

There is very little disagreement among scholars and historians on this point.⁶ As part of our effort to establish credible and early witnesses for standard Judaism in Christ's day, we bring forward our first witness, the Jewish philosopher Philo. Alfred Edersheim,⁷ an authority on ancient Judaism, described Philo this way:

[Philo] was a descendant of Aaron, and belonged to one of the wealthiest and most influential families among the Jewish merchants-princes of Egypt. His brother was the political head of the community in Alexandria; he himself ...represented his co-religionists (in a delegation sent to Rome in 40 AD)...⁸

Philo had this to say about the start of the month:

Again, are not the periods of the moon, as she advances and retraces her course, from a *crescent* to a full circle, and again, from a complete orb to a

³ The astronomical tablets of Babylon were used by Ptolemy early in the second century A.D. to give the western world an absolute chronology for the period 747 B.C. to A.D. 100.

⁴ *Philo of Alexandria*, tr. by F. H. Colson (Harvard University Press, Loeb Classical Library, Cambridge, MA, 1937);

⁵ *Encyclopedia Britannica*, Vol. 12, p. 1039.

⁶ Masselkhtaot Rosh HaShanah 21b-25b.

⁷ Edersheim, a 19th century Englishman who was himself an evangelical Jewish Christian, upheld the veracity of Scripture and greatly illuminated the shortcomings of rabbinic Judaism of Christ's day.

⁸ *Life and Times of Jesus the Messiah*, p. 28.

crescent, also measured by an equality of distances? (Philo, *Spec.* 4:234)

Philo goes on to define the Jewish New Moon for us:

The third [festival] is that which comes *after* the conjunction, which is according to the fresh young moon, the new moon. (Philo, *Spec.* 2:41, author's translation)

The last five words of this sentence are appositional--την κατα σεληνην νεαν νομηγια explain what Philo means by μετα συναδον ("after the conjunction"). It would be difficult to argue, therefore, that σεληνην νεαν ("fresh young moon") is a reference to the lunar conjunction. From these Philonic quotes (A.D. 40-50), apparently the lunar conjunction had no standing for the determination of when the Jewish months began in the first century. This criterion remained consistent in Judaism, evident from the Talmudic statement "the moon begins to shine on the first of the month."⁹

Beginning in the fourth century with Hillel II (A.D. 358), all of this began to change with the institution of a 19-year time cycle pre-calculating the Jewish calendar in advance. But Jews of the Diaspora resisted the Hillel calendar for centuries. Letters written between Orthodox and Karaite Jewish families of the Diaspora during the early Middle Ages show that the Orthodox Jews were still using the same observational methods for starting their months as had been used back in Palestine. It took more than half a millennium for the Hillel II calendar to take effect among even the Orthodox, who ignored the new "fixed" calendar and continued sighting the new moon for local liturgical date-setting. The Jewish Karaite reform movement of this time (eighth-twelfth century) was largely a reaction against this sort of extra-Biblical innovation.

Ps 104:19 and Gen 1:14 stipulate that the light of the moon, not the dark conjunction, be used for setting the festival months (*moedim*):

Let there be lights in the expanse of the heavens...they shall serve as *signs* for the set times (*ûlêmô'adîm*), and for the days and years; and they shall be for lights in the expanse of the heavens to give light upon the earth, and it was so. (Gen. 1:14-15, compare Jewish Study Bible¹⁰, JPS).

Ps 104:19 specifically links the purpose of the moon with the ordained congregational meetings, or *mô'adîm*, "You made the moon for festivals (*'āsâ yāraah lêmô'adîm*)" William VanGemeren states that "the 'moon' [here] represents the lunar calendar by which the "seasons," the festival days of Israel (Gen 1:14; Lev 23:2, 4, 37, 44) were determined."¹¹ However, translating מִן־יָמֵי־מָזָל (*lêmô'adîm*) as "seasons" (compare KJV, NIV, JPS and other translations) is misleading at best. The meaning of *mô'adêy Yahweh* referred to four times in Leviticus 23, the festival chapter, is "appointed times for holy convocation." Stipulations for keeping these festivals in their proper *seasons* are only given in Exod 23:16 and Exod 34:22; in neither of these two passages does the word *mô'ed* occur, therefore its primary meaning has nothing to do with the season of the year, as implied by most translations of Gen 1:14. Lev 23:1 may be translated, "These are the

⁹ Ex. R. xv. 26.

¹⁰ *The Jewish Study Bible*, Edit. Adele Berlin and Marc Zvi Brettler (JPS, Oxford Univ Press).

¹¹ William VanGemeren, "Psalms" pp. 1-882 in *The Expositor's Bible Commentary* Vol. V (Grand Rapids: Zondervan, 1991) 662.

appointed times [*mô'adêy*] of Yahweh, holy callings-together which you shall proclaim each *in its appointed time* [*běmô'ādām*].” (compare JPS) It is, as any farmer or astronomer knows, the sun which determines the seasons, not the moon, which only determines the start of the month and hence the day on which the holy days will fall. Ps 104:19 is best translated “he [Yahweh] made the moon for festivals.”

The word translated *signs* (’*ôt*, תֹּאֲרוֹת) in Gen 1:14 signifies something one sees with the eyes.¹² It refers to the blood the Israelites sprinkled on their doorposts (Ex. 12:13), which when seen by the death angel, caused him to pass over their houses. Prophets promise omens and signs as pledges of predicted events (1 Sam 10:7). Signs are also used of miracles confirming the divine presence, such as Moses’ ability to stop and start leprosy or turn the waters of the Nile into blood (Exod 4:6-9). The word ’*ôt* describes the stone each tribe placed at the Jordan as a memorial of Yahweh’s parting of the waters (Josh 4:5-7).¹³ Averaging mean astronomical conjunctions over thousands of years to calculate months is far removed from the tangible, empirical methods of antiquity derived from the plain meaning of Gen. 1:14. In the gamut of abstract/esoteric to concrete/empirical, the two approaches to calendar-making could not be more divergent. In favor of the concrete, perceptible method is the fact that the all-important New Moon (*hōdeš*) of Nisan/Aviv is something one is commanded to ‘observe.’ (Deut 16:1, הוֹדֵשׁ שָׁמֹר אֶת-הַחֹדֶשׁ, *šāmôr ’et-hōdeš* infinitive absolute being used imperatively). The verb שָׁמַר (*šamar*) has a double connotation: it is used to command careful observance of the Sabbath (Exod 31:14) and other laws of the Covenant, but was also signified “to watch out for trouble, to guard someone or something,” such as the gate or walls of a city. Both meanings of the verb can occur only in the present. The calculated calendar requires no guarding or observation, for all its intercalary determinations were made for the ‘observant’ Jew back in the 4th century by Hillel II and, to a lesser extent, by the inventors of rules of delay many centuries afterwards.

Thus both Deut 16:1 and Exod 12:2 dictate vital imperatival instruction to each generation of covenant-keepers who wish to maintain God’s calendar. The crescent of Aviv is designated as the basis for setting the feasts for the entire year: “You are to begin your calendar with this month; it will be the first month of the year for you.” (Exod 12:2, Complete Jewish Bible) Since הוֹדֵשׁ (*hōdeš*) in this verse can also mean ‘New Moon,’ the verse is susceptible to being translated in the following manner: “This New Moon is the first of the New Moons to you; the first and foremost of the months of the year it is for you.”¹⁴ The calendar of Diaspora Judaism totally ignores both the visible crescent and the headship of Aviv/Nisan over the year, as it has become the tail wagged by the *molad* of Tishri.¹⁵

That the empirical implications of Gen 1:14-16 were understood well before the first century in Judaism is evident from Targum Neofiti (Gen. 1:14):

And the Lord (‘according to the decree of his Memra’)[Memra is the Aramaic equivalent of Logos (John 1:1) c; Cox ed.] said: “Let there be lights in the

¹² See Ex. 4:8-9, 30; 7:3; Num. 14:11; Deut. 13:1-2; Ju. 6:17; Jer. 10:2.

¹³ The foregoing examples were taken from Brown Driver Briggs Hebrew-English Lexicon, p. 16.

¹⁴ Yahweh gave the instruction in Exod 12:1-2 to Moses on Nisan 1 or Adar 30, giving Israel plenty of lead time for selecting a lamb without blemish and preparing their hearts for the sober Passover observance.

¹⁵ The molad of Tishri is a mathematical averaging of median conjunctions over many hundreds of years which approximates the time of astronomical conjunction in any given month.

firmament of the heavens to separate the daytime from the night, and let them act as signs and (sacred) seasons [times] and so that the intercalation of moons (and) months may be consecrated by them.¹⁶

Another Aramaic Targum, Pseudo-Jonathan, says:

God said, “Let there be lights in the firmament of the heavens to separate the day from the night, and let them serve as signs and as festival times, and for counting the reckoning of days, and for sanctifying the beginnings of months and the beginnings of years, the intercalations of months and the intercalations of years, the solstices, the new moon, and the cycles (of the sun).¹⁷

Encyclopedia Judaica tells us the fixed calendar did not reach its final form until the eleventh century, when the *Dehiyyot*¹⁸ were finalized. This calendar is not tied to the motions of the sun or the moon in any precise fashion,¹⁹ as *Encyclopedia Britannica* explains:

The second Hebrew word for month, *chodesh*, properly means the “newness” of the lunar crescent. In the religious calendar, the commencement of the month was determined by the observation of the crescent of the moon... the [later post-diaspora] Jewish calendar is thus schematic and independent of the true New Moon.²⁰

The extra-biblical ‘rules of delay’ (*Dehiyyot*) postpone the first of Tishri 1-3 days so that the Day of Atonement does not fall on Wednesday, Friday or Sunday. These rules were not in place from the third to the eighth century. Part of the impetus behind the anti-rabbinic Karaite movement in Judaism which began in the early Middle Ages was reaction against the *Dehiyyot* rules and the abandonment of the new moon crescent for starting the month. Karaite scholars were able to demonstrate clearly that these rules were not followed in earlier periods by citing numerous examples in the Mishna, etc. when holy days fell on Sunday Wednesday, and Friday.²¹ Later sages like Maimonides never forgot the manner in which the month was regulated by the Sanhedrin:

Just as the astronomers who determine the positions and motions of the stars engage in calculation, so the Jewish court (Sanhedrin), too, used to study and investigate and perform mathematical operations in order to find out whether or not it would be possible for the crescent to be visible in its “proper time,” which is the night of the 30th day. If the members of the court found that the new moon might be visible, they would be obliged to be in attendance at the courthouse for the whole 30th day and be on the watch for the arrival of witnesses. If witnesses did arrive, they were duly examined and tested, and if the testimony appeared trustworthy, this day was selected as the new moon day. If the crescent did not appear and no witnesses arrived, this

¹⁶ The Aramaic Bible, tr. Martin McNamara, MSC; T&T Clark, Edinburgh, 1992).

¹⁷ The Aramaic Bible, tr. Michael Maher, MSC (Collegeville, MN: The Liturgical Press, 1992).

¹⁸ *Dehiyyot* were technical rules (based on human reasoning) for delaying the start of the seventh month of Tishri so as to prevent the Day of Atonement from falling next to a weekly Sabbath. There is no need here to delve into the other rules of delay. They are a very late development in Judaism.

¹⁹ Ernest Martin, “The New Testament Calendar”, A.S.K. publications, www.askelm.com Portland, OR.

²⁰ *Encyclopedia Britannica*, 15th Edit., Vol. 15, pp. 465-66.

²¹ Posnanski, “Remarks on Early Karaite Critics of the Mishnah” *Jewish Quarterly Review* (Vol. 1920) 237-39. They also prove from an analysis of Ezra 7:9 and 8:31-33 that had rabbinic rules been in place in Ezra’s day, then Passover would have fallen only on Mon., Wed., or Friday, making the *dehiyyot* untenable.

day was counted as the 30th day of the old month.²²

Jack Finegan gives us an accurate assessment of how the Sanhedrin dealt with cloudy weather at the end of the month:

While it was considered a religious duty to sanctify the New Moon on the strength of actual observation, it was also recognized that conditions might be such that the actual visual sighting could not be made and, in this case, it was established that one month would have thirty days and the next twenty-nine.²³

This factor is nearly irrelevant in the arid climate of Egypt. By the time the children of Israel headed east toward the wilderness of Shur and Sinai (Exod 15:22; 16:1), the likelihood of having a New Moon obscured by weather was slim and none. Thus the determination of whether the 15th day of the second month in Exod 16:1 fell on Saturday in 1490 is purely an astronomical matter. The first visible crescent of Iyyar in that year was on Friday night, so that Iyyar 1, 8, and 15 were each weekly Sabbaths. The teaching of Exodus 16 came on a Saturday Sabbath and the quail of 16:12-13 were sent at sundown after the Sabbath was over so that they would not cook on the Sabbath (compare 16:23). Any absolute chronology for the Exodus must take into account these calendar requirements.

How Does One Count to the Fourteenth Day of Nisan?

Having demonstrated that the start of Hebrew months was from the crescent of the moon, we are now prepared to tackle the question of whether our chronological clue in Joshua 5:10-12 is 14 or 15 days from that crescent. At first glance, the timing of the original Passover looks straightforward enough:

Your lamb shall be an unblemished male a year old; you may take it from the sheep or from the goats. You shall keep it *until* the fourteenth day of the same month, then the whole assembly of the congregation of Israel is to kill it *at twilight* (Hebrew *בֵּינְ הָעֶרְבָיִם*, *bēyn hā-‘arēbāyīm*). (Exod 12:5-6, NAS)

The Hebrew preposition ‘until’ (עַד, *‘ad-*) means *as far as*, and would be the improper choice had Moses intended the lamb to be kept *through* most of the 14th. Note the Hebrew expression עַד־אָנָּה (‘*ad-‘ānā*) to denote ‘until when’ in Exod 16:28: “Until when, i.e. up to what point, do you refuse to obey my commandments?” The question thus becomes a matter of assigning dusk, *bēyn hā-‘arēbāyīm*, to either the early or latter part of the 14th day.

The definition of a day has changed over the Millennia in Judaism. The rabbis would have us believe that *bēyn hā-‘arēbāyīm*, understood and translated as “twilight” by most translators, refers to the end of a day instead of the beginning. The so-called “sages” came to define a day based on the appearance of three stars:

Actual night begins only with the appearance of three stars in the sky ... The twilight at the end of the Sabbath is calculated as still belonging to the

²² Citation from Maimonides *Sanctification of the New Moon* in Finegan, *Handbook of Biblical Chronology* (Peabody, Mass: Hendrickson, 1998) 37.

²³ Finegan, *Handbook of Biblical Chronology*, 37.

Sabbath day which concludes with the appearance of three stars in the sky.²⁴

However, our concern is only with how a day was delimited in the time of Moses in the Torah, since we have posited the chronological clue of Josh 5:10-11 for 1450 B.C., only months after Moses' death. The rabbinic definition hardly meets biblical muster. It is clear from two texts that David considered the end of a biblical day as sunset (2 Sam 3:35, CJV), and that sunset was the onset of evening (‘*ereb*):

All the people came to David and tried to make him eat some bread while it was still daytime; but David swore, "May God bring terrible curses on me ... if I taste bread or anything else until the sun goes down (בּוֹא הַשֶּׁמֶשׁ, *bô hasēmēš*)

Earlier, when the death of Saul and his sons is reported to David and his men, they mourned, wept and fasted until evening (*ad-‘ereb*, 2 Sam 1:12). Thus *bēyn hā-‘arēbāyīm* or twilight/dusk, which begins with sunset (*bô hasēmēš*), is at the beginning of a new day. Sunset over the horizon is the natural line between the two. It is apparent to scholars who have studied the subject that sunset was widely used to define the day throughout the ANE, as in Scripture, with the Egyptian and some African cultures being the notable exception.²⁵

A passage in Joshua 8 confirms the foregoing definition of the start of a day. In Josh 8:29 the phrase בּוֹא הַשֶּׁמֶשׁ וְכַבּוֹא (ûkēbô’ *hasēmēš*) is synonymous with the onset of evening, as is clear from its appositional use with עַד-עֵת הָעֶרֶב (*ad-‘ēt hā-‘ārev*): “[Joshua] hanged the king of Ai on the tree *until the time of evening* (*ad-‘ēt hā-‘ārev*), *even*²⁶ *when the sun went down* [ûkēbô’ *hasēmēš*]. Joshua commanded, and took the body down (Josh 8:29).” There is no use of the phrase *bô hasēmēš* in the OT that allows for late Judaism’s definition of as any time after high noon. The use of the verb בּוֹא in the Hebrew construct בּוֹא הַשֶּׁמֶשׁ, *the entering of the sun*, can be explained in empirical terms. It connotes the *entrance* of the sun into another realm (as the ancients saw it) when it went over the horizon. The sun makes no such entrance during the afternoon.

A day begins with evening (Hebrew ‘*ereb*) in the Bible (see Gen 1:5, 8, 13, 19, 23; Lev 23:32; Neh 13:19; Mark 1:32; and Acts 27:27, 33). Mark 1:32 and Lev 23:32 both clearly show that evening begins at sundown; sundown constitutes the start of the day. The fast of the Day of Atonement, though designated as the 10th of Tishri, is kept at “the 9th day of the month at sunset (בְּעֶרְבֵי, *ba ‘ereb*), from evening until evening (מִעֶרְבֵי עַד-עֶרְבֵי)” of the 10th day.²⁷ In this context, the preposition *ba*, meaning “at, in or on,” makes the time specific to sundown, as in Exod 16:13. The quail are sent sundown, *ba ‘ereb*, but they are roasted and eaten during the ensuing dusk (*bēyn hā-‘arēbāyīm*):

At twilight (*bēyn hā-‘arēbāyīm*), you will eat meat, and in the morning you will be filled with bread [manna]. Then you will know that I am Yahweh your God. And it came to pass at evening (בְּעֶרְבֵי, = *ba ‘ereb* sunset) the quail came up and

²⁴ Article “Twilight,” *Encyclopedia Judaica*, Vol. 15, 1474.

²⁵ There sunrise was used to start the day. The difference cannot be dissociated from Egypt’s use of the last visible morning crescent for determining the start of its months.

²⁶ It would appear that the *waw* (ו) here is being used epexegetically, together with the temporal use of עַד.

²⁷ The use of the preposition *ad-* again indicates “as far as” and no further. In other words, up until the onset of the evening following the tenth of Tishri. It also shows that evening (‘*ereb*) belongs to the beginning of days, contrary to the rabbis, who make it late in the day.

they covered the camp. (Exod 16:12-13)

Yahweh did not send the quail prior to sundown, but *at* sundown, so they would not work/cook on the Sabbath (16:23). The rest of the verse should be self-explanatory. The Hebrew verb *'areb* (Assyr. *erēbu*), from which *evening* is derived, means “enter, go under” (the earth). It was a primitive Semitic root word familiar to many other cultures throughout the Fertile Crescent—Akkadia, Sumeria, Ugaritic, Assyrian, etc. Everywhere *'areb* and its cognates meant “the going down and the going in.”²⁸ The sun goes down, entering the earth.²⁹ It came to signify the time of day when the sun’s setting forced laborers to go into their houses: “Man goes out to work and labors *till evening* (*’adēy ’ereb*) falls.” (Ps 104:23)

A passage in Judge 19 corroborates the foregoing discussion. Judg 19:8 speaks of a Levite who lingers to eat with his father-in-law until the day declines or stretches out (עַד־נִטּוֹת הַיּוֹם, *’ad-nēṭôt hayyôm*). In verse 9 the Levite, after having lingered to eat, states: “Please notice that the day has sunk down toward evening” (רָפָה הַיּוֹם לְעֶרֶב, *rāpâ hayyôm la ’arōb*), clearly a reference to the close of day.³⁰ It would appear then that רָפָה (*rāpâ*, to sink down), בּוֹא הַשֶּׁמֶשׁ (*bô ’hasimiš*, the entering of the sun into the horizon), and *’ad-nēṭôt hayyôm*, עַד־עֵת הָעֶרֶב (until the time of evening), are all synonyms with the common denominator of “the going down of the sun.”

Hebrew economizes on the aforementioned concepts for its designation of the direction *west(ward)*, combining the preposition *ma*, מֵ in front of *'ereb*. The resulting word מֵעֶרֶב (*ma ’arāb*) is used 13 times for the compass direction where the sun sets at even.³¹ The most common word for ‘west(ward)’ is *yām* (יָם), sea, i.e. the Mediterranean Sea. The later extension of the meaning of *'ereb* in Judaism which allowed the term to apply to any time in the afternoon, fails to give full weight to these Biblical passages. “Wolves of the evening” זְאֵבֵי עֶרֶב do not howl in the afternoon (Hab 1: 8; Zep 3:3). Aaron did not light the menorah in the tabernacle at 3 pm in the afternoon (Exod 30:8), but at *bēyn hā-’arēbāyīm* (בֵּין הָעֶרְבִים), an important Hebrew phrase which literally means “between the two evenings.” Nearly all translations correctly render the expression ‘dusk’ or ‘twilight.’ (The KJV’s ‘at even’ is somewhat less clear.) However, at some indefinite time during the Intertestamental Period, in a development paralleling the redefinition of “the going down of the sun” (בוֹא הַשֶּׁמֶשׁ), Judaism came to also teach that *'ereb* (עֶרֶב) and its correlative *bēn hā-’arēbāyīm* (בֵּין הָעֶרְבִים) meant anytime after high noon. Since our study only needs to establish practices and definitions extant at the time of Moses and Joshua, it does not concern us here when this change occurred, so we shall make only a few comments in this regard. Later rabbinic reinterpretations of critical Biblical phrases sought to justify the oxymoronic practice of afternoon “evening sacrifices” as well as the afternoon killing of Paschal lambs. This late development was at variance with the original Paschal institution, a domestic affair carried out at dusk, *bēn hā-’arēbāyīm* (בֵּין הָעֶרְבִים, Exod 12:6). Num 9:1-5 shows that all stipulations regarding the original Passover a year earlier continued unchanged in the wilderness. But when the House of Judah later

²⁸ *The Hebrew and Aramaic Lexicon of the Old Testament*, Vol. II (New York: Brill: 1995) 877.

²⁹ Charles C. Torrey, “Studies in the Aramaic of the First Century A.D.,” *ZAW* 65 (1953), 240.

³⁰ See R. Laird Harris, Gleason Archer, and Bruce Waltke, *TWOT*, p. 858. רָפָה is defined as to sink down, let drop, or to slacken. Richard Goodrich and Albert Lukaszewski in *A Reader’s Greek New Testament*, 2nd Ed., define this expression as “turn into evening, grow dark.”

³¹ 1 Chr 7:28; 12:15; 26:16, 18, 30; 2 Chr 32:30; 33:14; Ps 75:6; 103:12; 107:3; Isa 43:5; 59:19; Dan 8:5.

forsook the Passover and fell into rank idolatry in the days of Hezekiah's father, Ahaz, the common folk could no longer be entrusted with sacrificing the Passover lambs locally. When Hezekiah restored the temple and invited all Israel to his Passover celebration, it is likely that special regulations were put in place to ensure that only qualified personnel, the Levites and priests, performed this crucial sacrifice. This confinement of Paschal sacrifice to the temple necessitated (due to the sheer number) a change of time from dusk of the previous evening to the following afternoon of the 14th day. So long as Passover remained an individual household event, the limited time of dusk was sufficient for carrying out the slaughter of the Paschal lamb. The centralized sacrifice of thousands of Paschal lambs at the temple, led, no doubt, to a redefinition of terminology.

Sunset brings the onset of dusk or 'twilight', which is defined by *Encyclopedia Judaica* (Vol. 15, 1971), "The transition period between day and night, called in the Bible *bin ha-arbayim* (בֵּין הָעֶרְבַיִם, Ex. 12:6³²), and in rabbinic literature *bin ha-shemashot* (בֵּין הַשְּׁמָשׁוֹת, Ber. 2b; Avot 5:9)

The phrase *bên hā- 'arēbāyīm* (בֵּין הָעֶרְבַיִם) occurs 11 times, only in the Torah. Five of them specify the time of day for offering the Paschal lamb, four for when the evening sacrifice was to be killed (Exod 29:39, 41; Num 28:4, 8), and the remaining two (Exod 16:12; 30:8) settle forever the matter of exactly what time of day is intended. *Judaica's* statement above that the English word 'twilight' defines *bên hā- 'arēbāyīm* (בֵּין הָעֶרְבַיִם) is clearly correct, as almost all translations concur, notably David Stern's Complete Jewish Bible.

While many of the rabbis may have used *bên hā- 'arēbāyīm* and *bên hašēmāšōt* synonymously, the latter expression, literally *between the wests* or *between the suns*, is not found in the OT, for *šemeš* (שֶׁמֶשׁ) always occurs in the singular, and never with בֵּין (between). So the rabbis obviously felt they needed to coin a new phrase in order to signify the period between high noon and dark, i.e. when the sun left the eastern part of the sky and sank in the west. Had *bên hā- 'arēbāyīm* been considered by the rabbis as sufficiently clear for their new purpose of redefining the time of the Passover sacrifice, there would have arisen no need to create the new expression *bên hašēmāšōt*. But no expression containing 'erev could have signified the afternoon, for reasons already given. Furthermore, the word 'erev seems to have the connotation of the *mixture* of light and dark (i.e. dusk), as its homonym *arav* (עָרַב) is used for the *mixed* multitude that followed Israel out of Egypt, no doubt a mixed race of darker (Hamitic) and lighter-skinned (Semitic) people. The use of the phrase *bēyn hā- 'arēbāyīm* in Exod 16:12-13 is most instructive, as it is juxtaposed nicely with *bā- 'erev*:

At twilight (*bēyn hā- 'arēbāyīm*, בֵּין הָעֶרְבַיִם = dusk) you shall eat [quail]meat,
and in the morning [of Sunday] you will be filled with bread [manna]; ...at
evening (*bā- 'erev*, i.e. at sunset) quail came and covered the camp.

Since the Israelites could not eat the quail until they dropped from the sky, the arrival time of the quail, *bā- 'erev*, must precede the time when the text states they were *to eat* the quail, *bēyn hā- 'arēbāyīm*. Furthermore, the Sabbath context of the passage provides

³² The Complete Jewish Bible, transl. David Stern, uses 'dusk' here; at Lev 23:5 he translates *bēyn hā- 'arēbāyīm* "between sundown and complete darkness."

definition for both terms.³³ Yahweh had no intention of tempting the Israelites to break Sabbath with food preparation (see Exod 16:23) by sending the quail prior to the end of the Sabbath at sundown. Therefore, Moses is using the prepositional *bā'erev* to refer to sundown. The quail were sent at sundown, *bā'erev*, and the Israelites killed, prepared and roasted quail in order to eat them during the dusk which followed, which period is called *bēyn hā-'arēbāyīm*. In arid desert climates like Sinai and Egypt, the period of twilight lasts anywhere from 70-90 minutes.

The situation in Exod 12:6 is exactly analogous to Exod 16:12-13. Israel was instructed to keep specially selected, perfect lambs (selected on the 10th of Nisan) up until *bēyn hā-'arēbāyīm* of the 14th of Nisan, at which time they were to be slain:

Take special care of this chosen animal until [Heb טַו] the evening of the fourteenth day of this first month. Then the whole assembly of the community of Israel must slaughter their lamb or young goat at twilight. (Exod 12:6, NLT)

Just as *bēyn hā-'arēbāyīm* is after the end of the Sabbath in Exod 16:12 and at the beginning of the first day of the week, likewise *bēyn hā-'arēbāyīm* in Exod 12:6 is at the beginning, evening portion of the 14th, not at the end of it on the late afternoon of the next day. The use of the preposition טַו told them to guard the lambs until the arrival of the 14th, since the word means *as far as, up to, until the beginning of something*. Since the first part of any Hebrew day is evening, this means these lambs were kept until the end of Nisan 13, the arrival of the 14th. As stated earlier, טַו is the wrong preposition to use if, according to the Talmud, one were to keep it *through* the 14th. If the Passover was on the 14th, as per Exod 12:6, Lev 23:5; Num 28:16, then this sacrifice had to be done after sunset (*bā'erev*) of the 13th, not 21 hours later as became the custom.

Evidence from the New Testament. And it must be borne in mind that Yeshua and his disciples clearly ate the Paschal meal on the eve of the 14th (Matt 26:17-19; Mark 14:12, 14, 16; Luke 22: 8, 11, 13, 16), the same night as Exodus 12, but 24 hours before the Pharisees and other Sanhedrin members, as per John 18:28:

Then the Jews led Jesus from house of Caiaphas to the governor's headquarters. By now it was early morning [after Christ and his disciples had eaten *the* Passover]. They themselves did not enter the governor's headquarters, so that "they might not be defiled [ἵνα μὴ μιανθῶσιν], but might eat the Passover [ἀλλὰ φαγῶσιν τὸ πάσχα].

We are amazed at the large number of students of crucifixion chronology who make the mistake of assuming that the Jewish leaders were keeping a time-apropos Passover. Yeshua and his disciples ate *the* Passover after sunset of the 13th of Nisan--just as it was done in the time of the Exodus--along with thousands of other Jews.³⁴ The temple could not begin to accommodate the slaughter of lambs needed for two million pilgrims who came each year. But as to whether the temple authorities or the common people were killing the Passover lambs at the original Mosaic time, it seems evident that Peter and John "made ready the Passover lamb" (22:8, 11, 13) at the very time "when the Paschal

³³ Manna fell the next morning, a Sunday morning, the first of six successive days of manna.

³⁴ The appendix "Were Passover lambs killed at people's houses during the time of Christ?" may be studied to show the unique nature of the Passover sacrifice.

lamb *must* be sacrificed” (as per Luke 22:7-8, εδει θυεσθαι το πασχα).³⁵ The use of the imperfect form of δει may be understood as ingressive or inceptive, stressing the beginning of the time—“the day of the unleaveneds”—when the Paschal lamb *must* or *should* be sacrificed as the result of law and custom,³⁶ based on the law of the Passover itself. BDAG is surely correct in placing this use of δει in the category of law. Thus Luke’s choice of words here is most emphatic, specifying that the lawful time for offering Passover had arrived at the end of the 13th. And since Luke reckons days from morning to morning,³⁷ the day he is specifying ran from the morning of the 13th, until dawn of the 14th. This day came to be known as “the first day of the unleaveneds” (Mk 14:12) because it was the first day for delevaning one’s house and property.

That which Luke 22:7-8 implies is made explicit by Mark 14:12, which tells us that “the first day of the unleaveneds” was the very time when “they were beginning to kill the paschal lambs” (ὅτε το πασχα εθουον)—not at the Temple, of course, but at homes. Very late on “the first day of the unleaveneds,” Nisan 13, Yeshua’s disciples came to him and asked, “Where do you desire us to go that we may prepare in order that you may eat *the* Passover (Mk 14:12).” If we take εθουον as an inceptive use of the imperfect tense,³⁸ then Mark 14:12 is telling us that Jewish families *had begun killing* or *were on the verge of beginning to kill* the Passover lambs at the time when his disciples asked him this question. This could not possibly be construed as the late 14th, since the next day is still called the παρασκευη, “preparation day” (Mark 15:42; Luke 23:54; John 19:31, 42)—a day which precedes Sabbaths or High Days--in this case the day preceding the 15th of Nisan, a holy day. There are more than a dozen references (nine of them with the definite article) in the Synoptic Gospels to Yeshua and his disciples eating το πασχα (*the* Passover the night before he was crucified).³⁹ This night is never called the preparation, because the next day was not a high holy day. Eusebius of Caesarea, commenting on John 18:28, understood this point when he said the Jewish leaders were in violation of the Law of Moses, and ought to have eaten the Passover on Nisan 14, instead of on Nisan 15.⁴⁰ The Synoptic accounts of the Passover can be reconciled with John 18:28 by the realization that many Jews in the first century observed the Passover domestically by killing the Paschal lamb at their homes at the end of the 13th of Nisan, as per Exodus 12, not waiting for the priests at the Temple on the next day. (At the end of this study we cite several passages in Philo and Josephus that bear out this assertion.) We have taken the time here

³⁵ Bauer, Danker, Arndt, Gingrich, *A Greek-English Lexicon of the NT* (University of Chicago Press, 1979), 172.

³⁶ Louw & Nida, *Greek-English Lexicon of the NT*, Vol. 1 (New York: United Bible Societies, 1989) 670-72.

³⁷ Morgenstern, *Crozer Quarterly* 26 (1949) 232-240. Acts 27:27, 29, 33 demonstrate, however, that Luke understands calendar days in the traditional way as running from evening thru the day portion of the next day.

³⁸ Daniel Wallace, *Greek Grammar Beyond the Basics* (Grand Rapids: Zondervan, 1996) 544-45. Note that Wallace calls the inceptive/ingressive usage “the most common imperfect in narrative because it introduces a topic shift...or new direction for the action.” This certainly fits the case in Mark 14:12.

³⁹ The reader may contemplate the following twelve Gospel verses to satisfy himself that the Savior and his disciples actually ate *the* Passover the night following Nisan 13. In most cases, the definite article precedes—το πασχα. Matt. 26:2, 17, 18, 19; Mark 14:12 (2x), 14, 16; Luke 22:7, 11, 13, 15.

⁴⁰ Eusebius’ *On the Easter Festival*, cited by Geo. Declerq, *Anno Domini* (Turnhout, Belgium: Brepols, 2000), 16.

to touch on this important matter, because it affects one's interpretation of Josh 5:10-11, one of our key chronological markers.

In addition to muddling the biblical definition of *bēyn hā- 'arēbāyīm*, Judaism has also succeeded in moving the benchmark for the start of a day. This matter bears heavily upon the foregoing discussion of when the Passover falls. Most Bible students are aware that the biblical day begins at sunset. They may be unaware, however, that in rabbinic Judaism, days begin when three stars appear, effectively delaying the start of the new day until the end of dusk.

Because of this, *bēyn hā- 'arēbāyīm*,⁴¹ 'between the two evenings,' the all-important phrase for determining when the Passover is killed and eaten, is placed at the end of the day in Judaism instead of at the beginning. A correct understanding of the Hebrew concept *bēyn hā- 'arēbāyīm* is critical to any chronology involving the Passover, such as our 1450 B.C. date in Josh 5:10-11.

Several scriptures besides Exod 12:6 state that Passover is on the 14th of the month (Lev 23:5; Nu 28:16-17; Josh 5:10). It is a separate and distinct appointed time from the 15th of the month, which is the High Day of Unleavened Bread. Passover commemorates yearly what we could not do for ourselves, that is, atone for our sin. It is hence a memorial of our Savior's Last Supper, torture and crucifixion. The Last Day of Unleavened Bread, also a Judeo-Christian institution (1 Cor 5:7-8), stands for the effort required to exercise our will and overcome sin. It would have done the Israelites no good whatsoever had they failed, after being spared the plagues, to march out of Egypt. The 15th – 21st of Nisan celebrate the departure of the children of Israel from Egypt. The first High Day is explicitly said to be on the morrow *after* the Passover (Num 33:3). The night upon which the death angel passed over the land of Egypt was the night of the 14th, one night prior to the Exodus. The Passover is therefore to be eaten on the evening portion of the 14th (at the end of the 13th of Nisan) not the 15th as is the "passover" practice of Judaism. Scholarly debate and confusion on this matter are as old as the Talmud. Several statements of various rabbis in the Talmud show that they believed the Exodus took place on the same night as the 'passing over' of the death angel and the Passover meal. But this is impossible, as the Israelites were strictly commanded: "None of you shall go outside the door of his house until morning." (Exod 12:22) The light of dawn was, in fact, the signal to all Israel in Goshen that it was now safe to leave their homes and begin the business of getting out of Egypt. Some have supposed that because Pharaoh summoned Moses by night, that they went out on the same night. Notice: "And he called for Moses and Aaron by night, and said, Arise up, get out from among my people, both you and the children of Israel; and go, serve Yahweh, as ye have said." (Exodus 12:31) But Pharaoh's mid-night summons would have had no bearing on the earlier prohibition distributed throughout Goshen for the Israelites to stay in their houses that night.

Not only did the Israelites *not* leave Egypt the same night as the Passover meal, they did not leave the next day! This idea comes from those believing in a 15th Passover who are forced into this argument because unless, under their scenario, the Israelites left on the day portion of the 15th, then the Exodus could not take place until 16 Nisan, which is one day too late, according to Num 33:3. A number of matters weigh heavily against the notion that the Israelites left Egypt the following day after eating the Paschal meal. This time would naturally have been consumed by two exigencies. The first involved Israel

⁴¹ Ibid. *EJ bin ha-arbayim* as the Hebrew phrase defined by twilight/dusk.

requesting and collecting valuables of gold and silver from the Egyptians (Exod 12:35), who were all too willing to give in order to hasten Israel's departure. This 'plundering' could not have taken place prior to the death of the firstborn, otherwise verse 35 is out of place. It is the motivation provided by the death of the firstborn that precipitates the collection of the next day. It fulfilled the promise made to Abraham four hundred years earlier that his descendants would leave Egypt with great wealth. (Gen 15:14) The second necessity was logistical in nature; the Israelites could not leave Egypt until they had assembled the people at a staging area, Rameses:

These are the stages in the journey of the people of Israel as they left the land of Egypt divided into groups under the leadership of Moshe and Aharon. Moshe recorded each of the stages of their journey by order of Yahweh; here are the starting-points of each stage: They began their journey from Ram'ses in the first month, on the 15th day of the first month... (Num 33:1-2, Complete Jewish Bible, *nomina sacra* restoration is author's)

Rameses is a later name given to the most important city in NE Egypt, which was called Avaris by the Hyksos, Israel's initial oppressors, and Perunefer by Dynasty XVIII, at the time of the Exodus. This was an ideal location for storage warehouses (KJV 'treasure cities' is translated 'store cities' by CJB, NET, NAS, NIV, NJB. 'Supply centers' of NLT is the best rendition.), due to the fact that Avaris was the best location for supplying Egypt's military outposts along the Levant. Avaris and Perunefer required warehouses for transshipment of goods being traded between Crete, Cyprus, Tyre, Byblos, etc. and Egypt.

We marvel at those who skip over the temporal and logistical requirements connected with the Israelite rendezvous at Rameses. Obviously to assemble by ranks an entire city with a population approaching that of Minneapolis, and a geographical sprawl no less than that of Phoenix, AZ, would have taken considerable organization, discipline, and urgency. Therefore when Scripture tells us they went out of Egypt 'by night,' (Deut 16:1) that night had to be the succeeding night after the Passover night. Those who try to truncate this scenario into one night are divorcing Scripture from sound reason and logic. Clearly if the Paschal meal had been eaten on the eve of the 15th, the Exodus could not have occurred until the night of 16 Nisan, contradicting Num 33:3.

We conclude therefore that Joshua ate the new corn of the land of Canaan in a year in which it was possible to do so within one day of the Passover. In our next section we shall see that the new corn, which was barley, could only be eaten after a dedicatory offering called the Wavesheaf (Hebrew עֶמֶר, *omer*), a ceremony which always took place on Sunday. Rabbinic Judaism erroneously taught that it was offered on 16 Nisan, two days after the Passover. The Talmudic error that the Wavesheaf was tied to a particular day of the lunar month instead of the morrow after the weekly Sabbath--besides being contrary to Lev 23:11, 14-15--robs Josh 5:10-11 of its power to help determine the year of the Conquest. Every other sect of Judaism understood the Wavesheaf's link to Sunday except the Pharisaic rabbis. Christianity was thus in very good company when it adopted this majority understanding and saw in it the foreshadowing of Christ's acceptance by the heavenly Father on the morrow after the Sabbath during the Days of Unleavened Bread.

It is no coincidence that the wilderness wandering is framed within our two important chronological passages—Exod 16:1, 35-36 and Josh 5:10-12.⁴² The narrative in Exod 16:1-13 takes place in the context of a weekly Sabbath, for Yahweh is about to rain manna from heaven in order to demonstrate exactly which day is the Sabbath (16:4-5). It is apparent that the first manna fell on Sunday morning. Forty years later the last day upon which manna fell was also “the morrow after a Sabbath,” Wavesheaf Sunday, which happened to be the next day after Passover (Josh 4:10-12), as we explain in the next section. It ceased on the morrow after they ate of the new grain which was forbidden to be eaten until the first cutting of an *omer* of barley was offered to Yahweh. Saturday Sabbath anchors the entire narrative in Exodus 16 and also the events implied by the eating of the new grain in Josh 5:10-11.

Exod 16:35 notes the duration of manna eating--forty years--until their entrance into the land of Canaan, and follows this with a notation about the weight of an *omer*, the ‘measuring cup’ used to measure how much manna was gathered per head each day in the wilderness (Exod 16:18, 32). In addition to *omer* being a key word throughout the inchoate manna narrative there at the edges of the wilderness, the offering of the *omer*/wavesheaf on the borders of Canaan is implied by their eating of the new produce of the land at the end of the forty-year period of manna. The last *omer* of manna ceased at the time the *omer* of new grain was offered in Joshua (in obedience to Lev 23:10-11, compare Josh 11:15—“Joshua left nothing undone of all that Yahweh commanded Moses.”), allowing them to partake of the produce of Canaan. In the next section I will demonstrate that the Passover in that year fell on a weekly Sabbath, the *omer*/Wavesheaf was offered the next day, a Sunday, allowing them to consume the new grain of Canaan.

The Wavesheaf Offering

Lev 23:4-8 lays out the timing of the Passover and Days of Unleavened Bread. Then in verse 9-10 a new subject is introduced, the inauguration of the spring barley harvest. It projects the children of Israel forward to the day when they would come into the land (which is the subject of the early chapters of the Book of Joshua), and tells them what they must do before they partake of the firstfruits barley crop:

When you come into the land which I give to you, and shall reap the harvest thereof, then you shall bring a sheaf (Hebrew עֶמֶר, *omer*) of the firstfruits of your harvest to the priest. (11) And he shall wave the sheaf before Yahweh, to be accepted for you: on the morrow after the Sabbath the priest shall wave it....(14) ye shall eat neither bread, nor parched corn, nor green ears, until the selfsame day that you have brought an offering unto your God. (Lev 23:10-11, 14)

Many interpreter’s have stumbled over what kind of Sabbath, weekly or annual, was specified for the Wavesheaf in vs. 11. If annual, then immediately confusion is introduced into the text, for the Days of Unleavened Bread have two annual Sabbaths. Since Scripture’s purpose is to illucidate and clarify, not muddle, it is far more likely that the weekly Sabbath during Unleavened Bread is intended. Other considerations make this view conclusive.

⁴² Jan A. Wagenaar, “The Cessation of Manna: Editorial Frames for the Wilderness Wandering in Exodus 16. 35 and Joshua 5. 10-12,” *Zeitschrift Für Die Alttestamentliche Wissenschaft* 112 (2000) 192-209.

Once the first cutting of barley was waved before Yahweh, the new crop could be eaten by everyone. This is why Joshua 5:11 was understood by the sages of Judaism as implying a Wavesheaf.⁴³ This ceremony inaugurated a seven week harvest period which culminated with the Feast of Harvest (Exod 23:16) fifty days later. That 50th day is explicitly stated as falling on the morrow after the seventh Sabbath. Notice Lev 23:15-16 (Concordant Version of the Old Testament):

(15) And you will count off for yourselves from the morrow of the Sabbath, from the day you bring the sheaf of the wave offering: there shall be seven flawless Sabbaths. (16) Until the morrow of the seventh Sabbath you shall count off fifty days. Then you will bring near an approach present of new grain to Yahweh.

Since there are no annual Sabbaths near the 50th day, the seventh Sabbath must be a weekly Sabbath. It is gratuitous to assume that the word *šabbāt* (Sabbath) and *šabbātôt* (Sabbaths) are used interchangeably here for ‘week’ (*šēbā’ā*) and ‘weeks’ (*šābū’ōt*), since these are distinct words in Hebrew and are not used interchangeably in the OT. Hence the Sabbath of vs. 15 must also be a Saturday. It is only natural to suppose, contrary to Pharisaic Judaism, that the seven Sabbaths (*šabbātôt*) counted in this passage are weekly Sabbaths, otherwise they would not be described as ‘flawless’ (*šabbātôt tēmîmôt*). This word denotes perfection, and is elsewhere translated ‘without blemish’, so it is hard to comprehend how the rabbis could imagine anything other than Sunday thru Saturday weeks for the count which arrives at the Feast of Weeks. Furthermore, by fixing the festival to the sixth day after the New Moon of Sivan, they have eliminated the need for counting days (50) or Sabbaths (7). They count seven week-long periods, yet Lev 23:15 does not tell us to count seven *šābū’ōt* (weeks), but seven *šabbātôt* (Sabbaths). The period counted encompassed one “morrow of the Sabbath” to another “morrow of the Sabbath” fifty days later. All schools of Judaism except the Pharisees understood these ‘morrrows of the Sabbath’ to be Sundays. The Essenes, the Sadducees, the Samaritans, and the Karaites of the Middle Ages all kept Sunday Wavesheafs and Sunday Shavuot festivals. Having thus proven that the Sabbath after which the Wavesheaf was offered was none other than a weekly Sabbath, it then follows that Israel ate of the new corn of the land on a Sunday in Joshua 5:11:

The children of Israel encamped in Gilgal, and ‘made’ (i.e. prepared) the Passover on the 14th day of the month at even in the plains of Jericho. And they did eat the new grain (Heb. עֲבוּר, *abuhr*) of the land on the morrow after the Passover [i.e. on the 15th].

The word “old” in the English versions is not in the text. Because of the availability of fresh yields in the land of Canaan, the manna ceased on the morrow after they began to eat the *new* produce (v. 12). The Soncino edition footnote for Mas. Kiddushim 37b says “the Gemara assumes that the reference [in Josh 5:11] is to the new corn, for otherwise, ‘on the morrow after the Passover’ is pointless.” The most prestigious Hebrew lexicons give ‘produce, yield,’ omitting the word ‘old’ in their definition of עֲבוּר, a word which occurs nowhere else in the OT.⁴⁴ Most scholars understand verse 12’s ‘yield’ (תְּבוּאָה) as

⁴³ *Rosh Hashana* 13a, Soncino Ed. BT.

⁴⁴ *BDBG New Hebrew-English Lexicon of the OT* (Peabody, MA: Hendrickson) 721. The Concordant Version of the Former Prophets follows *BDBG* in Josh 5:11: ‘they ate of the yield of the land.’

explaining the unfamiliar word עֵבֹר.⁴⁵ Keil and Delitzsch agree with the Talmud and the lexicons that עֵבֹר is new produce. But they go too far in justifying the Talmudic stipulation for the timing of the Wavesheaf, which forces them to impose a contradiction upon Scripture, “The morrow after the passover’ is used in Num. xxxiii. 3 for the 15th Nisan; but here [Josh 5:11] it must be understood as signifying the 16th...⁴⁶ This is a bad case of diachronic analysis, for it assumes that the rabbinic interpretation (16th = morrow after high-day Sabbath) reflects the reading of the Torah text in Lev 23:11, 15. This conclusion is unwarranted. The most straightforward understanding of Leviticus places this offering on Sunday. It was the strict constructionist Sadducees who controlled the priesthood and its practices in the first century. We know from Josephus they kept Feast of Weeks on Sunday (Josephus, *Ant* 13.252⁴⁷), which in turn is predicated by a Sunday Wavesheaf offering exactly seven weeks earlier.

Putting all of this together leads to the certain conclusion that the 14th of Nisan/Passover fell on a Saturday in the year of the Conquest of Canaan. Astronomy programs are capable of determining years which satisfy this unique circumstance. The Jubilee chronology established in the body of this book clearly pinpoints 1450 BCE as the year of the Conquest. It so happens that in 1450 BCE 14 Nisan did fall on a Saturday, arrived at via the following data.

The Passover (14th of Abib) could not have fallen on Friday, April 9, 1450, because a crescent would not have been visible on Friday night March 25. The moon was in apogee, was only 2/3 of a day old,⁴⁸ and set only 37 minutes after the sun, from which it had only 8 degrees of angular separation at sunset. Disk illumination was only .49%.⁴⁹ This is not even a close call, and prevents us from making Sat, Mar 26 Nisan 1. All of these parameters change by Saturday sundown, March 26, when the moon’s position vis-à-vis the sun is totally favorable for the visibility of the new crescent.⁵⁰ The moon is now 1.6 days old, 2.63% of its disk is illuminated, there is 1.5 hours between sunset and moonset, and there are 19 degrees of separation. What is more, March 26 is the 30th day since the last New Moon on Feb 24 (Thursday evening). There can be no doubt that Sunday, March 27 was Nisan 1 in 1450, making Saturday, April 10 Passover day, the 14th day of Nisan.

As important as this information is, it would be useless to the chronology of the Conquest if it did not harmonize with every other date calculated in this book, especially the 15th day of Iyyar in 1490 B.C., the year of the Exodus. That lunar date must fall on a Saturday (and does so, compare previous section with data in the next paragraph), since the narrative revolves around a weekly Sabbath at the conclusion of which (sunset) quail were sent and manna began to come the next morning. Richard A. Parker was able to absolutely date the beginning of Thutmose III’s reign to 1490, based upon two New Moon festivals in his 23rd and 25th years (1468 and 1466 BCE). We also found scholarly support for Thutmose III having backdated his reign to the death of his grandfather, Thutmose I, the pharaoh whose mummy remains undiscovered in the Valley of the

⁴⁵ Wagenaar, “Cessation of Manna,” 207.

⁴⁶ Keil-Delitzsch, *Commentary on the Old Testament* Vol. II (Grand Rapids: William B. Eerdmans) 60.

⁴⁷ “...for that festival, which we call Pentecost, did then happen to be the next day to the Sabbath.” We know elsewhere that John Hyrcanus, who provides the context for this passage, obeyed Sadducean custom.

⁴⁸ New Moons cannot be seen when the moon is in apogee and the translation period is less than one day.

⁴⁹ All of these data are taken from *Starry Night™* astronomy software.

⁵⁰ Not to mention the fact that it was probably a full 30 days from the previous crescent.

Kings, or anywhere else. It looks, therefore, like Thutmose I died in 1490, my year for the Exodus. The 15th day of the second Hebrew month must fall on a Sabbath in the year of the Exodus because of the events described above in Exodus 16. The parameters on Friday, April 16, 1490 are nearly the same as those on Mar 26, 1450 for viewing the crescent, the only difference being that the moon is 28,000 km closer, making visibility easier. Visibility is not possible on the previous night as there are only six degrees of separation between moon and sun at the time of sunset. Thus the giving of the Mosaic instruction concerning the Sabbath (in Exodus 16) took place on Saturday, May 1, 1490.

The fact that the two years pinpointed by our Jubilee chronology satisfy both of the Bible's rare chronological clues in years separated by exactly forty years is rather remarkable. At the very least we can be confident that if the various and sundry conservative biblicists listed in Table 3.1 of Chapter 3 had access to the aforementioned calendrical and astronomical information, we can be confident that most of them would have adjusted their date for the Exodus to accommodate the calendrical information of Exod 16:1 and Josh 5:10-11. When combined with the sabbatical cycle and Jubilee cycle which began six years after 1450 and results in a 15th Jubilee shortly after the salvation of Jerusalem from Sennacherib, not to mention another Jubilee, the 30th, in 10th of Tishri in A.D. 28 to the 9th of Tishri, A.D. 29, such coincidences leave all but the most skeptical curious to investigate further. To this must be added the fact that the regnal totals for Judah's kings (Rehoboam to Ahaz) beginning in Nisan of 974, arrive at known dates close to the death of Tiglath-pileser, as required by Isa 14:28-29. The accession year of Hezekiah (726) as figured back from the death of Josiah in 609 ($609 + 117$ regnal years = 726), dovetails nicely with the same date arrived at by assuming Nisan 974 was the accession year of Rehoboam of Judah. This date comports with the 4th year of Solomon in Nisan 1011, which is 479 years after the Exodus (1 Kgs 6:1).

We see then that the Hebrew calendar, whose parameters are not left in doubt in the OT, supports an absolute chronology of the OT that incorporates virtually every piece of specific information bearing on OT chronology. The manner in which these disparate aspects of Hebrew custom, law, and historiography blend so harmoniously bespeaks one God, Yahweh, who ordained these institutions which reflect his unified and consistent character. It furthermore becomes evident that he oversaw the work of history-writing by Moses, Joshua, the Deuteronomist, the Chronicler and Luke the evangelist, who faithfully recorded precise and detailed numbers that now hold up under scrutiny in a generation when knowledge has increased, as foretold by Daniel the prophet (Dan 12:4).

