

Theological Research Report

Volume 7, Issue 32

April/May/June 2015

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In Loving Memory

of

Dr. Charles V. Dorothy

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We are grateful to those who have contributed to the support of this journal. The donations that we received have not only made it possible for us to continue publishing the Report but also to begin to publish over 50 years of Biblical research on our new Internet *SkyDrive Archival System*. This entire body of research is being provided free of charge to help our brethren grow in the knowledge of God's Word and avoid being led astray by false doctrines.

If you would like to contribute to the work of service that my wife and I are providing for our brethren (and future brethren) around the world, please send your contribution to Carl D. Franklin at our current address in New Mexico: 3005 S. Saint Francis Drive, UPS #404, Santa Fe, NM 87505-6964

Publication Release Date Sunday July 5, 2015

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Introductory Remarks

Issue 32

June 30, 2015

Dear friends,

The *Theological Research Report* is directed toward the interests and needs of Christian Sabbatarians and will present in-depth reviews, critiques, exegesis and original research of various theological topics including but not limited to church history, church government, history of church finance, covenant theology, historical prophetic fulfillments, Biblical chronology, Biblical archaeology, Sabbatarian liturgy, the Hebrew Calendar, healing and principles of spiritual growth.

Issue 32 is the first issue to be published from Santa Fe, New Mexico. You can reach us by mail at the postal box listed above or by email at carldfranklin@reagan.com.

The focus of this issue is understanding the Molad, which plays a primary role in the calculations of the Hebrew Calendar. Additional articles related to the calculations of the Hebrew Calendar are included.

The calculation of the Molad is the first step in determining the new moon of Tishri, the seventh month. The new moon of Tishri has traditionally been proclaimed the New Moon of the Year because it sets the dates of all the months in the year.

Because the Molad is based on the average lunar cycle, in many years the calculated date must be adjusted to fit the actual time of the new moon. This is accomplished by applying the Rules of Postponement.

Many who formerly observed the Biblical holy days on dates that were set by the rules of the Hebrew Calendar have been persuaded to reject these rules as inventions of the rabbis of ancient Judaism. This false teaching has gained ground in recent decades, and a number of substitute methods for dating the holy days are now being

promoted. Among these are sighting the visible crescent and creating “lunar sabbaths” by making the first day of each month the beginning of a weekly cycle. These practices are anti-Scriptural and fulfill the prophecies of Jude and his brother James.

Those who study the Scriptures with open minds will be able to prove the divine origin of the rules of the Hebrew Calendar for themselves. The Old Testament records that the laws of the calendar were committed to Israel, and the New Testament testifies to the faithfulness of God in preserving the calendar that He ordained for His people to observe His feast days.

We hope that the Scriptural and astronomical evidence in this issue will help to resolve any questions or doubts you may have regarding the validity of the Calculated Hebrew Calendar.

Warm regards,
Carl and Jeanie Franklin

Article 1

Understanding the Meaning of “*Molad*”

The term “molad” is a variant spelling of *moled*, which means “renewal.” It is a Hebrew name for the renewal of the moon at its conjunction with the sun.

Astronomers have from ancient times understood that the renewal of the moon takes place at the conjunction. At the time of the conjunction, the light side of the moon is facing away from Earth and the moon appears to be in total darkness. But even at this time a very narrow arc of light is exposed on the leading edge. This narrow arc is the new crescent, fully formed but much too thin to be visible to observers on Earth. However, with the aid of astrophotography, the image of the crescent at the time of the conjunction has been captured on film:

² **Although the new moon is typically depicted as a black circle, its actual phase is a very thin crescent**, because the moon does not pass directly in front of the sun (except during a solar eclipse). On July 8, 2013, French astrophotographer Thierry Legault successfully photographed the new moon, although the crescent itself was **not visible to the unaided eye**. (Wikipedia, s.v. “New Moon”)

The formation of the new crescent at the point of conjunction marks the end of one lunar cycle and the beginning of another. The word “conjunction” is formed from *con* (together) + *jugere* (join), so named because it links each lunar cycle to the next in an unbroken succession of lunar months.

The length of time from one new moon to the next will vary due to a number of factors that affect the moon's orbit:

¹ **The time interval between new moons — a *lunation* — is variable. The mean [average] time between new moons, the synodic month, is about 29.53 days...Periodic perturbations [disturbances in the moon's orbit] change the time of true conjunction [the actual new moon] from these mean [average] values. For all new moons between 1601 and 2401, the maximum difference is 0.592 days = 14h13m in either direction [more or less than the average]. The duration of a lunation (*i.e.* the time from one new moon to the next) varies in this period between 29.272 and 29.833 days [a difference of .561 days]; *i.e.*, --0.259d = **6h 12m shorter**, or +0.302d = **7h 15m longer than average**. This is smaller than the difference between mean [average] and true conjunction.... (Wikipedia, s.v. "New Moon")**

These figures make it clear that the average conjunction will always fall within a few hours of the actual conjunction. For this reason astronomers calculate the average conjunction using the full fractional number (29.5305888610). To arrive at the actual time of the conjunction, they adjust the calculated time by factoring in the difference in the ecliptic longitude (astronomical positions of the sun and the moon) and variables such as tidal effects. The sole purpose of their calculations is to determine the exact time of the actual conjunction.

The Hebrew Calendar also uses the average conjunction to calculate the Molad, but for a different purpose. Its calculations are used to determine the first day of Tishri, the seventh month, which sets the dates of the feasts of God for the entire year.

Since the first day of Tishri does not begin at the conjunction but at sunset, the time of day that the Molad occurs is of primary importance. If the Molad falls in the afternoon, most of the day has passed before the renewal of the lunar cycle, and only a few "new moon hours" remain in that day. In such cases, the Hebrew Calendar uses the Rules of Postponement to adjust the declaration of Tishri 1 to the correct day of the week.

Although the Hebrew Calendar has six different year lengths, the number of days in the annual festival season never varies. In every year the period from Nisan 1 to Tishri 1 is 177 days. By counting backward from Tishri 1, the first day of Nisan can be determined. Since the months of the Hebrew Calendar have a fixed length (six months of 30 days alternating with six months of 29 days), the remaining months from Nisan 1 to Tishri 1 can easily be determined. That is how the Hebrew Calendar uses the Molad of Tishri to set the dates of all the holy days in the year.

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Article 2

The Visible Crescent Is AFTER the New Moon Phase of Scripture

The New Moon phase is defined as the instant at which the apparent celestial longitudes of the Moon and the Sun are the same [which occurs only at the time of conjunction]. Considering the Sun, Moon, and Earth [using their centers for calculations]. Adopting this definition, the New Moon phase is certainly a unique instant all over the world. But in reality the Sun, the Moon, and the Earth are viewed as disks not points, and so, **observers on the Earth in different locations will not see the centers of the Sun and the Moon at the same longitude in the same instant [sightings apply only to a specific location].**

The difference may reach up to four hours. This would be obvious during a solar eclipse, which can be considered as a "visible" New Moon phase, since it is well-known that a solar eclipse does not begin at the same instant all over the world.

For most purposes, it is suitable to consider the New Moon phase as a unique instant all over the world, and so, nearly all the astronomical books and magazines publish times of New Moon phase as a unique instant, which is for the center of the Earth.

But to observe the very thin crescent shortly after the New Moon phase [when the crescent has entered the waxing phase], **and to know the exact interval between the New Moon phase and the observation time** (Moon's age), **we should adopt the instant of the New Moon phase that occurs from the location of observation** [Thus a Jerusalem time, nor any other location of observation, can be used on a global, worldwide basis for establishing the date of Nisan 1]. (Used by permission of astronomer Moh'd Odeh of Abu Dhabi, Copyright © 1998-2006, Islamic Crescents' Observation Project (ICOP), All Rights Reserved).

Article 3

Anti-Lunar/Sabbath Statement

The Calculated Hebrew Calendar is designed so that the months in the year conform to the weekly cycle—not vice versa as is the case with the Lunar/Sabbath Calendar. This astronomical fact is dictated by the reality of the relationship of the sun, the moon and the earth.

The method by which the calendar is adjusted to the weekly cycle is the application of the rules of postponement. Not attempting to do so by discarding days willy-nilly along the way! The weekly cycle cannot be made to conform to the months of the year (as the enthusiasts of the Lunar/Sabbath are attempting to do) because the lunar months of the year are in reality not all 28 days in length!

As God did not design the moon's orbit so that each lunar month has exactly 28 days, Lunar/Sabbath enthusiasts must discard 1 or 2 days each month! The so-called Lunar/Sabbath does not exist in reality—it only “exists” in the vain imaginations of the twisted minds of those who believe it is so.

All calendars must conform to the reality of the solar system as God created it and must be expressed in a mathematics that models that reality. We cannot fantasize a solar system into existence patterned after our own insane imaginations, fabricate a mathematics that models that insanity and expect that we are actually worshiping the Creator of the universe as He has commanded.

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Article 4

Understanding the Calculated Hebrew Calendar

The Sacred Calendar of God is called the Calculated Hebrew Calendar (CHC). As a Luni/Solar calendar, the CHC bases its years on the sun and utilizes the phases of the moon to determine the beginning of months. Importantly, the CHC retains God’s continuous, cyclical count of the seven-day week to which the months and years must conform. The CHC is in harmony with and includes the counting of the days of the week (which are reckoned each day from “sunset to sunset”). In other words, God’s reckoning and calculating of the months and years is entirely separate from—but runs parallel to—the weekly cycle.

On the fourth day of creation, God set the positions of the sun and moon (and the stars), which form the basis of the calculations of the CHC in establishing days, months and years. “And God said, ‘Let there be lights in the firmament of the heavens to divide between the day and the night [days are first], and let them be for signs, and for appointed seasons [the annual feasts], and for days [the annual holy days] and years [including the seventh-year land Sabbath and Jubilees every fifty years]; and let them be for lights in the firmament of the heavens to give light upon the earth.’ And it was so. And God had made two great lights, the greater light to rule the day and the lesser light to rule the night; and God had made the stars also. And God set them [in their exact positions] in the firmament of the heavens to give light upon the earth, and to rule over the day and over the night, and to divide between the light and the darkness. And God saw that it was good. And the evening and the morning were the fourth day” (Gen. 1:14-19).

From Genesis chapters seven and eight, we are able to determine that at the time of the Flood each month of the Hebrew Calendar contained the same number of days as they do to this day. The Flood began “in the second month, on the seventeenth day of the month. . . . And the waters prevailed upon the earth a hundred and fifty days . . . and at the end of the hundred and fifty days the waters had gone down. And in the seventh month, on the seventeenth day of the month, the ark rested upon the mountains of Ararat” (Gen. 7:11, 24; 8:3-4). From these passages we can conclude that from the very moment of creation God’s Sacred Calendar was the same as it is today.

Every calendar in the history of man has attempted to measure time by either the solar or the lunar cycle. The calendar we use today is a solar calendar. Because it is a solar calendar, its months are synchronized with the equinoxes and solstices of the solar year.

The 365 days in the solar year are divided into four months with 30 days ($30 \times 4 = 120$), seven months with 31 days ($31 \times 7 = 217$), and one month with 28 days ($120 + 217 + 28 = 365$ days). Although the calendar year is 365 days, the actual solar year is 365.2425 days. The fraction of a day (approximately $\frac{1}{4}$ day) is made up by adding one day to February every 4 years.

Because we live in a culture that uses this calendar, it governs our days and months of worship. It governs our work schedules, vacations, graduations, weddings and funerals. It governs our financial system. All businesses, large and small, depend on the calendar to set dates of contracts, interest schedules, tax schedules and billing periods.

The Hebrew Calendar served the same purposes for banking and commerce in ancient times. However, its most important function was, and still is, to set the dates of the annual holy days that God established at the creation of the world.

Genesis 1:14 tells us that God arranged the sun, moon and stars in the heavens “for signs, and for seasons, and for days and years.” The word “seasons” is translated from the Hebrew *moed*, which means “appointed times.” Observing God’s appointed times helps us to understand His plan of salvation for mankind.

These appointed times are listed in Leviticus 23, where the Hebrew *moed* is translated “feasts.” The first feast, or appointed time, is the weekly Sabbath (v. 3). The annual feasts, which take place during the three harvest seasons in the year, are listed next.

The Passover, the first of the annual feasts of God, is observed at the beginning of the 14th day of the first month (v. 5). The 14th day itself is not a Sabbath but a day of preparation for the Feast of Unleavened Bread, which begins on the following day, the 15th, and lasts for seven days (v. 6). The first day and the seventh day are Sabbaths of rest (vs. 7-8).

The next verses describe the wave sheaf offering, which takes place during the Feast of Unleavened Bread on “the morrow after the Sabbath” (Sunday). From this Sunday seven complete weeks are counted (v. 15) and the following Sunday (the 50th day) is the Feast of Firstfruits, (vs. 16, 21). This feast is referred to in the New Testament as Pentecost, which means “fiftieth (Acts 2:1).

The following verses in Leviticus 23 describe the fall festival season, which is composed of four separate feasts that all take place in the seventh month of the year. The Feast of Trumpets is the first day of the seventh month and is a Sabbath of rest (v. 24). The tenth day is the Day of Atonement, also a Sabbath (vs. 22-28). The Feast of Tabernacles begins on the 15th day and lasts for seven days (v. 34). The first day is a Sabbath of rest (v. 35). Immediately following the Feast of Tabernacles is the last feast of the year, which is also a Sabbath of rest (v. 36). This feast day is called the “Last Great Day” in the New Testament (John 7:37).

All these feasts, or “appointed times,” were observed by the servants of God in the Old Testament down to the time of Abraham, Isaac and Jacob. Before Jacob’s death, he and his eleven sons went down to Egypt, where his son Joseph had risen to rulership. After several generations of living among Egyptian sun worshippers who observed pagan festivals, the descendants of Jacob lost all knowledge of God’s feast days.

When God sent Moses to lead His people out of Egypt, He began to restore the knowledge of His appointed times. Exodus 12 records His instructions for the feasts of the first month:

And the LORD spoke unto Moses and Aaron in the land of Egypt, saying, “This month shall be unto you the beginning of months: it shall be the first month of the year to you” (vs. 1-2).

The following verses in Exodus 12 give instructions for the feasts of the first month—the Passover on the 14th day and the Feast of Unleavened Bread on the 15th through the 21st day. These are the only feasts that are recorded in Exodus 12. Although the other feast days are not listed in Exodus 12, God gave Moses instructions for them also. Psalm 81 testifies that God delivered instructions for all His appointed times when He brought Israel out of Egypt:

Blow up the trumpet in the new moon, in the time appointed, on our solemn feast day. For this was a statute for Israel, and a law of the God of Jacob. This He ordained in Joseph for a testimony... (vs. 3-5).

Verse 3 is referring to the new moon of the seventh month. This is the only new moon of the year that God appointed as a feast day. The New King James Version of Psalm 81:3 gives the complete meaning of the Hebrew text, confirming that this verse is speaking of the seventh month:

Blow the trumpet at the time of the New Moon, at the full moon, on our solemn feast day. For this is a statute for Israel, A law of the God of Jacob. This He established in Joseph as a testimony...

There is no question that Psalm 81 is referring to the seventh month. No other month of the year has a commanded feast on both the new moon and the full moon. The seventh month is the last month of the annual holy day season. Thus Psalm 81:3 confirms that God delivered a complete calendar for observing His appointed times when the Exodus took place.

The Hebrew word that is translated “New Moon” in Psalm 81:3 is *chodesh*. This same Hebrew word is translated “month” in Exodus 12. *Chodesh* is used numerous times in the Old Testament and may be translated either “month” or “moon” depending on the context in which it is used. Its literal meaning is “new moon,” which is the first day of each month in the Hebrew Calendar.

The fact that the Hebrew text uses the same words for “new moon” and “month” gives us insight into the calendar that God delivered to His people. The months of this calendar are set by the lunar cycle—not by the equinoxes and solstices of the solar cycle.

Because the lunar cycle varies from month to month due to irregularities in the moon’s orbit, the Hebrew Calendar uses the average length of the lunar cycle to calculate the months. The average lunar cycle is 29.53 days (rounded off to the nearest one hundredth). Since months cannot consist of half days, the months of the Hebrew Calendar are alternately assigned 29 and 30 days. This sequence of 29 and 30 days works very well to keep the months aligned with the new moons.

Based on the average lunar cycle of 29.53 days, a 12-month year will have 354.36 days (12 x 29.53). As the monthly average of 29.53 days is attained by a combination of 29 and 30-day months, so the yearly average of 354.36 days is attained by a combination of 353, 354 and 355-day years.

These three year lengths keep the calendar aligned with the movement of the moon, but they cannot keep the calendar aligned with the seasons of the solar cycle. Lunar years that are 353 to 355 days in length are 10 to 12 days shorter than solar years.

If the Hebrew Calendar consisted only of 12-month years, all the annual feasts of God would drift farther and farther from their correct seasons. To prevent this from happening, the calendar uses intercalation. Intercalation is the process of adding a 13th month every 2 or 3 years. The result is a combination of 12-month “common” years with 353 to 355 days and 13-month “leap” years with 383 to 385 days. There is a fixed cycle of 12 common years and 7 intercalary years in each period of 19 years, producing an average of 365 days per year.

Adding a 13th month to the end of a year does not change the length of the holy day season, which begins in the first month of the following year. In every year, there are 177 days from the new moon of the first month to the new moon of the seventh month. The new moon of the seventh month is the pivotal point for calculating the holy days for the year.

The Hebrew Calendar calculates this moon first, and then counts back to the new moon of the first month. This procedure is supported by the decree of God in Psalm 81 concerning the new moon of the seventh month. The word “testimony” in Verse 5 is translated from the Hebrew *aydooeth* and is elsewhere used of the Ten Commandments, which were inscribed in tables of stone by the hand of God. In like manner, the calendar that God delivered to Moses was a written decree for calculating His appointed times. In ancient Israel, the blowing of the trumpet on the first day of the seventh month was a proclamation of the “New Moon of the Year”—so named because it determines the beginning of all the months of the year.

Since the first day of each month is a new moon, the fifteenth day of each month is a full moon. This is the time that God appointed to begin the Feast of Unleavened Bread in the first month and the Feast of Tabernacles in the seventh month. The

timing of these feasts is the primary focus of the calculations of the Hebrew Calendar. The calculations aim for the best illumination of the moon for the arrival of these two major feasts of the year.

It is not possible to achieve 100% illumination in every year due to variations in the lunar cycle. Despite these variations, the calendar has maintained an average of more than 99% illumination for thousands of years. No lunar calendar designed by man has ever survived the test of time.

The Hebrew Calendar requires many more calculations than our modern solar calendar. Due to the many variables in the lunar cycle, it is necessary to use complex mathematical averages to calculate the months and years. Because the lunar year is shorter than the solar year, 13-month years are needed to keep the holy days in their appointed seasons. While these calculations provide accurate dating in most years, there are years when the variables in the lunar cycle require additional adjustments to the calendar.

In such years, the calculated dates are corrected by mathematical formulas that keep the calendar precisely on target for observing the holy days. These mathematical formulas are expressed in simple terms as the Rules of Postponement. These four rules are applied when the calculations that are based on averages place the new moon of the seventh month too early, which would cause the holy days to be observed before their appointed times.

God in His wisdom set the sun and moon in their positions expressly for the purpose of establishing His appointed times. Foreseeing every circumstance that would arise with the passing of time, He made provision for all irregularities to be corrected when He gave instructions to Moses for calculating His feast days. This revelation was committed to His people for all time.

Regardless of their unfaithfulness, God has preserved the Hebrew Calendar through them. Although they have changed their observance of the Passover and the Feast of Pentecost, they have retained all the calculations of the Hebrew Calendar. Paul's letter to the Romans confirms this truth:

What advantage then hath the Jew? ... Much every way, chiefly, because that unto them were committed the oracles of God. For what if some did not believe? Shall their unbelief make the faith [faithfulness] of God without effect? (Rom. 3:1-3.)

The Hebrew Calendar is the same today as it was in the days of Noah, Abraham, Moses and all the prophets of the Old Testament. It is the calendar that Jesus and His apostles followed. It stands as a testimony to the faithfulness of God in our time, and it will remain in effect during the coming reign of Christ (Isa. 66:23, Zech. 14:6).

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July 31, 2014

Article 5

Understanding the Postponement Rules

Determining the Beginning of the Month

The months of the Hebrew Calendar are set by the lunar cycle, which begins with a sliver-thin crescent that has an illumination percentage a few points above zero. It is formed at the point of conjunction when the moon appears to be enveloped in total darkness. At this point, however, a very narrow arc of light is exposed along one edge. This narrow arc of light is the new moon.

Too faint to be visible, the new moon is portrayed on calendars as a black circle. However, its existence as a formed crescent has been scientifically demonstrated.¹

¹ Although the new moon is typically depicted as a black circle its actual phase is a very thin crescent, because the moon does not pass directly in front of the sun (except during a solar eclipse). On July 8, 2013, French astrophotographer Thierry Legault successfully photographed the new moon, although the crescent itself was not visible to the unaided eye. (Wikipedia, s.v. “New Moon”)

Because the new moon cannot be sighted until it has been waxing for one to three days, it must be determined by calculation. This is the reason for the mathematics of the Hebrew Calendar.

To calculate the time that the new moon will occur, the calendar uses a formula based on the average lunar cycle. The calculated date is called the molad (the Hebrew word molad, or moled, means “renewal”). The term “molad” clearly identifies the new moon with the renewal of the lunar cycle at the time of the conjunction.

Correctly identifying the new moon as the crescent that is formed at the beginning of the lunar cycle is essential for the observance of God's holy days at their appointed times. Counting from the first day of the lunar cycle ensures that the moon will be full on the fifteenth day of the month as ordained by God in Leviticus 23 and Psalm 81:1-3.

Since the full moon occurs midway through the lunar cycle, in an average cycle it will fall at 14.765 days—about five and a half hours before sunset beginning the 15th day. In a cycle that is shorter than average, it may fall from six to twelve hours before the 15th begins. In an average cycle the full moon occurs at 22 minutes past noon on the 14th, but in a shorter cycle it occurs on the morning of the 14th. In either case, it is at or near 100% illumination when it rises on the eve of the 15th.

The calculations of the Hebrew Calendar are designed to provide the best possible illumination for the beginning of the Feast of Unleavened Bread on Nisan 15 and the Feast of Tabernacles on Tishri 15. Relying on the visible crescent to set the beginning of the month will in most years delay the observance of these festivals until the 16th day of the lunar cycle, after the peak period of illumination has passed.

Although the Hebrew Calendar consistently provides the best illumination for Nisan 15 and Tishri 15, it is not possible to achieve 100% illumination in every year due to variations in the length of the lunar cycle. The average length of 29.53 days includes cycles that range from 6 hours shorter to 7 hours longer. In some years the peak period of illumination does not coincide perfectly with the 15th day. Despite these variations, the Hebrew Calendar has maintained an average of more than 99% illumination for thousands of years.

Calculating the Molad of Tishri

Although each month in the Hebrew Calendar begins with a molad, the focus of the Hebrew Calendar is the calculation of the Molad of Tishri. Calculating the Molad of Tishri is the first step in determining the date of Tishri 1, which sets the holy days for the entire year. The fact that in every year there are exactly 177 days from Nisan 1 to Tishri 1 makes it possible to count backward to the beginning of the holy day season. In years when additional days are needed to keep the calendar synchronized with the movement of the sun and the moon, these days are added before Nisan 1 so that the holy days never shift from their appointed times.

The Hebrew Calendar, designed by God Himself, has a proven method for synchronizing the lunar year with the seasons of the solar year. It accomplishes this by the process of intercalation, producing leap years as needed to keep pace with the longer solar year. Because the lunar year is 11 days shorter than the solar year, a 13th month is added in a fixed cycle of 7 out of 19 years to prevent the holy days from drifting out of their seasons. Adding a 13th month does not affect the weekly cycle of days, which remains unchanged from sunset to sunset, serving as a primary consideration in the declaration of Tishri 1.

Adjusting the Calculation of the Molad to the Correct Day of the Week

The calculation of the Molad of Tishri, which is based on the average lunar cycle, does not always fit the actual movement of the moon. The mathematical formula that is used for calculation allows the Molad to fall on the morning or afternoon of any day in the week, but the movement of the moon prevents the renewal of the lunar cycle from taking place on certain week days. There is a forward progression in the week from one year to the next that limits the first day of Tishri to specific days and specific times of day.

In 39 years out of 100, the calculation of the Molad will arrive at the correct day for the first day of Tishri. In the 61 years when the day calculated for Tishri 1 is not accurate, the date must be adjusted. The Postponement Rules are the mathematical principles that God established to make this adjustment.

The Postponement Rules take effect when the date calculated for the declaration of Tishri 1 does not fit the actual time of the new moon. In such years, the calculated date is adjusted by the application of one or more of the Postponement Rules to keep the calendar precisely on target for the holy day that begins the month of Tishri and sets all other months in the year. (The mathematical basis of the Postponement Rules is explained in the article “The Hebrew Calendar Made Simple” © Dwight Blevins. This article is freely available upon request.)

God in His wisdom placed the sun and moon in their positions expressly for the purpose of establishing His appointed times. Foreseeing every circumstance that would arise with the passing of time, He made provision for all irregularities to be corrected when He gave instructions to Moses for calculating His feast days. This revelation was committed to His people for all time and is preserved in the Calculated Hebrew Calendar.

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June 5, 2015

RULE ONE

When the Molad of Tishri or advancement occurs on a Sunday, Wednesday, or Friday, the declaration of Tishri 1 is advanced one day to a Monday, Thursday or Saturday (Sabbath) respectively.

RULE TWO

When the Molad of Tishri occurs at noon (18 hours 0 parts) or later, the declaration of Tishri 1 is advanced to the next day.

RULE THREE

When the Molad of Tishri of a common year falls on Tuesday, at or after 9 hours and 204 parts, the declaration of Tishri 1 is advanced to Wednesday. The application of Rule One advances the declaration one more day to Thursday.

RULE FOUR

When the Molad of Tishri of a common year immediately following an intercalary year occurs on a Monday, at or after 15 hours and 589 parts, the declaration of Tishri 1 is advanced to Tuesday.

Article 6

The Calendar of Noah

In light of the recent unprecedented floods in the Midwestern United States, I decided to review the account of Noah's flood in Genesis 7 and 8. This study resulted in bringing to my attention the very detailed recording of the passage of time as the events of the Flood took place. These events are given to us as inspired by Christ, the Word, in a chronology of days and months through which God reveals a system for measuring time that parallels the present calculations of the Hebrew Calendar.

A number of assumptions have been made about how time was measured when the events in the book of Genesis took place, the most prominent being that a year was comprised of twelve 30-day months. According to this view, the forty-two months and the 1260 days that are prophesied in Revelation 11:2-3 are identical. It should be noted, however, that the 42 months of the prophecy in Revelation 11 represent the period of time of the treading down of the Holy City while the 1260 days represent the period of time that the two witnesses prophesy. Neither the assumption that there were originally only 30-day months nor the premise that the moon's orbit originally matched the yearly cycle of the sun is verifiable by this scripture.

Many believe that both of these conditions existed at the creation of the world but that through the passage of time and events the relationship of the sun and moon to the earth was altered, giving us the average lunar month of 29 days, 12 hours, 44 minutes, and 3 $\frac{1}{3}$ seconds. However, a study of the scriptural account of the Noachian Flood will demonstrate that the moon's orbit has never changed. The irregularity of its orbit does not allow a calendar with the same number of days in each year.

The rather wobbly orbit of the moon periodically requires the addition of one or two days to the year to keep the months aligned with the phases of the moon, and the length of the moon's orbit periodically requires the addition of a thirteenth month to the year to align the calendar with the solar seasons in order to keep the holy days of God at their appointed times. This intercalary month is necessitated by the yearly cycle of the sun, which is longer than the lunar cycle. All moon-based calendars, including those based on moon sighting, require some type of intercalation in order to prevent seasonal shifting.

In the Hebrew Calendar, the length of the year is regulated by an established intercalary cycle and by four mathematically-based rules of postponement. When neither intercalation nor postponement is needed, the year is composed of six 30-day months and six 29-day months, which makes a year of 354 days. However, many years have a greater number of days due to the need for intercalation or postponement to align the calendar with the actual positions of the sun and the moon. The necessity to adjust the calendar to the orbits of the sun and moon results in six different lengths of years: defective common years with 353 days, regular common years with 354 days, excessive common years with 355 days, defective leap years with 383 days, regular leap years with 384 days, and excessive leap years with 385 days.

Knowing the number of days in a specific year enables us to determine whether or not intercalation or postponement was needed that year. Some years may require both processes in order to keep the calendar in time with the movements of the sun and moon. The excessive leap year of 385 days occurs only when both intercalation and the rules of postponement are applied.

This fact has great bearing on the chronology of days and months in the scriptural account of the Noachian Flood. If the chronological record reveals that the year of the Flood was 385 days in length, it is unequivocally established as an excessive leap year and demonstrates that the calculations of the Hebrew Calendar were in effect many centuries before Moses received them from God. Let us examine the scriptural account of the Flood.

Genesis 7:11: “In the six hundredth year of Noah’s life, in the second month, the seventeenth day of the month, on that day all the fountains of the great deep were broken up, and the windows of heaven were opened.” This verse gives us the starting day of the Deluge: the seventeenth day of Iyar, the second month. The fact that the Noachian Flood began in the second month of the year tells us that it was the season of spring.

Some may question this statement in the belief that the seventh month, Tishri, should start the year. They may even claim that Adam and Eve had to have been created in the fall of the year in order for them to have food to eat. But the garden was tropical, or semi-tropical, producing food throughout the year. Moreover, the calendar that God delivered to Moses clearly began in the spring of the year.

Exodus 12:2: “This month shall be your beginning of months; it shall be the first month of the year to you.” God gave Moses specific instructions for determining the beginning point of the year. This is the first of many scriptures designating the time that God ordained to start the year.

It should be noted that at this time Moses was not in Jerusalem but in the land of Goshen. According to some, Jerusalem is the only geographical area from which to sight the new moon of the first month. In addition, when God gave His instructions to Moses, the first month had already begun. As the new moon had already arrived, it was too late for Moses to determine the beginning of the year by observation. Instead, Moses received instructions from God for determining the months of the year by calculation.

According to the calculations of the Hebrew Calendar, the first month of the year is composed of 30 days. The account of the Flood states that the forty days of rain started on the seventeenth day of the second month, revealing the passage of 46 days from the first day of the year to the beginning of the Flood. Genesis 7:11: “In the six hundredth year of Noah’s life, in the second month, the seventeenth day of the month, on that day all the fountains of the great deep were broken up, and the windows of heaven were opened.”

The breaking up of the fountains of the deep depicts massive earthquakes releasing immeasurable quantities of water, producing incredible tsunamis and storms of violence that modern man has never witnessed. No man-made shelter could have withstood the enormity of the violence that passed over the face of the earth. Verse 12: “And the rain was on the earth forty days and forty nights.”

This verse records that the initial length of the outpouring of water was forty days, and Genesis 7:17 confirms it: “Now the flood was on the earth forty days. The waters increased and lifted up the ark, and it rose high above the earth.”

Note that it was the accumulation of water during the forty days that resulted in lifting the Ark high above the earth. The description in Verses 17 through 23 is relating what took place as a result of the forty days of rain and the breaking up of the fountains of the deep. At the end of forty days, the Ark was fifteen cubits above the highest mountain (v. 20).

Genesis 7:24: “And the waters prevailed on the earth one hundred and fifty days.” The basic meaning of the Hebrew word that is translated “prevailed” is to be “strong, mighty” (Brown, Driver and Briggs, p. 149). The waters did not prevail over the earth on the first or second day of the Flood. They prevailed at the end of the forty days when the Flood reached its maximum depth, making the one hundred and fifty days of prevailing consecutive to the forty days of rain. Both periods of time need to be included in order to determine the total length of time of the events of the Flood.

As recorded in the scriptural account, God did not allow the level of the Flood waters to drop until they had prevailed for one hundred and fifty days. He prevented this by sending additional rain and by bringing up waters from the fountains of the deep. God caused the waters to continue for one hundred and fifty days to maintain the level at fifteen cubits above the highest mountains. This ensured the death of all air-breathing life on land.

Genesis 8:1-3: “Then God remembered Noah, and every living thing, and all the animals that were with him in the ark. And God made a wind to pass over the earth, and the waters subsided. The fountains of the deep and the windows of heaven were also stopped, and the rain from heaven was restrained. And the waters receded continually from the earth. At the end of the one hundred and fifty days the waters decreased.”

These verses describe the process by which God began to dry up the Flood waters. This process continued for an extended period of time as demonstrated by the word translated “decreased” or “abated” 2637 at the end of Verse 3. This word is used in the account to describe the removal of the waters from the flooded earth. Gesenius gives the following definition of this word: “(1) To be devoid of anything, to lack, to be without, followed by an accusative.” As we continue to examine the scriptural account, we will learn the exact length of time that it took for the waters of the Flood to recede and the ground to become dry.

Genesis 8:4: “Then the ark rested in the seventh month, the seventeenth day of the month, on the mountains of Ararat.” This verse gives the impression that the Ark settled down on the mountains of Ararat because the waters had started to decrease. However, for the Ark to rest on the ground would have required the depth of the water to have fallen considerably. The highest mountains were covered to a depth of fifteen cubits—not a great depth until you consider that fifteen cubits of water above Mt. Everest at 29,000 feet would make a depth of more than two miles above Mt. Ararat at 17,000 feet.

In addition, consider that the date given for this occurrence, the seventh month, the seventeenth day, was only 194 days into the six hundredth year (Nisan 1 through Tishri 17). However, the scriptural account records that 236 days of that year had passed before God started to dry up the Flood waters (46 plus 40 plus 150 equals 236). If you figure that the forty days of rain were part of the 150 days, the total would still be 196 days before the waters began to decrease. It was therefore impossible for the Ark to have been lodged on the ground on the seventeenth day of the seventh month as the waters had not yet begun to decrease.

What then is the meaning of the word “rested” in Genesis 8:4? The word “rested” 5117 is describing a stopping of movement or activity. The same Hebrew word is used in Exodus 20:11: “God rested on the seventh day.” His activity or movement ended.

The use of this word in Genesis 8:4 tells us that the Ark remained immobile at a specific location. It was no longer rolling and plunging through churning, turbulent Flood waters. The winds that had driven it ceased to blow, the waves subsided, and the waters surrounding the Ark became calm and placid. The Ark came to a stop as if God had anchored it above the tops of the mountains. God maintained the location of the Ark at Mt. Ararat not because it was physically stuck but because God wanted it there. It did not settle upon the ground until after the waters had fully abated from their two-mile depth above Mt. Ararat.

The scriptural account reveals that the decreasing of the waters took place gradually over the remaining months of the year. To determine the total passage of time in the account of the Flood, it is necessary to know the exact date that the last of the waters dried up. This date is recorded in Genesis 8:13: “And it came to pass in the six hundredth and first year, in the first month, the first day of the month, that the waters were dried up from the earth; and Noah removed the covering of the ark and looked, and indeed the surface of the ground was dry.” This verse tells us that the waters were dried up on the first day of the six hundredth and first year, and Noah’s removal of the covering confirmed this fact. This state of dryness was reached exactly one hundred and fifty days from the time that the waters had ceased to prevail.

It should be noted at this point that counting the initial forty days of the Flood as part of the one hundred and fifty days of the waters prevailing would make the six hundredth year only 345 days in length (46 days to the beginning of the Flood plus 150 days of the waters prevailing plus 150 days of the waters decreasing equals 346 days, minus 1 day for the first day of the 601st year equals 345 days). There is no yearly cycle, either calculated or observed, that would fit a 345-day year. This fact confirms that the 40 days of rain and the 150 days of the waters prevailing were two separate periods of time, just as the 150 days of the waters abating were separate from the 150 days of the waters prevailing.

These three periods of time extended from the second month of the six hundredth year of Noah's life to the first month of his six hundredth and first year. Genesis 8:13: "And it came to pass in the six hundredth and first year, in the first month, the first day of the month, that the waters were dried up from the earth; and Noah removed the covering of the ark and looked, and indeed the surface of the ground was dry."

This verse states that on the first day of the first month all the Flood waters were gone and the earth was dry, but the scriptural account extends beyond this point. Genesis 8:14: "And in the second month, on the twenty-seventh day of the month, the earth was dried." This verse may seem to contradict the preceding verse, but the word used in Verse 13 to describe the dryness of the earth does not have the same meaning as the word used in Verse 14. The Hebrew word that is translated "dried" and "dry" 2717 in Verse 13 is *chareb*. However, the Hebrew word translated "dry" 3001 in Verse 14 is *yabesh*.

Gesenius notes that these two Hebrew words represent different levels of dryness. The first denotes an absence of water, and the second represents a condition more akin to that of a lack of moisture, or withered. Verse 13 depicts a condition of no standing water whereas Verse 14 is describing dry soil that is no longer saturated. This stage of dryness was reached 56 days after the Flood waters dried up.

The account records that Noah remained in the Ark until the earth reached this second stage of dryness. There was good reason for waiting to leave the Ark until the soil had dried. If Noah had released the animals before the ground was dry, the elephants and other large animals might have gotten bogged down and entrapped in mud.

After the withdrawal of the Flood waters and drying of the ground, the earth was prepared to receive the survivors of the Flood. They had entered the Ark on the seventeenth day of the second month in the six hundredth year of Noah's life. Below is a computation of the number of days that passed in the year of the Flood.

Gen. 7:11	Flood begins on 17th day of 2nd month (30 days in the 1st month plus 16 days in the 2nd)	46 days
Gen. 7:12	Rain for 40 days and 40 nights	40 days
Gen. 7:24	Waters prevail	150 days
Gen. 8:3	Waters abate	150 days
		Total: 386 days
Gen. 8:13	Water dried on first day of the next year	-1 day
Total:	385 days	

The chronological facts that are recorded in the account in the book of Genesis clearly establish a period of 385 days in the year of the Noachian Flood. This year length is significant because it is the exact number of days required for an excessive leap year in the Hebrew Calendar. This remarkable account of the Flood, which God inspired to be recorded in his Word, is indisputable evidence that the Hebrew Calendar bears His stamp of approval. There can be no doubt that the calculations of the Hebrew Calendar have been the basis of God's true calendar from the beginning.

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August 26, 2008