

Frank W. Nelte

## **JEWISH CALENDAR CALCULATIONS TUTORIAL**

IF YOU SUPPORT THE USE OF THE PRESENT JEWISH CALENDAR, THEN THIS TUTORIAL WILL PRESENT YOU WITH THE OPPORTUNITY TO KNOW EXACTLY HOW THAT CALENDAR IS CALCULATED.

THIS TUTORIAL PRESENTS FACTS YOU CAN PROVE FOR YOURSELF AND IT TAKES THE MYSTERY OUT OF THE JEWISH CALENDAR.

EVERY MEMBER OF GOD'S CHURCH OUGHT TO KNOW THE FACTS ABOUT THE JEWISH CALENDAR THAT ARE PRESENTED IN THIS TUTORIAL.

When Mr. Herbert W. Armstrong first started to look into keeping the annual Feasts and Holy Days back in the late 1920's, he knew nothing at all about the present Jewish calendar. From his point of view there were only two possible calendars to choose from: the Roman Gregorian calendar which is in almost universal use today, or the Jewish calendar which is used to determine the annual Jewish religious observances.

Mr. Armstrong ASSUMED, incorrectly so, that the present Jewish calendar was based on God's instructions to the Israelites, that it was based on instructions God gave to Moses at the time of the Exodus, and that it therefore was astronomically accurate. He assumed, incorrectly so, that the months in the Jewish calendar were always in full agreement with the real new moons.

The computations of the Jewish calendar are something that Mr. Armstrong never during his whole life ever understood, something he himself never at any stage ever worked through. He consequently never understood any of the factors that determine the precise dating of the present Jewish calendar. In other words, he never understood any more about how the Jewish calendar arrives at dating the start of the year than you do, if you are the typical average minister or the average lay member of one of the various Churches of God today.

If they had nothing more than a pen and a piece of paper (i.e. no computers and not even electronic calculators) then only very few ministers and even fewer lay members of the Church today would be able to accurately calculate the Jewish calendar dates for any given year, something I did repeatedly back in the late 60's and early 70's before even handheld calculators were available. I mention this because I have been intimately familiar with the workings of the Jewish calendar for almost 50 years.

For Mr. Armstrong, for the vast majority of the ministers, and for almost the total lay membership of the Church of God THE PRECISE WORKINGS OF THE PRESENT JEWISH CALENDAR HAVE ALWAYS BEEN A MYSTERY!

When Mr. Armstrong still wrongly assumed that the Jewish calendar is in full harmony with the astronomical facts that apply to the annual cycles and to the lunar cycles, then he actually appealed to the astronomical facts in an effort to support the use of the present Jewish calendar. This is very apparent from what Mr. Armstrong wrote in his "1940 Good News Letter". Here is the last paragraph from that letter, unaltered and as Mr. Armstrong presented it:

"The New moon occurs, IN JERUSALEM, (World Almanac), at exactly 10:18 P.M., the night of April 7th,

which is the eve of April 8th. However, God had the new moon observed by the naked eye and by this method the first day of the 1st month begins the following sunset, April 8th. Thus Passover comes AFTER SUNSET APRIL 21st and the HOLY CONVOCATION after sunset April 22nd, which is Abib 15th. The second holyday begins sunset April 28th, with holy convocation held during the day-time, April 29. Pentecost this year is JUNE 17th, sunset, until sunset June 18th, instead of June 12th as erroneously figured on our calendar printed three years ago." (Good News Letter, 1940 by Herbert W. Armstrong, his own emphasis throughout)

Mr. Armstrong's reasoning from the World Almanac time of 10:18 p.m. (that would be 10:39 p.m. local Jerusalem time) being the first part of April 8th, and BECAUSE OF VISUAL OBSERVATIONS therefore first visibility was only possible AFTER SUNSET on April 8th, which was then the start of April 9th, being Day 1 of the month is all VERY LOGICAL! And based on THAT LOGIC Mr. Armstrong was fully correct in keeping the Passover after sunset on April 21 that year. But Mr. Armstrong ASSUMED that the Jewish calendar calculations always achieve Day 1 of every month on the day of first visibility of the new crescent.

AND HERE MR. ARMSTRONG'S ASSUMPTION WAS TOTALLY AND COMPLETELY WRONG! IT WAS AN ENORMOUS FLUKE THAT FOR 1940 THE JEWISH CALENDAR DATES HAPPENED TO COINCIDE WITH THE DATES ACCORDING TO FIRST VISIBILITY OF THE NEW CRESCENT!

If you today attempted to justify using the Jewish calendar, as Mr. Armstrong did, by appealing to the real days of first visibility of the new crescent, based on establishing the real times of lunar conjunctions, you would be totally without any credibility.

For example, in 2009 the Jewish calendar has Nisan 1 going from sunset on March 25 until sunset on March 26. On March 26 in 2009 sunset in Jerusalem will be at 5:55 p.m. Jerusalem time zone, or 6:16 p.m. LOCAL Jerusalem time (with a possible error of about 2 minutes). However, in 2009 the lunar conjunction will only take place on March 26 at 6:27 p.m. local Jerusalem time. That is about 11 minutes AFTER sunset. Even after allowing for a possible error of two minutes, that conjunction is still after sunset! So the new moon conjunction will be on March 27, and first visibility of the new crescent will only be possible in Jerusalem on March 28 (i.e. immediately after sunset at the end of March 27). So in 2009 the Jewish calendar will start Nisan 1 a full day before the actual lunar conjunction, and TWO full days before first visibility in Jerusalem.

Mr. Armstrong was simply not aware of these sort of problems.

However, in 1969 some men in the Church came to understand that the present Jewish calendar is actually IN CONFLICT WITH ASTRONOMICAL REALITIES, and ever since then all appeals to astronomical facts have been dropped completely, and the whole calendar question has been turned into A QUESTION OF FAITH! The understanding "some men" had come to in 1969 was never explained to the church membership at large, and so the church membership at large never understood WHY the focus in discussions about the calendar had been changed to making it a faith issue. It was always easy to exhort church members "to have faith".

For more information on this point see the following articles on this website:

- 1) The actual text of the letter that was written in 1969, in the subdirectory called "THE 1969 CALENDAR LETTER".
- 2) The article "When God Stopped Blessing the Church" in the CALENDAR ARTICLES subdirectory.

The only reason why the calendar question has become "a faith issue" is precisely because the Jewish

calendar is at odds with the facts of astronomy that confront us today. But our faith should never be blind! Our faith should never be in conflict with the facts.

THIS TUTORIAL IS DESIGNED TO TAKE THE MYSTERY OUT OF THE JEWISH CALENDAR FOR ALL OF GOD'S PEOPLE TODAY!

In this tutorial we will work through a few different years, showing step-by-step how the Jewish calendar is calculated, and how the final dates for each year are then determined by the application of the postponement rules.

You will not need to do a single calculation yourself. I have done all of them for you. And I have given you all the data that, if you so wish, will enable you to verify the calculations that are presented. In each case the astronomically correct information is then also presented, either to support the Jewish calendar dates or else to expose the errors in the Jewish calendar dates.

The procedure of calculations is always the same for every year. The only mathematical skills that are involved are addition, subtraction, multiplication and division, though all of these processes are done for you in this tutorial and you need not do any of them yourself.

The years for which the calculations are presented in this tutorial have been chosen to expose some of the very real problems with the present Jewish calendar, when compared to the actual correct astronomical facts. It is not questioned that there are other years (like 1940) when the Jewish calendar actually SOMETIMES gets the dates that are astronomically correct. But such "correct dates" are only very inconsistently achieved by the present Jewish calendar.

Some comments to start with:

In the Jewish calendar calculations the time of the lunar conjunction (i.e. the astronomical new moon) is known as "THE MOLAD". The Jewish calendar calculations supposedly calculate the time of the new moon conjunction of the Seventh Month (i.e. "The Molad of Tishri") to an accuracy of three-and-one-third seconds (i.e. to an accuracy of "one halak"). This we will see is not correct at all.

For all the relevant facts that are needed to perform the calculations see the CALENDAR CALCULATIONS DATA SHEET option on the menu. That page gives you everything you need to do the calculations for any other year of your own choice as well. And if you really would like to do those calculations yourself, then you can certainly use a calculator to make things easier. But, as already stated, this tutorial does not require you to make any calculations yourself.

This Tutorial calculates the Jewish Calendar for 5 specific examples. These are:

- the year 2000
- the year 2002
- the year 2013
- the year 515 B.C. with today's sequence of leap years applied
- the year 515 B.C. with an alternate sequence of leap years applied

I am convinced that anyone who works through all 5 of these examples (and all the calculations in these examples are done for you) will have a better understanding of the Jewish calendar than 95% of all the

people in the various Church of God organizations today. And these examples are easy to work through. It is the repetition of the same procedures that will help you to quickly grasp the concepts involved.

After having done these examples, you will also realize that fully one half of the calculations involved rely on the existence of the Roman Julian calendar. Without the existence of the Julian calendar, these calculations could NEVER be used to establish the precise starting dates for the Jewish calendar years. Now the Julian calendar predates the Jewish calendar by several centuries, and that is why the Jewish calendar calculations use the Julian calendar as a benchmark. The sole purpose of these whole calculations is to establish the start of the Jewish year IN TERMS OF THE JULIAN CALENDAR.

If you have not yet done so previously, I suggest that you proceed to the CALENDAR CALCULATIONS DATA SHEET menu before doing any of the specific tutorial examples. There you will find all the mathematical data that is employed in determining the Jewish calendar. While nobody is expected to commit this data to memory, it is helpful to be familiar with the general concepts involved.

Please make a choice from the menu on the left side of this page.

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