

# Gamaliel and Looking for New Moon before the Equinox

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By Joseph F. Dumond

February 25, 2011

**(Extracted from News Letter 5846-058)**

**22nd day of the 12th month 5846 years after creation**

**The 12th Month in the first year of the third Sabbatical Year**

**The Third Sabbatical Year of the 119th Jubilee Cycle**

**February 26, 2011**

Shabbat Shalom Brethren,

I would like to share with you an article Nehemiah Gordon sent out this week about the Equinox.

With the Aviv Search coming up in two weeks I've several e-mails asking me about observing Chag HaMatzot (Feast of Unleavened Bread) before the Vernal Equinox. I usually respond with, "Where does it say anything about the Vernal Equinox in Scripture?" Last year I sent out a note entitled "Will the Real Equinox Please Stand Up". Below is the note updated for 2011 along with some new info at the end.

To learn more about how the ripening of the Aviv Barley affects the beginning of the biblical year please see this study.

It's not too late to support the Aviv Search by sending a donation to:

Makor Hebrew Foundation, POB 13, Mansfield, TX 76063 or clicking on the donate button here.

Our main expenses are related to travelling around Israel examining barley fields, especially gas (nearly \$7.50 a gallon in Israel), car rental, etc. Every donation helps cover these expenses. Thank you for your support.

Now, Will the Real Equinox Please Stand Up, 2011 Update

Some people object that the true indicator for the beginning of the Biblical year should not be the Aviv barley but the Vernal Equinox, the day which marks the beginning of Spring. They base this on an anachronism in the rabbinical interpretation of the biblical Hebrew word Tekufah ("circuit"). An anachronism is erroneously placing something from a later time period into an earlier one. For example, speaking about telephones in ancient Rome is an anachronism. Interpreting the Biblical Hebrew word "Tekufah" as "equinox", a meaning it never had in Tanakh times, is an anachronism. I won't go into too much detail here about the word Tekufah as I have done so in the past. For more information on this topic please see:

- [http://www.karaite-korner.org/abib\\_faq.shtml](http://www.karaite-korner.org/abib_faq.shtml)
- [http://www.karaite-korner.org/abib\\_and\\_tekufah.shtml](http://www.karaite-korner.org/abib_and_tekufah.shtml)

- [http://groups.yahoo.com/group/karaite\\_korner\\_news/message/220](http://groups.yahoo.com/group/karaite_korner_news/message/220)
- [http://groups.yahoo.com/group/karaite\\_korner\\_news/message/124](http://groups.yahoo.com/group/karaite_korner_news/message/124)

Today I want to point out another anachronism in the application of the vernal equinox by those who claim it has a role in the Biblical calendar. Specifically I want to ask the question: If we are really required to use the vernal equinox for the biblical calendar, then which equinox? The problem is that there was no reliable way to calculate the timing of the Vernal Equinox in antiquity. Today modern astronomers have worked out with a high degree of accuracy the exact timing of the Vernal Equinox. The prerequisite for determining the true equinox was discovering the exact length of the solar year. According to modern astronomers a solar year is 365 days 5 hours 48 minutes 46 seconds and this year the equinox falls out on March 20, 2011 11:21pm UTC. Easy, right? Not so fast. The true value of the solar year was not known until modern times.

Fear not, say advocates of the equinox, Moses had secret astronomical knowledge learned at the court of Pharaoh. This secret knowledge supposedly included the exact calculation to work out the true timing of the Vernal Equinox. If Moses had this secret knowledge it was unfortunately unknown to later Jews. The early Rabbis mention the Vernal Equinox but they did not have a way of reliably calculating it because they did not know the true length of the solar year. There were actually two contradictory opinions about the length of the solar year and both were wrong. According to Rabbi Samuel the solar year was 365 days 6 hours whereas Rabbi Ada reckoned the solar year to be 365 days 5 hours 55 minutes 25.4 seconds. The difference between these two values may sound trivial but they result in the Vernal Equinox falling out on different days, neither of which is the correct day! For example, this year the Equinox of Samuel falls out on April 8, 2011 whereas the Equinox of Ada is March 28, 2011. The true Vernal Equinox in Jerusalem time comes out to March 21, 2011 at 1:21am – 7 days before the Equinox of Ada and 18 days before the Equinox of Samuel. Which one of these three values did Moses supposedly use: the Equinox of Ada, the Equinox of Samuel, or the true astronomical value only worked out in modern times? If this knowledge was known to Moses then why was it unknown to every other ancient civilization including the Jews? Did God really intend for us to wait for the advent of modern astronomy to know the true timing of the biblical feasts? Or did he set out a simple system that ancient Israelite farmers could easily follow by looking at their crops as they grew in the fields? It seems to me this is what the Creator was talking about when he said: “**Observe** the Month of the Aviv” in Deuteronomy 16:1. No need for secret astronomical knowledge; just a simple way to track the solar cycle relevant to an ancient farming society.

To make matters even more interesting, the Vernal Equinox is calculated today as a moment in time not as a day. As already mentioned, this year the Vernal Equinox will be March 21, 2011 at 1:21am Israel time. In the Hebrew reckoning, the day begins at sunset and this is well after sunset presumably making March 20 at sunset until March 21 at sunset the day of the Vernal Equinox. But not so fast with this either! The ancients defined the equinox as the day on which daytime and nighttime were of equal length, as we can see from the following quotation from the Jerusalem Talmud (Berachot 2c 1:1): “On both the Vernal Equinox and Autumnal Equinox

the day and the night are equal". So when would that be for observers in the Land of Israel? Considering that they did not have accurate clocks in ancient times, this would be no small feat to figure out, which is why both Samuel and Ada got it wrong. If you look at TimeAndDate.com for the day on which the daytime and nighttime are equal in Jerusalem you get a surprising result: March 17! On March 17 there will be 12h 00m 41s of daytime and 11h 59m 19s of nighttime. So is the "Biblical" equinox March 17 based on day lengths in Jerusalem? Or March 21 based on modern astronomy? Or March 28 or April 8 based on the ancient values of the year according to Samuel and Ada? Check the Jerusalem day lengths in March 2011 for yourself.

The ancients could theoretically have used the falling of shadows over the period of a year to figure out the timing of the equinox and then after a number of years correlated this to the rising of the sun at a fixed point on the horizon. This is what was presumably done at Stonehenge and similar sites. However, this would not bring them the correct day based on the equal length of days and night and the values of Samuel and Ada prove they did not use this method for the calendar.

Now just for fun, let's look at the ancient Pharisee use of the equinox. The rabbis believed in determining the beginning of the year based on three factors of which the Aviv was considered the most important but not the only one. The other two were the Vernal Equinox and the ripening of unspecified "fruits of the trees" (Babylonian Talmud, Sanhedrin 11b). What the rabbis looked at when it came to the equinox was that the 16th of Nissan would fall on or after the Vernal Equinox. If it didn't, then they added a 13th month, Adar Bet (Rosh Hashanah 21a). The problem is there are four different ways to calculate the Vernal Equinox:

- Equinox acc. to equal daytime and nighttime: March 17
- Equinox of Ada: March 28
- Equinox of Samuel: April 8
- Equinox acc. to modern astronomy: March 21

If the Aviv is found on March 6, it would make the 16th of Nissan on March 22, too early for Ada and Samuel but perfect timing based on modern astronomy and the day with equal daytime and nighttime. The ancient Pharisees used the equinox of Samuel for this purpose and this was later incorporated into the Hillel II calendar. This is why the modern rabbinical calendar has a leap year this year, based on the incorrect value that places the equinox on April 8.

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NOW SEE THIS!!!!

Here is a reference to a letter written around 40 CE, a generation before Josephus telling us about the sun being in Aries, and it reflects an earlier Pharisee observance before the equinox or constellations were used:

It once happened that Rabban Gamaliel was sitting on a step on the Temple Mount, and the well known Scribe Yohanan was standing before him with three cut sheets [of parchment] lying before him. He said to him, ...take the third [sheet] and write to our brethren, the Exiles of Babylon and to those in Media, and to all the other exiled [sons] of Israel, saying: 'May your peace be great forever! We beg to inform that the doves are still tender, and the lambs are still young, and the Aviv is not yet ripe. It seems advisable to me and to my colleagues to add thirty days to this year.'" (Babylonian Talmud, Sanhedrin 11b)