

11. The 1st of Nisan seems to have been kept, so far as the years represented by these papyri are concerned, from moving earlier than the vernal equinox. (See NOTE) That is, if the month following Adar began before the equinox, it was made the 2nd Adar, and Nisan was postponed until the next month. (This contradicts the later opinion of the rabbis that in the postexilic period the Passover came at the first full moon after the vernal equinox.)

NOTE: *Unless the divergence mentioned in note 5 is to be accepted.*

http://theos-sphragis.info/hebrew_babylonian_intercalation.html#prexilic_calendrics

The alternative method was observation of the heliacal risings and settings of certain fixed stars. This was both reliable and precise, for the length of the mean stellar year corresponds almost exactly to that of the tropic year". [p. 267]

[35] "Sanhedrin 2.2". Tractate Sanhedrin Mishnah and Tosefta. Translated by Herbert Danby. London and New York: Society for Promoting Christian Knowledge. 1919. p. 31. The year may be intercalated on three grounds: aviv [i.e.the ripeness of barley], fruits of trees, and the equinox. On two of these grounds it should be intercalated, but not on one of them alone. (Tosefta) Also quoted in Stern 2001, p. 70.

<https://messianiclight.com/one-year-bible-reading-plan/>

<https://www.biblechronologytimeline.com/biblechronologytimeline3.html>

<https://www.britannica.com/>

<https://www.britannica.com/topic/Jewish-religious-year/Pilgrim-festivals>

The Talmud explains that they intercalated the year when the barley in the fields was not yet ripened, when the fruit on the trees was not yet properly grown, when the winter rains had not yet stopped, when the roads for the Passover pilgrims had not dried up and when the young pigeons had not yet become fledged.

<https://www.betemunah.org/calendar.html>

Sanhedrin 11b Our Rabbis **taught**: A year may be intercalated on **three** grounds: on account of the premature state of the corn-crops;^[140] or that of the fruit-trees;^[141] or on account of the lateness of the Tekufah^[142] Any **two** of these reasons can **justify** intercalation, but not **one** alone. All, however, are glad when the state of the spring-crop is **one** of them.^[143] Rabban Simeon b.

Gamaliel says: On account of [the lateness of] the Tekufah. The Schoolmen inquired: Did he mean to say that 'on account of the [lateness of the] Tekufah' [being [one](#) of the [two](#) reasons], they rejoiced,[1144](#) or that the lateness of the Tekufah alone was adequate reason for intercalating the year? — The question remains undecided.

Our Rabbis [taught](#): [The grain and fruit of the following] [three](#) regions [are taken as the standard] for deciding upon the declaration of a leap-year: Judea,[1145](#) Trans-Jordania,[1146](#) and Galilee.[1147](#) The requirements of [two](#) of these regions might determine the intercalation, but not those of a single [one](#). All, however, were glad when [one](#) of the [two](#) was Judea, because the barley for the [Omer](#)[1148](#) was obtained [by preference] in Judea.[1149](#)

Our Rabbis [taught](#): The intercalation of a year can be effected [by the Beth din] only in Judea; but if for some reason [it had been decided upon by the Beth din] in Galilee, the decision holds good. Hanania of Oni, however, testified: 'If the intercalation was decided upon in Galilee, it is not valid.' R. Judah the son of R. Simeon b. Pazi asked: What is the reason for the view of Hanania of Oni? — Scripture states, Unto His habitation shall ye seek and thither thou shalt come:[1150](#) whatever search[1151](#) you have to make shall be only in the habitation of the Lord.[1152](#)

Our Rabbis [taught](#): A leap-year is to be declared only by day, and if it has been declared by night, the declaration is invalid. The sanctification of a month is to be performed by day, and if it has been performed by night it is not valid. R. Abba says: What passage [proves this]? — Blow the [horn](#) at the [new moon](#), at the covering[1153](#) of the [moon](#) our feast-day.[1154](#) Now on which feast is the [moon](#) covered? — We must say on the [New Year](#).[1155](#) And it is thereupon written, For this is a statute for Israel, a judgment[1156](#) of the God of [Jacob](#): Just as judgment is executed by day,[1157](#) so also must the sanctification of the month take place by day.

[Talmudic](#) sources tell us that the calendar committee did not rely solely on calculation but on observation as well. They added a 13th month "when the barley in the [field](#) had not yet ripened, when the fruit on the trees had not grown properly, when the winter [rains](#) had not stopped, when the roads for [Passover](#) pilgrims had not dried up and when the young pigeons had not become fledged".[1158](#)

There are several calendar references in the account of the Flood, including a seventh month, a tenth month, and the first and second months of Noah's 601st year. There is one curious footnote - a period of five months is numbered at 150 days. It seems that Noah used 30 day months. A true lunar month would have alternated between 29 and 30 days; leading to a five month period of either:

30	29
29	30
30	29
29	30
—	—
147	148

Even if we took into account the months of Cheshvan and Kislev which can both have 30 days, we would have 149 days. With the current calendar, 150 days would be unachievable. Since Noah and his family were the only ones alive, they obviously did their own sightings, from the ark. Here is evidence to suggest that the lunar orbit was different in Noah's day.

About Time

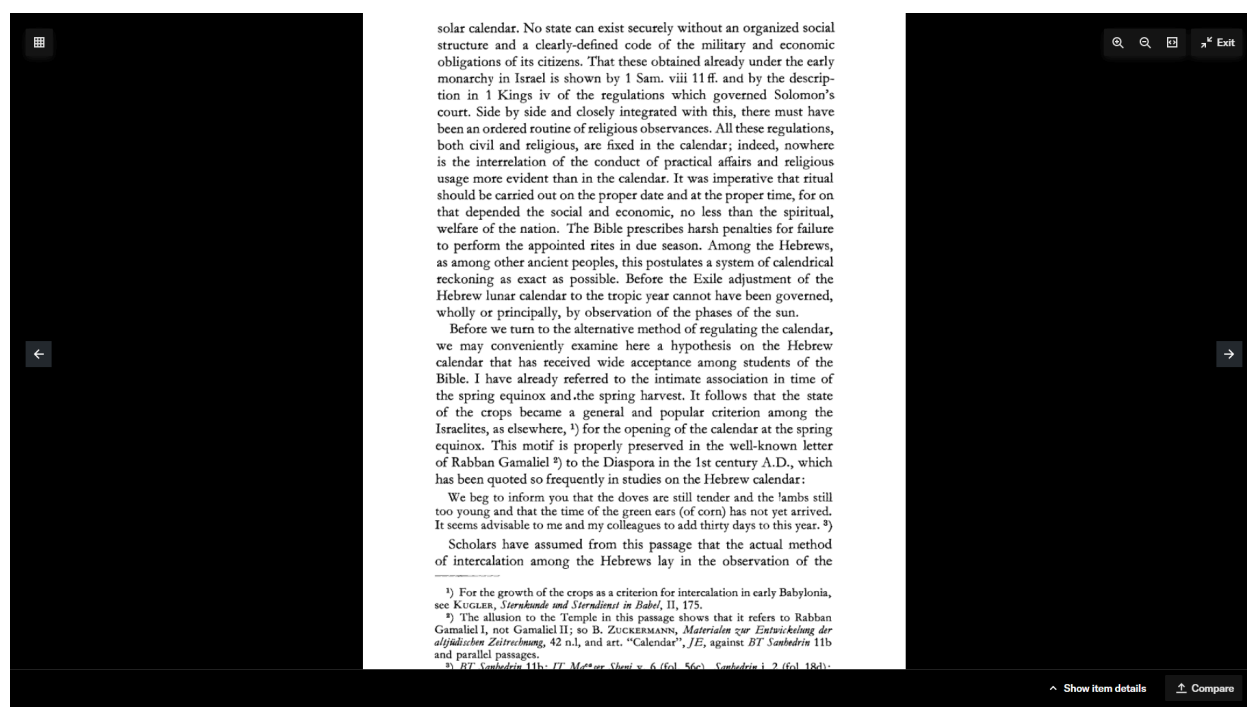
[non-translatable text]sefer evronot [906], 1664. From Klau Library, Hebrew Union College-Jewish Institute of Religion, reproduced by permission of The Belknap Press of Harvard University Press, copyright A[c] 2011.

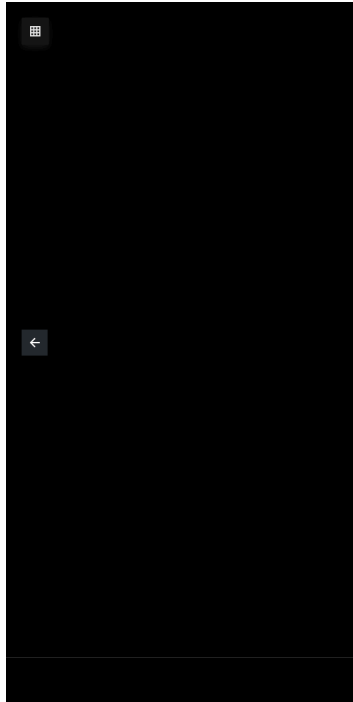
The Jewish calendar tries like other calendars to square the circle. It follows both the motion of the sun, which passes through the zodiac, determining the seasons, in 365 and one quarter days, and that of the moon, which does the same in 29 and a half days, defining the months. The solar year isn't evenly divisible into lunar months: how then to know when each Jewish month should begin? In the early centuries of the Common Era, Jews relied on direct observation. Once two independent, sober witnesses had given formal notice that they had observed the new moon, the Sanhedrin would declare that the month had begun and send out messengers with the news. But this system had obvious disadvantages, especially for Jews who lived in the Diaspora. Worse still, because the lunar year was only 354 days long, its months drifted forward in the seasons. Nisan, which is supposed to be the first month of spring, moved into winter. From time to time, accordingly, the Sanhedrin had to intercalate another month, to ensure that Passover took place, as it should, in the spring.

From the 4th century onward, the Jews of Babylon where astronomy had been practiced in a sophisticated way for many centuries reconfigured their calendar. An astronomical cycle, 19 years long, at the end of which the lunar and solar years coincided, determined when to add **intercalary months**. This fixed calendar, traditionally associated with Hillel II, found widespread acceptance. But it was challenged by the Qaraites, who insisted that the calendar, like all other Jewish practices, must rest on the Bible alone. And it provoked fierce debates in the 10th century, when Palestinian and Babylonian communities celebrated Passover on different days.

Two Jews, four calendars. In the 11th and 12th centuries, Jews mastered the new astronomy of the Muslim world. But if Maimonides and Ibn Ezra agreed that these shiny new tools should be put to work perfecting the Jewish calendar, bar Hiyya denounced them and insisted that the astronomy of the patriarchs and ancient rabbis had been more accurate. Only inklings of these fierce arguments and of the issues they had turned on found their way into the calendrical texts that were actually printed or copied in Renaissance Europe, and that "winnowed, diluted and mediated the mass of material for the common reader," Carlebach writes. The great Christian student of calendars Joseph Scaliger may well have been right to proclaim that most 16th-century Jews believed that their fixed calendar went back to Moses himself.

[https://www.google.com/books/edition/Calendars in the Dead Sea Scrolls/kcyEAqAAQBAJ?hl=en&gbpv=1&pg=PP1&printsec=frontcover](https://www.google.com/books/edition/Calendars%20in%20the%20Dead%20Sea%20Scrolls/kcyEAqAAQBAJ?hl=en&gbpv=1&pg=PP1&printsec=frontcover)





But unseasonable wintry weather may cause popular inconvenience:

Our Rabbis taught: A year may not be made embolismic except when it is necessary for the roads (for the Passover pilgrims) or for the (repair of) bridges or for the (drying of the) ovens (required for the roasting) of the Passover sacrifices, or for the sake of Jewish exiles (on pilgrimage) who have set out from their home and have not yet reached (Jerusalem for the festival).¹⁾

Here we are given certain factors which must be taken into consideration. But they are not positive criteria for calendar adjustment. The weather cannot be forecast in advance with any certainty, nor can its effects be gauged with the precision required for the regulation of intercalation. And the welfare of the Passover pilgrims was no more than a theoretical argument. Intercalation among the Jews—certainly at the period of the Mishnah—was, as we shall see, decreed before the end of Adar;²⁾ but it was only on 1st Nisan that travellers to Jerusalem could be formally regarded as Passover pilgrims.³⁾ The passage cited above means no more than that Passover usually occurs at a point in the tropic year in which weather conditions favour the performance of the pilgrimage; when these conditions would have been unfavourable, intercalation will have taken place. As Rabbi Papa said, "... The (seasons of the) year fall in with the month that has appropriate weather."⁴⁾ The connection between intercalation and the Passover pilgrimage is a popular interpretation of the motive for intercalation, not an explanation of the methods used.

The Talmud continues:

A year may not be made embolismic on the ground that the kids or lambs (for the Passover sacrifice) or the doves (to be offered in the Temple)⁵⁾ have not grown, but we consider (each of) them an auxiliary reason for (intercalation of a month in) the year.⁶⁾

JT continues: "... and if intercalation has been decreed (for this reason) it is invalid".

¹⁾ *BT Sanhedrin* 11a.

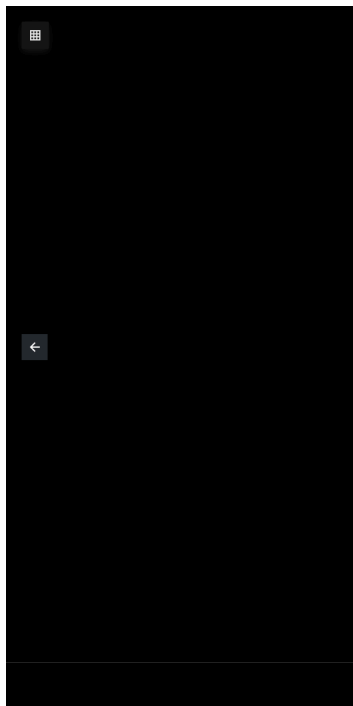
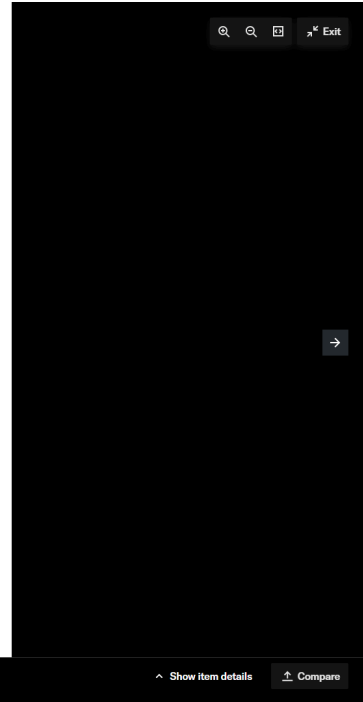
²⁾ Below p. 297.

³⁾ *JT Shabbat* x. 2 (fol. 39c), *Rosh haShanah* iii. 1 (fol. 58c), *Nedarim* vi. 13 (fol. 40a), *Sanhedrin* i. 2 (fol. 18d).

⁴⁾ *BT Sanhedrin* 18b.

⁵⁾ By women after childbirth, *Lev.* xii 8; the offering was usually postponed until Passover.

⁶⁾ *BT Sanhedrin* 11a; cf. *Tos. Sanhedrin* ii. 4, and *JT Sanhedrin* i. 2 (fol. 18d). The Talmud cites as evidence the letter of Rabban Simeon b. Gamaliel to the Jewish communities: "We inform you that the doves are (still) tender and the lambs are (still) young and the time of the green ears of corn has not (yet) arrived."



What, then, was the main reason? We read further:

A year may be made embolismic on three grounds—on account of the (state of the) green ears of corn or (that of) fruit (growing on the) trees or the (lateness of the) *ṣiqṣab*.¹⁾ Any two of these reasons may justify an embolismic year, but one of them (alone) does not justify an embolismic year. Everyone is glad when the (state of the) green ears of corn is one of them. Rabban Simeon ben Gamaliel says, On account of the (lateness of the) *ṣiqṣab*.²⁾

The reasons given here are of very different quality. Observation of the grain crops is also, as I have endeavoured to show, no more than a popular interpretation of the motive for the adjustment of the lunar calendar to the tropic year at the time of the spring equinox.³⁾ The state of the fruit harvest, referred to in this passage, is exactly parallel; fruit was offered at Pentecost, as the 'Omer, or sheaf of corn, was offered each day between Passover and Pentecost. That "everyone was glad" when the grain rather than the fruit harvest was a criterion is self-evident, for on the former depended the economic prosperity of the nation during the ensuing year.

The mention in this passage of the *ṣiqṣab*—the solstice or equinox, or the period between solstice and equinox and between equinox and solstice—is, however, a very different matter. Its significance is heightened by its being attributed to Rabban Simeon ben Gamaliel; he spoke not only with the authority of his own learning, but also as the Nasi', acquainted with the well-guarded traditions of that office.⁴⁾ The incidence of solstice and equinox was, in fact, the primary element by which intercalation was governed among the Jews at this time—and earlier.⁵⁾

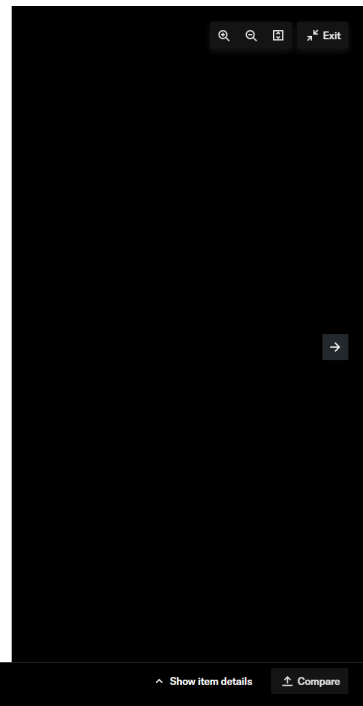
letter in the same tenor from R. Gamaliel (1; see above p. 265 n. 2) to the Jewish communities in Babylonia, Media and elsewhere; cf. *JT Me'atzer Shevi* v. 6 (fol. 56c) and parallel passages.

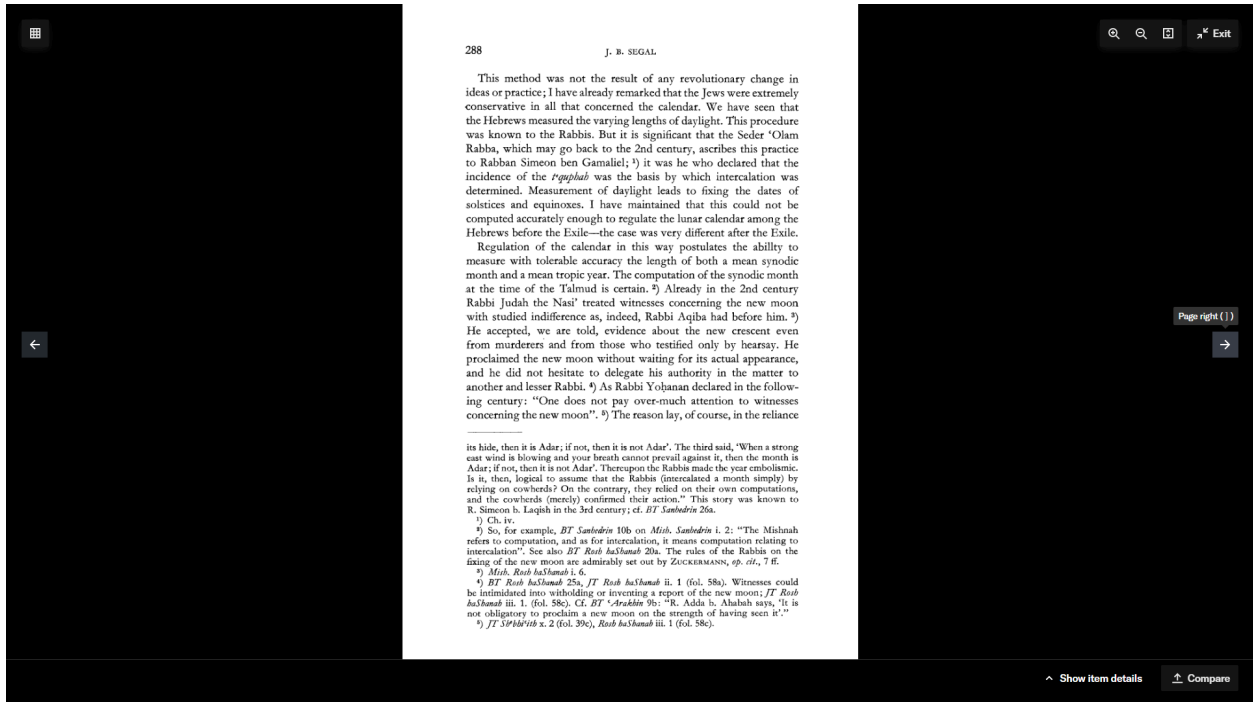
¹⁾ That is, of Nisan, the period from the spring equinox to the summer solstice.

²⁾ *BT Sanhedrin* 11b; *Tos. Sanhedrin* ii. 2; *JT Sanhedrin* i. 2 (fol. 18d), which reads, "... R. Simeon b. Gamaliel says, even on account of the (lateness of the) *ṣiqṣab*". *BT Sanhedrin* continues, "The Schoolmen inquired, Did (R. Simeon) mean to say that they were glad because the (lateness of the) *ṣiqṣab* (was one of the two reasons) or that the *ṣiqṣab* (alone) was adequate reason) for declaring the year embolismic? The question remains undecided."

³⁾ See above p. 265 f. ⁴⁾ Above p. 259.

⁵⁾ For a similar citation of primary and secondary motives for intercalation side by side, cf. *BT Sanhedrin* 18b and parallel passages: "Three cowherds were standing (conversing and) were overheard by some Rabbis. One (of the cowherds) said, 'If the early and late sowing sprout together, then the month is Adar; if not, then it is not Adar'. The second said, 'If in the morning the frost is severe enough





Segal, J. B. "Intercalation and the Hebrew Calendar." *Vetus Testamentum*, vol. 7, no. 3, 1957, pp. 250–307. JSTOR, <https://doi.org/10.2307/1516201>. Accessed 6 Sept. 2023.

Consider heliacal risings as a consideration in conjunction or in lieu of equinox or agricultural observations.

Possibly the intercalary month was not determined until the 10th of the month to allow for the observance of the heliacal rising?

<https://bible-menorah.jimdofree.com/english/calendar-and-feasts/barley-wheat-harvest-israel/>

<https://www.hope-of-israel.org/barleyharvest.html>

<https://aa.usno.navy.mil/faq/jewish>

Blood Moon Tetrads and solar eclipses

<https://www.timeanddate.com/eclipse/tetrad-super-tetrad.html>

2025 (13 months)

2024 **119 early, Jewish and Anthony's match. (end year)**

2023 calendars match Anthony's, Aviv, Jewish and 119

20 March 2022 spring equinox

2 April new moon shemitah Matches Anthony's, Aviv, Jewish and 119 (13 months)

2021 Aviv, Jewish, 119 month match **Anthony's a month late**

2020 Aviv, Jewish, 119 and Anthony's calendar match (13 Months)

2019 Aviv, Jewish, Anthony's calendar match, **119 early 21 March Passover full moon**

2018 Aviv, Jewish, Anthony's, and 119 calendar matches

20 March 2017 Spring Equinox Rev 12 Sign in September (13 months)

Matches Anthony's, Jewish, 119, and Aviv

2016 119 23 March Passover, **Jewish and Anthony month late**

April 4 2015 Jewish Passover

https://www.chabad.org/holidays/default_cdo/year/2015/jewish/holidays-2015.htm

Equinox 2015 March 21 01:45

https://aa.usno.navy.mil/calculated/seasons?year=2015&tz=3.00&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

New moon 21 March 2015 ~1900

Matches Anthony's, Jewish, 119 and Aviv calendars

September 28 Jewish Sukkot

April 15 2014 Jewish Passover

https://www.chabad.org/holidays/default_cdo/year/2014/jewish/holidays-2014.htm

Equinox 2014 March 20 19:57

https://aa.usno.navy.mil/calculated/seasons?year=2014&tz=3.0&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

New Moon 1 Apr 2014

Jewish, 119, Anthony's and Aviv calendars match (13 Months)

25 Sept 2014 new moon

8 October 2014 Sukkot

2013 Jewish, 119, match, **Anthony's calendar late**

2012 Jewish, 119, Anthony's match

2011 Jewish, 119, Anthony's match (13 Months)

2010 **Jewish, 119 match, Anthony's a month late**

2009 Jewish, 119, and Anthony's match (13 Months)

March 20 2008 spring equinox

April 6 2008 new moon

119 early, Jewish and Anthony's calendar late shemitah

2007 **Jewish, 119 match Anthony's month late?**

2006 Jewish, 119, and Anthony's match 29 March Aviv 1 (13 months)

2005 119 early, Jewish and Anthony's match 10 March Aviv 1(base year)

March 20 2001 spring equinox

17 Sept 2001 Yom Kippur end of shemitah

Jewish, 119, and Anthony's calendar match

20 March 1994 spring equinox shemitah

Jewish, 119 match, Anthony's calendar month late

21 March 1987 spring equinox shemitah

Jewish, 119, and Anthony's calendar matches

20 March 1980 shemitah

Jewish, 119 early, and Anthony's calendar month late

20 March 1973 spring equinox shemitah

Jewish, 119, and Anthony's calendar matches

April 13 1968 Jewish Passover

<https://www.hebcal.com/holidays/1968>

Equinox 1968 March 20 16:22

https://aa.usno.navy.mil/calculated/seasons?year=1968&tz=3.00&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

New Moon 30 March 1968

Jewish, 119, and Anthony's calendar match

6 Oct 1968 Jewish Sukkot

24 April 1967 Jewish Passover

<https://www.hebcal.com/hebcal?year=1967&v=1&yt=G&nx=on&c=off&maj=on&min=on&mod=on&mf=on&ss=on>

Equinox 1967 March 21 10:37

https://aa.usno.navy.mil/calculated/seasons?year=1967&tz=3.00&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

New Moon 11 April

119 early, Jewish Matches Anthony's calendar

18 October 1967 Jewish Sukkot

21 March 1966 spring equinox shemitah

Jewish, 119, and Anthony's calendar match

21 March 1959 spring equinox shemitah

119 early, Jewish and, Anthony's calendar match

20 March 1952 spring equinox shemitah

Jewish, 119 and, Anthony's calendar match

April 2 1950 Jewish Passover

<http://jewishholidaysonline.com/1950>

Equinox 1950 March 21 0635 IST

https://aa.usno.navy.mil/calculated/seasons?year=1950&tz=3.00&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

Jewish, 119 match and Anthony's calendar a month late

26 Sept 1950 Sukkot

13 Apr 1949 Jewish Passover

<https://www.hebcal.com/holidays/1949>

Equinox 1949 March 21 01:48

https://aa.usno.navy.mil/calculated/seasons?year=1949&tz=3.00&tz_sign=1&tz_label=false&dst=false&submit=Get+Data

New Moon 29 March

Jewish, 119, and, Anthony's calendar match

6 Oct 1949 Jewish Sukkot

New Moon 19 March 1945

Jewish, 119 match and Anthony's calendar a month later!

20 March 1938 spring equinox shemitah

Jewish, 119 and, Anthony's calendar match

21 March 1917 0426 GMT spring equinox Jubilee?

New moon 22 March 2305 EST

Jewish, 119, and Anthony's calendar matches

1494

Dechiot

<https://www.jewfaq.org/jewish-calendar-calculation>

<https://www.truthofyahweh.org/bar12002.html>

<https://maranathamedia.com/article/view/babylonian-origins-of-first-new-moon-after-vernal-equinox>

<https://www.ancient-origins.net/myths-legends/ancient-origins-new-years-celebrations-001181>

<https://hoshanarabbah.org/blog/2019/03/23/the-vernal-equinox-calendar/>

https://www.sefaria.org/Rosh_Hashanah.22b

<https://www.youtube.com/watch?v=lfrrer3zl-MM&list=PLo5QtZ1bPyYb-t5zj2RWM55BBBpQ2WKOd>

<https://www.youtube.com/watch?v=0Mxjqr3ETy0>

Message to 119

I am researching the Biblical Calendar and am intrigued with your ministries' approach to calculation. I do have a couple questions in this regard.

1. Your presentation speaks to using heliacal rising/setting (stars/constellations) to determine the year, yet the procedures to calculate your calendar uses the Solar Spring Equinox. Can you explain your rationale? Is there a specific method that CAN be used to calculate the Spring Equinox using only heliacal rising?
2. Your presentation mentions that Barley is used as a second Earth bound witness and the assumption presented indicates that Barley MUST be Aviv following the Spring Equinox. However, in my analysis of the years I have available to me from the Aviv search I have found in 2019, the Aviv was found NOT to be sufficiently Aviv to support an early Passover according to your calendar (If I in fact calculated correctly) [This could potentially recur this year 2024) How do you account for this and what would be your recommendation? Intercalate a month or not?

https://www.johnpratt.com/items/docs/2019/equinox_stars.html

