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Frank W. Nelte

### **ACTUAL NEW MOON CONJUNCTIONS AND JEWISH MOLADS FOR THE YEAR 2000 A.D.**

The data here is again taken from "Astronomical Tables of the Sun, Moon, and Planets" by Jean Meeus, and published by Willmann-Bell, Inc. of Richmond VA.

We may assume that THE JEWISH CALENDAR is based on "Jerusalem time", in general terms. Jerusalem is located at 31.47 degrees NORTH and 35.13 degrees EAST.

With the Jewish Calendar we can also calculate the supposed new moon conjunctions (known as "molads") for every new moon of the year, since the calculations are based on the assumption that all lunar cycles are of equal length.

Since Jerusalem is located at 35.13 degrees East of Greenwich, this means that Jerusalem is about 2 hours 20 minutes ahead of the "ephemeris time" given in the tables.

Armed with this information we are now ready to make a comparison between when the new moon conjunctions ACTUALLY TAKE PLACE during the year 2000 A.D. (as based on the information found in the Tables), and when the Jewish Calendar ASSUMES THEY TAKE PLACE (as based on the calculated molads).

For the comparison to be meaningful we need to also express the actual new moon conjunctions in terms of "Jerusalem time". In that way we will be comparing the Jewish molads with when the actual new moon conjunctions take place, as "viewed" from the same location on earth (Jerusalem).

For the purposes of observing God's Feasts and the Annual Holy Days ONLY TWO NEW MOON CONJUNCTIONS in the year are of importance to us:

- The conjunction of the FIRST month (called Nisan in the Jewish Calendar), since this conjunction determines when the Passover, Feast of Unleavened Bread and the Feast of Pentecost are to be observed.
- The conjunction of the SEVENTH month (called Tishri in the Jewish Calendar), since this conjunction determines when the Day of Trumpets, the Day of Atonement, the Feast of Tabernacles and the Last Great Day are to be observed.

In the year 2000 A.D. there will in fact be 13 new moon conjunctions. First let's look at when the Jewish Calendar assumes those conjunctions take place ... i.e. the molads for those 13 months:

#### **JEWISH MOLADS FOR THE YEAR 2000 A.D.:**

- January 6,                    6:40:43 p.m.
- February 5,                 7:24:53 a.m.
- March 5,                     8:08:50 p.m.
- April 4,                      8:52:53 a.m.

- May 4, 9:36:56 p.m.
- June 2, 10:21:00 a.m.
- July 1, 11:05:03 p.m.
- July 31, 11:49:06 a.m.
- August 30, 00:33:10 a.m.
- September 28, 1:17:13 p.m.
- October 28, 2:01:16 a.m.
- November 26, 2:45:20 p.m.
- December 26, 3:29:23 a.m.

In the Jewish calculations each molad period is 29 days 12 hours 44 minutes 3.3 seconds long.

Now let's look at the new moon conjunctions as they are given in the Tables.

NEW MOON CONJUNCTIONS FOR THE YEAR 2000 A.D.:

DATE	TIME	JERUSALEM TIME
- January 6,	6:14:40 p.m.	8:34:40 p.m.
- February 5,	1:04:18 p.m.	3:24:18 p.m.
- March 6,	5:17:45 a.m.	7:37:45 a.m.
- April 4,	6:13:03 p.m.	8:33:03 p.m.
- May 4,	4:13:08 a.m.	6:33:08 a.m.
- June 2,	12:15:01 p.m.	2:35:01 p.m.
- July 1,	7:20:59 p.m.	9:40:59 p.m.
- July 31,	2:26:13 a.m.	4:46:13 a.m.
- August 29,	10:20:21 a.m.	12:40:21 p.m.
- September 27,	7:54:00 p.m.	10:14:00 p.m.
- October 27,	7:59:03 a.m.	10:19:03 a.m.
- November 25,	11:12:20 p.m.	Nov 26, 1:32:20 a.m.
- December 25,	5:22:39 p.m.	7:42:39 p.m.

So, whereas each molad period in the Jewish calculations is exactly 29 days 12 hours 44 minutes 3.3 seconds long, IN ACTUAL PRACTICE lunar cycles may be as long as 29 days 18 hours 49 minutes (i.e. Jan. 6 to Feb. 5), and as short as 29 days 7 hours 5 minutes (i.e. July 1 to July 31) for the year 2000 A.D.. Such fluctuations are basically true for all years.

Now we can assess the above information.

For the year 2000 A.D. the Jewish calendar calculations, based totally on the molad of Tishri, are as follows:

The actual conjunction takes place (Jerusalem time) on Wednesday night, September 27th, at 10:13 p.m.. This is the first part of September 28th (reckoning days from 6:00 p.m. to 6:00 p.m.). The next day, Friday, September 29th, starts 19 hours and 47 minutes after this actual conjunction (i.e. it starts Thursday evening after sunset). Those approximately 20 hours should be sufficient to ensure first visibility of the new crescent that Thursday evening. [Comment: This reference to first visibility is purely for the purpose of putting this information into some kind of perspective. I don't think that first visibility should necessarily be a deciding factor, though we may certainly take note of it.]

The Jewish molad of Tishri, on the other hand, is calculated to be about 15 HOURS AND 4 MINUTES AFTER the actual conjunction. The molad is on Thursday afternoon, September 28th, at 1:17:13 p.m. The Jewish calendar then invokes a 2-day postponement and places the Day of Trumpets on Saturday, September 30th. So for the year 2000 A.D. the Jewish calendar places the Day of Trumpets (1st Day 7th Month) two full days after the actual conjunction and one full day after first visibility in Jerusalem.

So the Jewish calendar is (for the year 2000 A.D.) clearly out of touch with reality as far as the 7th month is concerned (witnessed by an error of over 15 hours in the calculation of the conjunction), and it is also further manipulated to conform to non-biblical traditions (witnessed by the 2-day postponement imposed). So next year (2000 A.D.) you should be able to SEE the new moon on a Thursday evening in Jerusalem, a full day before the Jews observe the Day of Trumpets.

Now let's look at the 1st month of the Jewish year for 2000 A.D.:

Instead of calculating the molad of Nisan, the Jews simply subtract 177 days from Tishri 1 to arrive at the date for Nisan 1. However, the time between the new moons of the 1st month and the 7th month in 2000 A.D. is actually 176 days. But, since they have calculated the molad of Tishri about 15 hours TOO LATE, therefore they may sometimes end up with Nisan 1 being the date of the actual new moon (i.e. for years when no postponements are invoked).

The molad (or supposed conjunction) of Nisan is on April 4th at 8:52:53 a.m.. This is 11 HOURS AND 40 MINUTES BEFORE the conjunction actually occurs at 8:32 p.m. that evening (which is the start of April 5th). In this case the Jewish postponement of 2 days, which places Nisan 1 on April 6th, will actually result in the year starting on the day of first visibility, something that was not the slightest consideration in the Jewish calculations.

So to summarize this information:

- 1) The Jewish calculations for the molads do not conform to the astronomical facts we are faced with today.
- 2) The calculated molad of the first month (Nisan) actually has no bearing on reality! It could be BEFORE the actual new moon, or it could be AFTER the actual new moon. However, the start of Nisan is NOT determined by the molad of that month; it is based solely on being 177 days before Tishri 1.

3) The molad of the seventh month (Tishri) also has no bearing on reality! It may be as much as 15 hours LATE! This is the molad on which the entire Jewish calendar is based, and it is up to 15 hours out of touch with reality.

4) The Jewish postponement rules further compound these errors by removing the Day of Trumpets (1st day of 7th month) an additional day or two from the conjunction. These postponement rules serve no other purpose than to uphold unbiblical traditions.

This brings up the following questions:

**WHY ARE THERE THESE DISCREPANCIES WITH REALITY? HOW CAN THE MOLAD OF NISAN SOMETIMES BE OVER 11 HOURS TOO EARLY ... WHEN THE MOLAD OF TISHRI IN THE SAME YEAR IS OVER 15 HOURS TOO LATE??**

The answers to these questions are as follows:

The Jewish calculations originally ASSUMED that all conjunction periods are of equal length! Thus the Jewish calendar assumed the period of the first six lunar cycles of each year to be six times 29 days plus 12 hours plus 44 minutes plus 3.3 seconds. This is equal to: 177 days 4 hours 24 minutes 20 seconds. It is for this reason that the Jewish calendar ALWAYS allots exactly 177 days to the first six months of the year ... 3 months of 30 days each and 3 months of 29 days each.

[COMMENT: The Jewish calendar calculations actually TOTALLY IGNORE the molad of Nisan. They focus exclusively on the molad of Tishri. But this assumption of each lunar cycle being of equal length comes into play when some years have 12 months and other years have 13 months; the molads of Tishri bounding a year of 13 months are exactly one-twelfth further apart (time-wise) than are the molads of Tishri that delineate a year of 12 months. I have given the explanation in the previous paragraph simply for the purpose of showing WHY in the Jewish calendar there are always exactly 177 days in the first six months of the year.]

HOWEVER: IN REALITY the first six lunations of the year 2000 A.D. (i.e. from April 4 at 8:32 p.m. until September 27 at 10:13 p.m.) are actually equal to: 176 days 1 hour 41 minutes. So for the year 2000 A.D. the first six lunar cycles are actually ONE DAY SHORTER than the Jewish calendar assumes. That is why the molad of Nisan can be 11 hours BEFORE the actual lunar conjunction and the molad of Tishri can be 15 hours AFTER the lunar conjunction. In other years the first 6 lunations may be over 10 hours longer than the Jewish calendar calculations imply.

**IF WE WANT TO HAVE A CALENDAR THAT IS BASED ON THE NEW MOONS, AS THEY ACTUALLY OCCUR IN THIS PRESENT AGE, THEN THE NUMBER OF DAYS IN THE FIRST 6 MONTHS WILL VARY FROM 176 DAYS TO 178 DAYS!**

The Jewish calendar is supposedly based on the ACCURATE calculation of the lunar conjunction of the seventh month, to the nearest three-second period. However, the calculated molad of Tishri is in fact OVER 15 HOURS TOO LATE! For the year 2000 postponements make this error even greater.

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