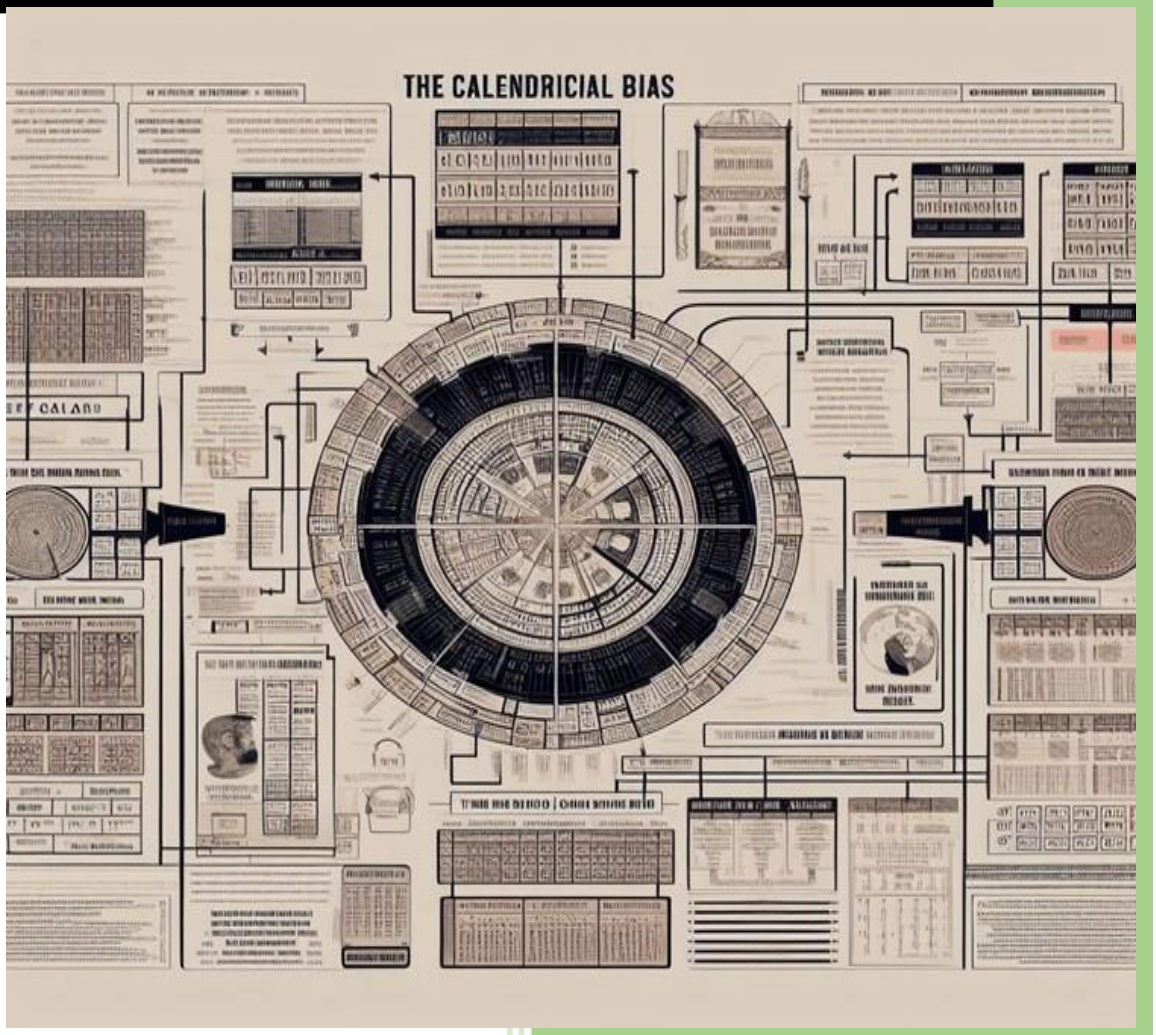
A Calendar Bias for Biblical Time



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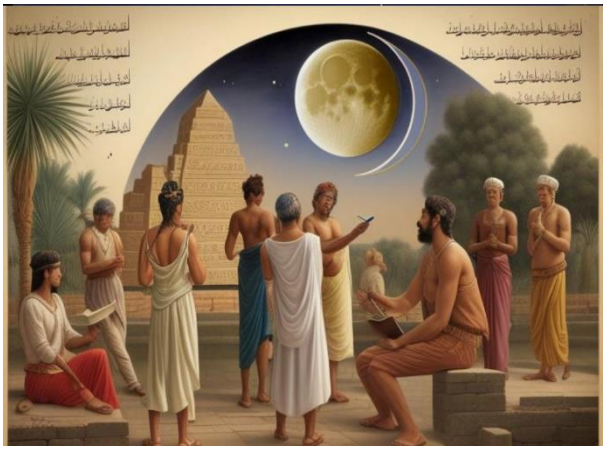
INTRODUCTION

In this modern age, society has become a world of numbers. Most of us have grown accustomed to seeing life as a series of equations, applying mathematical science to each variable - meticulously calculating and accounting for everything we come across. Man's need for order and precision has seemed, to most, a saving grace propelling us far beyond the ancient, medieval times. Math seemingly provides order to chaos and has made us comfortable knowing that the world around us is not as unknown as we once feared.

Math has also been used to measure and define *time* itself - seconds, minutes, and hours. From the smallest measurement of *zeptoseconds* (one sextillionth of a second) to the largest *mega-annums* (one million years), we have now defined time in terms that contribute to our overall vernacular, helping us describe and reference specific points within time - past, present, and future. Math has also been used in the creation of systemic timetables, or calendars, that serve as both a graphical and mathematical series of 'boxes' that help represent days, months, and years. Calendars help us to standardize and manage both civil and religious observances, provide context to historical events, and help measure and compare timeframes within scientific applications for both consistency and reliability. Because of calendars, we are able to plan for an activity that will take place three days, three years, or even three hundred years from now and we can be in unison with others who use the same calendar system - allowing all of us to be in unity with one another. Today, we rely on this unity by having calendars available on our cell phones or by using printed versions hanging on our fridge or lying on our desktops. Without calendars, most of us would likely feel unorganized or even lost at times.



Calendar systems have also evolved and developed over the centuries. Archeologists have reconstructed such methods of timekeeping as far back as the Neolithic period during the Stone Age - believed to be some 10,000 years ago[75]. The most notable formulized schemes used for timekeeping began in the Bronze Age (between 3300 and 1200 BC). One of the first known calendar systems was the Sumerian calendar, which originated in Babylonia. This ancient system was closely related to the astronomical observations of the moon and lasted an average of 354 days in length (an 11-day variance from the solar year of 365 days). Over time, man has made more and more tweaks, with today's 'de facto' system being the Gregorian calendar. The infancy of this system was first introduced in 1582 as a tweak to the Julian calendar that began as a required edict by Julias Caesar back in 45 BC. The Julian calendar system was fashioned with the aid of both Greek mathematicians and astronomers and its foundation has continued to help shape our own concepts of time today.

Biblical Significance

When it comes to the Bible, time is an important factor to consider - not just because of the many historical events that have taken place and are documented within its pages, but because we are commanded by God Himself to vigilantly observe and recognize particular days throughout the year. These Festival days are spelled out at the time of Moses in Leviticus 23. Therein contains the list of days that Yehovah's followers (the proper Hebrew name of God) were to observe from generation to generation. For example, verses 4-8[1] describe *Passover* and the *Feast of Unleavened Bread*:

> *"'These are the feasts of the LORD, holy convocations which you shall proclaim at their appointed times. On the fourteenth day of the first month at twilight is the LORD's Passover. And on the fifteenth day of the same month is the Feast of Unleavened Bread to the LORD; seven days you must eat unleavened bread. On the first day you shall have a holy convocation; you shall do no customary work on it. But you shall offer an offering made by fire to the LORD for seven days. The seventh day shall be a holy convocation; you shall do no customary work on it.'"* {Underlined emphasis added}

A total of seven days a year are specified, in addition to the weekly Sabbath, as being feasts of Yehovah in which we were to have holy convocations. These feasts, referred to as *mow`ed* (Strong's 4150[3]) in Hebrew, mean:

> *"appointed time, place, or meeting"*

These seven days are, therefore, more appropriately translated as *appointed* days and were to be considered as set apart (holy) from all other days. They acted as a scheduled meeting we should keep with God Himself by gathering together in a *convocation*, or "rehearsal" (*miqra* - Strong's 4744[3]). These are the days God's assembly of followers gather together to meet with Yehovah God. He is the one that sets the time and it is our responsibility to assure we're there when He asks. Additionally, when we actively keep these appointments with Him and actively practice His law (Torah), we come to a fuller and more complete understanding of just what these days represent - the overall plan of salvation for humanity. The details of what each of these days represent is a topic for another time. However, these appointed days have continued to be observed for thousands of years, even up through the generation of *Yeshua the Messiah* (or Jesus Christ), where we are told that He and His apostles also observed these important dates. Furthermore, these festivals, or appointments, are specifically described as being kept by all nations throughout the world into the future coming Kingdom of God here on Earth. We are told this in Zechariah 14:16-19[1]:

> *"And it shall come to pass that everyone who is left of all the nations which came against Jerusalem shall go up from year to year to worship the King, the LORD of hosts, and to keep the Feast of Tabernacles. And it shall be that whichever of the families of the earth do not come up to Jerusalem to worship the King, the LORD of hosts, on them there will be no rain. If the family of Egypt will not come up and enter in, they shall have no rain; they shall receive the plague with which the LORD strikes the nations who do not come up to keep the Feast of Tabernacles. This shall be the punishment of Egypt and the punishment of all the nations that do not come up to keep the Feast of Tabernacles."* {Underlined emphasis added}

Today, there are many individuals who continue to recognize these days. They do so not just for the sake of tradition (as some Jews do today), but because they have studied the Bible and have chosen to live a life according to its principles and direct instruction. These days - which include the weekly Sabbath and annual Holy Days - are appointments that many find exceptionally important, myself included! Even Yeshua claimed these days would continue to be valid up until the time heaven and earth pass away (in Mathew 5:17-19[1]):

> *"Do not think that I came to destroy the Law* (Torah) *or the Prophets* (Writings). *I did not come to destroy but to fulfill. For assuredly, I say to you, till heaven and earth pass away, one jot or one tittle will by no means pass from the law till all is fulfilled. Whoever therefore breaks one of the least of these commandments, and teaches men so, shall be called least in the kingdom of heaven; but whoever does and teaches them, he shall be called great in the kingdom of heaven."* {Underlined emphasis added}

When one decides to keep these days, the next question becomes when exactly do these days take place? Because of the unique significance these days represent, many will often attempt to choose or define for themselves a calendar system - or mathematical timetable - in hopes of standardizing when these events take place from year to year. Just as we utilize the Gregorian Calendar system today, the hope is that everyone (at least everyone who uses the same system) can all be in unison - keeping these days together at the same time throughout the world. It is also hoped that such a calendar system can help predict exactly when these dates will take place in the future (and determine when they were kept in the past).

For many, the 'de facto' calendar system used to determine when these Biblical dates are kept is the Hebrew calendar. Mostly used by the Orthodox Jewish community, this lunisolar calendar consists of months that are either 29 or 30 days in length that begin and end at approximately the time of the new moon. Its construction is very similar to that of the Sumerian calendar, which originated in Babylonia thousands of years ago. This is because in Biblical times, months were determined by the lunar cycle.

Just as we are comforted relying on our cell phone-based appointment books today, many also rely on the Hebrew calendar to know when to keep God's festival days. Again, this is because using such a system helps to bring unity and predictability for what may otherwise seem like anarchy and chaos. When questioned for its accuracy, many who attempt to verify the mathematics behind such a system can be daunting. However, is it entirely possible that man's reliance and faith put into this calendar system (or others) has simply become a comfort and bias?

What Is Bias?

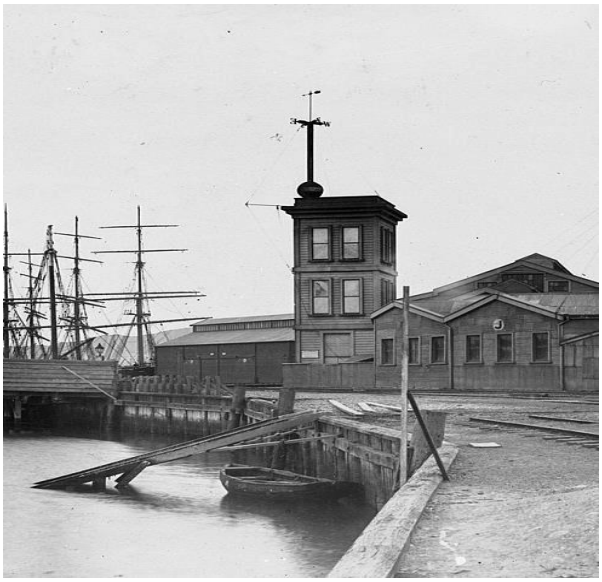
A bias is a mathematical term used within the study of statistics and suggests a distortion from fact (usually due to a missing component that was not originally considered). Bias can also mean a disproportionate weight in favor of, or against, a particular idea or thing - in other words, being closed-minded, prejudicial, or one-sided and becoming blind to certain components that are also not fully considered. From a behavioral perspective, biases can be instinctive, but many are learned over time.

Has our reliance on predetermined calendars caused our judgement to become clouded by reality itself, blinding us from the beauty of life's seemingly messy complexity? Or worse, are they keeping us from seeing the simplicity originally intended by the Creator of all things - God Himself? Perhaps we have only succeeded in recreating God's original design, forcing time into these conjectural boxes of mathematical equations and systemic rules to the point that we now only rely solely on man's interpretations of these things? Do we really believe that following a calendar, somehow, makes us more superior and exact to the reality that surrounds us, or could we be off from how Yehovah God Himself defines time?

This is not to say that using mathematics and timetables is inherently evil. However, when we begin to put all our faith and dependence on man's interpretations, we can begin to lose sight of what the original intention was behind these artificial creations of man.

For example, *time* used to be measured by the movements of the sun itself. As far back as antiquity, time was determined by sundials. These instruments were designed for determining the hour of the day based on the sun's shadow that projected onto a set of lines marked on the ground indicating the current hour. Later, a wonderful invention, called a clock, helped measure days in exact 24-hour increments. While the clock did not use the sun directly, it still required one to synchronize the time, which was usually set to the sun. In fact, many towns had what are sometimes called *time balls* to help keep watches in synch. Most of us are familiar with the famous time ball in New York's Times Square that is traditionally dropped every New Year's Eve. One of the first *time balls* was located at the Royal Greenwich Observatory in 1833 outside of London, England, and would be dropped daily at 1pm to indicate to boats on the River Thames the time and captains would then synch their chronometers to this event[76]. Unlike the Times Square ball, though, the time was marked when the ball began to descend the pole and not when it reached the bottom.

In the United States, *time balls* would traditionally begin to drop at *High Noon* (when the sun was directly overhead)[79] and would indicate to everyone to set their clocks to 12:00pm. The term *High Noon* became popular in the Old West as it was the infamous time of day to schedule a gunfight. Various towns and communities across the nation depended on these types of tools



Wellington Waterfront Shed J Wool store showing Accumulator tower with time ball on approach to railway wharf near Waterloo Quay prior to tower burning down c.1909 [Public Domain]

US Naval Observatory (Washington, District of Columbia) featuring original time ball [Public Domain]

that were directly linked to the observation of the sun. That is until the railroad system became a factor.

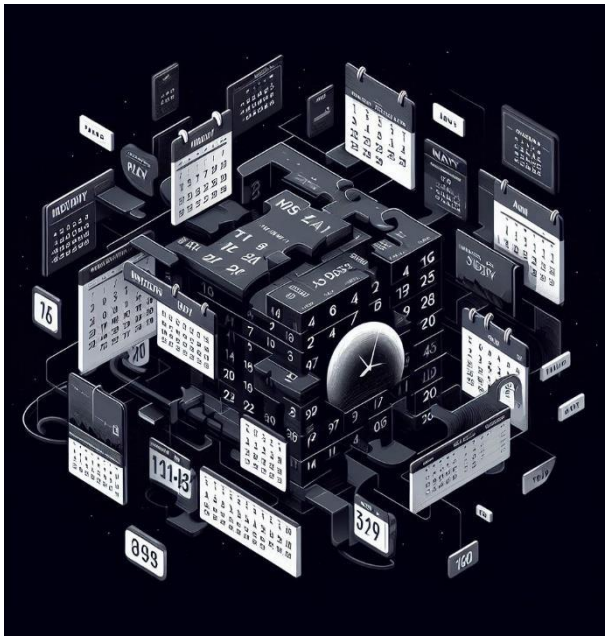
As towns progressed, people began travelling longer distances via train, and they needed to know the time of day when trains would be arriving and departing. The problem was each town had its own local observation of time, causing other towns at greater distances to be out of synch with one another. If a passenger left one town at 12:00pm local time and travelled for 10 hours to another town 500 miles west, they would expect the time of their arrival to be at 10:00pm. However, they would likely find that the locals claimed it to only be 9:28pm instead. This is because they had observed High Noon at that location 32 minutes later than the other town.

This led to the use of standardized time zones. First proposed by Sir Sanford Fleming back in 1878[77], the idea of time zones was to divide the world into 24 zones, each being 15 degrees of longitude apart from one another. This is because the earth rotates this distance every hour for a total of 360 degrees in 24 hours. Praised as a sensible, mathematical solution to a seemingly muddled issue, the railroad adopted this system in the United States in 1883.

It is at this point that clocks were no longer being set based directly on the sun itself. While it is true that 12:00pm was approximately around the time of High Noon, it was no longer inherently linked. Eventually, people became conditioned to associating Noon with 12:00pm on a clock rather than looking at the sun itself. This 'disconnect' became even more apparent with the introduction of a new rule called Daylight Savings Time [78]. This concept began in the United States in 1966 and was widely adopted during an energy crisis. The idea was to *postpone time* by advancing the clocks one hour during the warmer months so that darkness began later on the clock. The result further disassociates what we perceive 12:00pm as having anything to do with the sun at all.

Today in our modern world, we now rely solely on clocks to tell us the time of day. Most of us don't even pay attention to the movement of the sun to tell time any longer. This is an example of how our bias has changed and why it affects how we translate time. Our systemic approach of using clocks and time zones, we believe, makes us more precise and practical. It brings unity to the masses and makes old-fashioned observations seem archaic, unpredictable, and downright wrong. But if we consider that time *should* relate to the movement of the sun, what time used to be based upon, our systemic approach is anything but *precise*. Yes, we are all in unison using clocks and time zones, but we are all united in error when it comes to being in synch with the sun itself.

Even in the Bible, the sun was vital for measuring the day. We are told the amazing story of Joshua's *Long Day* in Joshua 10 where he, while fighting the Amorites at Gibeon, prayed to God to extend the day to assist them in their battle. God obliged and doubled the length of the day by halting the movement of the sun in the sky (essentially stopping the earth from rotating on its axis). Imagine, for a moment, if Joshua and his army wore watches back then. Would they have just accepted the new time that their watches reflected after this miraculous event, or would they have re-synched them to be more in line with the new rotation of the sun?



The reliance we put on the mathematical concepts of time has completely replaced our observation of celestial objects, meaning we have conditioned ourselves to be biased toward these mathematical systems rather than observing the sun itself. So much so, in fact, that we could care less when additional rules postpone time even further to help save energy, for example - as long as everyone is in synch.

The fact is that the Hebrew Calendar (and other such timetables) use similar mathematical tricks and rules that end up disassociating them from the reality one can observe in the sky. Yet most of us have been conditioned to prefer these calendrical systems because we consider them to be more accurate, are more predictable, and we are comforted knowing we are in unison with everyone else who use the same thing. Therefore, we apply a calendrical bias (or as we will refer to as having a *calendar bias*) to determine when to keep the Biblical Holy Days throughout the year, even though they should be based directly on the movements of the moon.

The ultimate question is, why should we care? When we begin to study the Bible, it's important to realize that the biases, around the time when the Bible was written, were much different than our biases today. Using our example of clocks, if God said He wanted to make an appointment with us at a particular location at Noon - sharp - would we rely on our bias of the sun being directly above our heads to determine when that appointment took place or would we, instead, use our modern bias of relying on our watches to show us when it was 12:00pm? Today, where I currently live and thanks to the Daylight Savings rule, High Noon takes place as early as 12:10pm for me in November and as late as 1:36pm in March. That's an 86-minute variance

throughout the year! If I wanted to meet with God at noon, as He commanded, and I showed up at 12:00pm on my clock, would I miss that appointment? Perhaps the actual time had already passed, or perhaps it's still 86 minutes away? If the bias I used was so engrained into my way of thinking, would I even know the difference? Perhaps I would simply be disappointed God didn't show up.

This reminds me of the story of the 10 Virgins in Matthew 25. Here we are told of five wise Virgins and five foolish Virgins who took oil lamps to light their way and went out to meet their bridegroom. However, they learned the bridegroom would not show until midnight later that night and the foolish Virgins were running out of oil to continue burning their lamps. When failing to negotiate with the wise Virgins to use their oil, instead, they left to purchase more oil only to return to find the bridegroom had already arrived and had shut the door - missing their opportunity.

If we wish to keep the appointed times with God and do so only using our *calendar bias* to determine time, could we be foolish and miss our opportunity? Throughout history, man's downfall has been our desire to be superior - even beyond God Himself. Much like our bias toward clocks (a *clock bias*) that is no longer directly associated with the sun, our *calendar bias* - used to determine dates - could also cause us to be off from the moon by days - or even a month! How important is this difference to you? Should we strive to be on-time to meet with God on the days He has appointed?

My Story

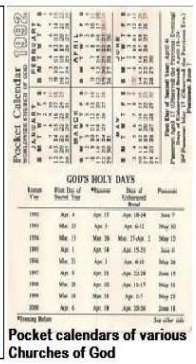
This paper was inspired by my own personal studies and findings regarding the *Biblical Calendar*. It did not involve creating large, complex timelines, researching deep into layers of Biblical prophecy, nor did I have a sudden revelation from the heavens. Rather, it was a desire to answer a very simple question. *How can I determine when to keep the Sabbath and Annual Festivals that are commanded within the Torah* (the first five books of the Bible)?

I have been keeping the Sabbath and Holy days for nearly 40 years in one form or another. In doing so, I know that I have been blessed simply by making these days a priority in my life. I've also learned that it's important that we keep these days with other like-minded individuals. For many years, though, I never questioned <u>how</u> to determine <u>when</u> to keep these specific Biblical festivals. Instead of learning for myself what it really meant in the scriptures when it stated the Feast of Tabernacles began on the "fifteenth day of the seventh month" (as instructed in the above verse), I would instead pull out my wallet-sized pocket-calendar card published by my church organization. My card conveniently listed all the festival dates that corresponded to the Gregorian calendar (which most of us use today to organize our day-to-day lives - especially in the Western World).

GOD'S HOLY DAYS
Philadelphia Church of God

Roman Year	Feast of Trumpets	Day of Atonement	*Feast of Tabernacles	Last Great Day
2012	Sep. 17	Sep. 26	Oct. 1-7	Oct. 8
2013	Sep. 5	Sep. 14	Sep. 19-25	Sep. 26
2014	Sep. 25	Oct. 4	Oct. 9-15	Oct. 16
2015	Sep. 14	Sep. 23	Sep. 28-Oct 4	Oct. 5
2016	Oct. 3	Oct. 12	Oct. 17-23	Oct. 24
2017	Sep. 21	Sept. 30	Oct. 5-11	Oct. 12
2018	Sep. 10	Sep. 19	Sep. 24-30	Oct. 1
2019	Sep. 30	Oct. 9	Oct. 14-20	Oct. 21

*Begins Evening Before



Pocket calendars of various Churches of God

especially in the Western World).

My handy pocket card provided me with all the dates for the next 5 to 10 years from when it was published. It came in very handy whenever I started making travel arrangements or began to ask for time off from school or work. I never gave a second thought to how the card was created - beyond the simple thought that the list was somehow derived from the Hebrew calendar used by the Jews. Even mainstream Gregorian calendars indicate Jewish festival names (*Rosh Hashanah, Yom Kippur*, etc.). It was for this reason that I never really questioned why the Feast of Tabernacles, for example, always fell in either September or October.

It was only after several years of keeping these Feasts that it was pointed out to me that it was the moon that had a correlation to the Holy days, as it was nearly always full when certain festivals began each year. This was, indeed, an interesting discovery to me, but several more years would pass before the first realization hit me that something was amiss. One day, I began searching the internet for a list of church organizations that observed the Biblical Festivals. It came as an even bigger surprise to learn that some church groups were observing these days differently than what showed on my pocket calendar. While a few were one or two days off, some were being held an entire month later. At first, I brushed this off, believing these organizations must not have had a complete understanding of the Feast days themselves. After all, it was in my own experience that my family and I departed from a rather substantial, established organization called the *Worldwide Church of God (WCG)* who, just a few years earlier, began to loosely treat the weekly Sabbath and the Festivals as being *irrelevant* and *old-fashioned*, changing the observation of Festival dates to a more convenient Weekend getaways rather than the full eight days (and more importantly ignoring the first and last days that were to be considered as *High Sabbaths*). Eventually, this organization abandoned keeping them altogether. Perhaps, I thought, these church groups keeping different days were destined for that same path.

It wasn't until my wife and I learned that a good friend of ours, who also had a background in the *WCG* organization and had continued to keep the Sabbath on her own, also kept the Festivals on different dates. It was then I knew that I needed to learn why there was a difference of opinion. At first, I was ready to dive into scripture with the purpose of proving that what I had been practicing for years was correct. Then it dawned on me - I, myself, did not have a clear answer from scripture as to why I kept the dates that I did! I knew that keeping the festivals was important, but I simply could not explain how my pocket-calendar card was created.

At this point, I knew I had to take a step back and approach this subject with a completely open mind - and I started with the Bible. I Thessalonians 5:21 tells us to "prove all things". It's important to always search for the scriptures to prove to ourselves why we believe what He has instructed, as demonstrated by the Bereans in Acts 17:11 who diligently studied the *Old Testament* scriptures daily. We are told to carefully present our beliefs as approved by Yehovah Himself (II Timothy 2:15). In other words, we must use the Bible to prove whether any doctrine or belief is intended by the Heavenly Father! Therefore, if a teaching (or doctrine) is not found or supported within scripture (specifically the Old Testament, built upon the foundation of the Torah itself), then it simply cannot be of Yehovah God! We must diligently strive to obey Him and do what is right in God's eyes - not our own - by listening to His commandments and guarding His laws (Exodus 15:26). This is done using scripture, not following the traditions of man. If those traditions conflict with scripture, something is wrong.

As my research expanded, I quickly learned that this topic has sparked quite a few debates. What surprised me the most, though, was how far back these debates began. While many arguments

exist for one or more calendar methodologies (good or bad), many church organizations tend to treat the topic as a craze or fad that they hope will quickly pass away (if not force one to stop asking questions entirely under the threat of shunning those asking the questions). You quickly learn that the topic of the calendar can become a thorn in the sides of many pastors and teachers. As one minister in a *WCG* splinter group stated, "You don't want to open that can of worms!" This is because many cannot find direct answers to these questions using scripture - some will claim that scripture simply does not address any specifics to a calendar methodology and that the subject was left in the hands of the ancient Jews (as Romans 3:2 claims the Jews hold the Oracles of God). Therefore, the traditional Hebrew calendar is chosen as doctrine for the sake of unity, to please the masses and as recognition of the Jews as having an authority on the subject.

But my research found that even the Jews find fault with the Hebrew calendar and they, too, are split into varying opinions on the subject. It is mostly the strict Orthodox Jews that follow the Hebrew Calendar because of the decrees set forth by their own rabbinical leaders. Therefore, it has simply become a tradition to follow it. Yet even the rabbinical leaders do not deny the fact that the Hebrew calendar's construct is not perfect. Additionally, the documented Hebrew calendar itself never existed, certainly in its current form, until at least the 4th century C.E. and, as we will discover, this system slowly evolved by being tweaked into the modern format kept today with the latest changes being instituted as late as the 12th century C.E. as is proven within its own mathematical construct.

Yet even the biggest surprise to me was when I took a deeper look and learned that the modern construct of the Hebrew calendar contradicts Biblical principles! Much like using a clock to determine when *Noon* takes place rather than looking to the sun, I found that I had been relying solely on the Hebrew calendar to tell me when the first day of the seventh month takes place rather than looking to the moon itself and to fully understand when to properly begin counting months from the start of the year. It was at this point that I knew I had to make a change in how I determined *time* itself when it comes to keeping God's appointments and break away from my *calendar bias* and rely on Yehovah Himself to show me when He ordained them within scripture!

There are many that have come to this same realization. The problem is that many individuals continue to revert to their bias toward calendrical timetables, sometimes by creating their own. They may even create new rules based on their own understanding, or by looking to other calendar systems to find alternative answers. Some will attempt to use Biblical scripture by focusing on specific events that took place and trying to match those up with how dates align with another calendar system entirely. Others turn to complicated astronomical theories that nearly all require mathematical formulas, using modern scientific astronomy, that can only be contrived by NASA experts and are most certainly not described within scripture. All hoping for unity now and into the future believing there must be some answer - perhaps mysterious or undiscovered - that fits all the aspects of Yehovah's calendar. The desire to be exact and unified leads to the belief that looking directly at the sky is too messy and disorganized, being too archaic and less precise! The result is a vast array of different calendrical systems. Although I believe most have the right intentions behind them, we must accept the fact that we have developed an overall bias toward these types of systems. We want to evenly divide time into

equal quintessential boxes in a table representing exact 24-hour days that will allow us to predict, with mathematical certainty, just how long into the future we can plan our lives accordingly and be able to share with others while being in perfect unity.

Summary

The reality is, unless we are told specifically to use math within its instruction, we must be very careful to not assume it should be inserted into scripture and then relied upon as dogma. Deuteronomy 4:2[1] states:

> *"You shall not add to the word which I command you, nor take from it, that you may keep the commandments of the Lord your God which I command you."* {Underlined emphasis added}

Again, this is not to say that math or calendars are evil. However, it can be a challenge to overcome our bias toward their usage. If we can accept the challenge to open our minds - much like the wise Virgins of Matthew 10 - and understand the context of the scriptures themselves, we may come to a completely different understanding of *time* itself. One that is not at all complicated. One that is attainable without requiring a degree in mathematics, physics, or a complete understanding of the universe. Scripture does give us all of the parameters we need to keep our appointments with God at His Festivals each year whenever the time arrives. To fully grasp the concept of Biblical time, we must first put our calendar bias aside and see the scriptures using a pure and simple mind. Unless otherwise instructed to use math or timetables, we must accept an approach that is free of bias and concepts that we have been fashioned to use. As the wise character Yoda stated in the film *Star Wars: The Empire Strikes Back*: "you must unlearn what you have learned."

In this paper, we will use this approach to look at Biblical references to time itself, understand more accurately when to keep our appointments with Yehovah - all using His magnificent, ordained, and observable timepiece in the sky. We will look at specific examples that will provide witness to the method of observation and the counting of days. We will then research documented history to find how the ancients observed a calendar and we will contrast the concepts of scripture against the development of the current Hebrew calendar system, how it is currently constructed, why it was introduced in its current form and how the Jews perceive its usage.

I encourage you to check all references in this paper - especially the Biblical scriptures! Do not simply take my word for it. This subject is an important, foundational element to the Biblical Festivals, and it should be a subject taught to all of Yehovah's children - even the new-born babes just discovering the truth of Yehovah! At what age did you learn about the Gregorian calendar? Do we tell our children today that it's too complicated for them to understand? Understanding Yehovah's time can also be accomplished to those eager to learn - not by becoming a calendar expert or mathematician as some would have you believe, but by researching the Bible and asking for guidance through prayer and His Holy Spirit.

This paper is in no way intended to attack any individual or organization, rather to bring attention to those looking for truth from a Biblical foundation rather than through the many words and ideas of men. At the same time, I don't claim to be perfect and am always open to

correction. However, I do implore you to research this topic carefully and not take it for granted. I am aware that various conclusions have been made by many individuals on this subject and I will attempt to cover many of the more popular ones within this paper to compare. Proverbs 27:17 tells us that *iron sharpens iron*, suggesting that through our many opinions (without contradicting scripture), our understanding can only increase when we work together as a *body of believers*. Most turn away from this subject and choose to blindly follow tradition (what men tell them to do). To those, I ask: should any topic concerning our faith be like opening a *can of worms*?

GOD'S ORDAINED SIGNS

To begin our Biblical search, we don't have to go very far. In the very first chapter of the first book of the Bible, Genesis 1: 14-19[1], we find Yehovah Himself being quoted at the time of creation itself:

> *"Then God said, 'Let there be lights in the firmament of the heavens to divide the day from the night; and let them be for signs and seasons, and for days and years; and let them be for lights in the firmament of the heavens to give light on the earth'; and it was so. Then God made two great lights: the greater light to rule the day, and the lesser light to rule the night. He made the stars also. God set them in the firmament of the heavens to give light on the earth, and to rule over the day and over the night, and to divide the light from the darkness. And God saw that it was good. So the evening and the morning were the fourth day."* {Underlined emphasis added}

Notice what is being created here: signs and seasons, days and years - a calendar? More specifically, He created *lights* in the *firmament of the heavens*, which are used as signs! The word *firmament* here is from the Hebrew word *raqia* (Strong's 7548[3]), which also translates as "expanse"; whereas the word *heavens* is *shamayim* (Strong's 8063[3]) meaning the "sky" above us. Therefore, this is describing these great lights in the *expanse of the sky* above us to give light on the earth below. Notice that these signs are being described from an observer's perspective right here on earth, not from some far-off place floating somewhere out in the solar system. There are no scientific descriptions given here, no mythical secrets, no complicated rules and absolutely no mathematical formulas!

What exactly is a *sign*? Many contemporary Christians today infer from this word as being an *omen*, something extraordinary or miraculous. Although the *sun* and *moon*, in themselves, are miraculous as Yehovah's overall creation, they are also to be used as *instruments* in our ordinary day-to-day lives. The Hebrew word here for *signs* is *'oth* (Strong's 226[3]) which means:

"226 A signal (literally or figuratively), as a flag, beacon, monument, omen, prodigy, evidence, etc; a mark, miracle, sign, token (in the sense of appearing)."

Therefore, these *signs* are the form of communication from Yehovah - a *flag* or *beacon* - that appear in the *expanse of the sky*. They are meant for us to take notice, to *mark* such an event! Just as a ship's lookout searches for land with the assistance of a lighthouse *beacon* in the midst of a storm, Yehovah created these *signs* for us to see with our own eyes. It is Yehovah's timepiece, a great clock in the sky above us!

Let's consider the difference, for a moment, between a calendar and a clock. If one were knocked unconscious for days at a time and awoke on a deserted island all alone with only a calendar

lying in front of them, what would it tell them? Would they be able to determine the current date by simply looking at the calendar? Unless they could remember what day they were knocked out and had some other evidence corroborating how many days they passed out, the short answer is no. Unlike a clock, a calendar cannot immediately infer information to the viewer on its own. A calendar is simply a tool, mathematically constructed, to assist one in their own plans or to mark milestones from those that have occurred in the past. A clock, on the other hand, if it is functioning correctly and was properly set, can communicate information directly to the viewer. It would require no additional mathematics or information to determine the current time.

Genesis 1:14 is describing the components of this great timepiece and Yehovah God Himself is properly setting them in place. Notice verse 16 above where it states, "God made two great lights." The Hebrew word here is *'asah* (Strong's 6213[3]) which means:

> *"accomplish, advance, appoint, apt, be at, become, bear, bestow"*

This is telling us that Yehovah God appointed, or bestowed, the *sun* and the *moon* in the expanse of the sky. This does not necessarily mean the sun or moon were being created here from scratch. Remember, Genesis 1:14 was already the *fourth* day. If the sun did not exist prior to this, there would have been a need for some other light source to rule over the previous three days. Rather, the sun and the moon were being placed into their proper alignment, being put into motion to serve a particular purpose. In fact, it was from this very moment in history that the Creator God established His *time*. He ordained the *sun* and *moon*, along with the *stars* to divide the day from the night, to serve as signs - markers of time - to serve in determining His seasons, days, and years!

It's important here to take note that the word '*seasons*' is the Hebrew word '*mow'ed*' (Strong's 4150[3]), which we have already learned refers to Yehovah's annual festivals, or appointed times (His appointments) referred to in Leviticus 23:2-5[1], where Yehovah instructs Moses to:

> *"'Speak to the children of Israel, and say to them: "The feasts* (mow'ed) *of the LORD, which you shall proclaim to be holy convocations, these are My feasts* (mow'ed). *Six days shall work be done, but the seventh day is a Sabbath of solemn rest, a holy convocation. You shall do no work on it; it is the Sabbath of the LORD in all your dwellings. These are the feasts* (mow'ed) *of the LORD, holy convocations which you shall proclaim at their appointed times* (mow'ed). *On the fourteenth day of the first month at twilight is the LORD's Passover.'"'*

And a list of specific appointed times continues to the end of this chapter:

- First Day of Unleavened Bread - 15th day of the first month (verse 6)
- Seventh Day of Unleavened Bread - 21st day of the first month (verse 8)
- Day of Pentecost - 50th day from the day after the Sabbath during Unleavened Bread (verses 15-16)
- Day of Trumpets - 1st day of the seventh month (verse 24)
- Day of Atonement - 10th day of the seventh month (verse 27)
- Feast of Tabernacles - 15th day of the seventh month (verse 34)
- Eighth (or Last Great) Day - 22nd day of the seventh month (verse 36)

The term *mow'ed* makes the connection between the ordained *signs* of Genesis 1:14 and Yehovah's ordained appointments throughout each year. Exodus 13:10[1] instructs us:

> *"You shall therefore keep this ordinance in its season* (mow'ed) *from year to year."* {Underlined emphasis added}

The word *seasons* does not describe the mathematical concept of an equinox, or the solar year being divided into winter, spring, summer, and fall. These concepts, which have been so carefully ingrained into our brains, is caused by our *calendar bias* and we then want to project these ideas into these verses. If we could overcome the mental noise within our heads and understand that this is referring, instead, to Yehovah's Festival Days, we can clearly see that He is allowing us to know when we should keep these appointments with Him - at His appointed time based on the signs of His great clock in the sky. Psalm 104:19[1] clearly makes this connection, as well:

> *"He appointed the moon for seasons (mow'ed). The sun knows its going down."* {Underlined emphasis added}

Jeremiah 31:35[1] further clarifies that the sun, moon and stars were officially decreed by Yehovah Himself:

> *"Thus says the LORD; Who gives the sun for a light by day. The ordinances of the moon and the stars for a light by night."* {Underlined emphasis added}

Observance versus Worship

It's also important to note that observing any of these objects (sun, moon or stars) has nothing to do with astrology or the worship of the heavenly bodies themselves. In fact, this practice is strictly condemned by Yehovah. Deuteronomy 4:15-20[1] clarifies this stating:

> *"Take careful heed to yourselves, for you saw no form when the LORD spoke to you at Horeb out of the midst of the fire, lest you act corruptly and make for yourselves a carved image in the form of any figure: the likeness of male or female, the likeness of any animal that is on the earth or the likeness of any winged bird that flies in the air, the likeness of anything that creeps on the ground or the likeness of any fish that is in the water beneath the earth. And take heed, lest you lift your eyes to heaven, and when you see the sun, the moon, and the stars, all the host of heaven, you feel driven to worship them and serve them, which the Lord your God has given to all the peoples under the whole heaven as a heritage. But the LORD has taken you and brought you out of the iron furnace, out of Egypt, to be His people, an inheritance, as you are this day."* {Underlined emphasis added}

We see here that these signs were given to men as a heritage from generation to generation as a possession to use, but never

worship! This warning is repeated in Isaiah 47:13-14:

> *"You are wearied in the multitude of your counsels; Let now the astrologers, the stargazers, and the monthly prognosticators stand up and save you from what shall come upon you. Behold, they shall be as stubble, the fire shall burn them; they shall not deliver themselves from the power of the flame; it shall not be a coal to be warmed by, nor a fire to sit before!"* {Underlined emphasis added}

Astrology, the study of celestial movements as having an influence in human affairs (such as horoscopes and other mythical practices based on the movements of the heavenly bodies), is different from Astronomy. The latter is the mathematical and observational study of those objects to better understand the universe and its overall function. Prognosticators, as they are called in the above verse, are forecasters who claim to obtain special knowledge of future events who, then, make supposed intimate predictions about one's life or group of individuals based on their secret understanding. As we can see, being driven to worship the signs of the sun or moon as entities, or gods, would also be a sin. They are merely objects that Yehovah uses (and ordained) for us to understand His timetable. Seeing them in the sky, or observing their motions, is completely different from worshiping them. Just as one should not worship the hands of a clock or believe it brings the viewer secret knowledge!

Use of Signs

Jesus (Yeshua) gave a very moving end-time prophecy in Matthew 24 that also gives us an example of *signs*. The Messiah's disciples listened very carefully to His prophecy of the future destruction of the Temple in Jerusalem and a later end-time age. As most of us in their shoes would do, the disciples immediately questioned when such things would take place. Notice what they ask in Matthew 24:3[1]:

> *"And as he sat upon the mount of Olives, the disciples came unto him privately, saying 'Tell us, when shall these things be and what shall be the sign of thy coming, and of the end of the world?'"* {Underlined emphasis added}

Why would it occur to the disciples here to ask for a sign? The context here is that they wanted to know when this would happen. If we were in their shoes, wouldn't we be asking how many days from now this will take place? Our *calendar bias* would probably kick in, pulling out our handy scheduler with the desire for Yeshua to mark the exact box indicating the all-important date into the future when this would occur. The disciples, though, seemed more accustomed to telling time using *visible signs*. After all, that's exactly what Genesis 1:14 described when telling *God's time*.

Yeshua went on to describe several events that would eventually come to pass - earthquakes, betrayals, false prophets and the abomination of desolation, to name a few. All of these are signs, but Yeshua went on to explain the example of a fig tree in Matthew 24:32-33[1]:

> *"Now learn this parable from the fig tree: When its branch has already become tender and puts forth leaves, you know that summer is near. So you also, when you see all these things, know that it is near - at the doors!"* {Underlined emphasis added}

Yeshua refers to *summer* here. Again, he's not referring to the mathematical concept of the summer solstice (or the spring equinox); rather he is describing, in simple agricultural terms, the time of year when vegetative growth is about to begin. We can determine, through the arrival of simple *signs*, like leaves sprouting from the branches of a fig tree, that the full potential of the season is coming in the not-so-distant future. Yeshua stopped short of giving the disciples an exact *date* or *sign*. He only gave them warning *signs* to know when the time would draw near.

In the modern world, many "so-called" prophets give in to their confidence of mathematics, often leading them to imagine patterns and formulas within scripture that, they believe, indicate when the end-time age will occur. Referred to as "doomsday prophecies", these prophets tend to throw out dates, like candy, claiming the answer has been revealed to them. And they fail to come about time and time again, because these patterns and calculations are just not there! How do we know this? Verse 36 explains[1]:

> *"But of that day and hour no one knows, not even the angels of heaven, but My Father only."* {Underlined emphasis added}

Are we doing the same thing as these prophets when it comes to the Biblical calendar? Are we looking for patterns and calculations that don't exist? What need would there be for Yehovah to give us *signs* for His time if the intended result was to follow a mathematical formula all along? Yes, we can use attributes of these signs as variables within a calendar-based formula, but the formula would still be man-made, just like those of false prophets. If we were simply given a calculated calendar by Yehovah God, we would consequently have no need to actively look for any signs, making the purpose behind Genesis 1:14 completely moot. For us to know what *time* it is, we must actively keep watch for His signs! This theme continues in Matthew 24:42-44 that ends with this warning:

> *"Watch therefore, for you do not know what hour your LORD is coming. But know this, that if the master of the house had known what hour the thief would come, he would have watched and not allowed his house to be broken into. Therefore you also be ready, for the Son of Man is coming at an hour you do not expect."* {Underlined emphasis added}

We can learn an important lesson here when applied to Biblical time (or observing His Biblical clock). Looking for signs does not involve *relying on calendars and mathematical calculations*. Sure, we can utilize math as a tool to help us look for these signs, but if we truly desire to know when Yehovah has appointed His Holy time - His appointments - then we need to be like these watchmen, looking for His signs that He ordained (His lighthouse beacon) to visually observe when his time arrives! If we are actively looking, then His timetable will always remain at the forefront of our minds. It also builds anticipation for His appointed festivals! This is something that we can easily take for granted when we rely strictly on invisible, abstract calculations - especially calculations that are never given to us in scripture. Even more, what if our calculations are wrong?

Only by observation of His ordained signs can we truly understand, in our hearts, that we are proclaiming and guarding His *time* properly. How do we know this? Because mathematical calculations and structured calendars, aside from simple counting the number of days, simply do not exist in the Bible. Something this important would never get missed by the Almighty God, the Creator of the Universe! He would not have given someone a 'magical' formula and then relied on man to spread that key understanding by word of mouth. Remember the Bereans in Acts 17:11? Teaching done by word of mouth is not what they searched for when they were looking to prove a doctrine.

Now that we have a better grasp on these lights serving as "signs (observable in the sky) and seasons (to determine His Feast days), and for days and years", let's begin by looking at what constitutes a *Biblical Day* by using these signs.

BIBLICAL DAYS

We are all probably aware of our *calendar bias* when it comes to days on a calendar. Here is where we break out our stopwatches, measuring the passing of time in hours, minutes, and seconds. For the purposes of a physical calendar, we have been conditioned to visualize each square representing a fixed 24-hour period. We transition from one day to the next starting at midnight, or 12 *a.m.* (or 12 *ante meridiem*, meaning "before midday").

Most may realize, if they've ever given it any thought, that the Bible never references days in this manner. This is because Adam, Moses or any of the disciples never had access to a Rolex or a smart watch to wear on their wrists. The modern clock, providing a more precise mathematical and universal time for all, was not invented until the sixteenth century. Prior to this, as we've already discussed, time for the day was measured directly using the movement of the sun. Even though man's intellect has increased over time, it does not mean that Yehovah, the God of the universe that grants man wisdom, intended for us to rely solely on man-made tools. His timepiece is never presented within scripture as mathematical measurements, nor did He establish any rules such as time zone boundaries and postponing time like we do for daylight savings. So, how did Adam and Moses constitute a *Biblical Day*?

If we remember Genesis 1, during the six days of creation, each day consisted of an *evening* (night) and a *morning* (day). Genesis 1:3-5[1] states:

> *"And God said, Let there be light: and there was light. And God saw the light, that it was good: and God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day."* {Underlined emphasis added}

As a side note, some will take this verse a referring to the creation of the Messiah Jesus (Yeshua), who referred to Himself as the "light of the world" in John 8:12. However, this idea is debunked by John who also explains in chapter 1 of his gospel that this light was created by the Messiah Himself:

> *"In the beginning was the Word* (Yeshua/Logos), *and the Word* (Yeshua/Logos) *was with God* (Yehovah/Theon), *and the Word* (Yeshua/Logos) *was God* (Elohim/Theos). *He* (referring to Yeshua/Logos) *was in the beginning with God (Yehovah/Theon). All things were made through Him* (referring to Yeshua/Logos), *and without Him* (referring to Yeshua/Logos) *nothing was made that was made."* {Emphasis added}

Yes, Yeshua Himself was the Creator in Genesis 1, a feat He could only accomplish, of course, through the power of the Heavenly Father, Yehovah. He confirms this in Mark 5:10 where Yeshua says:

> *"I can of Myself do nothing. As I hear, I judge; and My judgment is righteous, because I do not seek My own will but the will of the Father who sent Me."* {Emphasis added}

It's unlikely Yeshua would have created Himself. In either case, it wasn't until the *Fourth Day* of Genesis 1 that the motions of the *sun* and *moon* were ordained (or set) by the Creator - meaning the first three days may never have been anywhere near the 24-hour period of length as we observe days to be today.

As we touched upon earlier, Joshua 10:12-13 tells us the story of *Joshua's Long Day*, where Yehovah halted both the movements of the *sun* and *moon* to assist them in their battle against the Amorites at Gibeon, doubling the length of the day. This rare event should serve as a witness to us that our God does not measure *time* in fixed mathematical formulas or with the watches we wear on our wrists. Rather He controls the ordained *signs* of Genesis 1:14. As observers of those signs, we can be confident marking the passage of *His* time by viewing them and knowing they are *of* God - regardless of how long our watches indicate it takes for them to complete their expected trajectories within the sky.

Start of the Day

So, exactly when does the Biblical Day begin? Many may presuppose their *calendar bias* here believing it still begins at midnight (or at least the middle of the night). If you know of someone or are at all familiar with the weekly Sabbath, a day Yehovah commands for us to do no work (Exodus 20:8-11), you will find most begin that Sabbath day rest at *sundown* on Fridays until *sundown* on Saturdays. Although most Biblical scholars agree that the Bible measures full days from sundown-to-sundown, let's first look at whether there may be some other possibilities.

There are arguments that the *Biblical Day* begins when the sun rises in the early morning. This concept is very similar to the modern *Zoroastrian Calendar* that is also believed to have originated from Babylonia[71]. The greatest support for this theory likely comes from the synoptic gospels of Matthew, Mark and Luke that describe the crucifixion of Jesus beginning at the *third hour* (Mark 15:25), which would take place at approximately 9am on our modern clocks - three hours after sunrise (or as the sun is half way up in the sky). Darkness then covered the land from the *sixth hour* to the *ninth hour* (Matthew 27:45; Mark 15:33; Luke 23:44), from around noon to 3pm (or when the sun is ordinarily directly overhead and drops half way down in the sky). His death then happened at the end of that ninth hour. While it was true that Jews counted hours of the day starting with the rising of

the sun in that historical period, this was only done in measuring the day-time *portion* of the full day. At night, time was generally measured in 3-4 hour segments, cumulatively referred to as *night watches* (Luke 12:38), which lasted throughout the night-time portion of a given full day. It could also refer to the Romans method of telling time that, historically, also used two 12-hour systems to measure both the daytime and nighttime portions in a similar manner[68]. However, since *Genesis 1* includes both *one* daytime and *one* nighttime portion, the ultimate question here would be: *which comes first, the daytime or nighttime?*

There are several examples in scripture that describe the day as starting and ending when the sun *goes down*. For example, Exodus 22:26[1] states:

> *"If you ever take your neighbor's garment as a pledge, you shall return it to him before the sun goes down."* {Underlined emphasis added}

Leviticus 22 describes several scenarios, starting in verse 4, where one would be considered ceremoniously unclean and unable to partake in offerings if they touched a leper or corpse. To be considered cleaned, it was required to bathe and wait until after the sun goes down. Verse 7-8 states:

> *"And when the sun goes down he shall be clean; and afterward he may eat the holy offerings, because it is his food. Whatever dies naturally or is torn by beasts he shall not eat, to defile himself with it: I am the LORD."* {Underlined emphasis added}

This infers that if one were to touch a corpse after the sun had already gone down, they would have to bathe and wait until after the following sundown.

Other examples of the going down of the sun include Deuteronomy 16:6, 24:13, Joshua 10:27, Judges 14:18, II Samuel 2:24, 3:35, I Kings 22:36, II Chronicles 18:34, Ecclesiastes 1:5, Jeremiah 15:9 and Daniel 6:14.

Clearly, Yehovah understands the concept that the sun doesn't go *downward*, as it is the earth that moves in relation to the sun. Yet it undoubtedly is the sun itself that scripture uses. Yet our bias prefers the use of *mathematics* over observation of Yehovah's signs, believing you must calculate theoretical, conceptual events that are unseen (or invisible). For example, they may argue that the sun continues to go down after it disappears behind the horizon, even though we cannot see it. In other words, the sun only stops going downward when it is at its lowest point below our feet with the earth between us and the sun and just before it begins its turn back upward again - this moment is referred to as *Solar Midnight*. This moment is the exact opposite of *High Noon*, as we have already discussed. Understanding this concept, however, requires us to have a fuller understanding of the celestial movements of the sun in relation to the Earth in all their complexity, which simply are not described within scripture. If it were Yehovah's intention for us to create and rely upon pure mathematical calendars, then why would time be described so consistently from the perspective of an onlooker right here on earth rather than providing mathematical blueprints and rules?

Evenings

So now that we know the Bible begins the day with the evening, followed by the day, let's determine when *evening* takes place. You may have seen references to the end of the day as being "between the evenings," or *ben ha arbayim*. The word *evening* involves another bias we often apply with our modern reference to the general time that takes place between sundown and midnight. It's important to note that there is more than one time of the day in scripture that is referred to as *evening* (or "even" as the King James Version phrases it), and it doesn't always mean *nighttime*. Rather, evening often refers to the late afternoon portion prior to sundown, depending on the context. When given in the plural sense, such as "between the *evenings*," the first evening generally takes place an hour or more before the sun goes down, whereas the second evening occurs at sundown. An example of this can be derived from Deuteronomy 23:11[1] that says:

> *"But it shall be, when evening comes, that he shall wash with water; and when the sun sets, he may come into the camp."* {Underlined emphasis added}

Here, evening is described as the point prior to the sun setting when a person should wash with water between evening and sundown. This is also the time of day when the evening sacrifices were made at the altar of the temple - one of two *daily* sacrifices to be given both in the morning and in the evening (or late afternoon) as commanded in Exodus 29:38-42, Leviticus 1:1-17 and Numbers 28:1-5. Yet, other scriptures describe evening taking place immediately at sundown, as described in Joshua 8:29[1]:

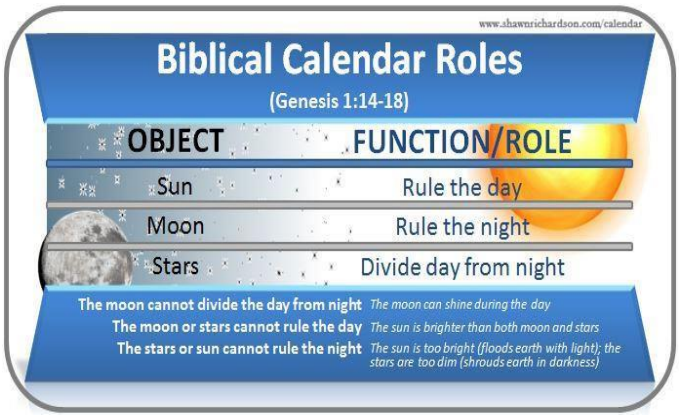
> *"And the king of Ai hanged on a tree until evening. And as soon as the sun was down, Joshua commanded that they should take his corpse down from the tree."* {Underlined emphasis added}

The evening here seems to describe it as being right at the time of *sundown*. Joshua was following the Torah's instruction in Deuteronomy 21:22-23[1] regarding the handling of dead bodies of those put to death:

> *"And if a man have committed a sin worthy of death, and he be to be put to death, and thou hang him on a tree: His body shall not remain all night upon the tree, but thou shalt in any wise bury him that day; (for he that is hanged is accursed of God;) that thy land be not defiled, which the Lord thy God giveth thee for an inheritance"* {Underlined emphasis added}

Leviticus 23:32, on the other hand, describes observing the Day of Atonement (the 10th day of the seventh month according to verse 26), starting from the *ninth day* of the month "at *evening*, from *even* until *even*". This can be confusing to us English readers when we see this. If we look closely, though, we can see this verse uses the singular *evening*. This means the Day of Atonement should be observed starting on the ninth day at *sundown*, from *sundown to sundown* - or the entire tenth day of the month. This verse clarifies the context of *evening* here to mean the evening that *begins* the day (or sundown) and not the one that takes place in the late afternoon when the daily sacrifices begin.

Twilight



There is an even more specific time of the evening, just after the sun goes down and before total darkness, which is referred to as *dusk* or *twilight*. This moment, in Hebrew, is referred to as *tzeit hakochavim*. Technically, it refers to the moment when a minimum of three stars can be seen in the night sky. If you will remember, Genesis 1:14-19 gave us three signs that are used in the Biblical Calendar - the sun, moon and *stars*. We are also given three functions that these signs provide. The first rules over the day - the sun would clearly play that role here. Although the moon can be seen during the day at various phases, it certainly does not overpower the sun's light. The second and third signs fill the two remaining requirements: to rule over the night and to separate the day from the night. Since the moon can be seen at all times of the day depending on where it is in its cycle, it obviously does not separate the day from the night. However, when visible in the night sky, the moon does dominate as being the more powerful light source. Therefore, the *moon rules over the night* and the *stars* serve to *separate the day from the night*. Stars only appear to an observer starting at this time of night, in the short interval of time after the sun goes down. While the specific rule of three stars is not mentioned in scripture, it fits their role (and it does mention stars in plural form).

A very specific example of the Biblical Day is given in Nehemiah 13:15- 22 where the Weekly Sabbath is clearly described in verses 17 and 18 as being profaned, conducting business of selling goods that was not allowed on the Sabbath. Verse 19[1] says:

> *"So it was, at the gates of Jerusalem, as it began to be dark before the Sabbath, that I commanded the gates to be shut, and charged that they must not be opened till after the Sabbath. Then I posted some of my servants at the gates, so that no burdens would be brought in on the Sabbath day"* {Underlined emphasis added}

We see here the gates were closed 'as it began to be dark'. This usually happens after the sun goes down. The story continues in verses 20-21[1]:

> *"Now the merchants and sellers of all kinds of wares lodged outside Jerusalem once or twice. Then I warned them, and said to them, "Why do you spend the night around the wall? If you do so again, I will lay hands on you!" From that time on they came no more on the Sabbath."* {Underlined emphasis added}

We see here that the Sabbath began and included the night-time portion when the merchants would camp out after the gates had closed and after the setting of the sun where they waited overnight.

These examples show the Biblical Day beginning right after sundown. Combined with Genesis 1:14, which gives us the sign of the stars (more than one) signaling the division of day from night, we can then specify – using scripture - that the *Biblical Day* is from *twilight-to-twilight*. This fulfills the role of the stars to divide days, starting when the sun's light no longer dominates the sky, and includes both evenings and mornings.

There aren't too many controversies over this method for determining the Biblical Day, with most keeping the Seventh Day Sabbath beginning right at sundown - likely because any differences in opinion, such as sunset (civil, nautical, or astronomical), usually only span a matter of a few minutes. While this can be frustrating to those looking for a very specific point to base their mathematical measurements, you will find that scientific precision is not emphasized in the Bible - even more reason to overcome our bias toward relying on mathematics.

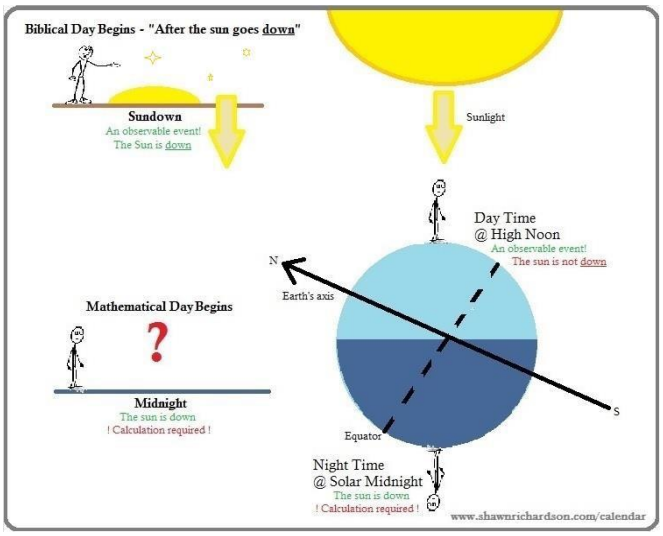
Our Developing Bias

Some will still find arguments against observing the sun or stars using extreme outliers, such as: *how can you observe the Sabbath when you're above the Arctic Circle or below the Antarctic Circle where days are irregular, and the sun doesn't shine for months at a time?* This argument used to be more theoretical, but in our modern times many do find themselves in such a predicament where they experience a *long polar night*. In most of these cases, man-made tools are needed as a reference, such as watches, to determine the *time of day*. Many will mark the last known time the sun dipped below the horizon prior to the long polar night and use this as a reference point to begin and end each day until the sun can be seen again. But does this mean observing the signs given to us in the Bible are somehow not valid? Of course not! Sometimes, we are forced to use good old common sense.

For example, when storm clouds fill the sky and the sun or stars cannot be seen, we may have to determine the start of the Biblical Day using alternative methods - including mathematics. If we are actively practicing observing His signs, we will become accustomed to the approximate time these events should occur. But the visible ordained signs of Yehovah should always trump any other method that may be used, even if they are only temporarily used.

There are other man-made traditions for starting the Biblical Day given by Orthodox Jews who begin the Sabbath by lighting a Shabbat candle (or lamp) precisely 18 minutes before the sun goes down. Alternatively, they may light the candle when the sun is no longer seen by an observer on the treetops. Certainly, these are rules never given in scripture. Rather, they are found in the Talmud (for Shabbat 35b), which also add definitions for the size of stars to be seen

to fulfill the moment of *twilight* - they had to be medium stars, not too large and not too small.



As we discussed in the introduction, directly observing the sun to determine days used to be a very common practice, historically, until very recently. Noon was marked at *High Noon* when the sun was directly overhead and, in turn, Midnight marked the time when the moon would have been directly below one's feet, sight unseen. Other developments, such as the telegraph, also helped play a role in standardizing time and bringing everyone into unity, albeit completely disassociated from the direct celestial movement of the sun in the sky - this is our *clock bias*.

In contrast, Biblical Days remain relative based on differences in geography and seasonal positioning of the celestial objects. This difference becomes apparent based on the moment the Weekly Sabbath begins for different individuals at varying times around the world - even for those located in the same time zone. Due to the curvature of the earth and its axis being tilted in relation to the sun as the earth completes its orbit, one person may observe the Sabbath (sundown) up to an hour earlier (or more, in some cases) than the other. This is in direct contrast to our Clock Bias that is based on average mathematical timetables that are *disconnected* from the reality one would observe when looking to the sun's trajectory directly.

Let's consider for a moment a hypothetical scenario. If one desired to observe the weekly seventh-day Sabbath and their employer asked them to always work the core business hours of Monday through Friday from 8am to 5pm. This can be an issue in the winter as the sun often goes down prior to 5pm in most locations. This person may decide, for convenience's sake and to please their employer, that they will self-appoint the weekly Sabbath to be observed 6pm-to-6pm, ignoring when the sun goes down (relying on one's *clock bias* since observation is so annoyingly inconsistent with others using clocks throughout the year). They may even convince themselves that they're still making an honest attempt to keep Yehovah's Sabbath. After all, they could keep a full day's sabbatical rest for 24-hours, it just happens to extend into the next Biblical day slightly after sundown. Possibly 6pm could be considered the average time the sun goes down throughout the year and the consistency of being at 6pm would be *mathematically predicted* by others who may work in other locations outside of the office.

Of course, now you have allowed a man-made concept to define the *Biblical Day*. This type of negotiation of giving into our *clock bias* sets a bad precedent for recognizing His timepiece. Remember Deuteronomy 12:32 that says[1]:

> *"Whatever I command you, be careful to observe it; you shall not add to it nor take away from it.""* {Underlined emphasis added}

Most who have kept Yehovah's Sabbath have accepted and grasped the Biblical concept of *observing the sun* (and possibly the stars) and not relying solely on a standardized *timetable* or

a calculated average like *6pm-to-6pm*, to know when it should begin. In fact, the verse above would indicate such a practice as being sinful and contrary to Yehovah - especially when they know better.

Many have been raised and taught, as a child, the simple concept of observation. If one is new to keeping the Sabbath, however, it can take some time to make the adjustment for thinking of days differently than midnight-to-midnight on our clocks. While there are mathematical tools that can assist us in knowing what time the sun goes down in our local area, it's still an approximation and would not account for visibly acknowledging if any stars are in the sky. In either case, if one method differs from the other, it is ultimately the *sun & stars* that we should observe and comply with according to scripture, not man-made concepts based on calculations, rules, or average timetables. When we actively observe Yehovah's signs regularly to begin the *Biblical Day*, it can be a first step for many in overcoming their *calendar bias* and the lessons learned from this practice are foundational as we look further into the remaining components of the *Biblical Calendar*.

Summary of the Biblical Day

- The Biblical Day begins and ends after sundown when it's light no longer dominates the sky.
- Observing multiple stars (or twilight) is the moment dividing the day from night.
- It consists of both a daytime and nighttime portion.

BIBLICAL MONTHS

We have discovered the *sun's* role in establishing *Biblical Days* with the *stars* dividing each day as the sun goes down - all described from an observer's perspective. Now we turn to the *moon*, the other celestial sign that we have already seen plays a major role in the *Biblical Calendar*, or Yehovah's masterful timepiece. To some, if one observes the sun to begin the day and measures the length of a day based on its routine cycle, then it may seem natural to them that this same process should also apply to the moon. Just as the sun takes a day to complete its cycle, the moon takes a month to complete its own. To others, though, this connection may not be so clear, thanks again to our *calendar bias*.

The moon's cycle, as it orbits the Earth, is referred to as a *lunar month*. Although most don't actively refer to this cycle today when it comes to a calendar, this concept was used to establish the measuring of months even before the Bible existed. It certainly will surprise some to find references to the *moon* itself being littered throughout the pages of Biblical scripture in the context of telling time. In fact, the moon serves as the only monthly marker (or a measure thereof) for when events took place (and were to take place in the future).

The Hebrew word for *month* within scripture is nearly always *yerach* or, more often, *chodesh* (also translated as *hodesh*). *Yerach* translates (Strong's 3391[3]) simply as *moon* or *lunation*:

> *"**3391** - yerach: from a unused root of uncertain signification; a lunation, i.e. month:--month, moon."*

The Hebrew word *chodesh* specifically translates (Strong's 2320[3]) as *New Moon*:

> *"**2320** - chodesh: the new moon; by implication, a month:--month(-ly), new moon."*

So, we can see that when the Bible refers to *months* it is quite literally using the ordained sign of the *moon* itself and, more specifically, measuring time using the *new moon* as a specific event of reference. For example, Exodus 12:3 would read (using "new moon" for chodesh)[1]:

> *"Speak ye unto all the congregation of Israel, saying, in the tenth day of this new moon (chodesh) they shall take to them every man a lamb, according to the house of their fathers, a lamb for an house."* {Emphasis added}

Today, it's simply a habit for many of us to consider a *month* as being a fixed mathematical number of days, such as the month of *July* consisting of exactly 31 days. We also take comfort in knowing that most everyone keeps July universally around the globe as 31 days in length (to be

consistently calculated anywhere, anytime), just as we assume a day is 24 hours in length measured on our watches. Even though the original secular concept of a *month* was not always measured in this manner, many have simply forgotten that months used to be commonly measured based directly on the movements of the *moon* itself. The Wikipedia Encyclopedia[29] describes the word *month* as:

> *"A unit of time, used with calendars, which is approximately as long as some natural period related to the motion of the Moon; month and Moon are cognates. The traditional concept arose with the cycle of moon phases; such months (lunations) are synodic months and last approximately 29.53 days".* {Underlined emphasis added}

Cognates mean that these two English terms are one and the same! So why don't we use this reference today? The problem is that the average length of a lunar month will vary, averaging 29.53 days in length. This does not mean that the month lasts for 29 whole days and then 53% of the next - it means 53% of the earth will observe 30 whole days from one new moon to the next, while the remaining areas only need 29 days. However, it's also true that the lunar cycle will also not divide evenly into the solar cycle, which lasts approximately 365.24 days. Therefore, accuracy is sacrificed on most calendars forcing months to be a fixed number of days throughout the world, and lunar calendars are forced to have a varying number of months to fit within the solar year – which is why our Gregorian calendars ignore the lunar cycle entirely forcing 12 months of arbitrary length to fit nicely within that solar year (give or take a leap day). This thinking has created a *bias* toward this type of mathematical timetables and man-made formulas. The reality is that we have redefined the word *month* to be disconnected from the moon entirely.

The word *chodesh* appears 224 times in the Hebrew Bible; however, the King James writers favored the English translation as "month" rather than "new moon" over 200 times. Regrettably, most readers today will likely apply their *calendar bias* when they come across the cognate word *month* and may completely miss any correlation being made to the *moon* or its cycle within the Bible. Therefore, I prefer to use a descriptive phrase, such as *new moon*, instead of the translator's decision to use the word *month* when reading scripture to help break free from the programmed bias.

Now that we have established the basics, let's look at some examples. I Kings 6:38[1] use both Hebrew terms *yerach* and *chodesh* (which has been substituted with our unbiased translation):

> *"And in the eleventh year, in the MOON (yerach) of Bul, which is the eighth NEW MOON (chodesh), the house was finished in all its details and according to all its plans."*

You can see here that this is clearly referencing a date pertaining to a type of calendar. The eighth moon, or month, here is named *Bul*. This is like saying (using Gregorian calendar names), "*in the month of August, which is the eighth month*". You may notice in verse 1 additional references to *events* being used to convey a specific year - in this case, the eleventh *full* year following Solomon's crowning as King of Israel. We also learn that this same year is the 487th *full* year since the Children of Israel came out of the land of Egypt. Just as we counted the *number of days* within the *Creation Week* to determine the *Seventh Day Sabbath*, *Biblical Years* are also communicated to the reader by referencing the number of years following an *event* or *sign* (we'll cover more on the names of new moons and *Biblical Years* later in this paper). And, just like the Creation Week count to the Sabbath, so too are the number of days

counted from the first visible *new moon*. For example, Leviticus 23:27[1] states (continuing with our word-substitution for clarity):

> *"Also the tenth day of this seventh NEW MOON (chodesh) shall be the Day of Atonement. It shall be a holy convocation for you."* {Underlined emphasis added}

Here, referring to the appointed Day of Atonement, you can see that we should count the number of whole days from an event: Chodesh, or the *new moon* (the seventh new moon of the year, in this case). There are over one hundred references in the Old Testament that refer to the *moon* in this manner. Just as a reminder, both the moon and the sun are used merely as a point of reference. There is nothing to infer from the practice of observing these ordained signs (regardless of phase) that they should be worshiped in any manner. They do not control time, Yehovah does (through His visible signs)! Many, including Sabbath keepers, tend to resist looking to the moon for the sake of the calendar, thinking that they are partaking in such a practice. But it is no different to look to the moon to begin the month than it is looking to the sun as it goes down over the horizon (along with the first visible stars) to begin the day.

The question then becomes: *exactly when is the Biblical New Moon*? In other words, at what phase of the *moon* should we begin to observe its cycle as *new*? Just as the sun and stars are not laid out in step-by-step instructions to describe the start of the *Biblical Day*, scripture also does not give direct, step-by-step instructions on how to ascertain the start of a lunar cycle. However, the Bible does utilize the very specific Hebrew word *chodesh* for this event that serves as an important key to understanding the *Biblical Month*.

Chodesh

Semitic languages have a unique feature that other languages, such as English, do not provide. These languages, particularly Hebrew, allow most words to be condensed down into a series of three consonants (referred to as a "root") that provide an additional layer of meaning, causing both words to relate to the same root. Even if you don't know Hebrew, you can often get a better understanding by identifying and studying the "root" word. As one online Hebrew lesson describes [69]:

> *"You take a root, like K-T-V (meaning: write/writing), combine it with different patterns, and that's how you get words like 'writing', 'book', 'to write', 'to dictate', 'reporter', etc.*
>
> *As you can imagine, this is a very powerful tool for Hebrew student. Patterns by themselves usually carry some meaning too; knowledge of root and pattern can give you a hint to understand a word, even if this is first time you read it."*

The patterns being referred to above are achieved by simply adding vowels, prefixes (such as prepositions), suffixes (such as pronouns), possessives, gender and number (plural or singular) to the root word[67]. In our case, *chodesh* shares the same root (CH-D-SH) and is constructed (originally derived) from the word *chadash* (Strong's 2318[3]), which means:

> *"**2318** chadash - a primitive root; to be new; causatively, to rebuild:--renew, repair."*

The idea is that something which once existed will now begin to reappear. For example, Isaiah 61:4[1] states:

A renewed moon (waxing crescent) after sundown

"and they shall build the ancient ruins, raise up the desolations of old, and renew (chadash) the ruined cities, the desolations of many ages." {Underlined emphasis added}

This refers to the renewing, restoring, or rebuilding of the city after its destruction. These examples of *chadash* continue in I Samuel 11:14, II Chronicles 15:8, 24:4 and 12, Psalm 51:10, 103:5, 104:30, Lamentations 5:21 and Job 10:17. In each case, we see the process of renewal from what previously existed. By applying the understanding of *chadash* to *chodesh*, we can see that the more accurate translation would be *Renewed Moon*.

Renewal

Certainly, the *moon* itself doesn't physically repair or rebuild itself. So, again, when does the *moon* begin to *renew*? Let's go back, again, to Day Four of Genesis 1 that stated the moon's function, as an ordained sign and beacon of light in the firmament above us, was to rule the night. It is this light, which renews with every lunar cycle, that can first be seen by an observer in the night sky as a thin waxing crescent. Each night, that light grows larger and larger until, eventually, it becomes full of light and then begins to recede night after night until it can no longer be seen for one to two evenings. After which, the cycle repeats again starting as a thin sliver of light. This first indication of light would best describe *chodesh* using Genesis 1 and retaining the root word of *chadash*. There is no other phase of the moon within its cycle that can better describe a rebuilding of what once existed from an observer's point of view. This is nearly as easy a task as it is to observe the sun as its *going down* behind the horizon or finding two or three stars to divide the day from night.

As it turns out, this event of the first visible *renewed moon* crescent just happens to occur within the western horizon as the sun goes down behind the horizon - at twilight! Both *sunset* and *moonset* take place within minutes of one another at the time of the renewed moon with the crescent first being visible as the sun's light fades away and the stars begin to shine – therefore, the start of the Biblical Month coincides perfectly with the start of the *Biblical Day*! What a wonderful sign we have been given! And what better sign could we have to know when to determine Yehovah's appointed times? Once it's seen, there can be no doubt about its existence - in fact, it's rather an exciting thrill to actively spot it with the naked eye on the darkening horizon. When we realize the significance behind the term *chodesh* as being a direct connection to the moon, scripture takes on a whole new meaning as this term is littered throughout the Bible in referencing *time* itself.

There do exist, however, many other theories (many we will cover) that begin with various phases of the moon. However, the methodology of searching for the specific phase of the waxing crescent is also repeatedly documented as being the first original concept long before other

phases were ever considered. The Collins Discovery Encyclopedia [58] describes the phrase "new moon" as:

> *"the moon when it appears as a narrow waxing crescent; the time at which this occurs"*

The Wikipedia Encyclopedia[66] also confirms the earliest practice of using the crescent and further clarifies the original, historical definition of the term *new moon*:

> *"The original meaning of the phrase new moon was the first visible crescent of the Moon, after conjunction with the Sun. This takes place over the western horizon in a brief period between sunset and moonset"* {Underlined emphasis added}

In modern society, the result of creating mathematically based calendars has led to a completely new designation of the term *new moon* from being the *waxing crescent* to the calculated astronomical event of the moon's *conjunction* (i.e., when the Earth, moon and sun are in a straight line with one another during each lunar cycle around the Earth). This is often signified as a black dot on many modern Gregorian calendars hanging on our walls, signifying a moon with no illumination. This has created yet another *bias*, causing many to prefer the moon's *conjunction* as the starting point to begin the lunar cycle, and therefore the *Biblical Month*, mostly because it is a specific moment in time that can be easily applied mathematically. Using this unseen event would be no different than using the mathematical concept of *solar midnight* to begin the *Biblical Day*. Neither can be observed within the firmament and, therefore, cannot serve as a sign, or beacon of light, within Yehovah's timepiece.

Another mathematical concept used for the moon, which the Jewish Hebrew calendar also uses, is the *Molad Emtzai*, or simply *molad*. The *molad* is first recorded in history in the 2nd Century BCE where Babylonians used a *mathematical average*, based on repeated observations of the last visible *waning crescent* (old moon) and the first visible *waxing crescent* (new moon), to determine the approximate amount of time between these events when the moon was at its darkest point. This is a fixed, repeating timeframe that occurs around the time of the conjunction. Others simply view the waning crescent (old moon), which is observable in the early morning before sunrise, and then assume the moon will be new (or dark) that same evening.

These concepts have become a stumbling block for many when reading scripture because they try to apply these newer and more modern concepts to the signs given for the Biblical Calendar. With even modern scientists and mathematicians redefining the term *new moon* as the conjunction, the concept of observation of the ordained sign of the moon has become completely abandoned.

Trumpets

There does exist, however, an additional layer of instruction within the book of Numbers that we must consider when it comes to the *new moon* that also helps us to solidify the use of observing the moon's phase of the new crescent specifically. Numbers 10:10[1] states:

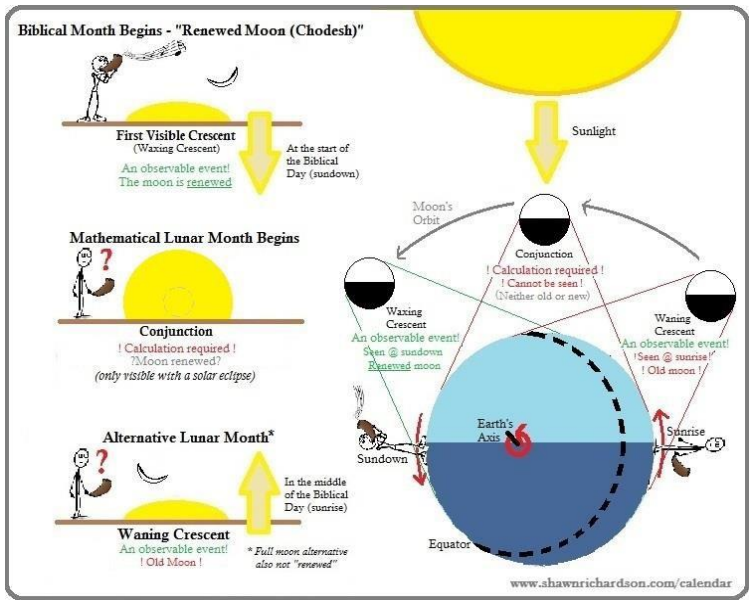
> *"In the day of your gladness, in your appointed feasts, and at the beginning of your RENEWED MOONS* (chodesh), *you shall blow the trumpets over your burnt offerings and over the sacrifices of your peace offerings; that they may be to you for a memorial before your God: I am the LORD your God."* {Underlined emphasis added}

This practice happens every month. Additionally, on the seventh month, this blowing of trumpets served as a reminder to the people His holy convocation at His appointed time in Leviticus 23:24[1]:

> *"Speak unto the children of Israel, saying, In the seventh month, in the first day of the month, shall ye have a sabbath, a memorial of blowing of trumpets, an holy convocation."* {Underlined emphasis added}

This instructs the people of Israel, and the Levitical Priesthood, to blow trumpets at the *renewed moon* (chodesh). This serves as a proclamation to all Yehovah's people that the new month has begun. Many want to apply this command as only being an annual occurrence at the seventh month, but the *chodesh* is not limited to just the seventh month. Numbers 10:10 implies that we should take notice of this event every single month, at each renewed moon. With the added instruction of having burnt offerings (which were also commanded every month) and peace offerings, this would mean that the Children of Israel would have gathered to partake in a meal together (a peace offering) commemorating this event. You can read in Joel 2:15 that trumpets were also blown for the purpose of assembling. This is a perfect way to bring unity and precision in the telling of time throughout the land whilst using observation. After all, the more individuals you have that are actively looking for the renewed moon each month, the more accurate the practice becomes.

As a side note, the various phases of the moon that are argued to begin the *Biblical Month* that are not visible to an observer (such as the *conjunction* and *Molad*) would not fit well with the instructions to blow trumpets as there would be nothing to see. The moment to blow a trumpet would require relying on calculations or, at least, the mathematical average obtained through repeated observations over time (which is not instructed within scripture). If it were intended for us to rely on calculation, there would be no need to blow trumpets as everyone could simply reference the same mathematical formula to make any such determination for themselves.



The practice of looking for the *visible crescent*, along with the use of trumpets to communicate such an event, is also documented historically as a regular practice that took place centuries ago. This is not just conjecture, ideas or make-believe stories made up to support a theory. Rather, it is a part of Jewish history specifically! Notice what the *Encyclopaedia Judaica* explains [9]:

"Originally, the New Moon was not fixed by astronomical calculation, but was solemnly proclaimed after witnesses had testified to the reappearance of the crescent of the moon". {Underlined emphasis added}

Communication is a key element to the start of the *Biblical Month* and the blowing of trumpets serves the purpose of relaying that message. Notice there is no instruction to delay blowing these trumpets until a certain time of the day (they are simply blown at the time of the renewed moon). While Numbers 10:10 described the silver trumpets to be blown at the tent of meeting, the entire chapter describes the trumpets as serving the purpose of communicating to the people so that they would take notice! At the time of the renewed moon, these trumpets were blown from a central location where His people would gather to recognize the renewed moon in a unified fashion. Later, the location of the silver trumpets changed to the temple mount within Jerusalem. While the temple mount is now long gone, the purpose of communicating this event remains! When you look carefully throughout scripture, you will find that Yehovah often uses trumpets as a tool to relay information to large numbers of people, including the entire world! And their use was not restricted to just one location. Trumpets played a very large role in long-range warning, and they were extremely important to both the one blowing the trumpets and to those that heard them. Consider Ezekiel 33:3-6[1]:

> *"If when he* (the watchman) *seeth the sword come upon the land, he blow the trumpet, and warn the people; Then whosoever heareth the sound of the trumpet, and taketh not warning; if the sword come, and take him away, his blood shall be upon his own head. He heard the sound of the trumpet, and took not warning; his blood shall be upon him. But he that taketh warning shall deliver his soul. But if the watchman see the sword come, and blow not the trumpet, and the people be not warned; if the sword come, and take any person from among them, he is taken away in his iniquity; but his blood will I require at the watchman's hand."* {Underlined emphasis added}

Here we see the importance of the watchman's role and the people's responsibility when they hear the trumpet. Alternatively, if one does not blow a trumpet (as instructed), the fault is on them. And, notice, a watchman's responsibility would not have been restricted to just the temple mount.

Another example that has a serious impact may be found in the book of Revelation as angels are described as using trumpets to signal a warning to the entire world and the heavens of end-time events yet to occur! Most notably being the seventh trump that will signal the return of Ye'shua, the Messiah, to this earth (Revelation 11:15[1])!

> *"And the seventh angel sounded (a trumpet); and there were great voices in heaven, saying, The kingdoms of this world are become the kingdoms of our Lord, and of his Christ; and he shall reign for ever and ever."*

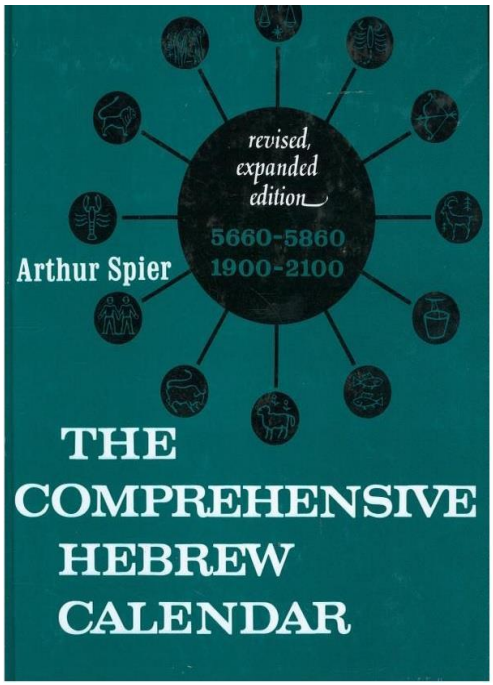
Matthew 24:30-31[1] parallels this same event using a trumpet to communicate to the entire world:

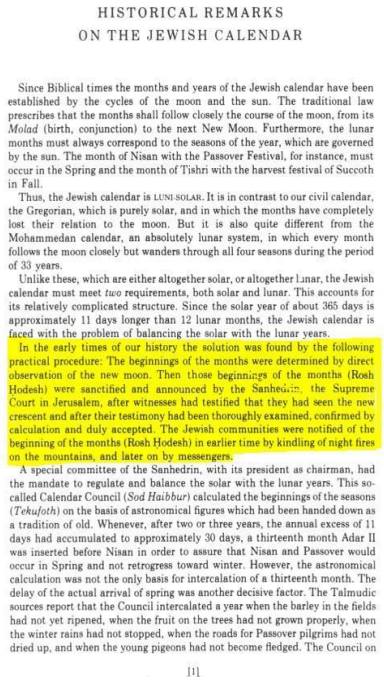
> *"And then shall appear the sign of the Son of man in heaven: and then shall all the tribes of the earth mourn, and they shall see the Son of man coming in the clouds of heaven with power and great glory. And he shall send his angels with a great sound of a trumpet, and they shall gather his elect from the four winds, from one end of heaven to the other."*

Lighting of signal fires in Israel communicating confirmation of the renewed moon

Jewish history also supports the use of mass communication, in addition to blasting trumpets, to make the event of the renewed moon known to the masses. This included the lighting of bonfires and sending messengers throughout Israel as confirmation of the *renewed moon*. This combination of signal fires and trumpets is also described in Jeremiah 6:1. An example of such an exercise was dramatically played out in the film *Lord of the Rings: Return of the King* when the city of Gondor lit its beacon on fire to signal for help in defending their city whose enemy was threatening to attack. The scene continued with an aerial shot that pulled back into the mountain tops showing the start of a chain reaction of additional bonfires being lit by individuals located in watch towers. Bonfire after bonfire was set in flames, like a chain, until the final one was lit looking over the valley of Rohan - their signal for assistance. This concept was not just a fantasy story, but rather was based on actual methods of ancient communication.

Arthur Spier, author of the book *Comprehensive Hebrew Calendar*, was a Rabbinical authority of the Orthodox Jews that was referenced by Herbert W. Armstrong, founder of the *Worldwide Church of God* (the Sabbath-keeping organization I once attended), in his determination of calendar dates for that organization. Although Spier and Armstrong conclude with the modern usage of a calculated calendar, with the majority of the book laying out the calendar spanning over several centuries, Spier does describe Jewish history as once relying on observation of the new moon crescent followed by direct communication to the people as late as the fourth century C.E.[44]:





HISTORICAL REMARKS
ON THE JEWISH CALENDAR

Since Biblical times the months and years of the Jewish calendar have been established by the cycles of the moon and the sun. The traditional law prescribes that the months shall follow closely the course of the moon, from its *Molad* (birth, conjunction) to the next New Moon. Furthermore, the lunar months must always correspond to the seasons of the year, which are governed by the sun. The month of Nisan with the Passover Festival, for instance, must occur in the Spring and the month of Tishri with the harvest festival of Succoth in Fall.

Thus, the Jewish calendar is LUNI-SOLAR. It is in contrast to our civil calendar, the Gregorian, which is purely solar, and in which the months have completely lost their relation to the moon. But it is also quite different from the Mohammedan calendar, an absolutely lunar system, in which every month follows the moon closely but wanders through all four seasons during the period of 33 years.

Unlike these, which are either altogether solar, or altogether lunar, the Jewish calendar must meet *two* requirements, both solar and lunar. This accounts for its relatively complicated structure. Since the solar year of about 365 days is approximately 11 days longer than 12 lunar months, the Jewish calendar is faced with the problem of balancing the solar with the lunar years.

In the early times of our history the solution was found by the following practical procedure: The beginnings of the months were determined by direct observation of the new moon. Then those beginnings of the months (Rosh Hodesh) were sanctified and announced by the Sanhedrin, the Supreme Court in Jerusalem, after witnesses had testified that they had seen the new crescent and after their testimony had been thoroughly examined, confirmed by calculation and duly accepted. The Jewish communities were notified of the beginning of the months (Rosh Hodesh) in earlier time by kindling of night fires on the mountains, and later on by messengers.

A special committee of the Sanhedrin, with its president as chairman, had the mandate to regulate and balance the solar with the lunar years. This so-called Calendar Council (*Sod Haibbur*) calculated the beginnings of the seasons (*Tekufoth*) on the basis of astronomical figures which had been handed down as a tradition of old. Whenever, after two or three years, the annual excess of 11 days had accumulated to approximately 30 days, a thirteenth month Adar II was inserted before Nisan in order to assure that Nisan and Passover would occur in Spring and not retrogress toward winter. However, the astronomical calculation was not the only basis for intercalation of a thirteenth month. The delay of the actual arrival of spring was another decisive factor. The Talmudic sources report that the Council intercalated a year when the barley in the fields 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. The Council on

[1]

> *"In the early times of our history the solution was found by the following practical procedure: The beginnings of the months were determined by direct observation of the new moon. Then those beginnings of the months (Rosh Hodesh) were sanctified and announced by the Sanhedrin, the Supreme Court in Jerusalem, after witnesses had testified that they had seen the new crescent and after their testimony had been thoroughly examined, confirmed by calculation and duly accepted. The Jewish communities were notified of the beginning of the months (Rosh Hodesh) in earlier time by kindling of night fires on the mountains, and later on by messengers."*

The Sanhedrin was a man-made judicial council that claimed authority in making decisions related to Biblical commands. We'll discuss this group in a later chapter, but there are some important factors we can learn from their practices. For instance, although the Sanhedrin council did utilize calculations, we see that it was merely a general method, or tool, for confirming an eyewitness account given within the courts. And even though the primary council was in Jerusalem, they still considered eyewitness accounts from various locations (with many making special journeys to the council to report their findings). If the use of a fixed calendar existed, there would be no need to consider any eyewitness accounts. Instead, it was the practice of the Sanhedrin to determine the current month as being 29 or 30 days in length depending on when the following month's new moon was first sighted. They bestowed upon themselves the authority as to when to blow trumpets when they deemed the new month as being confirmed - or sanctified by the courts - and took it a step further by adding the use of bonfire signals and messengers to communicate that fact to the masses.

Karaite Jews, a sect of Jews that only accept the written Torah as law and ignoring the oral laws (that are really volumes and volumes of written books), also agree that the observing the waxing crescent marks the start of the Biblical Month and currently practice this today. Most do keep with the tradition, however, of restricting those observations to within Israel (or Jerusalem Time).

Jerusalem Time

Besides Karaite Jews, there are other organizations today that use the *new moon crescent* to begin their months, but also believe that observation should be limited from within the Israeli borders (or, perhaps more specifically, from Jerusalem itself). In other words, if someone outside of Israel, say within the United States, were to see the *new moon crescent*, this rule would require that person to ignore the instruction to blow a trumpet and delay starting the month until the moon can be verified from Israel or Jerusalem (where trumpets would then be blown). This would result in a full day delay to the person residing in the United States. Additionally, if weather conditions had prevented confirmation of the crescent from Israel or Jerusalem (as this is a very limited space, geographically speaking), the observer in the United States may have to delay yet another full day causing the month to be 31 days in length. Suddenly, you are no longer using a system that is directly based on the lunar cycle, but rather a mathematical baseline (or meridian), like a dateline. But does the Bible define such a meridian? Many like to think so by referring to scriptures that pertain to Biblical law - such as Isaiah 2:3[1] which states, at the end:

"For out of Zion shall go forth the law. And the word of the Lord from Jerusalem."

Given the connection to the Sanhedrin courts, in ancient times, who were involved in scrutinizing the eyewitness accounts of new moon sightings and, consequently, blowing the trumpets as commanded from the temple, it's no surprise many make a correlation here that blowing trumpets to proclaim a new month would be like establishing law. But man does not create the laws of Yehovah! Neither does scripture command us to limit ourselves from following His laws, including the observation of His Biblical *signs*, strictly from Jerusalem. In other words, we can't ignore any aspect of Biblical law (or instruction) simply because we are not located within Jerusalem. That would be absurd! Even if this concept only pertained to His calendar, then the *Biblical Day* would only begin for everyone throughout the world, at the same exact time, specifically when the *sun* went down in Jerusalem. Talk about a communication problem! Applying this logic to the verse above would also mean that no one could follow the observance of the Torah itself (which is the law of Yehovah) unless they are physically within the city borders. This is simply a ridiculous assumption! Even if you expand this rule from Jerusalem to Israel, by what definition of Israel do you go by? by the current, modern-day borders? by the original borders established in 1949? or by the Biblical definition of Israel

spanning from the Nile to the Euphrates rivers (Genesis 15:18)? Notice that the verse leading up to that above is written within a prophetic context, starting in verse 2[1]:

> *"In the last days the mountain of the house of the LORD will be established as the chief of the mountains; it will be raised above the hills, and all nations will stream to it. And many peoples will come and say: 'Come, let us go up to the mountain of the LORD, to the house of the God of Jacob. He will teach us His ways so that we may walk in His paths.' For the law will go forth from Zion, and the word of the LORD from Jerusalem."*

This is describing the coming Kingdom of Yehovah, and a future throne being established in Jerusalem (or Zion) when Ye'shua returns. None of the *signs* described in Genesis 1 were described having limitations of being observed from only one specific territory. However, new laws may go forth at that future time as Elohim will be present in Zion at that time, and - unless specified - should apply to everyone throughout the world.

If you don't restrict sightings to just one location, observation becomes much more accurate - lessening any room for error. It is also true that the accuracy increases the more people you have available to look! Just as the Sanhedrin, described earlier, considered eyewitness accounts of those that came forward to give their testimony of sightings, so should we consider the testimony of others as they sight the moon and blow a trumpet (as instructed). Limiting any of the *signs* to Jerusalem has, historically, caused much conflict for Jews. This is evident as many Jews have created additional man-made traditions where those located in the diaspora outside of the Holy Land always recognize *Rosh Chodesh* (New Moon Day) after 29 days and 30 days (see *Yom Tov Sheni* in the *Historical Sanhedrin* section), "just in case" the crescent was seen early in Israel. Once confirmed, an adjustment is then made as to avoid two days for Atonement, but then this tradition of observing two days continues for the remaining Holy Days only for those within the diaspora. Therefore, those outside of Israel ignore local observation completely, which is once again not instructed within scripture.

Others believe that any kind of trumpets (or communication) should only be done from the physical Temple (or from the Tabernacle that was erected while Israel was dwelling in the wilderness) as the location of authority. But this would introduce a new problem, if it were true, as there is no *physical* temple today (nor has it existed for nearly 2000 years). Because of this, many Jews choose Jerusalem since it was the last site of a temple and, according to prophecy, the future site of Yehovah's throne that will be established here on Earth. But even if this were true, many Christians (or followers of Ye'shua) should understand the concept of the "New Testament" temple as referenced in I Corinthians 6: 19-20[1]:

> *"Or do you not know that your body is the temple of the Holy Spirit who is in you, whom you have from God, and you are not your own? For you were bought at a price; therefore glorify God in your body and in your spirit, which are God's."*

The Body of Ye'shua is made up of individual followers, each with Yehovah's law (Torah) written in their hearts. Our temporary bodies (or tabernacles) serve as His temple while we live on this Earth - and Ye'shua serves as the Head Priest and intercessor to the Father's throne. If it were true that a trumpet must be blown strictly from the temple, then it would be our duty as members of the Body of Ye'shua, His Church, to blow trumpets at the start of every *Biblical Month* regardless of our physical location! Any authority bestowed, if necessary, would be from

Ye'shua Himself as our High Priest and authorized covering. Again, there is no Biblical reason for us to ignore the ordained *sign* of the crescent just because we are not located in Jerusalem - no more than we should ignore the *sun, stars,* or any of Yehovah's laws or instructions whenever we are located outside of the holy land.

Psalm 81

Although there are many that do fully accept that the Bible supports a method of observation of His timepiece, rather than the calculation of unseen theoretical events, there are also those that try to twist scripture by claiming the Bible supports yet other phase of the moon to begin the month. More times than not, these arguments will hinge on one scripture passage - Psalm 81:3-4. In the King James Version, this verse reads:

> *"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."*

Although on the surface this may seem innocent enough by describing what we have already discussed, this specifies blowing trumpets at the *chodesh* (new moon), at the appointed times, and on a feast day. This leads to various English interpretations along with some loose associations of Hebrew words mixed in with this passage. This is because the phrase 'time appointed' is not using the Hebrew word *mo'ed*, but rather *bakesseh* that has a questionable translation. Yet, many will attempt to link this word as being the de facto definition of *chodesh.* For example, the American Standard Version [59] of these verses read:

> *"Blow the trumpet at the new moon (chodesh), At the full moon (bakesseh), on our feast-day. For it is a statute for Israel, An ordinance of the God of Jacob."* {Underlined emphasis added}

The Hebrew word used here, *bakesseh* (Strong's 3677) can be translated as "time appointed" or "in preparation", however it is also translated as "full moon" by connecting to the root word *kasah* (Strong's 3680), which means "plump" or to "fill up hollows"; however, it can also mean "covering" or "hidden". This tends to give credence to interpret *bakesseh* as being a "hidden moon". Even though the term *chodesh* is also used here and throughout the scriptures when referring to the moon, this is the only scripture that pairs *chodesh* with the term *bakesseh* making it a target within calendar debates. Regrettably, this is also the only location within the Bible that uses the specific term *bakesseh*, so it's just vague enough to allow for varied speculation without having any other context to compare, much less assume it has anything to do with the moon or to further describe *chodesh*.

The Orthodox Jewish Bible[60] reads:

> *"Blow the shofar at Rosh Chodesh, at the full moon, on Yom Chageinu* {Underlined emphasis added}

Yom Chageinu means "day of celebration" or "day of festival". The appointed Festivals of Leviticus 23 all involve the blowing of trumpets (as we are commanded to do in Numbers 10:10 over the offerings given and in days of gladness and appointed times), with many that fall at specific phases of the moon: the Day of Trumpets (Yom Teruah), which takes place at the time

of the renewed moon (chodesh), along with the Feast of Unleavened Bread (Chag HaMatzot) and the Feast of Tabernacles (Sukkot) that both begin around the time of the full moon (or on the 15th day of the renewed moon). In this case, the term *bakesseh* would not be redefining *Rosh Chodesh* itself (a term referring to the head of the month), but rather could be generally describing various days of celebration that fall at both the time of the renewed moon (Rosh Chodesh) and at the full moon when trumpets happened to be blown.

This does not mean, though, that the renewed moon is the full moon. Only the Day of Trumpets is an appointed day that occurs at the time of the *chodesh* and it, also, is not a pilgrimage festival. Therefore, this verse must be describing multiple days where trumpets are blown - not just one. Additionally, the Hebrew word used for *Day* (the Yom in *Yom Chageinu*) uses an inflection where the word is prefixed with a *lamad*, which implies "leading toward the day". When we consider all these things, clearing out any commas that have been added into the English interpretations, we would get the following:

> *"Blow the shofar at the RENEWED MOON (chodesh) and at the FULL MOON (bakesseh) leading toward the [pilgrimage] festival day (Yom Chageinu)*

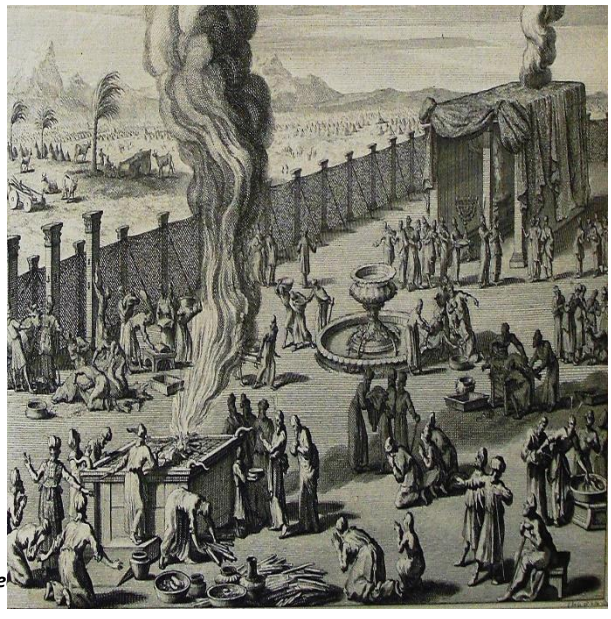
Regardless, there is no historical support or any other hard evidence (or additional scriptural references) to support the *chodesh* as being definitively tied to the full moon, neither is there any significant support for it being tied to the dark moon. This argument is extremely weak and, coincidentally, based a single poetic verse written long after the instruction was given within the Torah. Again, there is no other reference to *bakesseh* anywhere else in scripture. To assume this term redefines *chodesh*/*chadash* from being *renewed* to being *covered* or *hidden* would be contradictory in nature. As we read examples earlier for *chadash*, you cannot rebuild/renew a desolate city and then have it considered *covered* or *hidden* while doing so.

New Moon Burnt Offerings

As we touched on earlier, besides the blowing of trumpets, we also read that there were further Biblical events that took place on the *day of the Renewed Moon*, which included the presentation

of two offerings. The first, which was a requirement at the temple, was a burnt offering and is described in Numbers 28:11[1]:

> *"At the beginnings of your <u>new moons (chodeshi)</u> you shall present a <u>burnt offering</u> to the Lord: two young bulls, one ram, and seven lambs in their first year, without blemish;"* {Underlined emphasis added}



Additionally, a peace offering was also customary during the time of the renewed moon (as we read in Numbers 10:10):

> *"In the day of your gladness, in your appointed feasts, and at the beginning of*

> *your months, you shall blow the trumpets over your burnt offerings and over the sacrifices of your peace offerings; that they may be to you for a memorial before your God: I am the LORD your God."* {Underlined emphasis added}

A voluntary Peace Offering was included as the memorial practice and would have consisted of the head of the household selecting an animal (without defect) from their herd and presenting it at the tent of meeting. The animal would then be proportioned prior to being placed on the fire. The first portion, presented to Yehovah, was burned. Another portion was given to the priests, but the remainder was eaten later by the presenter in a meal eaten at some point prior to the third day, after which the remains were destroyed. This was a free-will offering and is sometimes referred to as a Fellowship Offering (Leviticus 3:1-17; 7:11-34; 19:5-8 and 22:29-30). There were very specific rules associated with this offering, as found in Leviticus 7:16-19[1]:

> *"But if the sacrifice of his offering be a vow, or a voluntary offering, it shall be eaten the same day that he offereth his sacrifice: and on the morrow also the remainder of it shall be eaten: But the remainder of the flesh of the sacrifice on the third day (bay-yo-wm) shall be burnt with fire. And if any of the flesh of the sacrifice of his peace offerings be eaten at all on the third day, it shall not be accepted, neither shall it be imputed unto him that offereth it: it shall be an abomination, and the soul that eateth of it shall bear his iniquity. And the flesh that toucheth any unclean thing shall not be eaten; it shall be burnt with fire: and as for the flesh, all that be clean shall eat thereof."* {Underlined emphasis added}

Here we see that the Peace offering was considered clean up until the third day (*bay-yo-wm* specifically being the daytime portion - Strong's 3117 - this is the same form of the word *yom*, meaning *day*, used in Genesis 1:18 when we are told the sun ruled the *day*, or ruled the *bay-yo-wm*). It was on this third day when the food had to be destroyed by fire (this requirement is repeated in Leviticus 19:5-8). If not destroyed, then it was considered an abomination for anyone who ate from it, presented it as another offering, or caused any other food to touch it! Additionally Leviticus 7:20 indicates that the person ate of this meal, prior to the third day, also had to be clean less they be cut off as Yehovah's people[1]:

> *"But the soul that eateth of the flesh of the sacrifice of peace offerings, that pertain unto the Lord, having his uncleanness upon him, even that soul shall be cut off from his people."* {Underlined emphasis added}

These peace offerings were in addition to the offerings at the temple that were required at each renewed moon, the daily morning and afternoon sacrifices, and those for specific holy days, including Yom Teruah, which also took place at the time of the renewed moon. We see an example of this again in Ezra 3:5[1]:

> *"Afterwards they offered the regular burnt offering, and those for New Moons and for all the appointed feasts of the Lord that were consecrated, and those of everyone who willingly offered a freewill offering to the Lord."* {Underlined emphasis added}

It was most likely the custom for many in ancient times to partake in this sacrificial peace-meal together as an assembly. Even though physical sacrifices are no longer offered at a temple today, the tradition of assembling to partake in a meal should be heavily considered. Although some

groups have an occasional potluck (also referred to as an *Oneg* or *Jacob's Join*), a meal provides an opportunity for everyone, as a group, to fellowship and share their experiences and understanding. Such assemblies for the *renewed moon* are supported in scriptures, including I Chronicles 23:31, II Chronicles 2:4; 8:13; 31:3, Nehemiah 10:33, Ezekiel 46:1, 3, Psalm 81:3, Isaiah 66:23 and Colossians 2:16.

This means that when the next renewed moon is expected (at the end of the 29th day of the month) we should be gathering as Yehovah's people to be aware of when the month begins. And notice, this meal that was previously presented to be slaughtered is acceptable to be eaten for up to two full days – this would make it available to eat toward the end of the 29th or 30th of the month. It is not a day treated as a Sabbath or High Day, but serves as a "living" calendar, so to speak, with each of us partaking in its function. If the *new moon crescent* is observed on this day (or has been communicated as such via distant trumpets), we should proclaim the month by blowing the trumpets and sharing in a meal together in honor of Yehovah! If the moon is not seen (or declared) that evening, then we should gather again the next evening (prior to the third day) as the crescent arrives at the end of the 30th day. We also have learned that this process evolved to include communications via bonfire and then messengers that would ride out to spread the news. Today, we have telephones, television, and internet media with a worldwide audience of potential observers we have been blessed to be made available to us.

David's Example

Now that we have established some context, let's look at one Biblical example that is often referenced when studying these *New Moon* celebrations. The story is in I Samuel 20 when David is invited to eat a meal with Saul, the King, and Father-in-Law of David. David had come to fear that the King wanted to kill him, so he consulted with the King's son Jonathan, a close friend whom he trusted, to learn the truth of the King's true intentions toward him. To achieve this, David planned to go into hiding for *three days* while Jonathan remained behind with the King. We also learn that one of these days would be the *New Moon* in verse 5[1]:

> *"And David said unto Jonathan, Behold, <u>to morrow is the new moon</u>* [that evening]*, and I should not fail <u>to sit with the king at meat</u>"* {Underlined emphasis added}

Many stop here and claim David knew in advance when the "new moon" would arrive - therefore, he must have used calculations and not observation! But was David referring to the arrival of the moon itself, or was he referring to the peace offering meal that was being planned for that evening? A meal being held for the purpose of looking for the "new moon"? Now notice what David says next:

> *"...but let me go, that I may hide myself in the field <u>unto the third day at even</u>."* {Underlined emphasis added}

The word *even* here refers to sundown (or twilight), as days were from 'even to even.' The Hebrew reckoning of time is also all-inclusive when spoken of sequentially, meaning the first day in David's count was the current day (the day this discussion took place). That evening (at twilight) and the following day would have been the second day in his count, and finally, "unto" (including) the next evening (at twilight) and the following day would have been the third day in his count, after which he planned to reemerge. This plan just happens to coincide with the

requirements of presenting a peace offering. If one desired to partake in a peace offering for the renewed moon, they would have needed to present it at the same time David was making these plans. David seemed to be using the same timeline for a peace offering, which would have been eaten later that night or the next. And remember, a peace offering was good up until the third day (*bay-yo-wm* - the daytime portion) when it needed to be destroyed by fire. This is exactly when David planned to come out of hiding. Here is a graphical representation of David's plan compared to that of a peace offering:

Using the context of a peace offering, David's reference to missing the expected new moon that evening seems to imply that his intention was for him to miss the peace offering meal being planned that evening by the King, a meal planned for either that evening or the next. It's possible the King always planned a peace offering meal at every renewed moon, and not necessarily that David had some special insight or mathematical guarantee that the future new moon crescent would arrive that evening. The only thing David likely knew, for certain, was that evening was a planned meal that would have been made ready that evening *just in case* the moon was spotted! It's also very possible that David and Jonathan themselves were, at this time, making the arrangements of the peace meal offering to be slaughtered in preparation for the King's meal that evening. This we are not told. Either way, the question remains: why did David plan to hide from the King for *three days* instead of just *two*? This is especially odd if David were so certain that the *new moon* itself was to arrive that first evening based on calculation!

Notice also that David only refers to this future-coming day as being the New Moon - not a Sabbath or Holy Day. Some claim that this story must have taken place on the Day of Trumpets where the modern Jewish tradition is to observe two days (*Yom Tov Sheni*) and this was the reason for David's mysterious timing. But this story took place in Jerusalem - the very location where such a dateline would be fixed to a specific day. Jews do not observe *Yom Tov Sheni* unless they are in the Diaspora (outside of the Holy Land) and is, historically, a more modern tradition not established until after the time of Ye'shua. Furthermore, a high holy day, such as the Day of Trumpets, is never mentioned.

Let's continue with the story: David and Jonathan devise a plan where Jonathan would secretly signal to David in the afternoon, *after hiding until the third day at even*, whether it was safe for David to return. To have an excuse to cover David's time span, Jonathan was to tell the King, if asked, that David had gone to Bethlehem (approximately 6 miles away) at the request of his brother, who lived there, to attend a meal with his family (instead of with the King). Whether David went to Bethlehem we are not told - only that he was going to hide in the fields. We see in verse 24 that the renewed moon (chodesh), indeed, arrived that first evening where the King held a fellowship meal[1]:

"So David hid himself in the field: and when the new moon (chodesh) *was come, the king sat him down to eat meat."* {Underlined emphasis added}

Notice we are told specifically that the moon had *come*, the sign that the month had begun. This verse also implies that the King waited to eat meat until the moon's arrival was confirmed. However, when David did not show, King Saul did not become upset. Rather we are told in verse 25 that the King assumed David was unprepared (unclean) - a requirement for the ceremonial burnt peace offering meal[1]:

> *"Nevertheless Saul spake not any thing that day: for he thought, Something hath befallen him, he is not clean; surely he is not clean."* {Underlined emphasis added}

The King never asked Jonathan about David's absence and seems to be accepting that David could not attend. The evening ended uneventfully. It's at this point, the afternoon of the second day, that David's original intention of missing the New Moon celebration meal was fulfilled. Certainly, if David and Jonathan relied solely on calculation to determine the New Moon's arrival, it was at this time Jonathan could now have easily signaled the "all clear" letting David know that the King did not become upset and there would have been no need for Jonathan to tell his father that David had gone to Bethlehem. But instead, David's plan continues to keep him in hiding another full day!

It wasn't until the next evening meal, on the second day of the renewed moon, that King Saul inquired Jonathan of David's absence in verses 27-28[1]:

> *"And it came to pass on the morrow, which was the second day of the month, that David's place was empty: and Saul said unto Jonathan his son, Wherefore cometh not the son of Jesse to meat, neither yesterday, nor to day?"* {Underlined emphasis added}

Here we see King Saul's assumption of David being unclean is no longer a concern. Either this second meal was not a sacrificial meal or the King's assumption that David was unclean would have expired by this time. However, had the renewed moon not arrived the day prior, the offertory meal would still have been available to eat, allowing for the previous month to be either 29 or 30 days in length!

It was now that Jonathan tells his father the excuse for David's absence. Whether the King called his bluff or was simply upset for allowing David to leave, the King now became furious toward Jonathan:

> *"Then Saul's anger was kindled <u>against Jonathan</u>, and he said to him, You son of the perverse rebellious woman, do not I know that you have chosen the son of Jesse to your own confusion, and to the confusion of your mother's nakedness?"* {Underlined emphasis added}

King Saul truly despised Jonathan's favor toward David and knew he would most likely allow David to rule in his stead when the time came. To protect his dynasty, Saul now orders the death of David. It is not until after this second meal, on the morning of the third day, that Jonathan then delivers the bad news to David.

It seems clear that David's original concern (in verse 5) was missing the meal intended for the New Moon celebration and gathering. The chronological layout of this story suggests that David did not know which night the King would be hosting a sacrificial meal versus a standard nightly meal (regular meals could have likely been hosted by the King quite often). It's obvious that David purposely accommodated for the possibility of either meal to be the one intended for the New Moon gathering. In fact, David's plan simply followed along with the standard practice for obtaining and eating the fellowship peace offering that was prepared for the purposes of the new moon celebration. It would have been this preparation process and searching that David was referring to when he claimed that the next day was the "new moon".

Proponents of the Hebrew Calendar claim that David knew the Molad calculation for the moon yet seem to ignore the reason for planning to be absent a second day. Others claim David had observed a waning crescent the previous morning and that the first meal was for the celebration of the moon's conjunction and the second meal was to observe the waxing crescent to confirm the previous evening as truly being the *dark* new moon. This ignores the fact that scripture claimed the moon had come on the first evening and then mentions nothing about the moon as being confirmed or observed the second. This practice is not only clumsy and inaccurate; it is - once again - <u>not</u> instructed within scripture. There is a similar process of using the waxing crescent as a form of confirmation of the *dark* moon that is pulled from the Jewish Talmud, but these are writings strictly inspired by men (and admittedly so by the Rabbinical sources that wrote them), containing many instructions that conflict with the Bible. The Talmud writings are not considered as part of the canon of scripture and should not be taken as such – especially when they conflict. The dark moon cannot possibly serve as a Biblical *sign* (a beacon) when you must jump through hoops to confirm it existed, sight unseen.

When one relies upon calculations for any portion of the Biblical calendar, you may begin to realize that this monthly *New Moon* event of partaking in a fellowship meal quickly becomes vain and completely useless. In fact, this is exactly what most Sabbath-keeping church groups believe today! Many don't even recognize this monthly event and their members could care less as to when the moon's cycle begins. Since the *New Moon Festival* gathering was not instructed as serving any other purpose (such as a Sabbath or Appointed Festival), there can be no other significance to their existence within scripture *other than* to confirm an observation and recognize the renewed moon when it *comes*! What better setting could there be to blow a trumpet to announce the start of Yehovah's month than when they were all gathered in fellowship?

Additionally, we learn in Isaiah 66:23[1] that these monthly observances of the *New Moon* will continue into the future coming Kingdom:

> *"'And it shall come to pass that from one New Moon to another, and from one Sabbath to another, all flesh shall come to worship before Me,' says the Lord."* {Underlined emphasis added}

We see here where we will gather, not only on the Sabbath days but, at the *New Moons* as well! Proponents of a calculated calendar cannot understand the significance of this scripture. Instead, many will simply brush it off, believing such a ceremony is unimportant. Or worse, they may believe searching for the crescent moon is equivalent to worshiping it as an *idol in the heavens*. Most believe people who keep the new moons are treating it as a *Sabbath Day* (which is not listed in Leviticus 23), so they avoid it altogether.

Overcoming Our Bias

Psalm 119:130[1] states:

> *"Wonderful are Your testimonies; therefore, I obey them. The unfolding of Your words gives light; it informs the simple."* {Underlined emphasis added}

Following a method of observing His timepiece in the firmament above us is simple. The practice can be taught to a five-year-old child. Man tries to make His things complicated.

Many find observation to be inconsistent and vulnerable to misinterpretation. When it comes to the *Biblical Month* it can be extremely frustrating for those looking for a unified, mathematical solution. As stated earlier, this is primarily due to the lunation cycle not fitting into an exact number of whole days.

This average cycle, referred to as the *Synodic Cycle*, is approximately 29.530588853 days and varies anywhere from 29.26 to 29.80 days, depending on the sun's gravity as it affects the moon's eccentric orbit around the Earth. To an observer on the surface of the Earth, they would find it lasts either 29 or 30 whole days. As we mentioned earlier, this means about half the world would observe it as 29 days, while the other half would for 30. But this would not fit into a mathematical calendar system – it must be the same number of days for everyone around the globe. So, most immediately turn to an international dateline, ignoring any local observations.

This invisible boundary is used to mark between one calendar day and the next. In other words, they believe that the first day of the month must also be the same day of the week for everyone around the globe. While this situation is more accurate in relation to the Weekly Sabbath (based on a continuous, repeating count of seven days based on the sun, not the moon), this can be one of the more difficult biases to break away from. Because to an observer, counting the Biblical Days from the renewed moon (at twilight) has absolutely no ties to the day of the week within scripture. A person on one side of the world could begin observing the fifth Biblical day of the renewed moon on a Thursday evening while someone on the opposite side of the globe may not begin their fifth Biblical day until Friday. With the added instruction to blow trumpets, or to communicate the arrival of a renewed moon, the location where the first sighting is confirmed

would, essentially, create a boundary for the new month and continue westward as the sun goes down - despite the day of the week.

So, what do we do when the new moon crescent can't be seen due to clouds? Could the proclamation of the month be delayed? This argument is common for those against a method of observation. Although it is certainly possible a local delay could occur, weather would only be a factor because Yehovah allowed it to happen. With observation, though, its accuracy increases as more people participate. Unlike the central location of the courts utilized by the Sanhedrin, if everyone around the globe followed a method of observation (communicating their findings), it would be extremely unlikely that no one in the world would be able to view the crescent when it first arrived. Its appearance would most certainly be seen within a very short time frame as the Earth continued to rotate. The likelihood of nobody seeing the moon for an entire day globally would be very rare and would likely only occur with a global catastrophe, like that of the flood during the time of Noah. More likely, someone will see the renewed moon within just a few hours of its existence, leaving only a small region delaying the start of their month by one Biblical Day. However, that region will correctly readjust with the next renewed moon in most cases.

Some will still simply argue that living day-to-day using a method of observation is just plain clumsy and can only lead to chaos and anarchy. Since observance of the moon's crescent can vary, depending on viewing conditions (including weather, geography, etc.), it's generally believed that the crescent event is simply not "math friendly" and only through mathematics can you achieve true uniformity. Again, mathematical uniformity, though, can only be achieved if everyone uses the same mathematical formula. If it were God's intention for His people to universally rely on calculation, He would have given us just that - the calculations! He did not.

Just as we are told that no man knows the exact day or hour when Ye'shua will return (Matthew 24:36) and are told to keep watch (verse 42), the Day of Trumpets (which is observed on the first day of the seventh renewed moon) perfectly embodies this practice of keeping watch for His sign, not knowing the exact moment it arrives. And unless we are actively looking for it and keeping watch, we may completely ignore the moment it has arrived. But when it does, we can then shout out, blowing a trumpet, and praising Yehovah for showing us His great timepiece.

Summary of the Biblical Month

- The Biblical Month begins at the start of the Biblical Day, at twilight, with the appearance of the renewed moon crescent.
- The waxing crescent pictures the renewal of visible light within the lunation cycle, staying within the parameters of Genesis 1:14.
- Unseen events, such as the Molad or dark moon, do not serve as signs of light given in Genesis 1:14 while the full moon is not in the process of being renewed, but rather is fully restored.

- Observation of the renewed moon is not restricted to any one location any more than observation of the sun should be restricted.
- The thin waxing crescent is historically supported by the Orthodox Jews and is currently practiced by modern Karaite Jews today.
- We are to communicate the appearance of the renewed moon crescent by blowing trumpets - a Biblical form of mass warning and information sharing.
- The Bible does not connect counting days of the renewed moon with the days of the week - the United States can observe the first day of the Biblical Month before Israel, and vice versa.

BIBLICAL YEARS

Now that we have established the Biblical Day and Month, one major element remains: the *Biblical Year*. Just as our *calendar bias* persuaded us to assign a fixed number of days to a given month, we are also determined to assign a fixed number of *months* each year. For those of us comfortable with the Gregorian calendar, we assign twelve months per year. As we learned in the previous chapter, a lunar cycle lasts just over 29 1/2 days and does not easily divide into the solar year. The solar year lasts just a few days shy of 12 1/2 lunar months. But does the Bible explain to us how many months we should keep each year or when the New Year should begin? To understand the answer to this question, we need to turn to the scriptures. We are told directly by Yehovah Himself in Exodus 12:2[1]:

> *"This month shall be your beginning of months; it shall be the first month of the year to you."* **{Underlined emphasis added}**

This instruction was given to Israel at the time of their exodus out of Egypt. The following statements continue the rules of keeping the Passover. We also know that the *Passover* was observed in the same month, the *first month* (or *renewed moon*). Exodus 13:3-4[1] further explains the *month* Israel left Egypt:

> *"And Moses said to the people: 'Remember this day in which you went out of Egypt, out of the house of bondage; for by strength of hand the Lord brought you out of this place. No leavened bread shall be eaten. On this day you are going out, in the month Aviv.'"* **{Underlined emphasis added}**

Or this can be translated as the "month of the aviv." Understanding the definition behind the word *month* as being translated from *chodesh* (Strong's 2320), we can understand these verses as saying:

> *"On this day you are going out, in the RENEWED MOON of the aviv;"* and *"This RENEWED MOON shall be your beginning of RENEWED MOONS; it shall be the first RENEWED MOON of the year to you."*

So, to understand when the Biblical Year begins, we just need to know one thing: when is the *renewed moon* of the *aviv*? Aviv (also translated *abib*) is used here as a very specific term. We will see that this Hebrew term is not necessarily a proper name given to the *first month*; rather it is a descriptive *state of being*.

Aviv Barley

Proper names within the Hebrew language always contain an inherent *meaning* (and still do today) within their construct. Unlike our traditions in the Western World where names are merely a unique reference label (not much unlike a number assigned by a computer), the Hebrew language is broken down into representative segments (like a group of picture images that, when combined, form a word or name). When Yehovah gives a name to someone or something, the *meaning* is always perfectly represented. As we saw with the King James Version, some translations phrase this as "the month Aviv", as though using a proper name. Others will more properly say, "the month of the aviv". Either way, we must look at the *meaning* behind the term, or name, *aviv*. Let's start with the King James' version from the Strong's Concordance (Strong's 24), which translates as[3]:

> *"**24** 'abiyb aw-beeb' from an unused root (meaning to be tender); green, i.e. a young ear of grain; hence, the name of the month Abib or Nisan:--Abib, ear, green ears of corn (not maize)."*

Exodus 13:4 specified that the first *month* was of aviv. With this definition, we would infer that the *new moon crescent* was of green, young ears of grain in the fields. Another translation is often *green, tender ears*. In either case, we see that the name Aviv itself is a reference to the growing stage of crops. This definition, however, is derived outside of Biblical resources (as there is no "root" word used within the Bible to better define its meaning). So, we must look further for other references to understand the context. Exodus 23:15[1] refers, once again, to this first month of the year:

> *"You shall keep the Feast of Unleavened Bread (you shall eat unleavened bread seven days, as I commanded you, at the time appointed in the month of Aviv, for in it you came out of Egypt; none shall appear before Me empty)."*

Additional references to *Aviv* are found in Exodus 34:18 and Deuteronomy 16:1. As we mentioned earlier, seasons (as we refer to them today) were only defined as *summer* and *winter* in the Bible. Essentially, the year was broken into two parts - the season of harvesting and the season of winter. People were agrarian in nature and were quite aware of which crops would be ripened and when. The people at the time of Moses would have identified perfectly with Yehovah's description of the first month. They would have understood what *aviv* referred to and that it was related to crops. We are also given a very specific description during the plague of hail that fell prior to Israel leaving Egypt in Exodus 9:31-32[1]:

> *"Now the flax and the barley were struck, for the barley was in the head [aviv] and the flax was in bud [giv'ol]. But the wheat and the spelt were not struck, for they are late crops [afilot]."* **{Underlined emphasis added}**

This is describing *aviv* for us as being the state of mature barley, that it was brittle enough to be damaged by hail and not flexible (afilot) enough to take on the barrage of the storm. Barley is the first cereal grain to be harvested every year, as it grows during the winter. This description, though, makes the translation "green ears of corn" a bit misleading. The Karaite Korner, the group dedicated to barley searches within the land of Israel, claims the Strong's definition of *green ears* is not completely accurate. They explain in their FAQ page that [61]:

> *"Abib does not mean "green ears", despite the incorrect translation in the King James Bible. The precise meaning of Abib must be reconstructed by going into the fields and studying the barley and cross-referencing this with the Biblical evidence. The Bible often speaks of "Abib parched in fire". This refers to grain which is developed enough to be eaten after it has been parched. In contrast, "Green Ears" is such a broad term that it can refer to grain which when parched will shrivel up leaving no edible material. This has been confirmed by experiments. In order to be Abib, the barley must be more developed than Green, tender ears."* **{Underlined emphasis added}**

The full meaning of this passage and its ramifications for understanding the agricultural term Aviv is discussed in an article titled "Abib (Barley)"[62]. With the additional support from Exodus 9 above, we can conclusively know that the first renewed moon of the aviv is the first moon of ripened barley capable of being parched in fire.

Wave Sheaf

The use of aviv barley in the first month of the year was also required after Israel arrived in the Promised Land. We are told that, during the Feast of Unleavened Bread, Yehovah commanded the people to present a wave sheaf offering (Leviticus 23:10-11)[1]:

> *"Speak to the children of Israel, and say to them: 'When you come into the land which I give to you, and reap its harvest, then you shall bring a sheaf of the firstfruits of your harvest to the priest. He shall wave the sheaf before the LORD, to be accepted on your behalf; on the day after the Sabbath the priest shall wave it."* **{Underlined emphasis added}**

This offering was brought from the first cut barley of the harvest and was from the first of the grain to be presented for eating, as it was His command that none of the new harvest could even be consumed until this event took place in verse 14[1]:

> *"You shall eat neither bread nor parched grain nor fresh grain until the same day that you have brought an offering to your God; it shall be a statute forever throughout your generations in all your dwellings".*

Since it was commanded that unleavened bread be eaten at the time of Passover and during the festival, this scripture was stating that no bread should be made, or grain parched from the new crops until this ceremony had taken place. This wave sheaf offering began the *Feast of Firstfruits* - or the count to Pentecost. Obviously, the requirement of having ripened barley available for the wave sheaf offering was necessary to start the year and, since the people could not eat it until it was offered, it was vital to identify the correct month that would be of *Aviv*. As the article above references, Leviticus tells us, in even further detail, what conditions (or stages of growth) this barley should be for it to be acceptable as an offering - giving us a detailed description to the meaning of *Aviv*. Leviticus 2:14[1] states:

> *"If you offer a grain offering of your firstfruits [wavesheaf] to the Lord, you shall offer for the grain offering of your firstfruits green heads of grain roasted on the fire, grain beaten from full heads."*

This specifies that the first fruit offering of barley could be either 1) parched in fire, or 2) as crushed Carmel. Therefore, at the time the grain is presented as an offering, if the heads have not matured past the milky stage within the heads, it would simply burst open when squeezed or parched in a fire – therefore it is not yet aviv. However, if it is simply moist, but not quite enough to be crushed into flour, a fire could be used to remove the moisture and then, be crushed. At this stage of growth, barley could still have some green color, but usually with signs of yellowing. Regardless, it is at this stage that the barley would be acceptable for the offering.

If a renewed moon arrived with no aviv barley ready to harvest, then declaration of a new year would not begin until the following renewed moon sighting. This would mean that the barley harvest could mature to a level of hardened grain - visibly yellow in color. For more information regarding the barley harvesting, see *Growth and Development Guide for Spring Barley*[15].

There are those that argue if any kind of green herbage exists in the land, then the month should be considered Aviv. But as we have seen, it is required that the plant be matured enough to be parched in fire, at a minimum. Then the question becomes: does the year begin when any barley plant is discovered at the necessary level of ripeness in a particular location, or do you wait until it can be found throughout all the land? Obviously, waiting for the entire region to be filled with aviv barley would be like waiting until the moon was full to determine it was renewed. However, identifying how much aviv barley is enough has often been a topic of contention.

Naturally, a field of barley (especially wild barley) will often vary in ripeness from one stalk to another. As a field ripens, it is very common to find a mixture of barley stalks in varying stages of ripeness - especially on the outside borders near roads or rocky areas that absorb higher amounts of heat than the rest of the field. This can cause "pockets" of barley to be more mature than most of the remaining field. It is debatable on how much barley within the field needs to be aviv to properly determine the new year. It's also possible for barley to be mature completely out of season if grown within a greenhouse, for instance - therefore, it's a matter of what has naturally developed versus what has been forced to develop too early.

There are some that believe any amount of barley, regardless of why it's matured, would be considered aviv as long as it's enough quantity to create a bundle for the wave sheaf offering. This view is often coupled with an urgency to find aviv as early as possible with the

understanding that Deuteronomy 16:9 is a commandment that no one was allowed to cut or harvest any new barley until the wave sheaf was offered[1]:

> *"You shall count seven weeks for yourself; begin to count the seven weeks from the time you begin to put the sickle to the grain."*

This, of course, is describing the count to Pentecost that begins during the Days of Unleavened Bread when the wave sheaf is presented. The instruction for counting is repeated in Leviticus 23:15[1]:

> *"And you shall count for yourselves from the day after the Sabbath, from the day that you brought the sheaf of the wave offering: seven Sabbaths shall be completed."*

The verbiage "put the sickle to the grain" is paraphrasing the wave sheaf offering that was presented by the priest, not a commandment for everyone to refrain from harvesting. If everyone was restricted from using a sickle until after the wave sheaf was presented, it would be impossible since - at minimum - the priest would have to use his own sickle to prepare the wave sheaf offering itself. Not to mention that no one would be able to present their own first-fruit offering as none would have brought any with them to be made available to eat while at the Feast - they would have to wait until they got home, and then hope their fields weren't too far gone because they waited too long.

The Jewish Encyclopedia describes the wave sheaf ceremony conducted at the temple[65]:

A sheaf of ripened barley, similar to what would have been waved at the temple during the Days of Unleavened Bread

> *"The reaping was done with much ceremony. Messengers, sent by the bet din to the chosen field on the day preceding the Passover Feast, drew the heads of the stalks together in sheaves and tied them in order to facilitate the work of the reapers. Then when the hour for gathering came the reapers thrice asked permission to reap; this was done in order to impress upon the Boethusians that this was the proper time for the gathering of the 'omer (Men. vi. 3). After the grain had been gathered it was brought to the courtyard of the Temple, where, according to R. Meï²¬ it was parched while it was still in the ear; according to the other rabbis, it was first thrashed and then parched. The grain was ground into coarse meal and then sifted through thirteen sieves until it became very clean, after which the tenth part was taken, the measure of the 'omer, and given to the priest. The remainder, which was subject to hallah, and, according to R. Akiba, to tithe also, could be redeemed and eaten even by laymen. The priest proceeded with the 'omer as with any other meal-offering: he poured oil and frankincense over the meal, "waved" it, and then burned a handful of it on the altar; the remainder was eaten by the priests (Men. vi. 4). The "waving" was done in the following way: The offering was placed on the extended hands of the priest, who moved them backward and forward (to counter-act the*

> *effects of injurious winds) and then upward and downward (to counteract the effects of injurious dews; Pesik. R. xviii. [ed. Friedmann, p. 92a]; Pesik. viii. 70b; Men. 62a; Lev. R. xxviii. 5). As soon as the 'omer ceremony was completed the people of Jerusalem were permitted to eat of the newly harvested grain."*

This grandiose ceremony, while partially based on conjecture, describes a national ceremony to kick-off the harvest season. However, this ceremony did not take place until the middle of the aviv month - meaning the fields from which the reapers would have asked for permission would have possibly been aviv at least two weeks prior. We are then told that after the ceremony is completed, all the people are permitted to eat the new grain. What new grain would they have unless they had brought some with them? Individual farmers could also bring their own first-fruit offering and would have certainly brought grain with them to the pilgrimage festival. What is clear, however, is that barley within the land needed to be mature enough so that most of it would be ready to harvest in time when this ceremony was performed. Given that farmers travelled to the Feast of Unleavened Bread in Jerusalem from various locations throughout the land, this would also be the reason why the first-fruit offering was flexible enough to allow for various degrees of matured barley to be presented as either parched or fully mature.

Although the entire barley harvest lasts anywhere from six to eight weeks, it's important for everyone to understand that once barley does become fully mature, the window of time to harvest it is very short - otherwise it becomes brittle and falls apart, disintegrating in the fields. If they were forced to wait several weeks for the wave sheaf ceremony to be performed, remain at the Feast for up to seven days, and then travel back home this would make traveling to the Feast impractical for most farmers - hence many people's urgency to want to declare aviv as early as possible. But the restriction to not harvest did not exist, the only requirement was that they not eat of the new grain until the offering was presented.

Common sense would then imply that enough aviv barley should exist in a field that any farmer would be willing to make the effort to begin harvesting his field. Small, insignificant pockets or edges would not be worth the trouble for a farmer to consider harvesting. It would be at this point that most farmers, preparing to harvest their fields, would clearly know that the next renewed moon would be the first of the year. By the time Passover arrived, not only would the high priest have barley nearby available to harvest for the Wave Sheaf given at the temple, but individual farmers should also have their own first fruit offerings of new barley (whether fully matured or parched in fire) to take with them to the Feast of Unleavened Bread (in Jerusalem) and begin to eat of that year's new crop while there.

Scripture, obviously, does not spell out clear instructions to make either side of this argument clear. This leads to various interpretations and differences of opinion. There are several groups and organizations that do conduct aviv searches every year that usually do provide enough data for one to make a final decision.

Although barley may be in various locations throughout the world, it hasn't always been the case. Obviously referring to barley grown in controlled conditions under man's guidance should not be considered when looking for aviv barley at the time of the renewed moon. This, then, would lead us to question the authenticity of barley exported to various locations around the world that take advantage of climate conditions at various times throughout the year. This means that our best, most logical choice would be to look to indigenous barley - the geographical origin where barley historically grew naturally.

Natural, or wild, barley is referred to as *Hordeum spontaneum*. Its origins spread from regions of North Africa and Crete in the west (primarily Egypt), to Tibet in the east. It grows most abundantly in the Fertile Crescent region (with modern-day Israel located in the middle of this region)[63]. According to the scriptures, the original borders of the Promised Land extended well beyond the modern-day borders of Israel. Yehovah's borders included all the land from the river of the Nile in the west (in Egypt) to the Euphrates River in the east (located in modern-day Iraq). This entire region is located directly inside the Fertile Crescent. The earliest evidence of wild barley in an archaeological context comes from the Epipaleolithic at Ohalo II at the southern end of the Sea of Galilee. In other words, barley originated in Israel with the Fertile Crescent having the conditions in which it grows naturally and is relatively drought tolerant[64]. Therefore, this geographical region would provide a point of reference that would match that within scripture. This area would have included Egypt, which is where the people of Israel were located when they were instructed to use the aviv to begin their Biblical Year. Although the Fertile Crescent region contains both harvested (*Hordeum vulgare*) and wild (*Hordeum spontaneum*) barley, the wild barley is much rarer the further you go outside of this region[57].

Just as with the renewed moons, there are some that believe you must only observe barley from Jerusalem; however, the city itself does not have a history of growing barley - either cultivated or wild. Barley is generally located a few miles outside of Jerusalem itself, closer to the river.

We can see, then, that scripture gives us yet another *sign* on which to measure our Biblical Calendar. The renewed moon, however, remains the primary marker within the timepiece for the start of the Biblical Month with the added caveat of aviv barley, being ready to harvest, telling us that renewed moon is the first to begin counting as a new Biblical Year. The Israelites would have clearly understood the significance behind the word/name Aviv. Today, many often dismiss this term as simply an arbitrary name once assigned to a now defunct calendar no longer in use. Not even the modern Hebrew calendar retains this phrase, which uses *Nissan* as the name of the first month, giving no correlation to barley whatsoever. But now that we see the context within scripture, we can see Exodus 34:18[1] as commanding Yehovah's people to do the following:

> *"The Feast of Unleavened Bread you shall keep. Seven days you shall eat unleavened bread, as I commanded you, in the appointed time of the RENEWED MOON [Chodesh] of MATURE/PARCHABLE BARLEY [aviv]; for in the RENEWED MOON [Chodesh] of MATURE/PARCHABLE BARLEY [aviv] you came out from Egypt."*

Historical Evidence

Now that we have read the instructions regarding the Biblical Year, we may notice that there is no scriptural foundation for a pre-determined number of Biblical Months within a given year. Just as a lunar month lasts 29.53 days, a solar year (a full orbit of the Earth around the Sun) lasts

365.24 days (or about 12.37 lunar months). Yes, this means that a Biblical Year can last either 12 or 13 months. The calculated Hebrew calendar resolves this by inserting a 13th month (or leap-month) into the year at various times on a rotating 19-year cycle. This is referred to as intercalating a month, or to add a month. This is like the Gregorian calendar inserting a leap-day once on a 4-year cycle (unless the year is divisible by 100 but not 400 at the end of each century). Of course, there are those that believe the Hebrew calendar always existed. But this is not true. The Wikipedia Encyclopedia[20] confirms:

> *"Pesach [Passover] is a spring festival associated with the barley harvest, so the leap-month mentioned above is intercalated periodically to keep this festival in the northern hemisphere's spring season. Since the adoption of a fixed calendar, intercalations in the Hebrew calendar have been at fixed points in a 19-year cycle. Prior to this, the intercalation was determined empirically."*

As we saw with the *Biblical Month*, the Orthodox Rabbi, Arthur Spier, described the thin waxing crescent as being the start of the month historically. Spier also explains that, "the Talmudic sources report that the Council," referring here to the *Sod Haibbur Calendar Council*, "intercalated a year," or added an extra month to the year, "when the barley in the fields had not yet ripened," amongst other things[44]. The Karaite Jews, who currently practice observation of the waxing crescent, also conduct aviv barley searches every year at the end of the twelfth month to determine if the upcoming renewed moon will coincide with any indigenous fields found in the Holy Land.

Through the simple, consistent task of observing barley within fields, we can rather easily determine that the new year is ready to begin (especially if it is communicated at the time of the renewed moon). It is another visible *sign* given to us directly by Yehovah Himself when he called the first moon *Aviv* - regardless of whether there has been 12 or 13 months since the last harvest.

The use of crops by the Children of Israel has always been intricately tied directly into the Festivals of Yehovah that were kept within their *seasons*. The Wikipedia confirms this connection[46]:

> *"In ancient times, the grain harvest lasted seven weeks and was a season of gladness (Jer. 5:24, Deut. 16:9-11, Isa. 9:2). It began with the harvesting of the barley during Passover and ended with the harvesting of the wheat at Shavuot."*

Judaism 101 further makes this connection to the ancient calendar explaining when the 13th leap-month would be inserted prior to the first month[35]:

> *"In ancient times, this month was added by observation: the Sanhedrin observed the conditions of the weather, the crops and the livestock, and if these were not sufficiently advanced to be considered "spring," then the Sanhedrin inserted an additional month into the calendar to make sure that Pesach (Passover) would occur in the spring".*

We see here that Israel (the Sanhedrin) considered several variables, over time, when the renewed moon was declared as being the first of the year. Yet it was only the term *Aviv* that was directly instructed by Yehovah within scripture to use - not weather or livestock. And it is only

through observation, not calculation, that all the *signs* given by Yehovah within scripture can be preserved: using the sun, moon, and the season of Aviv harvest.

So now, just as we learned that the *Biblical Month* begins at the *new moon crescent* and the blowing of trumpets and gathering in fellowship, we also see that the *Biblical Year* begins at the same time when the *new moon crescent* of *Aviv* arrives, with the existence of ripened barley (capable of being harvested) within the fields located in the Promised Land. Communication of such an event would have taken place as everyone gathered for the New Moon Festival. If there were no reports of aviv barley found in the fields, then another month was simply added to the current year.

Biblical 13th Month

One question I hear often is *where in the Bible do you ever find reference to a thirteenth month?* To answer that question, let's return for a moment to the topic of the flood and the account of Noah referencing a particular number of days for the year. Is it possible that Noah kept a method of observation with the celestial movements being similar (or the same) as we see them today? Scripture tells us that the rain began to fall on the 17th day of the 2nd month in Genesis 7:11. Verse 12 describes the rain lasting 40 days and 40 nights followed by an additional period of 150 days in verse 24 where we are told the waters prevailed (remained). The next chapter repeats another 150-day period in verse 3 that describes the period the waters abated (decreased). Some question whether this describes two periods of 150 days or just one. However, it would not be logical that the waters could prevail (remain) and abate (decrease) at the same time, nor does it fit in the overall timeline, as we will see.

As a side note, many believe this 150-day period suggests months were once evenly divisible by 30 days. Combined with other references to the non-canonical book of Enoch and the sign of the Ahaz sundial given to Hezekiah in Isaiah 38:8, many believe 30 whole days should still be kept today, but this would ignore the moon entirely. As for the time of Noah, we see two 150-day periods starting on the 17th day of the Second month and ending on the 17th day of the Twelfth month. Additionally, it is assumed that the initial 40 days were part of the first 150-day period. This theory seems to be supported in Genesis 8:4 that describes the ark coming to rest on the 17th day of the Seventh month upon the Ararat mountains (what seems to be exactly five 30-day months, or 150 days, since the rain began to fall - assuming, of course, the ark came to rest on Mount Ararat on the exact same day the waters began to abate).

The story of Noah continues in Genesis 8:13, however, where we are told that, on the first day of the year, the flood waters were no longer seen (with the ground still likely to be saturated and not completely dried enough to walk upon until the 17th day of the Second month as described in verse 14). So, what happened between the supposed 17th day of the Twelfth month and the first day of the following year?

BIBLICAL EVIDENCE OF A 13TH MONTH
(THE FLOOD)

Biblical Story of Noah	Average Lunar Cycle (29.53 days)	Month of the Year
45 days* Prior to Flood (Gen. 7:11)	29.53 days	1st Month
	29.53 days	2nd Month
40 days Continual Rain (Gen. 7:12)	29.53 days	3rd Month
	29.53 days	4th Month
	29.53 days	5th Month
150 days Waters Prevail (Gen. 7:24)	29.53 days	6th Month
	29.53 days	7th Month
	29.53 days	8th Month
	29.53 days	9th Month
	29.53 days	10th Month
150 days Waters Abate (Gen 8:3)	29.53 days	11th Month
	29.53 days	12th Month
	29.53 days	**13th Month**
Total of 385 days No Flood Water/First Day of Year (Gen. 8:13)	**Total of 383.89**	* *Assuming a 29-day first month*

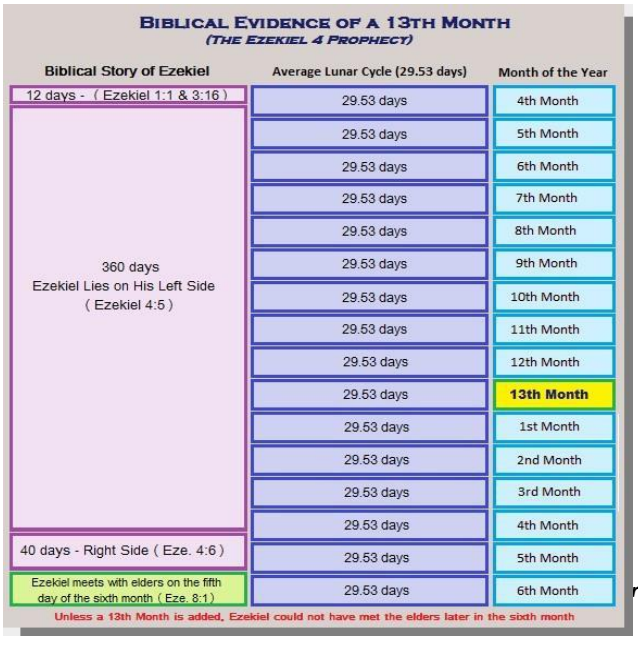
Approximate 1 day variance (within tollerance of a local month lasting 29 or 30 whole days)

Now that we know an observed calendar year can last either 12 or 13 lunar months, let's consider the total number of days that seem to be described in the story of Noah. First, the rain began to fall either 45 or 46 days from the start of the year (the first month being either 29 or 30 days, plus 16 days in the second month). If you add 40 days/nights for rain, 150 days for water to prevail (remain) and 150 days for water to abate (decrease), you end up with 385 or 386 total days in the first year. This just happens to fit the total number of whole days it takes for 13 Synodic lunar cycles (29.53 days x 13 = 383.9, or 384 whole days) - if you allow a variance for the moon not being sighted on the 29th day of the 13th month. This means that either the months did vary between 29 or 30 days, or Noah kept 30 days for each month until he was able to self-correct his count after leaving the ark and confirm the actual lunar cycle.

This often leads to the question: *where was aviv barley to determine the new year following the flood?* Genesis 8:11 describes the dove returning to the ark with a plucked olive leaf in her mouth, which seems to have served as evidence of agricultural growth (and scripture seems to include the story of the dove for this very reason). Noah may have taken this into consideration in determining the following renewed moon as being the first of the year, or he may have simply been told by God. This same scenario often comes up regarding Israel dwelling in the wilderness following the exodus out of Egypt. Both situations, however, did have direct interaction by God Himself with these people and He even tabernacled with the Children of Israel out in the wilderness. He, most certainly, could have provided this information in any manner He deemed fit to keep His appointed times on schedule.

Communication is an important factor when it comes to observation. But what about the Middle Ages, for example, when communication didn't exactly travel around the world as quickly as it does today? It's true that some may have relied on agricultural alternatives and, as we will learn more later, the Jews relied on a calculated 19-year timetable of historical barley cycles as an alternative after being forced out of the Promised Land. However, the truth remains that while aviv barley is available for us to reference today, which He commanded us to use, then there's no reason for us to rely on any of these alternatives or to change God's commandment based on such hypothetical scenarios.

A second Biblical witness of a 13th month is found in Ezekiel when God asks him to demonstrate to the people their iniquities by lying on his left side for 390 days and on his right for 40 additional days. Each represented the iniquity of Israel and of Judah respectively. We are told this story begins on the fifth day of the fourth month in Ezekiel 1:1. The story continues to Ezekiel 3:16 when we are told that seven days had passed. Ezekiel 4 then describes to request of lying on each side for a total of 430 days - giving us 437 days that have passed since the date given.



Fast forward to Ezekiel 8:1 and we find Ezekiel in his house with the elders on the fifth day of the sixth month of the next year. If the year had contained only 12 lunar months, this means Ezekiel was in his house, speaking to the elders, 14 months from the date given in

Ezekiel 1:1. With the average length of a lunar month, that would give us, at most, only 414 days (29.53 x 14 = 413.42), well shy of the 437 days described. If, however, there were a 13th month in that year, we would have a total of 15 lunar months that had passed - giving us 443 days (29.53 x 15 = 442.95). This would have been enough time to have completed the events described with Ezekiel sitting with the elders in his house up to six days later. With a 12-month year, these dates could have never happened unless the elders were meeting outside of his home while he laid on his side.

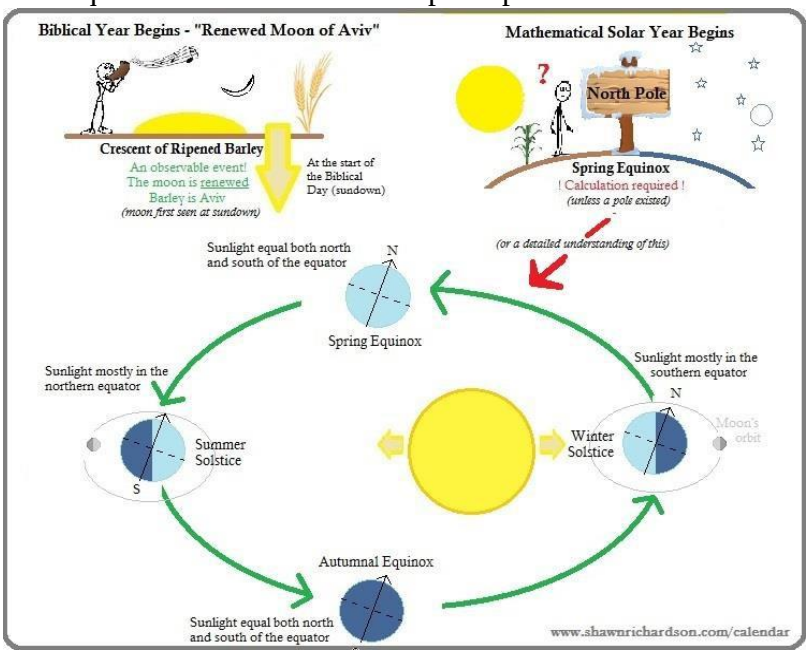
Finally, both examples prove that the length of the *Biblical Year* must fluctuate beyond the standard 365.24 days per year we currently observe today. They also debunk the fixed 364-day calendar contained within the pseudepigraphal (non-canonical) Book of Enoch that starts again with each Spring Equinox, amongst other theories. And it certainly gives us examples of 13 months being observed in Biblical times.

The Equinox

There are other arguments that claim the Bible supports use of the Fall Equinox (or the *equilux* - a definition used in the Enoch calendar that indicates equal day and night in Jerusalem). Many refer to the Hebrew word *tquwphah*, used by Moses in Exodus 34:22[1]:

> *"And thou shalt observe the feast of weeks, of the firstfruits of wheat harvest, and the feast of ingathering at the year's end* (tquwphah)*."*

The argument is if this is referring to the Fall Equinox, then the year must begin with the Spring Equinox, another preference when applying our *calendar bias*. Even though we have already seen direct instruction from Yehovah to Moses that the renewed moon of the *aviv* was to be the first month, the mere possibility that the equinox is referred to in scripture provides a new Biblical variable that allows for calculation. The Hebrew meaning of the word *tquwphah* (Strong's 8622[3]) is:



> *"**8622** tquwphah tek-oo-faw' or tquphah {tek-oo-faw'}; from 5362; a revolution, i.e. (of the sun) course, (of time) lapse:-- circuit, come about, end."*

Therefore, the best meaning would be *full circuit* or *complete revolution*. Psalm 19:6[1] also uses this word in relation to the cycle of the sun:

> *"Its rising is from one end of heaven, And its circuit* (tquwphah) *to the other end; And there is nothing hidden from its heat."*

This is referring to the daily cycle of the sun from an *observer's perspective* - there is no further detail given here, or anywhere else in scripture, to specify the annual celestial equinox. This same Hebrew word is also used to describe the time of year kings go to war (II Chronicles 24:23) and for the cycle of pregnancy (I Samuel 1:20). Therefore, its meaning in Exodus cannot strictly specify *Fall Equinox*. There is simply not enough detail given to support this concept within the context and is merely being assumed. Many will still argue that the Spring Equinox can be observed empirically. For example, you can place a stick in the ground and study its shadow throughout the year. But just watching this shadow would mean nothing of itself without further contemplation of how the celestial objects are shaped, ascertaining the complex anatomy of the Earthly equinox in relation to its orbit around the sun, the consistency of these shadows from year to year (through repeated observation over time), and finally a complete willful ignorance to God's direct instruction in Exodus to use aviv. Even though the equinoxes could be referred to as *tquwphah*'s, most *tquwphah*'s are not equinoxes. The context of Exodus 34 is given in verse 23[1]:

> *"Three times in <u>the year</u> all your men shall appear before the LORD, the LORD God of Israel."*

The context here is referring to the pilgrimage harvests throughout the year. It's true that the harvests do coincide with the appointed festivals and are a repeating event every year. They start with the barley harvest at the time of Unleavened Bread, continue with wheat harvest at Pentecost, and end in the fall with the harvest of in-gathering (grapes) during the Feast of Tabernacles. This repeating cycle would have been viewed as a full circuit (*tquwphah)* each year. However, it is not the *tquwphah* itself that determines when these festivals take place, other than the sign of barley being ready to harvest in the spring. From here, it's His ordained signs of the moon and counting days that determine when the festivals should begin and end, and that certainly does not involve calculating the fall equinox.

Some also refer to star constellations, such as Pisces, that occur at the time of the vernal equinox that many use to determine when spring begins, still believing they are keeping with Genesis 1:14 of using the ordained sign of the stars. In combination with the requirement that Passover take place in the spring, the rule used is to count a month as the first of the year if it causes the 14th (Passover) to fall on or after those constellations appear. Again, too complicated of a task to not be mentioned within scripture. Based on my own experience, Passover has always ended up falling after the equinox, however it has also landed in April with Passover landing a month later than the equinox. In either case, this method should not trump that of physical barley as it is not specified within scripture and cannot be supported. It also is a future event that must be calculated or predicted at the time of the renewed moon, the event from which we are already commanded to begin counting to Passover and not to predict.

Overcoming Our Bias

It is a disadvantage to urban people today who ignore the natural signs based on agriculture and weather conditions. In these modern times, we rely mostly on mathematical formulas to predict seasons (usually based on the calculated equinox or equilux). In the past few hundred years, many relied on almanacs to help predict seasons and assist farmers in planting at the right time. Although these almanacs were also based on mathematics, many considered them to be more accurate as they factored in specific elements such as sunrise and sunset, weather, tides, and so

forth with respect to time. In other words, math was more closely based on an observer's perspective. Even city dwellers recognized the accuracy of such publications over that of local meteorologists when it came to long-term forecasts. But even the readers of such almanacs would often fall prey to the desire to predict such events.

The fact remains that a calendar timetable simply cannot provide the flexibility of knowing when crops will be ready to harvest. As the saying goes, "*actual results may vary*". Many will feel that using the Biblical *signs* for a calendar is extremely *unreliable* and find it difficult to break free from their comfort zones. The challenge came when the people left the Promised Land and were no longer able to observe the barley growth. This led to the decision to mathematically average the observed cycle. The long-term result, however, has led many to turn to the Hebrew calendar that now uses this average method and completely ignore the instructions given to them by Yehovah Himself when the opportunity to observe barley, once again, from the Promised Land became possible again. We'll discuss this further as we begin to see how the Hebrew Calendar has developed throughout history.

Summary of the Biblical Year

- The Biblical Year begins at the start of the Biblical Month at the start of the Biblical Day, at twilight, with the appearance of the renewed moon crescent and the presence of indigenous aviv barley in the Israel region.
- Aviv barley is defined within scripture as being mature enough to be parched in fire or crushed as carmel.
- Unseen events, such as the Spring Equinox, do not always coincide with that of barley, which we are commanded to use for determining the first new moon of the year by God Himself.
- The commandment to provide the first of the barley crops every year was commanded when the Children of Israel entered Jerusalem and is where it (*Hordeum spontaneum*) grows naturally without man's intervention.
- The commandment given regarding the new harvest of barley was to not eat of it until the wavesheaf offering was given.

BIBLICAL WEEKS

Now that we have established the primary elements of the Biblical Calendar, there is one last element that should be covered for clarification - the *Biblical Week*. Even more so than the *Biblical Day*, there is very little that is questioned about the *Biblical Week*. We are first given the example of the Week in Genesis 1 that consisted of six days of Creation ending with one day of Sabbath rest. The Ten Commandments further support the *week* as being six workdays plus one rest day. The Biblical concept of the *week* has always been based on the perpetual, never-ending count of seven-day cycles to determine the regular Sabbath that began with the Creation Week. We are told to continue this cycle forever in Exodus 31:16[1]:

> *"Wherefore the children of Israel shall keep the sabbath, to observe the sabbath throughout their generations, for a perpetual covenant."*

Although the Bible does not name the days of the week other than the *Seventh Day* being the Sabbath, it does refer to the remaining days as the "*First Day*", "*Second Day*", etc. and are first referenced in this manner in Genesis 1. Modern calendars now use specific names whose origins are pulled from Pagan gods including Saturn for Saturday and the Sun god for Sunday. Although we have adopted these Pagan names as a society (and have changed the day to begin at midnight instead of sundown), the weekly concept remains.

Similar to the *Biblical Month*, the Bible generally always uses a specific Hebrew term, *shabua* (Strong's 7620[3]), when referring to *Weeks*. Quite literally, this word translates into English as "seven" or "a period of sevens". This would be why the prophecies in Daniel (such as the 70-week prophecy) use this form of measurement when, instead, it is understood as totaling 490 (or seventy *sevens*). The mere fact that the weekly cycle continues to be recognized today serves as a testament to the Bible itself and the perpetual Sabbath Day it has measured throughout time.

Historically, Rome (the ultimate birthplace of the Catholic church and where Christianity was first established as a state religion) utilized a pattern of days known as the *Nundinal* cycle (which consisted of 8 days) that was adopted as early as the 5th century BC. This cycle provided a repeating pattern where city dwellers and travelers from outside of the city would purchase food and supplies made available by the city merchants. This business cycle was known as the "market week". But the day-to-day living of Romans eventually adopted the seven-day week of the Jews. Although there was a period when both patterns of weeks were kept simultaneously, Roman Emperor Constantine officially disbanded the market week in the 4th century AD. Constantine, a pagan, adopted certain beliefs of the Jews at the time who were following the example of Yeshua but made changes to adopt to pagan practices - including changing the seventh-day Sabbath to Sunday. This was the origin of modern Christians keeping Sunday - even though many would like to believe Yeshua changed the Sabbath to the *first day of the week*. But

even most Sunday-based Christians understand that the *week* itself still begins and ends in the same manner today as it did throughout the Bible (although, most think of days as being midnight-to-midnight). Some modern calendars, however, list Sunday as the *last day* of the week in a deceptive attempt to make it look like the seventh day. Thankfully, this practice has not caught on as a day-to-day standard. However, this practice is becoming more popular outside of the *Western World* and is often used in international business relations (including the ISO 8601 date standards). Additionally, it is common to use the term "weekend" when referring to both *Saturday* and *Sunday*. Either way, it's hard to argue against history, which overwhelmingly supports *Saturday* as being the *seventh day*.

The *Sabbaths* (a term that includes the *festivals*) listed in Leviticus 23 specify two appointed days that are based on the perpetual *seven-day count* that make up the *Biblical Week*. The first, being the most obvious, is the regular Sabbath that occurs every *seventh day*. The second one is the *Day of Pentecost* (Shavuot): which takes place on the fiftieth day of the Wave Sheaf Offering (which would take place, as Biblically commanded, on the first day of the week, or the "morrow after the Sabbath", that begins the *Feast of Weeks* - or the *Feast of Sevens*). This also places *Pentecost* on the *first day of the week* (starting after sundown on *Saturday evening*). This is further supported in Leviticus 23:16, which repeats the phrase "morrow after the Sabbath", after seven complete Sabbath's have passed. Some Jews believe that the Sabbath-day being referred to in the phrase "morrow after the Sabbath" would begin the count from the *First Day of Unleavened Bread* (which would always place the Wave Sheaf on the 16th of the Aviv moon), but this would not coincide with verse 16. If the Wave Sheaf always took place on the same day of the month, why wouldn't the verse simply state that it takes place on a specific day of the month as it does for every other Festival? That's simply because it's not fixed on the new moon, but rather it is referring to the *weekly* Sabbath. All other days are counted from the start of the *new moon* specifically.

International Dateline

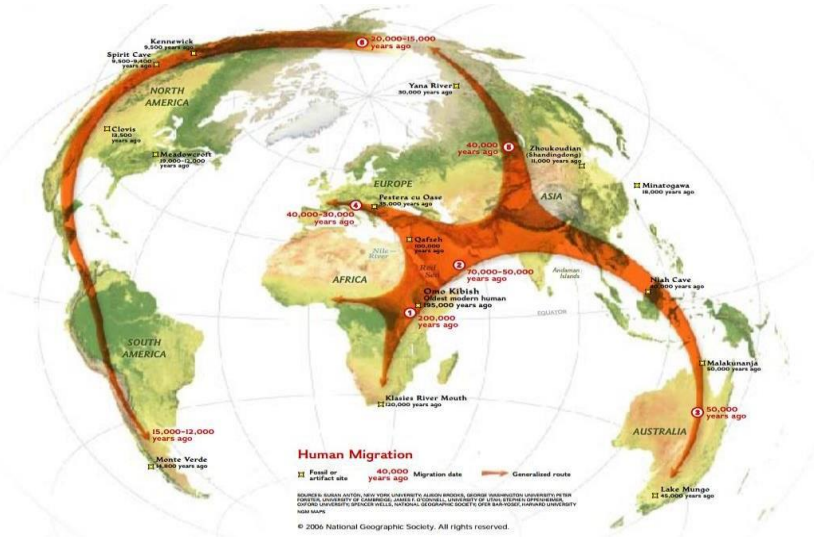
Because of our *calendar bias*, we tend to think that the monthly, lunar-based Festivals must take place on the same day of the Biblical Week for everyone around the world. But this is not the case! These two counts (one lunar-based and one solar-based) are not tied together. This concept is strictly from our *calendar bias*. Also remember that half of the world observes a lunar month one day longer than the other half. These two cycles (lunar and solar) do not depend on one another, but many will try to force the lunar cycle to fit into the solar (or vice versa), which is no different than trying to force a square object into a round hole. The *Biblical Month* and the *Biblical Week* are based on these two different events from which an observer is to count from.

Again, the Bible does not give us an "international dateline" (which is strictly a mathematical concept) or instructions to do likewise, no more than it gives us time zone boundaries. Many attempt to apply this concept to the Biblical month by drawing a dateline through Jerusalem (as we discussed in the Jerusalem Time section of Biblical Months), with everyone else either considered as part of the diaspora (keeping two days for each holy day) or simply assume the

same day of the week using the international dateline. However, the international dateline does assist us as it has helped preserve the perpetual count for the days of the *Biblical Week.*

The original determination of where to place the dateline was established in 1884 and was loosely based on the migration patterns of historical human settlements. Although, it was the 180-degree longitude meridian that was chosen, because this line is mostly in the open sea and not legally enforced, any country is allowed to determine which side of the line they would prefer. This means the dateline is not straight from pole to pole, but zig zags slightly. This has caused issues for Sabbath keepers, such as in Samoa that switched their dateline in 2011 changing Saturdays to Sundays. The argument for which day to observe as the Sabbath amongst Seventh Day Adventists in Samatau Village continue to debate this issue today.[80]

To retain the perpetual count for the Sabbath, it makes sense to be based on the historical migration pattern for any given location. Early history supports humans slowly migrating eastward from the mid-east region toward India, China and down toward Indonesia while westward migrations lead to the lower portions of South Africa as well as northwestern migrations (primarily by Anglo Saxons) into Europe and Britain and finally to the Western World and the Americas.



Although history marks these migrations starting nearly 200,000 years ago, the patterns are fairly accurate. From an observer's perspective, the day of the week would have been preserved based on where groups of people migrated. There is no Biblical record of anyone observing the day of the week (or the Sabbath) a day earlier simply because they were relocated east of Promised Land (even when Israel was held captive in Babylon). To a traveler in Biblical times, the day of the week would have remained the same from their perspective. Therefore, the established international dateline today (regarding the Biblical Week) would be roughly like an observer's perspective of history. Without any instruction to consider a particular geographical location as a dateline, we would have no reason to assume otherwise. As for Samoan's, since the original migrants were from southeast Asia in the 18th century, it makes sense for them to be located west of the dateline, which was the date determined in 2011.

Lunar Sabbath Theory

An alternative concept to the Biblical Week, which has grown rather quickly in the past few years, is that of the *Lunar Sabbath*. First attributed to Jonathan David Brown in his book titled *Keeping Yahweh's Appointments* in 1998[72], this theory claims the *Biblical Week* is also based on the moon - specifically the four primary stages of the moon (new moon, first quarter, full moon and last quarter). Although this lunar week concept also contains seven whole days, it is extended at the end of the lunar cycle to account for extra days in the lunar month (adding leap days to the week). Followers of this system do keep the new moon day to begin the month, but also treat it as the Biblical Sabbath day, or the *Lunar Sabbath* (but no longer correlates with the secular week, placing the Weekly Sabbath on a different day of the commonly accepted week with each new lunar phase). This is then followed by four additional Sabbaths that always fall on the 8th, 15th, 22nd and 29th day of the lunar cycle. Since the lunar cycle is just over 29 days in length, the last Sabbath can extend into the 30th day (making for either two or three Sabbath days in a row as the lunar cycle repeats). Consequently, this also forces the First Day of Unleavened Bread, the Day of Trumpets, the First Day of Tabernacles, and the Last Great Day as always falling on one of these *Lunar Sabbaths*.

Research conducted on some of the earliest layers of the Pentateuch done by Jeffrey H. Tigay and others conclude that the perpetual seven-day week (Sabbatical Week) dates to the 9th century BC - centuries before Judea's exile to Babylon. He also find no resemblance between the Biblical Sabbath week and the Babylonian system tied to the new moons. Tigay writes[70]:

> *"It is clear that among neighboring nations that were in position to have an influence over Israel - and in fact which did influence it in various matters - there is no precise parallel to the Israelite Sabbatical week. This leads to the conclusion that the Sabbatical week, which is as unique to Israel as the Sabbath from which it flows, is an independent Israelite creation."* **{Underlined emphasis added}**

The Lunar Sabbath concept is also not directly instructed anywhere within the Bible, although some will attempt to derive it from scattered examples of Biblical events combined with several assumptions. The primary example used is the story of the heavenly manna in Exodus 16. Here, we are told about the arrival of Israel in the Wilderness of Sin[1]:

> *"And they journeyed from Elim, and all the congregation of the children of Israel came to the Wilderness of Sin, which is between Elim and Sinai, on the fifteenth day of the second month after they departed from the land of Egypt."* **{Underlined emphasis added}**

Supporters of the Lunar Sabbath claim that Israel's purpose of pitching camp, here in verse 1, was to observe the 15th day Lunar Sabbath (as the 15th of every lunar month is always a Sabbath using this theory). They claim that this is supported because of the instruction regarding the heavenly manna that fell following their arrival (which is described in verses 4-5[1]):

> *"Then the Lord said to Moses, 'Behold, I will rain bread from heaven for you. And the people shall go out and gather a certain quota every day, that I may test them, whether they will walk in My law or not. And it shall be on the sixth day that they shall prepare what they bring in, and it shall be twice as much as they gather daily.'"* **{Underlined emphasis added}**

The claim is that the *sixth day* referenced here is instructing them to count six days from the 15th following their arrival in the Wilderness, and not as a reference to the day of the week. But as we have learned, the Bible refers to specific days of the week by *number*. In our modern-day vernacular, this would be like saying, "and it shall be on *Friday* that they shall prepare what they bring in, and it shall be twice as much as they gather *on other days*". This means verse 1 could have taken place at any time during the perpetual seven-day week, mirroring that of Creation Week. Verses 22-23[1] then concludes:

> *"And so it was, on the sixth day, that they gathered twice as much bread, two omers for each one. And all the rulers of the congregation came and told Moses. Then he said to them, 'This is what the Lord has said: "Tomorrow is a Sabbath rest, a holy Sabbath to the Lord. Bake what you will bake today, and boil what you will boil; and lay up for yourselves all that remains, to be kept until morning."'"* **{Underlined emphasis added}**

If the Weekly Sabbath were based on the lunar cycle, then we would have an issue with the *Creation Week* given in Genesis as the moon itself is not even appointed until the *Fourth Day* (Genesis 1:14-19). Even if the moon were created on Day One, then according to the Lunar Sabbath model, the first day should have also been a Sabbath and the Creation Week should have lasted eight days (starting and ending with a Sabbath), instead of seven. There are also direct instructions for keeping specific Festivals in Leviticus 23 that specify the exact day of the month (or lunar cycle) to be kept. But no such reference is used when referring to the regular weekly Sabbath.

More importantly, the Lunar Sabbath concept would also negate the one *sign* of Yeshua as being the true Messiah. He tells us we would know of his authenticity because He would be in the ground for *three days and three nights* before being resurrected (the sign of Jonah). Although mainstream Christianity believes that Yeshua died on Friday afternoon and rose Sunday morning, there would also be no *weekly* scenario where you can get *three days and three nights* between Passover (the 14th of the month, which always falls one day prior to a *Lunar Sabbath*) and the first day of the *"lunar" week* - it would be simply impossible to confirm Yeshua's authenticity as Messiah. To explain this, many claim that the Jonah prophecy implies three days OR nights making the count as: 1) the "night" of the 15th; 2) the "day" of the 15th; and 3) the "night" of the 16th - with a resurrection before the day-time portion of the 16th. Others will count this as 1) died on the 14th; 2) in the grave on the 15th; and 3) rose on the 16th. Both scenarios ignore that an evening and a morning constitute a day, which would be yet another contradiction to the Creation Week example. Only a mid-week High Sabbath (the First Day of Unleavened Bread), taking place on the fourth day of the week (Wednesday), can you then complete another *three days AND three nights* (or three full Biblical days) and have a resurrection on the morrow after the Sabbath (Sunday) - coinciding with the barley wave sheaf ceremony. This begins the count, following Yeshua's burial at sundown of the fourth day, as 1) "night" and "day" of the 5th day (Wednesday evening and Thursday - the Day of Unleavened Bread); 2) "night" and "day" of the 6th day (Thursday evening and Friday); and 3) "night" and

"day" of the 7th day (Friday evening and Saturday - the Weekly Sabbath). Yeshua was then witnessed as already being resurrected in the night-time portion of the 1st day (Saturday evening).

Finally, the *Lunar Week* is also not a documented method among Jewish history - and certainly not during the time of Yeshua (a blatantly obvious contradiction that would have certainly raised concern with the Jews of the New Testament).

A similar concept has also been introduced that does keep a perpetual count of seven days for the week but is reset each year starting from the Passover (which is considered as being on the 15th of the first month). This also causes the weekly Sabbath to fall on different days of the secular week with each passing year. But again, the above facts negate this practice and simply are not supported from scripture (or by historical facts).

Sign of the Sabbath

The origin of today's *secular week* itself - a perpetual repeating seven-day cycle - serves as a witness to the *Biblical Sabbath*. There is no other origin outside of the Bible to explain why we keep a perpetual seven-day week today and there is no historical record of this count ever being broken. Although there are historical records of certain societies keeping weeks of different patterns, they were not widespread and none of them pre-date the seven-day week concept. The *week* was originated and preserved by non-Biblical historical Jewish records as far back as the Babylonian captivity with the Biblical instruction given prior to that time.

The Sabbath day of rest is also referred to within the Bible as a *sign* for Yehovah's chosen people (Exodus 31:13, Ezekiel 20:12). Since those that keep the Sabbath serve as a sign to those throughout the world, it doesn't make sense that the Biblical Week has ever changed. If it had, the rest of the world would not understand the Sabbath as being a sign because they would have no idea when it should occur. There is documented evidence, as well, within the Catholic Church claiming they changed the Sabbath from the seventh day of the week to the modern day of Sunday. With most Christian organizations following this same Catholic declaration, it not only recognizes the seventh-day Sabbath as originally being the Sabbath, but it also puts into direct contrast those that continue to keep the seventh-day Sabbath instead. As a seventh-day Sabbath keeper, I know from experience that many take notice as it goes against the majority norm.

Summary of the Biblical Week

- The Biblical Week is a perpetual count of seven days since the Creation Week of Genesis 1 and has been unbroken ever since.
- Days of the week were numbered, except for the seventh day referred to as the Sabbath.
- Weeks is translated from *shabua* meaning seven, or a period of sevens.
- A week based on the Lunar Sabbath can be more than seven days and is not supported by scripture in either the Creation Week or with Yeshua's sign of being in the grave for three days and three nights.

- The Weekly Sabbath is a sign of Yehovah's people.

TIMES AND SEASONS

We have now established, using Biblical scripture, and eliminating any *calendar bias*, that days, months, and years are determined through Yehovah's ordained *signs*, defined from an observer's perspective within the firmament above us. He gives us the *sun* to rule the *days*, the *stars* to divide the day from the night, and the *moon* to rule the night. The day begins after the *sun's* light gives way to the moon and stars, after it goes down below the horizon. The *moon* begins the *month* when it is renewed in the firmament, and it marks the *seasons* or the appointed festivals of Yehovah from which we are instructed to count. Additional instruction is given to begin counting those *months* (or renewed moons) with the renewed moon of the aviv harvest growing within the land, ready to present in the annual wavesheaf offering. We are told to blow trumpets, communicating the events of the *renewed moon* and Yehovah's *appointed times*. Finally, we are given direct instruction to keep a perpetual Sabbath every seven days, creating the continuous *week*.

We are given no instruction on substituting these visible signs (or beacons) for any kind of unseen, mathematical alternative, such as a dark moon or the spring equinox. A new, or renewed, moon cannot be represented by a waning crescent, or a full moon and we are certainly not given a fixed number of days to observe months or a fixed number of months for determining years. Sighting the *signs* given to us within the firmament depends on several variables controlled by Yehovah Himself, which include the movements of the celestial bodies themselves. Actively looking for these signs often requires one to rely on faith, having no certainty of when and where they will occur despite weather or viewing conditions. For this very reason, observation is a turnoff to many who prefer the predictability and unity of mathematics. Because observation can be unpredictable, they view it as primitive and too difficult to plan around. And instead of utilizing mathematics as a tool to help find these observable signs, nearly all abandon the signs entirely, relying instead on man-made rules and algorithms. They believe this makes them more sophisticated, cohesive and reliable – able to predict events years or centuries in advance. Proverbs 27:1 reminds us[1]:

"Do not boast about tomorrow, for you do not know what a day may bring forth."

By using a method of observation, you simply cannot predict with any certainty when these *signs* will occur in the future. Although *mathematics* has matured to a point that will allow man to calculate when the *sun* should go down at any geographical location worldwide or when the *new moon crescent* should be bright enough to be seen by the naked eye, man has not reached the level of wisdom to factor every possible variable that plays a role. Determining mathematically when barley crops will be ready to harvest years in advance (even weeks in advance) cannot be determined with 100% certainty. Only Yehovah has the capability to understand and control when all these things merge, and in His time. It is always His visible signs that should trump any mathematical result.

Furthermore, when man uses averages to construct their static, fixed timetables, or calendars, over time they nearly always find a need to adjust them by adding leap day rules. This is even true with our clock bias where our official clocks today are based on the atomic clock – a modern scientific marvel that measures time to a clock using the frequency of atoms[81]. This method is used to track the changes within the Earth's rotation and occasionally adjusts the official clock to within one second of this rotation by adding leap-seconds.

Unless the variables involved in any calendar are completely static, unchangeable, or certainly predictable, there will always be a need for fixes, adjustments, and intercalary tweaks. Since Yehovah created the celestial bodies in a continual state of flux, and since He can allow any variable to change at any time, our mathematical timetables will never be as good as when they were originally established. We are given direct instructions within scripture to count the number of days from these events and signs, we are never told to predict them, neither are we ever instructed to *calculate* or *average* the time between these events. Our bias toward calendars almost certainly leads us down this path, forcing the variables into fixed, universal patterns to help us predict and measure future events. All so we can rely solely on the math-based prediction rather than observing the event we were attempting to predict in the first place. This is wrong. In fact, scripture encourages us not to *predict* the future for our own planning. James 4:13-15[1] tells us:

> *"Come now, you who say, 'Today or tomorrow we will go to such and such a city, spend a year there, buy and sell, and make a profit'; whereas you do not know what will happen tomorrow. For what is your life? It is even a vapor that appears for a little time and then vanishes away. Instead you ought to say, 'If the Lord wills, we shall live and do this or that.'"*

Given what we have learned, perhaps Yehovah did not give mathematical formulas within scripture for a good reason. Mankind tends to break Biblical principles when it comes to creating calendars. Some go even further by trying to apply spiritual understanding within these patterns, believing they have found that magical key to understanding Yehovah or the universe. By letting go of this bias and relying on pure observation, however, requires us to have trust and conviction in His overall intelligent design given by Him. It is His *signs* that appear in His timing that we must accept as being His *time and season*. We must yield the festivals to be shown by Him rather than by man - no matter how wise men may become or how advanced the wisdom of mathematics become. I Corinthians 2:5[1] states:

> *"that your faith should not be in the wisdom of men <u>but in the power of God.</u>"* **{Underlined emphasis added}**

Mathematics is a wonderful tool, even a blessing. But most men believe it puts them in control, including His times and seasons. This cannot be further from the truth! There is a powerful lesson we can learn through the practice of observation. Acts 1:6-8[1] tells us:

> *"When they therefore were come together, they asked of him, saying, Lord, wilt thou at this time restore again the kingdom to Israel? And he said unto them, 'It is not for you to know the <u>times or the seasons</u>, which the Father hath put <u>in his own power</u>.'"* **{Underlined emphasis added}**

Once again, the disciples wanted to know when the future coming kingdom was to take place and were told that it is Yehovah who has ultimate control of time itself, with only signs to search for to know when the end-time was near! With faith and guidance in the Holy Spirit, we too can understand using the *signs* that are given to us to tell His current time - and we can prove it with scripture. The lack of any further Biblical instruction to calculate a calendar shows that we have been given all that we need. Simply by observing these *signs* and recognizing them when they appear and making them known is simplistic in nature. The process itself can be taught to school children. Only by participating in observation (combined with the power of the Holy Spirit) will we truly come to realize how this practice can apply to understanding prophecy and signs of the end-times.

A good analogy would be one driving down the road. Imagine you are driving in a white-out blizzard, difficult to see around you until you are right up close. This type of situation causes one to be more heightened and alert to their surroundings, unaware of what lies ahead. Stress increases as we begin to desperately seek any kind of sign or road marker, while also keeping an eye out for other cars or obstacles in the road. If you come across a stop sign or witness brake lights ahead of you, most would stop. We begin to rely on the communication of others to keep us safe and on course. Would we ever decide to simply abandon the practice of observing these signs around us in this situation? Would we rely, instead, on mathematics, calculating the distance of all the stop signs? Could math predict when a car is stopped in your path? Even more, would we calculate the mean average of distances between stop signs and only stop based on that mean result? Of course not! So why do we do this with time? Why would we use solar midnight, or the dark moon, or the spring equinox, or any other unseen event when our God tells us to look for signs He has ordained? Does the unpredictability of signs make driving too complicated to navigate or too unpredictable to rely upon? No, in fact it's preferred.

Observation Too Messy?

Several church organizations have taught that observation of the calendar brings too much confusion causing different outcomes and, therefore, conclude that math must be the only solution. Yet, they contradict themselves by teaching that the Biblical Day begins by observing sundown, stopping short of providing any calculation here. If math is the obvious solution and the only way to avoid individual interpretations, shouldn't they also provide these calculations to be in unity? Shouldn't they teach them and explain them? Shouldn't they be able to show them from scripture? The supposed unity, after all, may be lost if a person chooses sunset versus sundown, for example. There's also nautical and astronomical sundown and even solar midnight, as we've already discussed. Perhaps they would be fine fixing days from 6pm-to-6pm, as another example.

Others teach that those who keep an observed calendar are only doing what is right within their own eyes. This phrase is often used from the Bible and is seen several times in Judges. Judges 17:6 states[1]:

> *"In those days there was no king in Israel; everyone did what was right in his own eyes."***{Underlined emphasis added}**

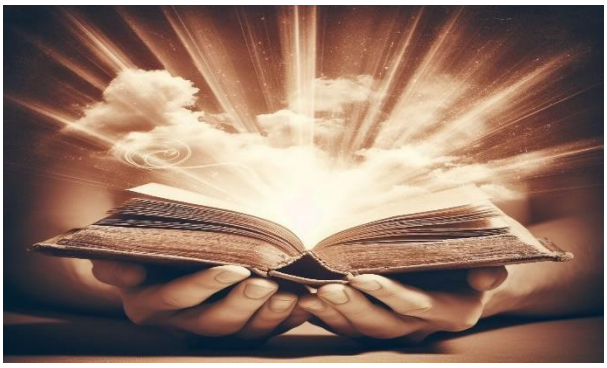
This phrase is repeated in Judges 21:25. The NIV puts this as, “Everyone did as he saw fit.”

Since it is a requirement to use one's eyes to observe any visual sign, it's understandable why they draw to these verses. But when their solution is not found anywhere in scripture and it is clearly man-made, aren't they doing just that? Keeping time how they see fit?

But if math is the ultimate solution, along with invisible events, perhaps keeping midnight would be the best alternative than sundown to begin the day. After all, this modern, mathematical solution, along with time zones and rules, also provide the desired convenience and unity to all who follow it. Even the same excuse exists that a clear definition of the sun is just not certain - should it be sunset, sundown, or twilight? Yet, for some reason, mathematical alternatives are usually not preferred beyond Sabbath keeping churches providing the local times for sundown in their region.

It would be better for these groups to calculate when the moon is expected to be seen rather than rely on average timetables and recognizing rules to postpone entire days, even months. Mathematical averages simply skew our sense of time. Yet similar excuses are still made against observation, claiming the definition of a new moon is not quite certain (dark moon, full moon, or crescent - even the Molad calculation). Even though scholars agree that months were once based on the moon, it is a calendar that is chosen instead. They desire so mush to have everyone on the same page that they are simply blinded to the reality of what they are doing. They don't see that they are directly disobeying what has been instructed in Deuteronomy 4:2[1]:

> *"Ye shall not add unto the word which I command you, neither shall ye diminish ought from it, that ye may keep the commandments of the LORD your God which I command you."*



Yehovah does not change from one methodology to another nor would He ordain a particular man-made formula that requires periodic adjustments. How do we know this? Because we are told in Malachi 3:6[1]:

> *"For I am the LORD, I change not."*

This is a principle on which we can rely upon! There is no indication given from the Bible that we should have changed to a method of calculation at any time. Telling time and seasons has always been using Yehovah's ordained *signs* in Genesis with the added instructions to count months from the renewed moon of aviv and blowing trumpets during these times. Observing the renewed moons will continue into the coming Kingdom as we read in Isaiah 66:23.

Our *bias* toward mathematics and fixed timetables gives us a false sense of security that we are somehow immune to *uncertainty*. It's this false security that many church organizations often fall back on, assuming that calculations must be the solution. This usually leads to the conclusion of

following the calculated Hebrew Calendar and all in the name of *unity*. However, all this truly only provides *uniformity*. And most times it is *uniformity in error*.

The reality is that we have been conditioned and indoctrinated into believing that time itself is a mathematical formula. When reading scripture, we often do so by using math glasses, applying our bias, and believing that those formulas are behind all Biblical dates rather than looking to Yehovah's signs, and we have now become *desensitized* to His method of time. The beauty of observation is that any inconsistencies are self-corrected with the next visual confirmation. Yet church organizations claim that these outliers can only cause confusion and, of course, God cannot be the author of confusion (1 Corinthians 14:33). Yet most cannot even explain how the Hebrew calendar is constructed or why postponement rules are considered acceptable. Then, many avoid discussing the topic claiming it to be a *can of worms*.

We also know that Satan has made many attempts to fool Yehovah's people throughout history. Math is just one tool that he can use to do just that. In fact, it is prophesied that Satan himself will attempt to change time itself in Daniel 7:25:

> *"He shall speak pompous words against the Most High, Shall persecute the saints of the Most High, And shall intend to change times and law."*

Satan has been very successful in deceiving even the very elect by making Yehovah's *times and seasons* confusing to many - enough for them to consider Biblical time as a "can of worms." While many do realize that time was not measured in Biblical times using today's Gregorian Calendar, many still attempt to create similar calendar methodologies - nearly all using mathematical averages and then pretending them to be precise for each future event. The result is either a complete avoidance of the subject, creating any number of different interpretations, or just giving up all-together by settling with the Hebrew Calendar.

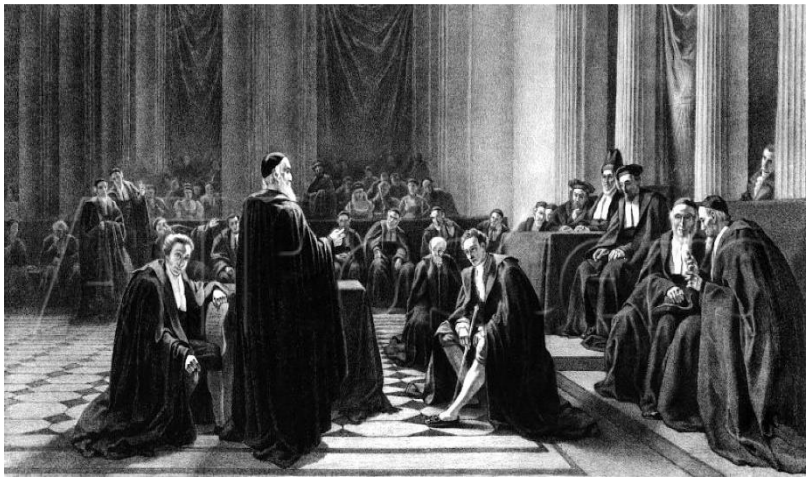
Now that we have a better understanding of the Biblical concepts and historic evidence of an *observed calendar*, even within Jewish history, let's now take an even deeper look into the current Hebrew calendar, how it came about, and what types of *biases* may also be in play.

HISTORICAL SANHEDRIN

We have briefly touched upon Jewish history and the documented support of an observational method of *new moon crescents* and *barley crops* to determine a calendar, which continued as late as the fourth century of the Common Era. It isn't until this timeframe we find evidence that the *observation of signs* based on Biblical principles were replaced by *mathematical principles*. The Encyclopaedia Judaica[9] further confirms this by stating:

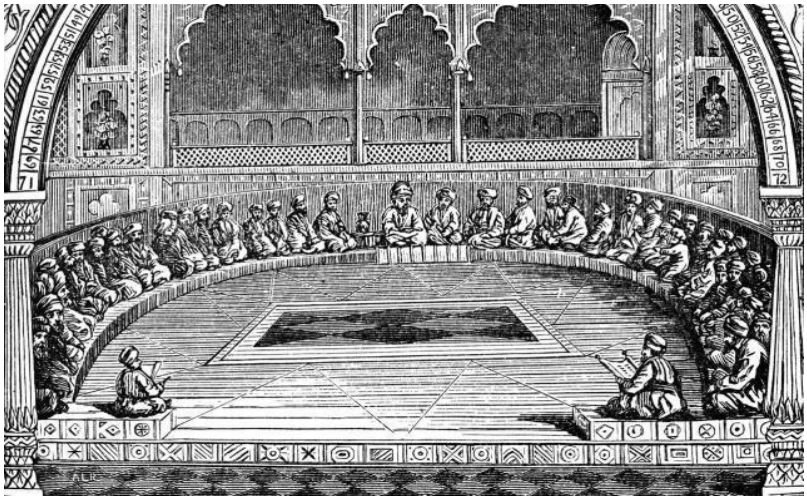
> *"By the middle of the fourth century, the sages had established a permanent calendar and the public proclamation of the New Moon was discontinued."* {Underlined emphasis added}

So, we see that the Biblical event and gathering on the *New Moon* was eventually *discontinued* by men nearly four hundred years after the time of Yeshua. Today, most Jews are fully aware of this historical change and the abandonment of eyewitness testimony in favor of consistent mathematic formulas, not just because it's convenient but, because they have been directed to do so by the Rabbinical authorities. In fact, the initial changeover to a *mathematical method* is believed to be authorized by a member of the original Sanhedrin Court system, which in their eyes gives this *mathematical method* an overall *stamp of approval*.



In Jewish history, the Sanhedrin was a group of men consisting of the wisest elders that were *believed to be originated* from the Levitical Priesthood - the same group of seventy elders described in Numbers 11:16-24. They acted as court judges in interpreting scripture and Biblical law, and it is this authoritative system of judges that appear several times within the New Testament that tried the likes of Yeshua Himself, as well as Paul, Steven, and others.

As it pertains to a calendar, we read earlier that it was the Sanhedrin that oversaw the testimony of eyewitnesses of the *new moon crescent* sightings at the time of the second temple. They believed that it was their ultimate responsibility to determine and inform the people of Israel when the *new moons* were, indeed, sanctified as the start of each month. At the time, many people in the land looked to the Sanhedrin as the official authority on this subject and accepted them to fill the role of the high priest to sound the shofar trumpet blasts at each *new moon*. It was also this same group of men that would inspect crops searching for evidence of *Aviv barley* to begin the year (in addition to other man-made requirements they believed needed to be met). Eventually, the Sanhedrin developed a system of messengers that would quickly spread their findings on such matters across the land of Israel and even further as settlers began to disperse outside the Israeli borders. Even the Roman Christians relied upon the information of these messengers prior to the time of Constantine (as we will see later). Although this group of men created additional rules and practices not defined within scripture, many of them were based on the observational methods that we have seen are required within Biblical scripture.



Much of the history of the Sanhedrin has been preserved and has also contributed to several modern-day Jewish traditions. These historical records detail the procedures and methods practiced by the Sanhedrin that included the interrogation of witnesses who claimed to have seen the *new moon crescent*. The Sanhedrin would use methods to determine the validity of a person's testimony, a system that lasted for many generations up to, and including, the time of Yeshua. Much of these documented practices originated in the first centuries following His death as pressures from the Roman government took a toll on the Jewish authority. Although there were various courts and smaller Sanhedrin throughout the land, the primary Sanhedrin court (also referred to as the Great Sanhedrin) was located at the Temple Mount in Jerusalem. The Jewish Encyclopedia explains this traditional role of the Sanhedrin in their *New Moon* [30] article:

> *"In the Temple, New Moon was celebrated by special sacrifices and by the blowing of the trumpet. Of the greatest significance, however, was the proclamation of New Moon (Kiddush ha-Hodesh') by the president of the Sanhedrin - originally, of course, by the high priest - just as in Rome the Pontifex Maximus fixed New Moon by proclamation (whence the name Calendar)."*

This traditional celebration is further explained:

> *"The Sanhedrin was assembled in the courtyard ("bet ya'azek") of Jerusalem on the 30th of each month from morning to evening, waiting for the reports of those appointed to observe the new moon; and after the examination of these reports the president of the Sanhedrin, in the presence of at least three members, called out: 'The New Moon is*

> *consecrated'; whereupon the whole assembly of people twice repeated the words: 'It is consecrated'. The blowing of the shofar at the time of the proclamation of New Moon was practiced also in the Babylonian schools."*

We see here that when the Sanhedrin confirmed multiple eyewitness accounts given on the 30th day of the month (since the last *new moon crescent* was consecrated), the day would be declared and changed as being the first day of the current *new moon* instead - making the previous month a total of 29 days long. Otherwise, if no witnesses came forward, the new month would begin after 30 days were completed. Although this court methodology was ultimately a man-made system, waiting until the morning for eyewitnesses and confirming their validity before finally authorizing the sounding of trumpets to signal the *new moon*, this crude procedure became the norm for the Sanhedrin and the people of Israel. However, the basic principles were the same as the Biblical principles we read earlier (and they are fully documented within the Mishna [R. H. ii 5-7]) and clearly were based on a method of observing the Biblical signs. It's also very clear that the Sanhedrin examined eyewitness accounts of, specifically, the *new moon crescent*, and no other phase of the moon. Judaism 101[35] confirms the details of the Sanhedrin customs:

> *"Observers would watch the sky at night for any sign of the moon. If they saw the moon, they would report their sightings to the Sanhedrin, which would interrogate them to make sure that they were not mistaken. Where in the sky did the moon appear? Which direction was it pointing? If two independent, reliable eyewitnesses confirmed that the new moon had appeared and described it consistently, the Sanhedrin would declare the new month and send out messengers to tell people when the month began."*

We see here the added description of sending messengers as confirmation of the Sanhedrin's findings at the time the trumpets were blown each month.

Added Variables

The start of the year (the month of *Aviv*) was also determined by the Sanhedrin. In fact, their determination of years based on the *barley crops* were just one of several variables that would be considered before declaring the moon of *Aviv*. Arthur Spier, the rabbinical calendar authority, also explains further in his book [44]:

> *"The Talmudic sources report that the Council intercalated a year when the barley in the fields 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."*

Dr. Spier continues,

> *"The Council on intercalation considered the astronomical facts together with the religious requirements of Passover and the natural conditions of the country".*

We see that it was by the authority of the Sanhedrin that the people would follow of when to insert a 13th leap-month based on several conditions that were deemed necessary to begin the Passover season. Although not all these conditions are given in Biblical scripture, it certainly shows that their decisions were not based solely on a fixed mathematical formula.

Yom Tov Sheni

Another piece of evidence that proves observation was used over mathematics within Jewish history is today's tradition of keeping Rosh Hashanah (the Day of Trumpets) for two days instead of one for those living in the diaspora, or for those outside of what is considered *Eretz Yisrael*[83]. This is referred to as Yom Tov Sheni, and it also applies to other Holy Day celebrations throughout the year. The Day of Trumpets is the only annual Festival commanded by Yehovah to take place on the first day of the *New Moon* (considered the first of the secular year by Jews today) and is, therefore, intricately tied with the Sanhedrin traditions that were performed every month. Author N.S. Gill explains the origin of this double-observance tradition in an article titled *Secular vs. Religious New Year* [39]:

> *"Rosh Hashanah was the first day of the first month of the secular year (Tishri), from at least the time when new moons were proclaimed by the Sanhedrin and its successor, the Jewish Assembly. As Jewish population grew, it spread out. Signal fires had to be relayed. Soon not everyone was aware of the new month on the same day, so Rosh Hashanah came to be celebrated for two days. Today, even with instant satellite communications, Rosh Hashanah continues to be celebrated over two days, possibly because the first glimmer of the new moon is visible in Israel before it is visible in many other parts of the globe."* **{Underlined emphasis added}**

Again, we see the support for mass communications that were employed using signal fires to publicize the event to everyone in the land of Israel. However, these signal fires became unreliable when individuals (Samaritans and Boethusaeans) lit false signals to purposely mislead others to keep different days[17]. In addition to a population spreading further outward from Israel, the Sanhedrin commanded the observation of two days for Rosh Hashanah (Day of Trumpets) if they were, otherwise, unaware that the *new moon crescent* had been spotted. The fact that this double-observance tradition even came into existence supports an observed calendar methodology prior to the *calculated* Hebrew calendar used today. Additionally, this tradition has continued into modern Jewish practices even though they now rely solely on mathematical calculations. The Wikipedia Encyclopedia [38] confirms that:

> *"Since the time of the destruction of the Second Temple in Jerusalem in 70 CE and the time of Rabban Yohana ben Zakkai, normative Jewish law appears to be that Rosh Hashanah is to be celebrated for two days, due to the difficulty of determining the date of the new moon."*

This Encyclopedia article continues:

> *"Orthodox, Conservative Judaism, and Reconstructionist Judaism now generally observe Rosh Hashanah for the first two days of Tisheri, even in Israel where all other Jewish holidays dated from the new moon last only one day."* **{Underlined emphasis added}**

Due to this Sanhedrin rule, many modern Jews who are now considered in exile (outside of Israel - or the *Diaspora*) continue to observe two days for the beginning of every new month (after the 29th & 30th day) just in case either is found to be the new moon in the Holy Land - this tradition is called *Yom Tov Sheni* today, and is also kept for most of the High Holy Days (except Atonement). However, this tradition of observing two days for the Day of Trumpets (or the New

Moon) is strictly man-made. Obviously, we are not instructed to observe two days for the Day of Trumpets in the Bible; however, we do see a Biblical assembly that gathers at the expected *New Moon* to be in unison and hear the trumpets sound when the *new moon crescent* appears. We can see then that on the Day of Trumpets, this same assembly, patiently looking for the sign in the heavens, must be *prepared* to keep either day holy as being the *Day of Trumpets.* Not that it should be observed for two consecutive days.

We saw how this was laid out in the example of David in II Samuel 20 when we discussed *Biblical Months*. David planned to be absent for two evening meals at the time the New Moon peace offering was being prepared. This allowed for either meal to be the sacrificial fellowship meal that would be eaten when the new moon crescent had come, and trumpets were blown (either at the end of the 29th or 30th day from the prior crescent appearance). Just as we should always be watchful of current events that may serve as signs of prophetic times, the gathering together of Yehovah's people at the time of the *New Moon*, especially on the seventh month that is the *Day of Trumpets*, we need to be looking up to the heavens for Yehovah's ordained *signs* that perfectly fulfill the purpose this day pictures: the return of Yeshua, the Messiah!

The fact that today's Jews keep a calculated calendar and observe two days for Rosh Hashanah suggests that one of these traditions did not always exist, and now conflict on principle. If the calendar was always kept using a mathematical determination, there would be no need to add such a tradition. Only introducing a later mathematical component could lead to this *problem.*

Keeping It Secret

Some *Hebrew Calendar* supporters will claim that the mathematical origins of today's calendar always existed and were simply a highly held secret of the ancient Sanhedrin, and that its calculations were established through divine revelation from Yehovah Himself! Daniel 2:20-22[1] is referenced as proof of this theory:

> *"Daniel answered and said, 'Blessed be the name of God for ever and ever: for wisdom and might are his: And he changeth the times and the seasons: he removeth kings, and setteth up kings: he giveth wisdom unto the wise, and knowledge to them that know understanding: He revealeth the deep and secret things: he knoweth what is in the darkness, and the light dwelleth with him.'"* **{Underlined emphasis added}**

We see here that it truly is Yehovah that is in control of the *times and the seasons* as it is He that sets the celestial bodies into motion, allows the weather to produce crops and can alter any of these signs at any given time. But does that infer that Yehovah gave secret calculations that then controlled them? Even though Dr. Spier documented that the Sanhedrin practices utilized astronomical facts within the court process - at best it would have been to confirm the testimony of witnesses declaring their sightings of the *new moon crescent*. But this would contradict the

theory that they relied purely upon calculation - much less used the *Molad* or *conjunction* instead of the crescent. We also know that the *equinox* was not referenced by the Sanhedrin due to Christians changing to this method in their own calendar determinations for *Easter*.

Could it be that the Sanhedrin possessed calculations for the celestial movements that have since changed? Let's look again at the story of *Joshua's Long Day* in Joshua 10:12-14[1]:

> *"Then spake Joshua to the LORD in the day when the LORD delivered up the Amorites before the children of Israel, and he said in the sight of Israel, Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon. And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. Is not this written in the book of Jasher? So the sun stood still in the midst of heaven, and hasted not to go down about a whole day. And there was no day like that before it or after it, that the LORD hearkened unto the voice of a man: for the LORD fought for Israel."*

This example clearly tells us that Yehovah directly manipulated the celestial signs to delay time rather than simply issuing a revised set of mathematical formulas. If Yehovah determined *times and seasons* through *mathematics* (either directly or indirectly) then we would see a dire need here for them to be adjusted.

But the question remains: why would any such mathematics need to be a secret to begin with? Would He not give this information to all of Israel or, at a minimum, mention to them that the Sanhedrin or other individuals would have this information bestowed upon them? If so, then who has them today? If it is the Jews and their Hebrew calendar, why are they no longer a secret? But we find no such example of calculations being administered. It then must be considered why Yehovah would give such detailed instructions for the Count to Pentecost and for the counting of days from specific *new moons* for all His other Festivals in the book of Leviticus yet remain completely silent on the math that would be required to determine the dates they are based upon.

The Wikia Encyclopedia [20] discusses the "secret calculations" theory:

> *"...a popular tradition, first mentioned by Hai Gaon (d.1038), holds that the modern continuous calendar was formerly a secret known only to a council of sages or 'calendar committee,' and that Patriarch Hillel II revealed it in 359 due to Christian persecution. However, the Talmud, which did not reach its final form until c. 500, does not mention the continuous calendar or even anything as mundane as either the nineteen-year cycle or the length of any month, despite discussing the characteristics of earlier calendars."*

This article continues to explain:

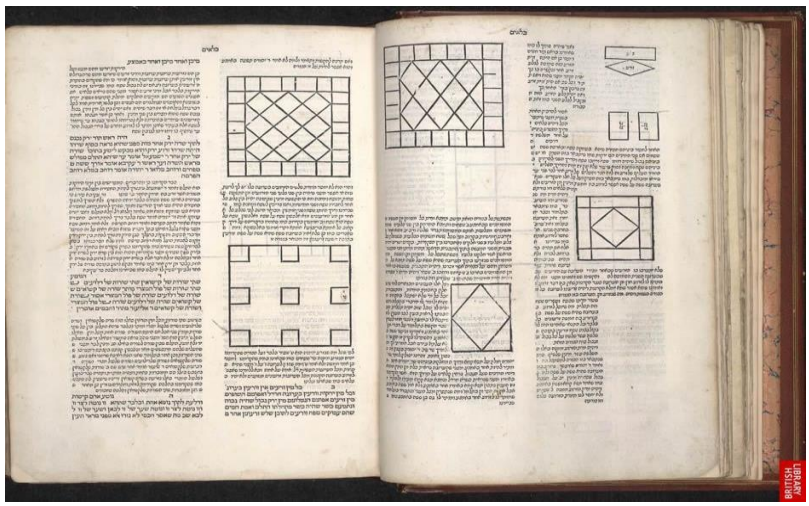
> *"Jewish dates during post-Talmudic times (specifically in 506 and 776) are impossible using modern rules, and all evidence points to the development of the arithmetic rules of the modern calendar in Babylonia during the times of the Geonim (seventh to eighth centuries), with most of the modern rules in place by about 820, according to the Muslim astronomer Mu'ammad ibn Muḥammad ibn Mūsā al-Ḵwārizmī. One notable difference was the date of the epoch (the fixed reference point at the beginning of year 1), which at that time was identified as one year later than the epoch of the modern calendar."*

Even math proves that the math used today could not have existed in its current state for more than 1100 years - much less from the time of Moses or even during the time of Yeshua. Not only do we not find scripture to support such a theory, but there is also no evidence in Jewish history either. It also contradicts Sanhedrin's documented practice of relying on witnesses in determining the *new moon*. If the Sanhedrin relied on secret calculations, instead, eyewitness testimony would not have been required, the declaration would not have been delayed waiting for witnesses and the commanded traditions of keeping the *Day of Trumpets* for two days, instead of one, would have never existed. Certainly, the Sanhedrin were fallible men, but it seems highly unlikely that Yehovah would have put full trust in their abilities to maintain His secret calendar calculations and not trust the remainder of Israel to even know they existed. This would also go against the instructions Yehovah gave us to not put our faith in the wisdom of men. But if this were, indeed, the case then Hillel went directly against Yehovah's intentions by making this secret public!

In the earlier scripture referenced above, Daniel was thanking the Creator for granting him the wisdom to interpret the King's dreams, but there is never any indication that the authority of *times and seasons* and the revealer of *deep and secret things* was declaring that *times and seasons* were those *deep and secret things*. Nor are the Sanhedrin ever mentioned receiving any such revelations. If anything, we should know of Yehovah by now is that He reveals all things and does not operate "in secret" with mysterious concepts - that is done by Satan with his mysterious Babylonian religions.

Math First Introduced

The Mishna also describes a possibility that the Sanhedrin may have used mathematical calculations, however, to confirm the testimony of eyewitnesses. In fact, one of these documents



explains a specific conflict that occurred between two members of the Sanhedrin where specifically the mathematics of the *new moon* were argued. But we see that the eyewitness testimonies of *new moon crescents* were interrogated to confirm their sightings and it was these sightings that served as the basis of their ultimate decision - not the math. Whether the Sanhedrin utilized mathematics in addition to the eyewitness testimonies, it would have only been to distinguish whether a witness was likely telling the truth.

It is a member of the Sanhedrin named Rabbi Hillel II who is first attributed to implementing a Hebrew calendar based solely on calculation in the fourth century (358 C.E.). It wasn't until this time we find that the Sanhedrin changed the calendar system to be based on mathematical principles rather than observation. In the Wikipedia article regarding the *Modern Calendar of the Hebrews* [20], it is explained:

> *"...there is a tradition, first mentioned by Hai Gaon (d. 1038 CE), that Hillel b. R. Yehuda 'in the year 670 of the Seleucid era' (i.e. 358-359 CE) was responsible for the new calculated calendar with a fixed intercalation cycle. Later writers, such as Nachmanides, explained Hai Gaon's words to mean that the entire computed calendar was due to Hillel b. Yehuda. Maimonides, in the 12th century, stated that the Mishnaic calendar was used 'until the days of Abaye and Rava', who flourished ca. 320-350 CE, and that the change came when 'the land of Israel was destroyed, and no permanent court was left.' Taken together, these two traditions suggest that Hillel b. Yehuda (whom they identify with the mid-4th century Jewish patriarch loulos, attested in a letter of the Emperor Julian, and the Jewish patriarch Ellel, mentioned by Epiphanius) instituted the computed Hebrew Calendar because of persecution.*

The fourth century was a very dangerous time to be a Jew - most feared for their lives as Paganism (lead by the so-called Christian Constantine) forced its way onto the scene. The Romans established law prohibiting meetings of the Sanhedrin and it quickly became apparent that the standard practices for determining the calendar were not able to continue. Additionally, the Jews were being pushed out of the Promised Land, and their temple in Jerusalem had already been destroyed in 70 CE. It became more and more difficult for the Sanhedrin to proclaim new months and years and to send messengers, as was traditionally practiced. The Wikipedia Encyclopedia describes part of the tension put on the Jews at this time to adopt a standardized calculated timetable.

In addition, an increasing number of Christian followers began to look for a change to the early calendar system that was still using the Jewish method of observation that Constantine eventually outlawed. It was during this time that the Catholic Church was establishing its own doctrine and held the historical *First Council of Nicaea* in 325 A.D. The calendar was one of several topics that were addressed including the determination of *Easter*, which was being kept by many Christians in the first month, which was still being declared by the Jewish Sanhedrin (by this time, the first month was named Nisan). The Wikipedia article [11] states:

> *"To determine which lunar month was to be designated as Nisan, Christians relied on the Jewish community. By the later 3rd century, however, some Christians began to express dissatisfaction with what they took to be the disorderly state of the Jewish calendar."* **{Underlined emphasis added}**

The article continues to explain:

> *"Christians, these thinkers argued, should abandon the custom of relying on Jewish informants and instead do their own computations to determine which month should be styled Nisan, setting the Easter festival within this independently-computed, Christian Nisan, which would always locate the festival after the equinox."* **{Underlined emphasis added}**

We see here a growing majority of Christians were looking for a predictable, calculated calendar instead of one relying on informants, which the Christians viewed as being disorderly. It also supports that the Sanhedrin did not utilize the Spring Equinox, whether they were relying on observation, calculation, or both. If they were relying on calculation, it was still perceived as being *unreliable*. Emperor Constantine pushed for an accurate calendar based on the

mathematical *Equinox* to pinpoint seasons rather than observing the *barley crops* and the *new moon crescents*. It was only a few decades after the Council of Nicaea that Rabbi Hillel II is now attributed to succumbing to mathematically computing a calendar for the Hebrew community. This computation was a mathematical average, likely based on Hillel's experience with the Sanhedrin, of observed seasons. In essence, he created a mathematical timetable of the average lunar cycle lengths that coincided with barley crops.

Hillel did not determine his timetable based on the *equinox*; rather it was an average of how often to insert a 13th leap-month that spanned a repeating 19-year cycle. This way, primarily because the Sanhedrin were being dissolved and the people of Israel were dispersed throughout the world, the people would not have to rely on a Sanhedrin court system. Instead, they could now predict *mathematically* when to insert the extra month. It provided the best alternative to an organized community searching for the Biblical signs - especially the barley crops no longer available to them within Israel. However, further evidence shows that Hillel did not continue to create the full Hebrew calendar, as it exists today, but was only partially responsible for contributing to the current version. The Wikipedia Encyclopedia [22] further confirms that Hillel II...

> *"...is traditionally regarded as the creator of the modern fixed Hebrew calendar. However this attribution is tenuous. It first appears in a responsum of R. Hai Gaon (early eleventh century) cited by R. Avraham b. Hiyya in his Sefer Ha'ibbur, written in 1123. The topic of that responsum is the 19-year cycle for leap year intercalations, so the most that can be inferred from that attribution is that Hillel was responsible for the adoption of that cycle for the regulation of the distribution of leap-years. Scholars who have studied the history of the Hebrew calendar are in general agreement (and there is much evidence for this in the Talmud itself and in other rabbinic sources) that in practice, the evolution of the calendar into its present form was a gradual process spanning several centuries from the first to about the eighth or ninth century CE."* **{Underlined emphasis added}**

The Hebrew Calendar we know today was an evolving process that was not fully established until hundreds of years after Hillel's initial concepts were documented. In fact, the topic of the calendar was still recorded as being a *hot topic* and issue of dispute for hundreds of years after the time of Hillel II.

For example, in 1922 a letter was discovered in the Cairo Geniza, a collection of Jewish manuscript fragments kept in a storeroom located in Cairo Egypt. These manuscripts span Jewish history from the 6th to the 19th centuries. The letter was written by the *resh galuta* (a centralized Jewish administrative authority within Babylonia during the Middle Ages) that showed the length of the Hebrew year 4596 (835/836 C.E.) was different in length and on a different day of the week than that of the present-day Hebrew calendar. It further explained that the area of Babylon had obtained calendric information from Palestine. This shows that the Hebrew calendar still had not been widely adopted nearly five hundred years since Hillel made public his calendar calculations. Other letters attest to similar disputes on calendar dates for Hebrew years 4682-4684 (922-924 C.E.) between the Babylonian and Palestinian communities written by R'Sa'adia Gaon and Aaron ben Meir.

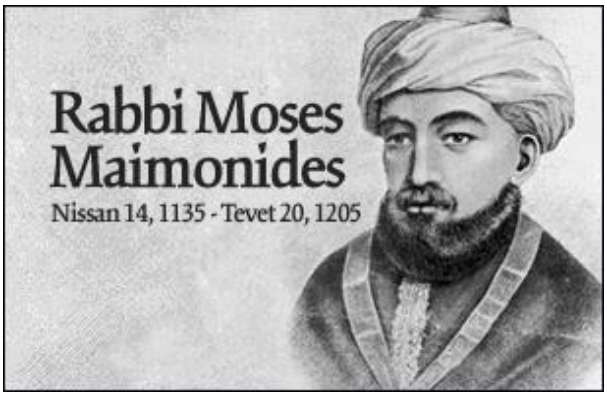
Many of these disputes involved the monthly computation of the lunar *Molad*, first introduced by the Babylonians. The *Molad* was an average estimate, albeit imperfect, of the moon's lunar cycle from one conjunction to another, but it did not measure the arrival of the *new moon crescent*. Although very accurate for the time, the *Molad* calculation of the lunar cycle differs, although very slightly, from the mathematical calculations of the conjunction available to us today. It is because of this variance, however, that we can now perform reverse math to determine when the *Molad* was first instituted by the Hebrews in its current form. Dr. Kelley Ross explains this in his article, *The Jewish Calendar* [26]

> *"We can estimate the date for the present full mechanism of the calendar from the amount of error that has accumulated. The benchmark for the New Moon is now accurate for a meridian in Afghanistan. If we run things back to when it would have been accurate for a meridian through Jerusalem or Babylon, the centers of Jewish life and calendar studies, we just get back to around the 9th or 10th centuries. As it happens, we know that there were controversies about the calendar in that era."*

He then concludes:

> *"It seems beyond coincidence that was the period for which the new Moon benchmark would have been accurate, and it implies a Babylonian meridian."*

Additionally, this timeframe would have been historically accurate to the level of mathematical knowledge of the period. Many who believe the *Molad* calculation has been preserved from the time of Moses want to see this as being a miraculous revelation for the time and, consequently, must have been presented to man by God Himself. However, this begs the question, if God originally provided it, wouldn't it have been completely accurate without any amount of error? Yet, it is the cumulation of error over time that provides mathematical evidence of just how old this Calendar system truly is, placing it (at the earliest) in the 9th century C.E. A stark contradiction that the Hebrew Calendar was a part of the Oracles preserved by the Jews! It seems that when Hillel II, in 358 C.E., introduced the intercalary 19-year average cycle, he opened the door to a *calendar bias* that would eventually take over, replacing all the Biblically observed *signs* in favor of pure mathematical findings - regardless of whether they coincided with the actual celestial events.



It is not until the 12th century where a certain Rabbi named Moshe ben Maimon "Rambam" (or Rabbi Maimonides) attributed to the calculated Hebrew calendar's accuracy, as compared to the *solstice* or *equinox*, in his book titled *Hilchot Kiddush haChodesh* in 1178 A.D.[32]. The same mathematical *equinox* referenced by Constantine's Christian calendar. It was also in the 12th century where we find documented evidence supporting the majority of Orthodox Jews, under the rabbinical leadership, relying solely on a calculated Hebrew calendar, giving in to their *calendar bias*. In other words, the Hebrew calendar became favored because the math of the *equinox* was compared to the math of the average timetables and found to best coincide - using math to confirm the math. Nowhere in scripture do we find the *equinox* even

described, much less measured from for counting days, months or determining seasons. *This purely mathematical calendar, first instituted in the 9th century and deemed mathematically accurate in the 12th, was the birth of the current Hebrew Calendar used today*. This history strongly contradicts the concept of a preserved Calendar given within the Oracles.

Rosh Chodesh

The Sanhedrin practices for declaring the *new moon* developed into the traditions of the Jewish day Rosh Chodesh - a modern-day holiday that celebrates the event of the *New Moon*. Wikipedia Encyclopedia [36] describes this day as:

> *"The name for the first day of every month in the Hebrew calendar, marked by the appearance of the New Moon. It is considered a minor holiday, akin to the intermediate days of Passover and Sukkot."* **{Underlined emphasis added}**

Judaism 101, a website that gives basic understanding for Jewish customs and practices, explains the customary Rosh Chodesh ceremony [35]:

> *"In ancient times, Rosh Chodesh was a significant festival day. At that time, the new months were determined by observation. Each month began when the first sliver of moon became visible after the dark of the moon."* **{Underlined emphasis added}**

Again, here is confirmation that not only did the Sanhedrin rely upon observation of signs, but it was also customary to gather at the time of the renewed moon to confirm its arrival. The Wikipedia [36] continues:

> *"Despite the existence of a fixed calendar, the date of Rosh Chodesh is still announced in synagogues on the Shabbat (called Shabbath Mevarchim) prior to its observance.*
>
> *The day after the moon appeared was a festival, announced with the sounding of the shofar [trumpet], commemorated with solemn convocations, family festivities and special sacrifices [meal]. The importance of this holiday in ancient times should not be underestimated. The entire calendar was dependent upon these declarations; without the declarations, there would be no way of knowing when holidays were supposed to occur."*

We see that the Sanhedrin traditions parallel what we have learned directly from Biblical scriptures. Today's Jews are fully aware of their own history and that of the Sanhedrin, which includes an empirical-based calendar. There was a significance to actively communicating, through the blowing of a trumpet, when the *new moon crescent* was confirmed by at least two independent witnesses (a principle of II Corinthians 13:1 and John 8:17). This fact is still recognized in their *Rosh Chodesh* celebrations.

Today, a Jewish group claims to be the reestablished Sanhedrin[34] in preparation for restoring a court system, possibly should a temple ever be restored in Jerusalem. It is believed, by these Jews, that should the people wish to return to the original traditions, the method of observing the signs would once again be standard practice. It is also fully understood that the current Hebrew calendar is tainted and unfit to continue much longer. They further explain in their article *Fixing of the Calendar* [7]:

> *"In recent years, a situation has been created where more and more frequently the onset of spring does not coincide with {the} calendar currently in use. This means that the calendar is beginning to drift noticeably. Albeit, the rate of drift is very slow, much slower than other lunar calendars (such as the Islamic calendar). However, if continued unchecked, we will be celebrating Pesach in the summer, rather than the spring. Our current calendar will exceed halachically acceptable limits and we will be celebrating Biblically commanded holidays at times other than when Scripture requires them to be celebrated. One could argue that if a change is necessary in any event, it would be most correct according to Biblical and Jewish Law to once again use the system of witnesses. But it is certain that we will no{t} longer be permitted to use the mathematical calendar of Hillel II in the near future."*

This clearly supports the fact that the current calculated calendar will no longer be adequate for the current Jewish community soon without some sort of change. Again, not a strong argument for mathematics being divinely given by Yehovah Himself to the Jews or within the Oracles. It is the desire for the Hebrew community to return to an observational method, based on eyewitness's accounts. Not only is this considered an acceptable method by Jewish law, but Biblical!

Now that we are more familiar with the origins of the Hebrew calendar, when it was established, and just how the Jews consider its validity, let's take a deeper look at just how the current Hebrew Calendar is constructed, why it is drifting, and why it's overall architecture and man-made rules may further contradict what we have learned from scripture.

CURRENT HEBREW CALENDAR

We have already seen an evolution of this calendar from a Biblical perspective that is based on directly observing the lunar, solar, and seasonal signs, to a process of observation that was confirmed by witnesses using calculation to confirm their testimony, and finally to a process of relying on purely calculated timetables, completely abandoning observational practices - except for observing the Biblical Day. The average Molad has replaced gazing to the night sky for a new moon crescent. The 19-year intercalary cycle has replaced the annual search for matured, indigenous barley in the spring. Many that support the Hebrew calendar either blindly accept these changes, or falsely claim it has been divinely proclaimed by God Himself and kept secret for four thousand years and preserved by the Jews. This is despite Jews contradicting such claims. Modern astronomical understanding proves that this calendar has only been in existence in its current form no earlier than the 9th century C.E. Yet, there are even more concerns we need to consider.

Names of Months

One of the changes that took place is preserved by the scriptures themselves. That is a change of the proper Hebrew names given for months. As we read in Exodus, Yehovah gave us a "name" for the first month of the year, for lack of a better term, as being the month of *the* Aviv. The reference to *Aviv* can be seen in Exodus 12:2, 13:4, 23:15, 34:18 and Deuteronomy 16:1. The current Hebrew calendar, however, has given the first month the proper name *Nisan* - although minor on the surface, a change indeed.

Tammuz in Mesopotamian religion, god of fertility believed to embody powers for new life in the spring (c. 2600-c. 2334 BCE)

There are three other months with similar references in the early Old Testament Bible: Ziv (I Kings 6:1 and 6:37), the second month meaning light (splendor or radiance), Ethanim (I Kings 8:2), the seventh month meaning strong (ever flowing), and Bul (I Kings 6:38) the eighth month meaning produce (or rain) when crops were often planted. The remaining months were simply numbered (third month, fourth month, etc.) - in fact, all the months were simply numbered just as the days of the week are numbered. There was no need to properly name them. But in later writings of the Old Testament (Nehemiah and Esther), and then after the New Testament era, we see a change to references of the calendar as having all the months named whose origins come from ancient Babylonia (Nisan, Iyyar, Sivan, Tammuz, Av, Elul, Tishri, Kheshvan, Kislev, Tevet, Shevat, Adar and Adar II). We can confirm this in the Wikipedia Encyclopedia [20]:

> *"During the Babylonian exile, which started in 586 BCE, Jews adopted Babylonian names for the months, which are still in use. The Babylonian calendar also used a*

> *lunisolar calendar, derived from the Sumerian calendar, which was similar in structure to the Hebrew one."*

The Bible itself (in only two books of the Old Testament) verifies a change to referencing the Babylonian and Sumerian calendars around 586 B.C.E., or at least references the names of months (and not necessarily accepted for common use). However, it was also a calendar based on observation of the new moon crescent[20]. However, it's not a change dictated by Yehovah within scripture. Just because this change is recorded within the Biblical text, however, it does not mean that it should have! These names have replaced the original Hebrew, including the name *Aviv*, no longer providing a foundation for basing our first month on the moon of the ripened barley harvest. Furthermore, if the existing calendar was considered preserved as part of the Oracles, wouldn't the names have been preserved as well? Did Yehovah approve of such a name change - even when He directly gave the original reference for the first month of the year?

Just as we no longer refer to days of the week as the first day, second day, etc., today's society has also adopted the names of Sunday, Monday, etc. In fact, all the names for the days of the week are now based on the names of Pagan gods - including the Babylonian Sun god (Sun-day). But just because we may reference the Sabbath today as being on Saturdays, does that mean Yehovah intended to change his Sabbath to be called Saturday? No, of course not! Neither should we assume Yehovah changed the month of Aviv to *Nisan*!

So what harm is there in giving names to the Biblical Months? Notice the Babylonian name given to the fourth month. *Tammuz*, which was one of the primary Babylonian gods that has evolved into many pagan practices intricately tied into the summer and winter solstices each year - including the celebration of Christmas. Tammuz is a Life-Death-Rebirth Deity[42] that is mourned at the summer solstice as he begins to die and celebrated at the winter solstice as he is reborn. Tammuz is also mentioned in the Bible with the mourning ceremony for the Pagan god specifically classified as an abomination by Yehovah. Ezekiel 8:14-15[1]:

> *"Then he brought me to the door of the gate of the LORD'S house which was toward the north; and, behold, there sat women <u>weeping for Tammuz</u>. Then said he unto me, Hast thou seen this, O son of man? turn thee yet again, and thou shalt see greater <u>abominations</u> than these."* **{Underlined emphasis added}**

Even Yeshua Himself never references the Babylonian names for the months within the scriptures. Certainly Israel, followed by the Jewish community and its authoritative leaders, picked up some Pagan practices after their Babylonian exile just as we continue to do today (beyond naming the days of the week). But regardless, even though He may have allowed it to happen, there are no scriptures showing the Babylonian names of the months as being ordained by Yehovah. And, again, it certainly does not support a calendar system being preserved and protected in the Oracles from the time of Moses.

Year 1	1	2	3	0	5	6	7	8	9	10	11	12	Common
Year 2	13	14	15	16	17	18	19	20	21	22	23	24	Common
Year 3	25	26	27	28	29	30	31	32	33	34	35	36	37 Leap
Year 4	38	39	40	41	42	43	44	45	46	47	48	49	Common
Year 5	50	51	52	53	54	55	56	57	58	59	60	61	Common
Year 6	62	63	64	65	66	67	68	69	70	71	72	73	74 Leap
Year 7	75	76	77	78	79	80	81	82	83	84	85	86	Common
Year 8	87	88	89	90	91	92	93	94	95	96	97	98	99 Leap
Year 9	100	101	102	103	104	105	106	107	108	109	110	111	Common
Year 10	112	113	114	115	116	117	118	119	120	121	122	123	Common
Year 11	124	125	126	127	128	129	130	131	132	133	134	135	136 Leap
Year 12	137	138	139	140	141	142	143	144	145	146	147	148	Common
Year 13	149	150	151	152	153	154	155	156	157	158	159	160	Common
Year 14	161	162	163	164	165	166	167	168	169	170	171	172	173 Leap
Year 15	174	175	176	177	178	179	180	181	182	183	184	185	Common
Year 16	186	187	188	189	190	191	192	193	194	195	196	197	Common
Year 17	198	199	200	201	202	203	204	205	206	207	208	209	210 Leap
Year 18	211	212	213	214	215	216	217	218	219	220	221	222	Common
Year 19	223	224	225	226	227	228	229	230	231	232	233	234	235 Leap

19-Year Intercalary Cycle

Much like how we reference the Gregorian calendar today, the people of Jerusalem

would have been subjugated to use the promoted Babylonian civil calendar after their conquest in 587 B.C. and could explain these uncommon references to months within the Old Testament. Similarly, in a period under Alexander the Great from 332-200 B.C., the Macedonian calendar would have been heavily promoted for civil use on the people. Finally, in the first century A.D., Roman occupation would have been heavily used, yet there is no evidence that any of these civil calendars replaced that of an observational method for denoting religious practices. The Britannica explains: [74]

> *"The situation after the destruction of the Temple in Jerusalem in 70 CE remains unclear. It is not known whether the Romans introduced their Julian calendar or the calendar that the Jews of Palestine used after 70 CE for their business transactions. There is no calendar reference in the New Testament; the contemporary Aramaic documents from Judaea are rare and prove only that the Jews dated events according to the years of the Roman emperors."*

The article continues regarding the Jews' religious calendar that contrasted with the civil calendar.

> *"In the religious calendar, the commencement of the month was determined by the observation of the crescent New Moon, and the date of the Passover was tied in with the ripening of barley. The actual witnessing of the New Moon and observing of the stand of crops in Judaea were required for the functioning of the religious calendar. The Jews of the Diaspora, or Dispersion, who generally used the civil calendar of their respective countries, were informed by messengers from Palestine about the coming festivals. This practice is already attested for 143 BCE. After the destruction of the Temple in 70 CE, rabbinic leaders took over from the priests the fixing of the religious calendar. Visual observation of the New Moon was supplemented and toward 200 CE, in fact, supplanted by secret astronomical calculation."*

With many Jews now being displaced from Jerusalem and more and more lived in the diaspora, confusion began to arise as communication to these areas became difficult. And as we saw, this would later cause complaint by Christians as being unreliable. Yet Jerusalem remained the focus of determining when religious dates would occur. Eventually, people began relying on other resources, such as the spring equinox without any regard to the Palestinian rulings. Therefore, the article explains,

> *"To preserve the unity of Israel, the patriarch Hillel II, in 358/359, published the 'secret' of calendar making, which essentially consisted of the use of the Babylonian 19-year cycle with some modifications required by the Jewish ritual."*

As we read in the previous section, Hillel II, a Palestinian patriarch, was attributed to introducing the 19-year Intercalary Cycle in the 4th century. While some believe he introduced all the calculations for the Hebrew calendar, we saw disputes continued over the calendar as late as the 9th century. The Hebrew calendar's own accumulated variance between today's calculations of the lunar cycle and the Molad calculation prove that today's calendar was not instituted until at earliest the 9th century. And it wasn't until the 12th century we find that Rabbi Maimonides, the

great medieval philosopher, and legist, wrote *Sanctification of the New Moon*, first evidence of the modern calendar being widely instituted by the Jewish community.

While Hillel's 19-year cycle follows very closely to the actual pattern of aviv barley found within Israel today, it was likely established based on historical, repeated findings of barley within the land. It may have even been a mathematical tool used by the Palestinians prior to Hillel that, no doubt, became more and more accurate over time. The cycle consists of a pattern, spanning over 19 years, where a leap year occurs (or when a 13th month is inserted) – known as *Shanah Me'uberet (*meaning a *pregnant year)* - which occurs every 3rd, 6th, 8th, 11th, 14th, 17th, and 19th year.

The Molad Emtzai

Gregorian Year	Lunar Start Date	Lunar Conjunction (JMT)	<----> Variance <---->	Molad Emtzai (JMT)	Molad Start Date	RULE 1	Modified Molad Date	DOW	RULE 2	RULE 3	RULE 4	Resulting Rosh HaShanah (sundown to sundown)	Hebrew Year
2016	30-Sep	1-Oct 2:32	+ 12:08	1-Oct **14:40**	30-Sep	+1	**1-Oct**	S	+1			2-Oct - 3-Oct	**5777**
2017	19-Sep	20-Sep 7:50	+ 15:38	20-Sep **23:28**	**20-Sep**		**20-Sep**	W				20-Sep - 21-Sep	**5778**
2018	**9-Sep**	9-Sep **20:22**	+ 11:55	10-Sep 8:17	9-Sep		9-Sep	U				9-Sep - 10-Sep	**5779+**
2019	**28-Sep**	28-Sep **20:47**	+ 9:03	29-Sep 5:50	28-Sep		28-Sep	S	+1			29-Sep 30-Sep	**5780**
2020	16-Sep	17-Sep 13:21	+ 1:17	17-Sep **14:38**	16-Sep	+1	**17-Sep**	R	+1			18-Sep - 19-Sep	**5781**
2021	6-Sep	7-Sep 3:12	- 3:45	6-Sep **23:27**	**6-Sep**		**6-Sep**	M				6-Sep - 7-Sep	**5782+**
2022	25-Sep	26-Sep 0:15	- 3:15	25-Sep **21:00**	**25-Sep**		**25-Sep**	U				25-Sep - 26-Sep	**5783**
2023	14-Sep	15-Sep 4:00	+ 1:49	15-Sep 5:49	14-Sep		14-Sep	R	+1			15-Sep - 16-Sep	**5784+**
2024	**2-Oct**	2-Oct **21:10**	+ 6:11	3-Oct 3:21	2-Oct		2-Oct	W				2-Oct - 3-Oct	**5785**
2025	**21-Sep**	21-Sep **22:15**	+ 13:55	22-Sep **12:10**	21-Sep	+1	**22-Sep**	M				22-Sep - 23-Sep	**5786**
2026	10-Sep	11-Sep 5:48	+ 15:11	11-Sep **20:59**	**11-Sep**		**11-Sep**	F				11-Sep - 12-Sep	**5787+**
2027	29-Sep	30-Sep 4:57	+ 13:34	30-Sep **18:31**	**30-Sep**		**30-Sep**	R	+1			1-Oct - 2-Oct	**5788**
2028	**18-Sep**	18-Sep **20:44**	+ 6:36	19-Sep 3:20	18-Sep		18-Sep	M		+2		20-Sep - 21-Sep	**5789**
2029	7-Sep	8-Sep 13:05	- 0:56	8-Sep **12:09**	7-Sep	+1	**8-Sep**	S	+1			9-Sep - 10-Sep	**5790+**
2030	26-Sep	27-Sep 12:15	- 2:34	27-Sep 9:41	26-Sep		26-Sep	R	+1			27-Sep - 28-Sep	**5791**
2031	**16-Sep**	16-Sep **21:07**	- 2:37	16-Sep **18:30**	**16-Sep**		**16-Sep**	T	+1			17-Sep - 18-Sep	**5792**
2032	4-Sep	5-Sep 1:17	+ 2:02	5-Sep 3:19	4-Sep		4-Sep	S	+1			5-Sep - 6-Sep	**5793+**
2033	22-Sep	23-Sep 16:00	+ 8:51	24-Sep 0:51	23-Sep		23-Sep	F				23-Sep - 24-Sep	**5794**
2034	**12-Sep**	12-Sep **18:34**	+ 15:06	13-Sep 9:40	12-Sep		12-Sep	T	+1			13-Sep - 14-Sep	**5795+**

To calculate today's Hebrew calendar, you must first begin with the calculated Molad (or the *Molad Emtzai*). The word Molad is a Hebrew word meaning *birth* that is connected to the time at which the New Moon is supposedly "born". However, this is somewhat ambiguous because it can differ based on the context. It can mean the astronomical lunar conjunction in a particular location, or some use it to specify the first visibility of the new lunar crescent after conjunction. For the Hebrew calendar, it is essentially the mean lunar conjunction (a fixed length of time that represents the average timespan from one conjunction to another that varies from month to month). This average timespan of the moon, essentially the Synodic month, occurs exactly 29 days 12 hours 44 minutes and 3 1/3 seconds (or, equivalently, 29.53059 days) after the previously calculated Molad moment. For example, the Molad Emtzai in 2016 (Year 5777 of the Hebrew calendar) occurred on Saturday, October 1st at 2:40pm Israel Mean time (14:40 military time). The moon's conjunction occurred within Jerusalem at 2:32am (02:32 military time). This, of course, assumes the Molad calculation originated with a meridian running through Jerusalem (which is located 35 degrees east of Greenwich). Therefore, we adjust the Greenwich Mean Time (GMT) of the calculated conjunction by adding 2 hours and 21 minutes to arrive at the time of conjunction over Jerusalem (or Jerusalem Mean Time - JMT). This adjustment is made because the exact moment of conjunction does not occur to everyone on the globe at once. A good example of this is when a solar eclipse occurs (which is the moment of conjunction), a visible shadow is cast upon the earth's surface and slowly progresses in a straight path for several hours. Not everyone on the surface within the shadow's path sees a total eclipse of the sun at the exact same moment on the same day. Therefore, the adjustment is made to when the moon would be closest to conjunction directly over Jerusalem. Calculating this time gives us a total variance of 12 hours and 8 minutes between the Molad result and the astronomical new moon conjunction that occurred on October 1st, 2016, in Jerusalem.

You can see in Figure 1 that the Hebrew year 5777 was the first year of the 19-year Intercalary Cycle and, therefore, was 12 months in length. To determine the year 5778, you would multiply 29.53059 days by 12 and you wind up on Wednesday, September 20, 2017, at 11:28pm (23:28). Figure 1 shows that this was 15 hours and 38 minutes after the astronomical new moon conjunction occurred. You may notice that this variance between the Molad Emtzai and the conjunction spans over a period of 38 years with variances anywhere from 15 hours and 46 minutes in 2035 to just 53 minutes in 2058. Later we will see that additional rules expand this variance even further. Yet, even just considering the definition of the Biblical term *chodesh* as somehow being defined as an *average mathematical* cycle, like the Molad, how can one accept a majority of a day's variance from year to year, much less month to month?

From here, you would probably expect that the Hebrew calendar would refer to this Molad timeframe every month, but no. Instead, it uses a fixed number of days - with a few exceptions.

2035	30-Sep	1-Oct 15:27	+ 15:46	2-Oct 7:13	1-Oct		1-Oct	M		+2	3-Oct - 4-Oct	5796
2036	19-Sep	20-Sep 4:12	+ 11:49	20-Sep 16:01	19-Sep	+1	20-Sep	S	+1		21-Sep - 22-Sep	5797
2037	9-Sep	9-Sep 20:46	+ 4:04	10-Sep 0:50	9-Sep		9-Sep	W			9-Sep - 10-Sep	5798+
2038	28-Sep	28-Sep 21:18	+ 1:05	28-Sep 22:23	28-Sep		28-Sep	T	+1		29-Sep - 30-Sep	5799
2039	17-Sep	18-Sep 10:43	- 3:31	18-Sep 7:12	17-Sep		17-Sep	S	+1		18-Sep - 19-Sep	5800
2040	5-Sep	6-Sep 17:34	- 1:34	6-Sep 16:00	5-Sep	+1	6-Sep	R	+1		7-Sep - 8-Sep	5801+
2041	24-Sep	25-Sep 11:02	+ 2:31	25-Sep 13:33	24-Sep	+1	25-Sep	W			25-Sep - 26-Sep	5802
2042	13-Sep	14-Sep 11:11	+ 11:11	14-Sep 22:22	14-Sep		14-Sep	U			14-Sep - 15-Sep	5803+
2043	2-Oct	3-Oct 5:33	+ 14:21	3-Oct 19:54	3-Oct		3-Oct	S	+1		4-Oct - 5-Oct	5804
2044	20-Sep	21-Sep 13:24	+ 15:19	22-Sep 4:43	21-Sep		21-Sep	W			21-Sep - 22-Sep	5805
2045	10-Sep	11-Sep 3:48	+ 9:44	11-Sep 13:32	10-Sep	+1	11-Sep	M			11-Sep - 12-Sep	5806+
2046	29-Sep	30-Sep 4:46	+ 6:18	30-Sep 11:04	29-Sep		29-Sep	S	+1		30-Sep - 1-Oct	5807
2047	19-Sep	19-Sep 20:52	- 0:59	19-Sep 19:53	19-Sep		19-Sep	R	+1		20-Sep - 21-Sep	5808
2048	7-Sep	8-Sep 8:45	- 4:03	8-Sep 4:42	7-Sep		7-Sep	M			7-Sep - 8-Sep	5809+
2049	26-Sep	27-Sep 4:26	- 2:12	27-Sep 2:14	26-Sep		26-Sep	U			26-Sep - 27-Sep	5810
2050	15-Sep	16-Sep 6:10	+ 4:53	16-Sep 11:03	15-Sep		15-Sep	R	+1		16-Sep - 17-Sep	5811
2051	4-Sep	5-Sep 6:54	+ 12:58	5-Sep 19:52	5-Sep		5-Sep	T	+1		6-Sep - 7-Sep	5812+
2052	22-Sep	23-Sep 1:53	+ 15:31	23-Sep 17:24	22-Sep	+1	23-Sep	M			23-Sep - 24-Sep	5813
2053	11-Sep	12-Sep 11:57	+ 14:16	13-Sep 2:13	12-Sep		12-Sep	F			12-Sep - 13-Sep	5814+
2054	30-Sep	1-Oct 12:10	+ 11:36	1-Oct 23:46	1-Oct		1-Oct	R	+1		2-Oct - 3-Oct	5815
2055	20-Sep	21-Sep 4:40	+ 3:55	21-Sep 8:35	20-Sep		20-Sep	M		+2	22-Sep - 23-Sep	5816
2056	9-Sep	9-Sep 20:08	- 2:45	9-Sep 17:23	8-Sep	+1	9-Sep	S	+1		10-Sep - 11-Sep	5817+
2057	28-Sep	28-Sep 18:21	- 3:25	28-Sep 14:56	27-Sep	+1	28-Sep	F			28-Sep - 29-Sep	5818
2058	17-Sep	18-Sep 0:38	- 0:53	17-Sep 23:45	17-Sep		17-Sep	T	+1		18-Sep - 19-Sep	5819
2059	6-Sep	7-Sep 1:22	+ 7:11	7-Sep 8:33	6-Sep		6-Sep	S	+1		7-Sep - 8-Sep	5820+
2060	24-Sep	24-Sep 18:14	+ 11:52	25-Sep 6:06	24-Sep		24-Sep	F			24-Sep - 25-Sep	5821
2061	13-Sep	13-Sep 22:58	+ 15:57	14-Sep 14:55	13-Sep	+1	14-Sep	W			14-Sep - 15-Sep	5822+
2062	2-Oct	2-Oct 21:11	+ 15:16	3-Oct 12:27	2-Oct	+1	3-Oct	T	+1		4-Oct - 5-Oct	5823
2063	21-Sep	22-Sep 11:42	+ 9:34	22-Sep 21:16	22-Sep		22-Sep	S	+1		23-Sep - 24-Sep	5824
2064	10-Sep	11-Sep 4:32	+ 1:33	11-Sep 6:05	10-Sep		10-Sep	W			10-Sep - 11-Sep	5825+
2065	29-Sep	30-Sep 4:45	- 1:08	30-Sep 3:37	29-Sep		29-Sep	T	+1		30-Sep - 1-Oct	5826
2066	18-Sep	19-Sep 16:08	- 3:42	19-Sep 12:26	18-Sep	+1	19-Sep	U			19-Sep - 20-Sep	5827
2067	8-Sep	8-Sep 20:30	+ 0:45	8-Sep 21:15	8-Sep		8-Sep	R	+1		9-Sep - 10-Sep	5828+
2068	25-Sep	26-Sep 13:09	+ 5:38	26-Sep 18:47	26-Sep		26-Sep	W			26-Sep - 27-Sep	5829
2069	14-Sep	15-Sep 13:57	+ 13:39	16-Sep 3:36	15-Sep		15-Sep	U			15-Sep - 16-Sep	5830
2070	4-Sep	4-Sep 20:50	+ 15:35	5-Sep 12:25	4-Sep	+1	5-Sep	F			5-Sep - 6-Sep	5831+
2071	23-Sep	23-Sep 19:42	+ 14:16	24-Sep 9:58	23-Sep		23-Sep	W			23-Sep - 24-Sep	5832
2072	11-Sep	12-Sep 11:28	+ 7:18	12-Sep 18:46	12-Sep		12-Sep	M			12-Sep - 13-Sep	5833+

+Intercalary Year (13 mos.)

-1 Day | Conjunction | +1 Day | +2 Days | +3 Days

Sundown >= 18:00 (Israel Time)

FIGURE 1

Much like how we are used to the month of February being either 28 or 29 days based on leap years, occurring approximately every four years, the Hebrew calendar also has two months that fluctuate in length based on certain rules (which we will cover shortly). All the months, however, are assigned a fixed length of either 29 or 30 days. Only the seventh month is calibrated, so to speak, to this Molad. The remaining months are assigned a fixed number of days that never change, regardless of the moon's actual cycle.

The 1st, 3rd, 5th, 7th, and 11th months are each assigned 30 days. The 2nd, 4th, 6th, and 10th months are assigned 29 days. In a standard year of 12 months, the 12th month is 29 days in length. In a leap year of 13 months, the 12th month is pushed to now be the 13th month with new 30-day "leap month" being inserted, now becoming the new 12th month.

Figure 2 below shows, month by month, the first three years of the Hebrew calendar from our first example. This table demonstrates how the fixed number of months within the Hebrew calendar layout, except for the eighth and ninth months that are either 29 or 30 days based on the calendar's rules, along with the insertion of a 30-day leap-month for the intercalary year.

While the intercalary year can appropriately be considered a leap-month, the additional arbitrary rules can delay a date from the calculated Molad either a full 24 or 48 hours. Again, dates have been highlighted in Figure 2 to show how often these delays occur from the actual lunar cycle from conjunction to conjunction. Of the 37 months listed, only 11 of those months have all three events occurring on the same date (or 29.7% of the time). This demonstrates the overall disconnect the calculated Hebrew calendar has with the moon, even though most consider or believe it to be directly lunar based. There are times, although rare, when the Molad can even fall on the day prior to the conjunction. That's gives a total variation of up to four calendar days the calculations differ from the actual conjunction event.

Figure 2 shows months 4 and 6 of Hebrew Year 5776 (July & September of 2016) starting 3 days later than the day of conjunction. The month that starts closest to the conjunction is month 11 of Hebrew Year 5778 (January 2018).

Rules of Postponement

At this point, the best we can say is that the Hebrew calendar is 'loosely' based on the lunar cycle - albeit in an inconsistent manner - when it is based on the Molad once per year. But now let's look at the rules that cause us to add days to either the 8th and/or 9th months. These rules are often referred to as the *rules of postponement*, or *Dechiyot*. Many perceive these as being from a mathematical perspective, assuming them to be innocent leap days being added to keep the seventh month aligned with the Molad. However, that is simply not the case. Rather, these *"leap days"* are no different than utilizing *Daylight Savings Time* within our *clock bias* analogy (explained within the introduction of this paper) that adds an extra hour to the clock to force the day to end earlier. These extra one or two whole days are also added to the prior year to delay the start of the seventh month, or Rosh Hashanah/Yom Teruah (Day of Trumpets) based on certain conditions. From a lunar cycle perspective, these rules add an even greater variance from the conjunction and, in effect, cause this calendar system to become completely disconnected from the moon entirely. To the Jewish community, they refer to this as "Fixing Rosh Hashanah," they describe this, according to the Encyclopedia of Judaism[37], as the...

> *"Eighth tractate of Order Mo'Ed in the Mishnah. Its four chapters deal primarily with two subjects: the laws for fixing the new month by the Bet Din and the laws relevant to blowing the Shofar (ram's horn) on Rosh Ha-Shanah (New Year) and the accompanying blessings (cf. Lev. 23:23-25; Num. 29:1-6)."*

Notice that this is described in the Mishnah, which was codified in the year 1180 A.D. It's also worth noting that the seventh month of the Hebrew calendar is referred to in the Jewish community as the *New Year*. This can be confusing when most of us think of the *New Year* as being the *first month*. Although Jews still consider it *Tishri*, the *seventh month* on the calculated calendar, they also consider it to be the first month of a "fiscal" year. Traditionally, they claim that the seventh month marks the anniversary of the *Creation Week* given in Genesis. Let's look at each one.

HEBREW YEAR — GREGORIAN YEAR

Event	First Month Nisan	Second Month Iyyar	Third Month Sivan	Fourth Month Tammuz	Fifth Month Av	Sixth Month Elul	Seventh Month Tishri	Eighth Month Kheshvan	Ninth Month Kislev	Tenth Month Tevet	Eleventh Month Shevat	Twelfth Month Adar	Thirteenth Month Adar II	Year
Lunar Conjunction (JMT)	7-Apr 13:44 (6-Apr)	6-May **21:50** (6-May)	5-Jun 5:20 (4-Jun)	4-Jul 13:22 (3-Jul)	3-Aug 1:05 (2-Aug)	1-Sep 11:24 (31-Aug)	1-Oct 2:32 (30-Sep)	30-Oct **19:59** (30-Oct)	29-Nov 13:39 (28-Nov)	29-Dec 8:14 (28-Dec)	28-Jan 1:28 (27-Jan)	26-Feb 16:19 (25-Feb)		
Molad Emtzai (JMT)	7-Apr 10:12 (6-Apr)	6-May **22:57** (6-May)	5-Jun 11:41 (4-Jun)	5-Jul 0:26 (4-Jul)	3-Aug **13:10** (3-Aug)	2-Sep 1:55 (1-Sep)	1-Oct **14:40** (1-Oct)	31-Oct 3:24 (30-Oct)	29-Nov **16:09** (29-Nov)	29-Dec 4:53 (28-Dec)	27-Jan **17:38** (27-Jan)	26-Feb 6:22 (25-Feb)	N/A	2016 | 2017
First Day on Hebrew Calendar	Sunset - Sunset 8-Apr | 9-Apr	Sunset - Sunset 8-May | 9-May	Sunset - Sunset 6-Jun | 7-Jun	**Sunset - Sunset 6-Jul | 7-Jul**	Sunset - Sunset 4-Aug | 5-Aug	**Sunset - Sunset 3-Sep | 4-Sep**	Sunset - Sunset 2-Oct | 3-Oct	Sunset - Sunset 1-Nov | 2-Nov	Sunset - Sunset 30-Nov | 1-Dec	Sunset - Sunset 29-Dec | 30-Dec	Sunset - Sunset 27-Jan | 28-Jan	Sunset - Sunset 26-Feb | 27-Feb		5776 | 5777
Number of Days	30	29	30	29	30	29	30	29	29	29	30	29		
Lunar Conjunction (JMT)	28-Mar 5:18 (27-Mar)	26-Apr 14:37 (25-Apr)	25-May **22:05** (25-May)	24-Jun 4:51 (23-Jun)	23-Jul 12:06 (22-Jul)	21-Aug **20:51** (21-Aug)	20-Sep 7:50 (19-Sep)	19-Oct **21:33** (19-Oct)	18-Nov 13:03 (17-Nov)	18-Dec 7:51 (17-Dec)	17-Jan 1:38 (16-Jan)	15-Feb **22:26** (15-Feb)		
Molad Emtzai (JMT)	27-Mar **19:00** (27-Mar)	26-Apr 7:45 (25-Apr)	25-May **20:29** (25-May)	24-Jun 9:14 (23-Jun)	23-Jul **21:58** (23-Jul)	22-Aug 10:43 (21-Aug)	20-Sep **23:28** (20-Sep)	20-Oct **12:12** (20-Oct)	19-Nov 0:57 (18-Nov)	18-Dec **13:41** (18-Dec)	17-Jan 2:26 (16-Jan)	15-Feb **15:10** (15-Feb)	N/A	2017 | 2018
First Day on Hebrew Calendar	Sunset - Sunset 27-Mar | 28-Mar	Sunset - Sunset 26-Apr | 27-Apr	Sunset - Sunset 25-May | 26-May	Sunset - Sunset 24-Jun | 25-Jun	Sunset - Sunset 23-Jul | 24-Jul	Sunset - Sunset 22-Aug | 23-Aug	Sunset - Sunset 20-Sep | 21-Sep	Sunset - Sunset 20-Oct | 21-Oct	Sunset - Sunset 18-Nov | 19-Nov	Sunset - Sunset 18-Dec | 19-Dec	Sunset - Sunset 16-Jan | 17-Jan	Sunset - Sunset 15-Feb | 16-Feb		5777 | 5778
Number of Days	30	29	30	29	30	29	30	29	**30***	29	30	29		
Lunar Conjunction (JMT)	17-Mar 15:32 (16-Mar)	16-Apr 2:18 (15-Apr)	15-May 14:08 (14-May)	13-Jun **22:04** (13-Jun)	13-Jul 5:08 (12-Jul)	11-Aug 12:18 (10-Aug)	9-Sep **20:22** (9-Sep)	9-Oct 6:07 (8-Oct)	7-Nov 17:22 (6-Nov)	7-Dec 8:41 (6-Dec)	6-Jan 2:49 (5-Jan)	4-Feb **22:24** (4-Feb)	6-Mar 17:24 (5-Mar)	
Molad Emtzai (JMT)	17-Mar 3:49 (16-Mar)	15-Apr **16:34** (15-Apr)	15-May 5:18 (14-May)	13-Jun **18:03** (13-Jun)	13-Jul 6:47 (12-Jul)	11-Aug **19:32** (11-Aug)	10-Sep 8:17 (9-Sep)	9-Oct **21:01** (9-Oct)	8-Nov 9:46 (7-Nov)	7-Dec **22:30** (7-Dec)	6-Jan 11:15 (5-Jan)	4-Feb **23:59** (4-Feb)	6-Mar **12:44** (6-Mar)	2018 | 2019
First Day on Hebrew Calendar														5778
Number of Days														

-1 Day | Conjunction | +1 Day | +2 Days | +3 Days

FIGURE 2

Rule One

The first rule that 'fixes' the calendar delays the start of the 7th month (or the Day of Trumpets) based on what time of the day the calculated Molad cycle falls. From a Biblical perspective, you might think that this cutoff occurs around sundown. Instead, the rule delays to the next day whenever the Molad falls on or after the noon hour in Jerusalem. When this rule is active, the previous year's 8th month will be increased to 30 days in length, thereby pushing the Day of Trumpets forward one day (along with the start of all the prior months throughout the year) from the moment of the Molad. The noon hour is determined by a global meridian extending through Jerusalem, not unlike the International Dateline in the Pacific Ocean that determines the Day of the Week at the midnight hour.

So why was the noon hour chosen? Even though the Molad is, essentially, the moon's conjunction, some church groups seem to interpret this rule as actually taking the *new moon crescent* into account. For example, the *United Church of God*, in regard to this first postponement rule, has stated in their doctrinal paper of *The Hebrew Calendar*[19]:

> *"If the Molad of Tishri occurs at or after noon of a day, the first day of Tishri on the calendar must be postponed to the next day. It is not the Molad that is all important, but rather it is the appearance of the crescent of the moon that really counts. The rules of the calendar state that someone might theoretically observe the crescent as early as six hours after the conjunction, but not a moment earlier. Since there is no scriptural method for establishing the new moon, this rule would seem to make sense."* **{Underlined emphasis added}**

In other words, the day that is established as being the first of the month, based on the noon cut-off, would be considered a guarantee that the moon's crescent would also be seen on that day *somewhere* on the Earth by the time the next *sunset* comes around in Jerusalem. This is contrary to the fact that there is already over 20-hours of variance between the conjunction and the Molad, as we have seen already before this rule is even applied. Even the use of pure observation, restricted to within Jerusalem, has less variance than this - and we're just on rule one.

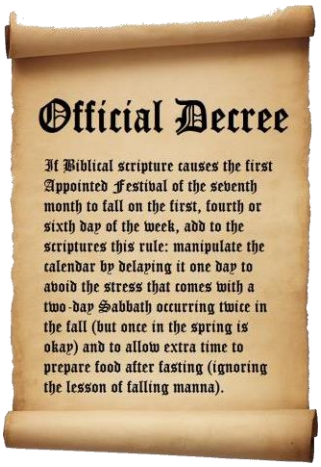
Even if the Biblical definition of *chodesh* were accepted as the calculated Molad, would an average six hours prior to *sunset* be the most appropriate choice? The average lapsed time for the new moon crescent to appear from the moon's conjunction is 18 hours. According to the NASA/Naval Observatory's recorded history of the new moon crescent for the Islamic calendar - a calendar also based on observation - they state in *Crescent Moon Visibility and the Islamic Calendar*[8]:

> *"The sighting of the lunar crescent within one day of New Moon is usually difficult. The crescent at this time is quite thin, has a low surface brightness, and can easily be lost in the twilight. Generally, the lunar crescent will become visible to suitably-located, experienced observers with good sky conditions about one day after New Moon. However, the time that the crescent actually becomes visible varies quite a bit from one month to another. The record for an early sighting of a lunar crescent, with a telescope, is 12.1 hours after New Moon; for naked-eye sightings, the record is 15.5 hours from*

> *New Moon. These are exceptional observations and crescent sightings this early in the lunar month should not be expected as the norm. For Islamic calendar purposes, the sighting must be made with the unaided eye."*

This means the minimum number of hours, even by using a telescope, is just over twelve hours - not six. A visible crescent is generally 16-18 hours later. Remember, this is not taking into consideration the already 20-hour variance between the Molad and the conjunction. This makes a total variance of up to 38 hours between the Molad calculation and the visible crescent. Regardless of the arbitrary six-hour rule, it's obvious this rule is not taking the visible crescent into consideration - but rather it is simply a man-made fixed point established to create a mathematical deadline. Further, if the crescent was really considered the important factor for establishing the 7th month, as this group claims, the calculations would be based on the average time the sighting of the crescent itself occurred instead of finding the conjunction that happens several hours earlier and then re-adjusting back to the noon hour to undo what you just computed. Additionally, if the crescent is what is truly important, then why not use it instead? And then, why not apply your rule to every month of the year, and not just the seventh? Since the leap day that is inserted for this rule is added to the prior year's 8th month, it then destroys the integrity of the prior 10-11 months that were already established.

Regardless of the arguments for or against this first rule, certainly we've hashed this over enough to finally determine a mathematical start to the month, but no. Now we will look at the next rule that can delay the month by yet another whole day.



Rule Two

The second *Rule of Postponement* creates an entirely fictional decree to avoid certain Festival dates from occurring adjacent to the weekly Sabbath. Therefore, if the first day (after applying any possible delay with the first rule) falls on the first, fourth or sixth day of the week, the 7th month is postponed, yet again, to the following day by adding another leap day to the previous year's 9th month, changing it from 29 to 30 days. Confirmed by the Wikipedia Encyclopedia [20], this postponement rule is:

> *"...to ensure that Yom Kippur does not directly precede or follow Shabbat, and that Hoshana Rabbah is not on a Shabbat, in which case certain ceremonies would be lost for a year, the first day of Rosh Hashanah may only occur on Mondays, Tuesdays, Thursdays, and Saturdays (the "four gates"). Adjustments are made to ensure that Rosh Hashanah does not fall on the other three days."*

This rule certainly does not take the *visible crescent* into account no matter how you attempt to twist the rules, nor is there any mathematical necessity - this is strictly a man-made requirement. There is no Biblical support to this rule, and even the Orthodox Jews or the Rabbinical authorities claim that there is no such requirement given within scripture. Historically, you will find references to Rabbinical Jews instituting this rule to avoid the bad smells that would occur because if one died on the Sabbath, they could not be buried for up to two days. But, the *United*

Church of God accepts this adjustment, by claiming in their doctrinal paper *The Hebrew Calendar*[19], that:

> *"The second rule of postponement, therefore, prevents the significant difficulties that would arise from back-to-back Sabbaths in the fall Holy Day season. Although back-to-back Sabbaths can occur in the spring, they do not create a significant hardship, by virtue of taking place only once or twice in a two-month period."* **{Underlined emphasis added}**

Therefore, United Church of God believes that Yehovah did not intend on His people to experience the hardship of having two Sabbath days in a row; although this scenario always occurs in the spring season - in fact, it's even forced - as the Day of Pentecost falls on the first day of the week! It assumes that back-to-back Sabbaths are a burden (or are too difficult to bear) and that Yehovah never intended this scenario to occur too often, yet fails to mention it anywhere in scripture. Seems like a rather important error of omission, doesn't it?

Mr. John Ogwyn of the *Living Church of God* defends this postponement rule by citing the Day of Preparation. He states in his article [18]:

> *"Recognizing that God set the weekly Sabbath and the Day of Atonement apart in their level of sanctity, the Levitical priesthood sought to implement these instructions in proclaiming the festivals. They realized that the Day of Atonement, a shabbat shabbaton upon which 'no work whatsoever' was to be done, should not be the preparation day for the weekly Sabbath (which would occur if the first of Tishri came on a Wednesday). Additionally, they avoided the weekly Sabbath being the preparation day for Atonement, which would happen if Tishri 1 fell on a Friday."*

Mr. Ogwyn assumes here that the Day of Preparation *must* occur on the previous day and that we cannot prepare for more than one Sabbath in a row should they fall back-to-back. By referring to *shabbat shabbaton*, he is saying that this sanctified holy day, like the weekly Sabbath, is the only holy day referred to in this manner. But this still would only apply to the rule for the fourth and sixth days of the week, not the first. The Day of Trumpets is not considered a *shabbat shabbaton*. This just seems like an arbitrary excuse.

Given that this scenario occurs for three of the seven possible days of the week, surely this scenario would be covered in scripture when Israel relied on manna falling in Exodus. Yet scripture is silent on this, seemingly common, scenario. We see in Exodus, when the miracle of manna occurred in the wilderness to feed the people during the time of Moses, that Israel was commanded to gather twice as much before the Sabbath. Exodus 16:23[1] states:

> *"Then he said to them, 'This is what the Lord has said: 'Tomorrow is a Sabbath rest, a holy Sabbath to the Lord. Bake what you will bake today, and boil what you will boil; and lay up for yourselves all that remains, to be kept until morning.'"*

Exodus 16:26[1] says:

> *"Six days you shall gather it, but on the seventh day, which is the Sabbath, there will be none."*

Exodus 16:29[1] continues:

> *"See! For the Lord has given you the Sabbath; therefore He gives you on the sixth day bread for two days. Let every man remain in his place; let no man go out of his place on the seventh day.'"* **{Underlined emphasis added}**

We see here that the important focus is the Sabbath itself, not the sixth day of the week. There is no reason to limit Yehovah by stating he would not have made enough manna available for three days instead of two if it were necessary for *shabbat shabbatons*. It is only when His commands were ignored, and the people gathered on the Sabbath day itself that the manna would spoil. Additionally, if the Day of Atonement were to fall on a Sunday (or even a Friday, for that matter), there would be no need to gather three times the amount of manna because no food would have been consumed on the Day of Atonement - a day of fasting. This scenario would be no different than any other Preparation Day for the given week. If the Day of Atonement were to fall on a Friday, why would we assume Yehovah would not have kept the manna from spoiling during the Day of Atonement and the start of the weekly Sabbath? The purpose of the Preparation Day is to prepare for the oncoming Sabbath - it shouldn't matter whether it is for one day or two days back-to-back. There is also no requirement that the Day of Preparation must fall on a particular day of week for the annual festivals. And, in fact, we are given Biblical examples where it doesn't (i.e., John 19:31).

Mr. Ronald L. Dart, a former Worldwide Church of God minister and recent radio evangelist, claimed the temple sacrifices were of a primary concern for this rule. In his article *Why Do We Use the Hebrew Calendar?* [43], Mr. Dart states:

> *"The priesthood had special responsibilities on the holy days and the new moons, so it would not be surprising if they should take those duties into account when working out their calendar rules; especially when the law gave them no specific instructions to the contrary."*

In other words, Dart defends this rule by stating the Rabbinical authorities could simply change Yehovah's appointed Holy Days by *working out* these simple rules. This would not be unlike changing the weekly Sabbath to the first day of the week by simply changing the calendar to insert an extra day prior to the seventh day (there's no specific instructions to the contrary there either). With the *special* duties of the High Priest at the temple, which required specific sacrifices on Holy Days, Sabbaths, New Moons, along with daily sacrifices in the mornings and evenings, placing the Day of Atonement adjacent to the weekly Sabbath just now becomes too difficult? Again, there seems to be no problem with having the Day of Atonement fall on the exact same day as the weekly Sabbath which would increase the number of required sacrifices to be done on the same day, but two days in a row proves to be even more inconvenient? Why does the absence of instruction to not make changes assume an authority to then make such changes? This flies in the face of the commandment to not add to or subtract from the Torah (or the law) found in Deuteronomy 4:2[1]:

> *"Ye shall not add unto the word which I command you, neither shall ye diminish ought from it, that ye may keep the commandments of the Lord your God which I command you."* **{Underlined emphasis added}**

Finally, why are any of these scenarios to be considered a conflict or an inconvenience for the Day of Atonement (a day of fasting) and not for the Day of Pentecost that would also fall back-to-back with the weekly Sabbath? Remember, there were still sacrifices still being made on the Day of Atonement, but how does the previous day or next, being the weekly Sabbath, have any impact on this situation?

The Jewish festival of Hoshana Rabbah, mentioned above, is documented as being another purpose of instituting this second postponement rule. The traditions that occur on Hoshana Rabbah are some of the oldest in Orthodox Judaism. The Wikipedia Encyclopedia explains the Hoshana Rabbah [23] rituals...:

> *"...in which seven circuits are made by the worshippers with their lulav and etrog [pieces of the Sukkot], while the congregation recites Hoshanot.[a recited prayer]. It is customary for the scrolls of the Torah to be removed from the ark during this procession. In a few communities a shofar is sounded after each circuit."*

This festival, also known as a *water festival,* is held on every day of the Feast of Tabernacles in Jewish tradition. But there are specific rituals conducted specifically on the 7th day. The Encyclopedia of Judaism of Answers.com explains [51]:

> *"On each of the first six days of the Jewish Sukkot festival, a single stanza of the Hoshanat litany is recited (except on the Sabbath) and the congregation circles the reader's platform carrying the four species: a palm branch, citron, three myrtle twigs, and two willow branches, all gathered into a bouquet. But on the seventh day, known as the* ***Great Hoshana****, the congregation makes seven circuits around the altar, after which the four species are laid down and a bunch of five willow branches is picked up and beaten on the ground three times to symbolize humanity's dependence on rain."*

But these traditional ceremonies are not instructed within the Bible. In fact, they are man-made traditions that have been created as a prayer for rain by walking (or even dancing) in a circle, chanting words repeatedly using the Aramaic expression "*chabit, chabit velah barich*". These traditions border very similarly to Pagan practices of rain god dances. In fact, the Encyclopedia of Judaism continues...

> *"...since the Middle Ages, Hoshana Rabbah has been regarded as an extension of the deadline for Divine judgment [following the Day of Atonement]. According to an old Jewish folk belief, notes fell from Heaven on this day informing people of how they had*

> *been judged. The traditional Yiddish greeting, a gute kvitl, "May you receive a good note," reflects this belief. There is also a popular superstition claiming that a man who doesn't see his shadow on this night is fated to die in the coming year."*

This means that Yehovah would accommodate the necessity for calendar postponements to avoid interrupting a man-made and superstitious tradition. This second rule is more commonly applied than the first. In Figure 1, you will see that it applies 50% of the time over 38 years, and it can also be combined with rule 1.

Rule Three

The third rule applies to non-leap years that contain twelve months. For this rule, if the Molad result falls on a Tuesday (Yom 3) and if the next year's Molad, plus six hours, falls on a Sunday (Yom 1), then Rosh Hashanah is postponed to Thursday (Yom 5) - or two whole days! This is done so that the current calendar year is not too long. This is because the calculated Hebrew calendar can only last 353, 354 or 355 days in a common year.

While this rule seems straight-forward mathematically, it does so at the cost of moving Holy days in relation to the moon. Rather than adjusting the arbitrary length of some other months throughout the year, this rule delays all the previous months along with the Day of Trumpets.

Because of how these rules are set up, however, rule 3 would not apply at the same time as any other rule.

Rule Four

The fourth rule is like rule three but applies to Intercalary years that have 13 months. If the Molad falls on a Monday (Yom 2) and the previous year's Molad fell at or after noon on Tuesday (Yom 3), then Rosh Hashanah is postponed to Tuesday (Yom 3) - or one day. Otherwise, the previous year would have been too short. The Hebrew calendar requires there to be 383, 384 or 385 days in a leap year. These requirements, when combined with the previous rule, average out to be approximately 365 days per year throughout the 19-year cycle, staying within the average solar year.

Again, because of how these rules are set up, rule 4 would not apply at the same time as any other rule. This is the least frequent rule that applies, with the last time being in the Hebrew calendar year 5766 (2005/2006) and won't again this century.

Results

From a strictly mathematical perspective, some of these rules seem straight forward. After all, you want your calculated timetable to match that of the solar year. While it can be complicated to achieve a true lunar-solar calendar system that is fixed and repeatable, these rules take things much further than required. From a Biblical point-of-view, though, these extra rules simply do not exist! Essentially, these rules are an attempt to redefine the Hebrew word *chodesh* to include ALL these rules. When scripture defines the Day of Trumpets as taking place on the first day of the seventh month (chodesh), how can anyone pretend Yehovah meant the second or third day,

and then attempt to correct the error by simply adding extra days to the previous month and ignoring the moon entirely?

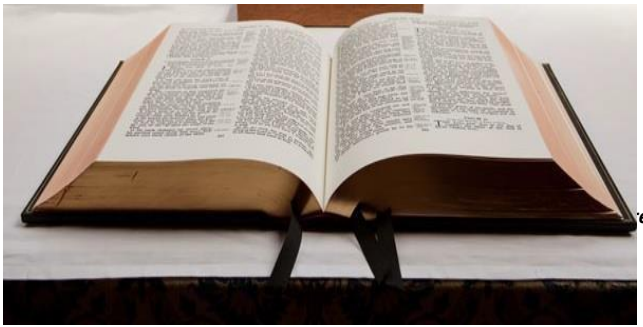
Figure 1 shows two full 19-year cycles from 1997 to 2034. Here we show each year where one or more Postponement rules are applied, along with the resulting dates of Rosh HaShanah (or the Day of Trumpets) - from sundown to sundown. Notice there are several dates with no highlighted colors, indicating where the Day of Trumpets is kept on the same day as the conjunction. Now, take note of the year 2035. Assuming the moon's conjunction should define the Biblical term of *chodesh*, then that moment falls on a Monday, October 1st at 3:27pm within Israel. This should mean, without applying any rules, that the first day of the month should be from sundown, September 30th through sundown, October 1st. But the Molad calculation for the average conjunction doesn't arrive until nearly 16 hours later. If the Molad calculation now redefines the term *chodesh*, then the first day of the month is now from sundown, October 1st through sundown, October 2nd. However, now the Molad calculation falls on the third day of the week, rule three now redefines *chodesh* even further and adds two full postponement days, because the current year is only 12 months in length. Now the first day of the month becomes sundown, October 3rd through sundown, October 4th. You can see how this now becomes a three-day variance from the astronomical new moon conjunction. This begs the question, does this process truly comply with the Biblical commandment to observe the Day of Trumpets on the first day of *chodesh?* No!

Conclusion on Postponements

All these adjustments, as you can see, can cause the Hebrew calendar to be off from the Biblical days we established earlier – and, as Figure 2 demonstrates, these differences occur in every single month of the year, not just at the Day of Trumpets! By abandoning the observation of His signs given in Genesis 1 to the methodology of pure calculated concepts and average timetables, there's no doubt that the Hebrew Calendar has changed the Biblical instruction. Even with many claiming observations can be messy, it still results in being more accurate to the lunar cycle than the Hebrew calendar! The only difference is, by following a calendar, everyone is equally mistaken from the moon in unison. Even if the components of this calendar were changed to be based on averages for the visual crescent, instead, mathematical averages are never exact. Then, everyone begins to rely solely on math and then, be tempted to make even more changes for the sake of convenience. But does God accept that type of change? Malachi 3:6[1] states:

> *"For I am the LORD, I change not."*

Change is evident throughout the Hebrew Calendar. Regardless of whether someone argues that the Renewed Moon (*chodesh*) referred to in the Bible is the *new moon crescent* or the *dark moon conjunction*, you can see that the Hebrew calendar, by establishing fixed timetables, is not actually tied to the lunar cycle from month-to-month at all. Simply put, following the Hebrew calendar causes one to completely ignore Biblical instruction and adds their own interpretation of God's time. We need to question its validity and should! The rules and elements of this calendar absolutely do not exist within scripture.



There is also too much evidence that shows the Hebrew calendar, as we know it today, has been an evolving process - from a

calendar based on pure observation to one based on pure calculation. This evolving change has been fully documented within Jewish history and its Rabbinical authorities. But the primary reason Orthodox Jews follow the Hebrew calendar today is strictly due to the Rabbinical authority given to it through the man-made traditions and Rabbinical writings.

Glenn McWilliams, writer for Torah Keepers, a Messianic Jewish group explains in his Calendar Debate[14] article the growing Christian movement to abandon Pagan practices and return to the commonwealth of Israel. He further explains that:

> *"These new citizens have a zeal for studying the Torah and learning the truth. Not wanting to be deceived again, these newly liberated brethren are seeking to live according to the commandments of the Almighty rather than the doctrines of men. It is not long, however, before these new citizens realize that Judaism, like Christianity, is also shaped by 'the traditions of the elders.' Thus, what is practiced in Rabbinic Judaism is not necessarily any more consistent with the Torah than what was found and rejected in Christianity."*

He continues to state that following the Biblical principles...

> *"...makes sense to inspect the barley instead of religiously following the rabbis' inaccurate mathematical calculations. This is especially true when the calculations of the rabbis are clearly contradicted by the physical evidence of the barley and the new moon. We are witnessing a growing group of supporters for the ancient biblical calendar that was still in use in Israel long after the second Temple was destroyed."*

We are witnessing this same growing concern over the Hebrew calendar right now within many Western church organizations and Sabbath-keeping groups. They have already been a concern for much of the Jewish community and, in fact, have been a topic historically debated since shortly after the time of Yeshua! Most have chosen to put their entire confidence and faith into the Hebrew calendar for the sake of their calendrical bias and by following the example of the Orthodox Jews' blind acceptance of rabbinical arbitrary rules without any question to their validity. Some simply assume the math to be accurate to the signs or what the sages kept for so many years. Many of us in the *Western World* have never even considered the architecture and history behind the Hebrew calendar's evolving process. Many of us simply assume the calendar has been preserved and may not even realize that the Rabbinical Orthodox Jews themselves don't even view their own calendar in this same way. Instead, many just submit to the Rabbinical authority to accept their Oral Laws as being "the next best thing" until Messiah comes. They would rather be told what to do than directly apply the written principles recognized within Torah - the Bible!

Summary of the Hebrew Calendar

- Adopting Babylonian names for months was the earliest aspect of the calendar that man, not God, changed that includes honoring a pagan god and that the Hebrew calendar retains today.
- The next documented aspect of today's Hebrew calendar was the mathematical 19-year intercalated cycle credited to Hillel II in 359 A.D. as an historical average occurrence of aviv barley within the land of Israel.

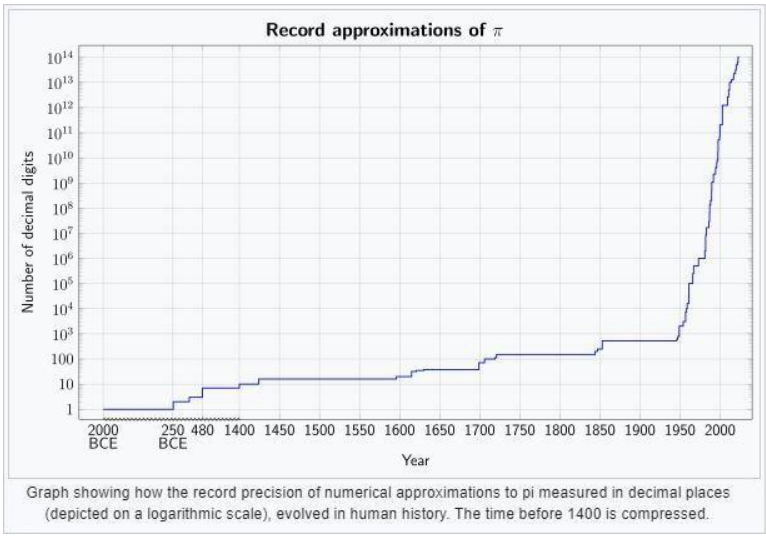
- Calculating the Hebrew calendar begins, only once per year, based on the Molad Emtzai, a fixed mathematical average of the lunar cycle - a moment that can occur before or after the moon's conjunction with an up to 20-hour variance, or more, from the astronomical new moon.
- This variance from the astronomical new moon increases even more with the first rule of postponement that will delay the Day of Trumpets one day from when the Molad Emtzai moment occurs when it is after the noon hour in Israel.
- All other months of the Hebrew calendar are assigned a fixed number of days that are not directly associated with the moon with the 8th and 9th months varying in length to allow for postponements.
- The variance grows even larger from the astronomical new moon if the day, combined with the previous rule, falls on the first, fourth or sixth day of the week by delaying yet another full day.
- If the previous two rules are not in effect, additional rules will also postpone the Day of Trumpets for up to two days should the previous year be too short or the current year be too long.
- The resulting total variance from the actual lunar cycle, using the combined rules and averages above, constitutes four days - far greater than any variance many claim is caused using observation.

ACCURACY

So how accurate are the computations of today's Hebrew calendar? The Hebrew calendar claims to be *lunisolar*, meaning it considers both signs of the sun and moon. You have already seen, though, that this claim is not completely accurate due to additional non-Biblical rules and the fact it relies on averages rather than predicting the actual events. However, we will also see that even the calculated averages are not even 100% accurate and are slowly drifting out of position over the passing centuries. Yet, supporters for using the Hebrew calendar continue to endorse its accuracy. John Ogwyn of the *Living Church of God*, author of an article titled The Hebrew Calendar [16], explains:

> *"...in antiquity, man had only two ways of knowing the time of the new moon. One was by physical sighting of the crescent; the other was by calculation based upon the average time between conjunctions. The Hebrew calendar uses 29 days, 12 hours and 793 parts (an hour contains 1,080 parts) as the duration of the average lunar month. This works out to 29.53059 days in decimal form. According to the 15th edition of Encyclopedia Britannica, modern astronomers using satellites and computers have come up with the figure 29.530589-one one-millionth of a day difference!"*

This does, indeed, describe an amazing level of accuracy for determining the lunar cycle using observation. As we have already explained, though, it is the culmination of that small amount of error to proves the establishment of today's Hebrew calendar was first implemented around the 9th or 10th century C.E. The assumption, of course, is that these averages were divinely given by God, at the time, and somehow proves its divinity by its amazing accuracy.



Graph showing how the record precision of numerical approximations to pi measured in decimal places (depicted on a logarithmic scale), evolved in human history. The time before 1400 is compressed.

If you tend to believe the Molad calculation was established during the time of Moses (or even during Yeshua's ministry), then it's no wonder people find one-millionth of a day difference as being miraculous. If you investigate the history of calculations for pi, for instance, you will find ancient mathematicians were only accurate to a single decimal position (one-tenth) up until around 250 BCE when Archimedes increased that accuracy to two decimal positions (one-hundredth). The accuracy increased to three positions (one-thousandths) in 150 AD by Ptolemy and finally Zu Chongzhi increased it to seven positions (one-ten millionths) in 480 AD. History alone suggests, given the Molad calculation's inaccuracy, its institution falls after this timeframe. By the 21st century, of course, through the advent of computers, we can now calculate pi to over 10^{14} (one hundred trillion) decimal positions. Surely, if God Himself had provided a miraculous calculation for the Molad, He could have been more accurate than one-millionth of a day.

Furthermore, it does not explain why these computations used for the Molad begin with the moon's conjunction rather than the visible new moon crescent, or why Jerusalem and the noon hour are chosen as the line of final determination. It also does not explain why 12 out of 13 months are not determined by this same Molad calculation and, instead, are assigned a fixed number of days for each month. Finally, John Ogwyn ignores the fact that the 19-year cycle of inserting leap-months is even less accurate than its lunar cycle counterpart, the Molad.

Drifting Solar Year

According to Edward Graham Richards, author of Mapping Time - The Calendar and its History (Oxford University Press)[20], the current Hebrew calendar year is off from the mean tropical year by 6 minutes and 40 seconds:

> *"as the present-era mean northward equinoctial year is about 365.2424 days long, the Hebrew calendar mean year is slightly longer than this tropical year. This results in a "drift" of the Hebrew calendar of about a day every 216 years."*

As a result of this phenomenon, the Hebrew calendar has drifted since the fourth century to just over seven and a half days relative to the equinox. This means that, currently, certain leap years within the 19-year cycle will insert a leap-month, which is meant to correct for the drift, a year earlier than it should have (causing the observed aviv barley to differ from the Hebrew calendar calculations more and more frequently). Over time, Passover will be pushed later and later into the year and, eventually, will end up in the summer season (rather than in the spring). Although, this will take over a millennium to occur.

As purported, Rabbi Hillel II introduced the 19-year intercalary cycle that is responsible for computing which years to add a 13th month, which was intended to place the Passover in its correct season. This extra month is added in years 3, 6, 8, 11, 14, 17 and 19 of the 19-year cycle. As we have discussed, this mathematical cycle has now abandoned the observation of barley as given in the Bible. The cycle's continued usage in modern years has proven to show these discrepancies, however, where ripened barley does not match the time when the Hebrew calendar denotes the New Year, and consequently the Passover, should begin. Over time, this 19-year timetable has proved to be less and less accurate.

There is extensive research from many sources, including Jewish studies, which continue to search for the perfect mathematical calendar that varies from today's version of the Hebrew calendar. But the mathematical details of all these findings are beyond the scope of this paper and only prove that the system currently used is not standing up to the "test of time". The fact remains that our universe is in a constant state of flux and contains too many variables - known and unknown (including what Yehovah Himself may adjust at will) - that would not allow for any mathematical formula to accurately predict with 100% certainty.

And again, we're dealing with averages here. When you further attempt to standardize any formula into equal segmented chunks of time into a table of days (a calendar), you also lose any accuracy that the formula claims. Only Yehovah Himself would be able to administer a mathematical formula, or table of days, that would either be precise for a millennium and beyond. Or, He Himself would adhere to the current mathematical averages by adjusting the celestial movements to fit the formulas. Yet it is the celestial movements in Genesis (on Day Four of the Creation Week) that were ordained by Yehovah - not a mathematical formula or average calculation.

Even the Jews understand that the current calculations are not accurate and are drifting beyond their intended purpose. But they settle for it, believing that it's the best method they have for now - but many are realizing that a change may be needed soon. The Wapedia Encyclopedia states in an article titled *Rectifying the Hebrew Calendar* [33]:

> *"Given the importance in Jewish ritual of establishing the accurate timing of monthly and annual times, some futurist writers and researchers have considered whether a 'corrected' system of establishing the Hebrew date is required, due to the small but accelerating changes in the actual lunar cycle interval. Further religious questions include how such a system might be implemented and administered throughout the diverse aspects of the world Jewish community.*
>
> *It is traditionally held that the fixed arithmetic Hebrew calendar was established on the authority of Hillel ben Yehudah, President of the Sanhedrin in Hebrew year 4119, and therefore only an equal authority (a modern Sanhedrin) can either amend it or reinstate the observational Hebrew calendar."*

Notice they understand observation was once used and would need to be *reinstated* but lack the authority to do so. We, as followers of Yeshua, do not need to wait for the arrival of the Messiah or a High Priest! We serve as a temple and as the body of Yeshua, the Church (I Peter 2:5)! Therefore, we have a foundational system that can reinstate the observational methodology from ancient history and one that is supported by the Bible. Yet most church groups have chosen to ignore this and follow with settling along with the Jews!

Rood Ministries, a group dedicated to following the signs of Aviv barley, have taken it upon themselves to plant barley near Jerusalem (and other surrounding locations within Israel) annually to determine the appropriate month the barley is considered Aviv. Here are their findings [14]:

> *"...since our return to the land, observation of the barley crop has proven that the rabbinic cycle is often in error and now obsolete. Over the past decade, several Israelites have investigated the state of the barley crop at the time that the modern Jewish calendar declared the month of Aviv (Nissan) and discovered that the barley was not yet aviv."*

Waiting to Be Fixed

The Wikia Encyclopedia confirms the findings of the Hebrew calendar becoming less and less accurate and explains why Jews have not corrected it. It states in the *Accuracy* [20] section:

> *"As the 19 year cycle (and indeed all aspects of the calendar) is part of codified Jewish law, it would only be possible to amend it if a Sanhedrin could be convened. It is traditionally assumed that this will take place upon the coming of the Messiah, which will mark the beginning of the era of redemption according to Jewish belief. Theoretically, if Jewish law could be modified, one solution would be to replace the 19-year cycle with a 334-year cycle of 4131 lunations. This cycle has an error of only one day in about 11,500 years. However, this would be impossibly cumbersome in practice. Further, no such mathematically fixed rule could be valid in perpetuity, because the lengths of both the month and tropical year are slowly changing."*

How can the Sanhedrin court be reestablished? AllExperts Encyclopedia [16] explains:

> *"This will only take place when the rebuilding of the Third Temple has begun, which will mark the salvation of the Hebrews according to Jewish belief."*

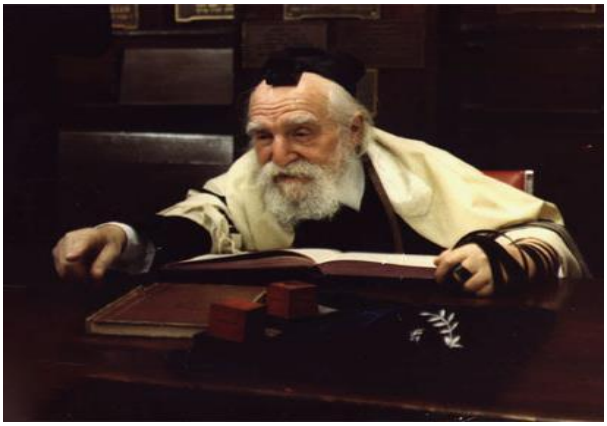
We see here that the Jewish community is fully aware of their calendar's inaccuracy and admit that no calculated method can account for the constantly changing lengths of both the lunar and solar cycles. They believe that one possible resolution to this problem is re-establishing the Sanhedrin with the building of a third Temple in Jerusalem. Just how possible would this be?

Today, a group claiming to already be the reestablished Sanhedrin[34] continues to push for restoration of a third Temple in Jerusalem and for the Jewish people to return to the original traditions. They agree that there is a major discrepancy in today's mathematical calendar as introduced in the 4th century described in their article Fixing of the Calendar[7]. They claim:

> *"In recent years, a situation has been created where more and more frequently the onset of spring does not coincide with {the} calendar currently in use. This means that the calendar is beginning to drift noticeably. Albeit, the rate of drift is very slow, much slower than other lunar calendars (such as the Islamic calendar). However, if continued unchecked, we will be celebrating Pesach in the summer, rather than the spring. Our current calendar will exceed halachically acceptable limits and we will be celebrating Biblically commanded holidays at times other than when Scripture requires them to be celebrated. One could argue that if a change is necessary in any event, it would be most correct according to Biblical and Jewish Law to once again use the system of witnesses. But it is certain that we will no{t} longer be permitted to use the mathematical calendar of Hillel II in the near future."*

This supports the fact that the current calculated calendar will no longer be adequate for the current Jewish community soon without some sort of change. Yet, an observation method based on witnesses would be Biblical and acceptable, even by Jewish standards.

AUTHORITY



Although Christians, in general, do not recognize a Rabbinical authority on establishing doctrinal beliefs or following Talmudic traditions, many Sabbath/Festival keeping church groups tend to give an exception on the topic of the Hebrew Calendar. Their primary reason for doing so is based on the Jews being given the Oracles, as explained in Romans 3:1-2[1]:

"What advantage then has the Jew, or what is the profit of circumcision? Much in every way! Chiefly because to them were committed the oracles of God." **{Underlined emphasis added}**

Notice the oracles were Yehovah's - not of men! This is referring to Biblical Scripture - more accurately, the *Tanakh* that included the instructions given to Moses in the wilderness at Mount Sinai and described within the *Torah* portion (the first five books of the Bible). While it is true that the Jews have preserved most, if not all, of the original writings, they have also added to them additional traditions and rules in both written and oral form. Many people assume that these oracles must have also included a calendar and its mathematical calculations. Acts 7:38 further describes what these oracles entailed:

> *"This is he who was in the congregation in the wilderness with the Angel who spoke to him on Mount Sinai, and with our fathers, the one who received the living oracles to give to us."*

In the earlier sections, we just read from these same Oracles the words given to Moses regarding the New Moons, blowing of trumpets, and setting the year to the Aviv harvest moon. It is the scriptures that have been given, which state that nothing should be added or subtracted from the written law and that Yehovah does not change! Many try to change what is in written form by claiming this phrase, *Living Oracles*, implies a separate oral instruction that contained completely different information, even if they contradict! If there were any spoken oracle given at the time of Moses, it simply would have expounded on what we already have in the written version (not change it or contradict it). There is also no support for the Torah being partially in written form while others were only given orally. Exodus 24:3-4 [1] explains:

> *"And Moses came and told the people all the words of the LORD, and all the judgments: and all the people answered with one voice, and said, All the words which the LORD hath said will we do. And Moses wrote all the words of the LORD, and rose up early in the morning, and builded an altar under the hill, and twelve pillars, according to the twelve tribes of Israel."* **{Underlined emphasis added}**

We see here that the written Oracles contain all the words of Yehovah given to Moses. Even though Jewish traditions have been added over many centuries, the Jews have managed to

preserve this written oracle in its original form, as Paul explains in the Romans verse above. In fact, Jewish tradition required the scriptures to be meticulously preserved by creating copies word by word, line by line and then rechecking by counting paragraphs, lines, words and even letters to assure nothing had been missed. A finished copy of the *Tanakh* was extremely accurate from its original and allowed the original words to continue in their original form long after the animal skins and parchment faded away. Jewish scribes dedicated their entire lives to preserving the scriptures. However, this does not mean that everything the Jews interpreted from those scriptures were correct. Regardless of interpretation, however, even the Jews themselves - the holder of the Oracles - do not believe a separate calendar system has been preserved from the time of Moses. It is understood, even by the Jewish orthodox, that the Hebrew calendar is a Rabbinically-authorized calculated system that contradicts the written Torah and that today's mathematical version has been an evolving process over the centuries. Their own documented history proves the original calendar system as once based on observation and eyewitness reports (a practice documented by the Sanhedrin), based on instruction given directly from the *Torah*.

Rabbinical Authority

The Rabbinic authority within present-day Orthodox Judaism is often referred to as *Da'as Torah* (meaning the *opinion of Torah*). It is generally accepted on most every imaginable topic, if it is based in a halakhic fashion (that is, the divine law as presented within Torah). This is a more modern approach. However, their authority has derived, historically, from the High Court system of ancient Israel, which was the Sanhedrin. The eventual creation of fixed days and month cycles, along with the institution of mathematical rules, are strictly based on a Rabbinical authority that, they believe, is directly tied to the Biblical Pharisees[43] that were established under the Sanhedrin.

Much of the Rabbinical authority is based on the writings within the Talmud. While there are two different schools of thought on the extent of authority a rabbi may have, one being maximalists extending over religious and civic issues, and minimalists that greatly limits rulings from being enforced. It is believed that many Rabbinic texts were produced following the destruction of the temple in the first century that help reinforce their influence.

The *Talmud* includes the establishment of several rules and man-made traditions that require one to follow *in addition to* the written Torah. These traditions dictate details that go as far as which shoe to put on your foot first [56]. It was this authority and leadership that Yeshua Himself challenged throughout His ministry by overriding their so-called "traditions" of man-made laws and regulations.

These traditions would never be recognized by Christian churches (Sabbath-keeping or not), yet it is considered acceptable by most when they favor the Hebrew Calendar. Despite what most Christians claim, the Jews believe they must follow the Rabbinical system of government, even when it conflicts with the words of Yehovah. This practice is documented in the Rabbinical Talmud of Baba Metzia 59b[5]. It is here that Rabbis claim they no longer have a need to even listen to Yehovah:

> *"That the Torah had already been given at Mount Sinai; we pay no attention to a Heavenly Voice, because Thou hast long since written in the Torah at Mount Sinai, After the majority must one incline."*

If this authority no longer listens to Yehovah within its government, then it is not the direct authority of Yehovah! Although the Jews understand the written Torah is from Yehovah, they believe it has now been left for them to interpret. Yehovah Himself cannot correct or challenge their interpretations, regardless of any apparent conflict. This allows them to create new laws and calendars that conflict with the written Torah and with Yehovah's instruction despite the meticulous maintenance of the original scriptures. However, many believe the Sanhedrin first needs to be restored to correct any problems associated with today's calendar.

Any church organization that accepts the Hebrew calendar doctrine based on the authority of the Rabbinic Jews must also accept their authority and *Talmudic* interpretations that they believe trump Yehovah Himself! Although using the convenient excuse that their calendar has been properly authorized, the Rabbinical authority cannot be supported by scripture and, therefore, another answer must be sought. Since most don't follow the Talmudic authority for other topics, it's mostly out of ignorance that groups accept it for the Hebrew Calendar while ignoring this same authority over most other topics. Therefore, claiming the Hebrew calendar should be used based on Rabbinic authority is just illogical and unscriptural.

Self-Authority?

On the flip side, many church organizations use authority to purport the claim that individual supporters of an observed calendar are using their own, self-authority despite what Biblical scripture claims. *United Church of God* addresses this in their doctrinal paper [19]:

> *"Some people have taken it upon themselves to determine the calendar. God lets them do so, but does He give them the authority in this matter?"*

Glenn McWilliams of Torah Keepers discusses this topic in his article [14] regarding Christians and authority:

> *"The central and fundamental debate is over the issue of authority. The true question being asked by the members of this infant movement is not which calendar is right but what authority we are to follow. The authority behind the rabbinic calendar is clearly the rabbis. The rabbis have established their authority through the writings of the Talmud, the oral Torah. It is the Talmud that has established the rabbinic calendar as the calendar for all Israel, including those in the Diaspora. On the other hand, the authority behind the biblical calendar is the written Torah. The tension that is tearing at the unity of the Hebraic Roots/Messianic Movement is simply the tension that exists when the written Torah and the oral Torah do not agree. The calendar is only one of many such issues."* **{Underlined emphasis added}**

Although it's important to have structured authority within an organization, and equally important to not purposely disrespect that authority (within any organization). However, it cannot be blindly followed whenever its judgment contradicts with scripture. This is because the bible serves as the documented authority of Yehovah! Even this Church of God group defends

their decision to follow the calculated Hebrew Calendar - not because they can prove it from the Bible, but - because they self-appoint the authority of the Jews (and therefore the Talmud). But, as we read earlier in Deuteronomy 4:2, there is no authority but Yehovah Himself that can trump scripture. Certainly, we should not ignore the ordained signs within scripture and, instead, look to the authority of men and the *Talmud* instead.

Yeshua's Rejection of Man's Authority

Even Yeshua Himself did not fully accept the oral traditions of the Jewish leaders in His time on Earth and was threatened on many occasions to be stoned to death for breaking their oral traditions (likely assuming he was disrespecting them when they were actually disrespecting Yehovah Himself by not following His authority). Some cite Matthew 23:1-3[1] on the authority of the Pharisees and believe Yeshua instructed the people to follow their teachings in *all* matters:

> *"Then Jesus spoke to the multitudes and to His disciples, saying: "The scribes and the Pharisees sit in Moses' seat. Therefore <u>whatever they tell you</u> to observe, that observe and do, but do not do according to their works; for they say, and do not do."* **{Underlined emphasis added}**

At first, this seems to contradict the example Yeshua lived and taught against throughout His ministry. Did Yeshua contradict Himself by being disrespectful simply because He disagreed with the Pharisees? No. When you consider the translation of this verse in Matthew, a book strongly supported as originating from Hebrew text, you can clarify what Yeshua meant. Nehemia Gordon, author of *The Hebrew Yeshua vs. the Greek Jesus*, explains the history of this translation and the verse above[50]:

> *"These are two fundamentally different messages, but in Hebrew, this is a difference of only one single letter! In Hebrew, "he says" is yomar while "they say" is yomru. The only difference between the two in an un-pointed Hebrew text is the addition of the extra vav in yomru "they say". That this is the basis for a completely different message is amazing because the vav is one of the smallest letters in the Hebrew alphabet, really just a single stroke!"*

By researching the Hebrew text of Matthew[49]), you find that this verse should state, according to the Shem Tov's Hebrew Matthew:

> *"Then Jesus spoke to the multitudes and to His disciples, saying: "The scribes and the Pharisees sit in Moses' seat. Therefore <u>whatever HE [Moses] will say</u> to observe, that observe and do, but do not do according to <u>THEIR [Pharisees] works</u>; for they say, and do not do."* **{Underlined emphasis added}**

When you continue to follow the examples of Yeshua throughout His ministry, you see that He was telling the people to not follow the Pharisees' teachings *whenever they conflicted* with the "Law of Moses". As mentioned, we should attempt to respect and follow the laws of men, if they do not counter the laws of Yehovah or attempt to add/subtract from Yehovah's original instruction. Yet, we have seen that Rabbinical rules give certain men an authority to create rules that are binding to others, including Yehovah Himself - these decrees are called *takkanot*. It was the Sanhedrin, the foundation of today's Rabbinical Orthodox authority, that constructed a seat

within the synagogues that was referred to as the *Seat of Moses* where such Rabbinical decrees were established by whomever was sitting upon it. Mr. Gordon further explains that this scripture continues in the Hebrew as:

> *"Therefore, all that he says to you, diligently do, but according to their reforms [takanot - Hebrew text omitted] and their precedents [ma'asim - Hebrew text omitted] do not do, because they talk but they do not do. In the Hebrew Matthew, Yeshua is telling his disciples not to obey the Pharisees. If their claim to authority is that they sit in Moses' Seat, then diligently do as Moses says!"*

Levitical Priesthood

However, there are some church organizations that argue that the Jews were specifically granted a separate authority specifically over the calendar in the Bible. For example, Mr. John Ogwyn, in his article for *Living Church of God*, references Leviticus 23:2[1]:

> *"The feasts of the LORD, which you shall proclaim to be holy convocations, these are My feasts."*

Mr. Ogwyn explains the Hebrew word for convocations as being *miqra*, a word meaning to *designate an assembly*. He then uses the derived Hebrew verb *qara*, a word meaning *to proclaim*, also used in Leviticus 23:2. This same verb *qara* was used in Genesis 2 when Adam named the animals. His argument is that: since Adam called (*qara*) each animal's name, this granted an authority upon Adam that allowed him to create names for the creatures. Mr. Ogwyn continues:

> *"How does this relate to the holy days? In Leviticus 23, we learned that a certain group, ('you,' plural) was responsible for naming or designating the days on which the congregation was to assemble before God. Numbers 10 explains that this refers to the priesthood, and shows the means God gave them to announce the designation of new moons and festival days. It was not an individual matter for each Israelite to arrive at by himself; rather it was a collective matter to be proclaimed by an authoritative body."*

Therefore, Mr. Ogwyn argues that the Levitical Priesthood (using the words you, proclaim and convocation in Leviticus 23) were granted an authority to name (or ordain) Yehovah's appointed days of worship using the trumpet mentioned in Numbers 10:10. He then infers that this authority allowed them to change the days of holy convocations, and the calendar, solely based on this authority. However, Mr. Ogwyn assumes that because Adam was given authority to name the animals that the Levitical Priesthood, in turn, had the freedom to change Yehovah's signs that were previously ordained by Yehovah Himself in Genesis 1. However, the animals named by Adam were *not yet named* when they were presented to him. Additionally, it was under the command of Yehovah that Adam named the animals. Genesis 2:19 states:

> *"Out of the ground <u>the Lord God formed every beast</u> of the field and every bird of the air, <u>and brought them to Adam</u> to see what he would call them. And whatever Adam called each living creature, that was its name."* **{Underlined emphasis added}**

Furthermore, when you combine verse 1 and 2 of Leviticus 23, it becomes clear who Yehovah commanded Moses to speak to regarding the Feasts:

> *"And the Lord spoke to Moses, saying, speak to the children of Israel, and say to them: 'The feast of the Lord, which you shall proclaim to be holy convocations, these are My feasts.'"* **{Underlined emphasis added}**

Moses was not given a special authority to change Yehovah's laws or instructions. Instead, he served as a spokesperson for all the people of Israel - an appointment given by the people themselves in Exodus 20:18-19 to interact with Yehovah at Mount Sinai following the daunting encounter with Yehovah when He spoke the Ten Commandments to them:

> *"And all the people saw the thunderings, and the lightnings, and the noise of the trumpet, and the mountain smoking: and when the people saw it, they removed, and stood afar off. And they said unto Moses, Speak thou with us, and we will hear: but let not God speak with us, lest we die"* **{Underlined emphasis added}**

Additionally, any authority granted to either the Levitical Priesthood or to the children of Israel does not also grant them freedom to change Yehovah's ordained signs; a God that, on principle, does not change! Rather, just as the Levitical Priesthood meticulously carried out all Yehovah's instructions throughout Exodus, Leviticus, Numbers and Deuteronomy, they meticulously followed Yehovah to the letter in fear of death. Aaron's sons learned this lesson when Yehovah struck them dead after not following His instructions and changed Yehovah's command in Leviticus 10:1-2:

> *"The Nadab and Abihu, the sons of Aaron, each took his censer and put fire in it, put incense on it, and offered profane fire before the Lord, which He had not commanded them. So fire went out from the Lord and devoured them, and they died before the Lord."* **{Underlined emphasis added}**

Therefore, when a calendar system contradicts, adds specific rules, or creates details (such as mathematical formulas) not given within the established, written scriptures, then any claims of "authority" are dissolved. The Words of Yehovah preserved within the scriptures is the ultimate authority. To choose a calendar method by simply crying "because we say so" or "because the Jews say so" just doesn't cut it.

God-Given Authority?

Carl Franklin, author of *The Calendar of Christ and the Apostles*[6] published under the *Christian Biblical Church of God*, attempts to show that an authority was specifically given by Yehovah to calculate a calendar by citing Psalm 81:3-5[1], which states:

> *"Blow the trumpet at the time of the New Moon [chodesh 2320], at the full moon [kece' 3677], on our solemn feast day. For this is a statute [choq 2706] for Israel, A law [mishpat 4941] of the God of Jacob. This He established [suwm 7760] in Joseph as a testimony, when He went throughout the land of Egypt, where I heard a language I did not understand."*

Mr. Franklin gives meanings to the Hebrew words in these verses. The first, *chodesh* (Strong's 2320), he agrees means "*occurrence of the new crescent*". However, he believes this is only referring to the seventh month (crescent). The second, *kece'* (Strong's 3677) is translated *full moon* in the *New King James*. The third, *choq* (Strong's 2706), Franklin refers to *Brown Driver Briggs* (p. 349) who claims this word means "*law of a religious festival*". The fourth, *mispat* (Strong's 4941) he says is related to the verb *chaqaq* (Strong's 2710) and means "*something prescribed*". Finally, *suwm* (Strong's 7760) he claims means "*to compute*". Franklin then concludes [6]:

> *"When we understand the meaning of the Hebrew words, it is evident that at the time of the Exodus from Egypt, God issued to Moses and Aaron 'a law of a festival' ({chog} 2706). The festival for which this law was issued was the new moon ({chodesh} 2320) of the seventh month. This law decreed that each year the new moon of the seventh month was to be presented for judgment ({mispat} 4941) by computation ({suwm} 7760), and that a written prescription ({chaqaq} 2710), or calendar, was to be issued."*

By rearranging the words using Mr. Franklin's meanings, he pieces together a sentence - shown above - that he claims commands us from the Psalm (not within the original Torah) to calculate, or compute, our calendar. Again, even if you accept Franklin's meanings for these Hebrew words, he does not further explain how we are granted freedom to make our own rules that change Yehovah's previously ordained signs, nor does he explain how we are to base our computations on scripture. However, Mr. Franklin's meanings for the Hebrew words are not fully accurate and are modified slightly out of context. For example, *sewm* (Strong's 7760) in the Strong's Hebrew Lexicon [4] is described as follows:

> *"7760 suwm soom or siym {seem}; a primitive root; to put (used in a great variety of applications, literal, figurative, inferentially, and elliptically):--X any wise, appoint, bring, call (a name), care, cast in, change, charge, commit, consider, convey, determine, + disguise, dispose, do, get, give, heap up, hold, impute, lay (down, up), leave, look, make (out), mark, + name, X on, ordain, order, + paint, place, preserve, purpose, put (on), + regard, rehearse, reward, (cause to) set (on, up), shew, + stedfastly, take, X tell, + tread down, ((over-))turn, X wholly, work."*

And in Aramaic:

> *"7761 suwm soom (Aramaic) corresponding to 7760:--+ command, give, lay, make, + name, + regard, set."*

Nowhere in the Strong's Lexicon is the word *compute* or the phrase *to compute* ever used to describe the Hebrew word *suwm*. There is certainly an example in Psalm 81 that we are to determine when the New Moons and Festivals are to be held and, in turn, blow trumpets to communicate their commencements, thereby setting the start of the Biblical calendar as

commanded. However, this does not mean that we are granted the *liberty to change Yehovah's signs* that have already been ordained by Him; otherwise, we would have the freedom to change any of Yehovah's appointed times (including the Sabbath from the seventh day to Sunday simply by blowing the trumpet a day later or changing how to compute the day of the week).

Even though we have already covered the Psalm 81 verse as it relates to the Biblical calendar, it's worth noting the specific word used here (as well as in Proverbs 7:20), *kece'* (Strong's 3677), is translated as *full moon* in the *New King James*. This word is further described in Strong's Lexicon [4] as:

> *"3677 kece' keh'-seh or keceh {keh'-seh}; apparently from 3680; properly, fulness or the full moon, i.e. its festival:--(time) appointed."*

And the definition of the primitive root, Strong's 3680:

> *"3680 kacah kaw-saw' a primitive root; properly, to plump, i.e. fill up hollows; by implication, to cover (for clothing or secrecy):--clad self, close, clothe, conceal, cover (self), (flee to) hide, overwhelm."*

We can see, then, that these are referring to Festivals that take place at, or around, the moon's plumpness, under cover of the moon, or when it the moon is full (*kece'*). However, just to clarify, we are not given any Biblical instruction to base Yehovah's festivals on the phase of the *full moon* itself within this poetic book! The instructions given to us in Leviticus, the Torah, and throughout the Bible, specifically use the *new moon* (chodesh) to count days from - not the *full moon* (*kece'*). Therefore, we cannot assume from this one verse that any of Yehovah's Festivals must take place at the *Full Moon* or at the moon's fullest point, as some wish to interpret. In fact, there is no calendar method that can determine a month starting at the *new moon* (regardless of your definition of what is a *new moon*) that would then always start the 15th day of the same month on the exact day the moon is *full* - as the length of time from the astronomical *new moon* to the *full moon* can vary between 14 and 15 whole days depending on when your day begins. Using Psalm 81 to force the *new moon* and *full moon* to always be on the *first* and *fifteenth* is mathematically impossible. Rather, this poetic Psalm refers to festivals that do take place on the 15th that naturally occurs *around the time* of the *full moon* as its light covers the night-time terrain.

Armstrong Almost Had It

Herbert W. Armstrong, founder of the *Radio Church of God* and *Worldwide Church of God*, wrote a letter in the *Good News Magazine* publication in 1940 on the calendar topic. Many splintered *Church of God* groups I have been involved with in the past rely heavily on the findings of Mr. Armstrong. He says (portion quoted from Bill Bratt's Web Page: How to Figure Passover! [10]):

> *"The true sacred calendar is no more lost than the weekly Sabbath. Then WHO HAS PRESERVED THIS TIME, this sacred CALENDAR? To whom did God give it? To whom were "the oracles of God COMMITTED"? To ISRAEL and JUDAH, of course! Israel LOST the Sabbath, LOST time, LOST even her national name and identity. But JUDAH NEVER DID. Judah has kept TIME in respect to the weekly Sabbath. The Jews rejected*

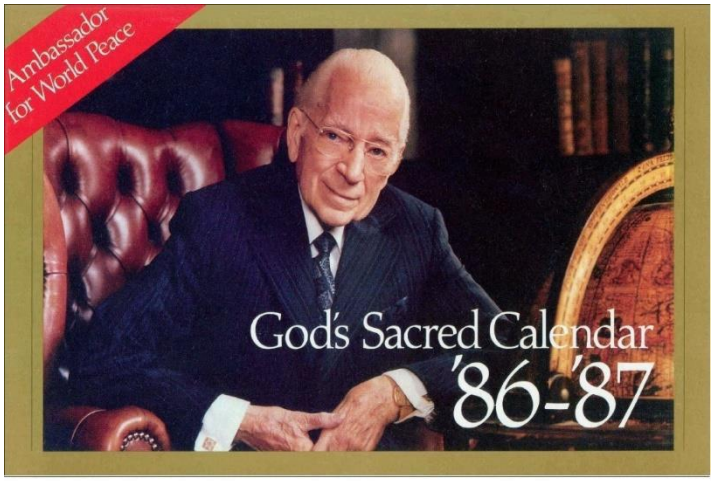
> *Christ. They apostatized in doctrine, BUT THEY WERE STRICT STICKLERS FOR THE LETTER. Would such a people have lost their CALENDAR? If so, TIME IS LOST! There is no other source thru whom God could have committed AND PRESERVED His calendar. He did COMMIT it to them. Therefore it must be thru them He has preserved it!"*

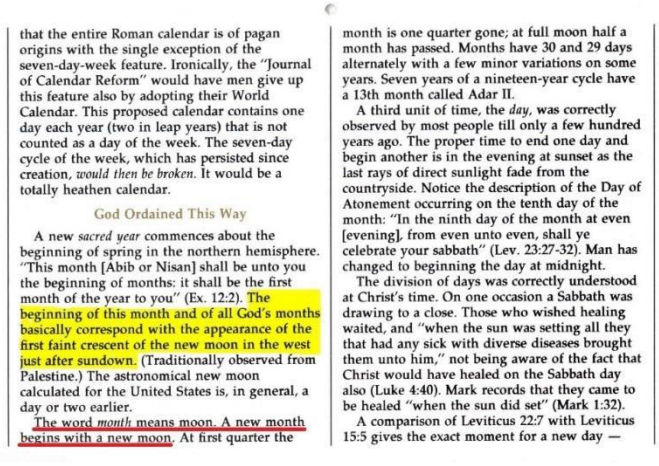
The Jews never lost time; they changed it. Historical evidence of the Sanhedrin and the meticulous preservation of the written Oracles have kept the original calendar system, one based on observation! Yet Mr. Armstrong seems to miss this point and assumes a mathematical calendar system has always existed. Mr. Armstrong agrees that the Jews rejected Yeshua and apostatized in doctrine, yet he assumes their modern calculated calendar must have been preserved – despite their own testament to changing away from observation and now are waiting on the Messiah or proper authority to reinstate.

It is correct in that the Oracles were preserved, but the Orthodox Jews add man-made rules and traditions that go beyond, and even trump, those written Oracles! It is these man-made traditions that Yeshua disputed, and continue to exist today, that have polluted the various *Churches of God* that Herbert Armstrong founded. But even Armstrong acknowledged that the Jews once used observation. He quotes in *God's Sacred Calendar for the Worldwide Church of God for 1986-1987*[12] after citing Exodus 12:2 that:

> *"The beginning of this month and of all God's months basically correspond with the appearance of the first faint crescent of the new moon in the west just after sundown. (Traditionally observed from Palestine.) <u>The astronomical new moon calculated for the United States is, in general, a day or two earlier</u>."* **{Underlined emphasis added}**

Mr. Armstrong refers to observation of the faint crescent as being the traditional *new moon*, and fully understood the distinction between the *visible crescent* and the modern-day *conjunction* phases of the moon. He even points out the terms *month* and *new moon* conveying the same meaning (cognates), as explained in his 1986-1987 calendar article (see illustration underlined in red). Despite all this, Armstrong immediately jumps to the conclusion that the calculated Hebrew calendar, based on what appears to be his *calendar bias*, is necessary to maintain God's time and permanently preserve it. For example, he states in his Good News [10] letter:





that the entire Roman calendar is of pagan origins with the single exception of the seven-day-week feature. Ironically, the "Journal of Calendar Reform" would have men give up this feature also by adopting their World Calendar. This proposed calendar contains one day each year (two in leap years) that is not counted as a day of the week. The seven-day cycle of the week, which has persisted since creation, *would then be broken*. It would be a totally heathen calendar.

God Ordained This Way

A new *sacred year* commences about the beginning of spring in the northern hemisphere. "This month [Abib or Nisan] shall be unto you the beginning of months: it shall be the first month of the year to you" (Ex. 12:2). The beginning of this month and of all God's months basically correspond with the appearance of the first faint crescent of the new moon in the west just after sundown. (Traditionally observed from Palestine.) The astronomical new moon calculated for the United States is, in general, a day or two earlier.

The word *month* means moon. A new month begins with a new moon. At first quarter the month is one quarter gone; at full moon half a month has passed. Months have 30 and 29 days alternately with a few minor variations on some years. Seven years of a nineteen-year cycle have a 13th month called Adar II.

A third unit of time, the *day*, was correctly observed by most people till only a few hundred years ago. The proper time to end one day and begin another is in the evening at sunset as the last rays of direct sunlight fade from the countryside. Notice the description of the Day of Atonement occurring on the tenth day of the month: "In the ninth day of the month at even [evening], from even unto even, shall ye celebrate your sabbath" (Lev. 23:27-32). Man has changed to beginning the day at midnight.

The division of days was correctly understood at Christ's time. On one occasion a Sabbath was drawing to a close. Those who wished healing waited, and "when the sun was setting all they that had any sick with diverse diseases brought them unto him," not being aware of the fact that Christ would have healed on the Sabbath day also (Luke 4:40). Mark records that they came to be healed "when the sun did set" (Mark 1:32).

A comparison of Leviticus 22:7 with Leviticus 15:5 gives the exact moment for a new day —

> *NOTHING more to go on that I have stated above. 2nd, History is vague on the subject, shedding little light that can be asserted and trusted. Yet we know God gave HIS PEOPLE a FIXED RULE for calculating TIME PERIODS, and for figuring WHEN to hold the Festivals of Jehovah. Otherwise, the prophecies, so full of definite time-periods, can never be understood. Otherwise God's people could not obey Him!"* **{Underlined emphasis added}**

He later states in the same letter:

> *"In conclusion, unless God has preserved His sacred calendar thru the Jew, then WE DO NOT KNOW how to figure Passover or ANY of the holy days this year. For there is NO AUTHORITY for any other day ....There is NO BIBLE AUTHORITY WHATSOEVER for (for example) figuring the 1st day of the month from the new moon NEAREST the spring equinox!"* **{Underlined emphasis added}**

Notice the concepts Mr. Armstrong uses here: "a fixed rule" to "calculate" time periods, "figuring" (or computing) Passover or the holy days. He throws in the spring equinox as a contributing factor to determining "the Festivals of Jehovah". All these so-called requirements are assumed because he is biased toward mathematics. He just doesn't seem to make the distinction between what the Jews preserved and what they choose to practice today. This conflictive viewpoint suggests Armstrong believed that the calculation behind the Hebrew calendar is based on what was traditionally observed, possibly believing the faint crescent was somehow included in its calculated formulas. It is because of his *calendar bias* that he assumes the absence of calculations in scripture means the Jews must have preserved them and are still practicing them!

Summary

The example of the Bereans searching the scriptures daily to prove every teaching or doctrine shows us the only authority they recognized, being directly inspired by God, were the *scriptures*. The origin of which all scripture is centered around is the *Torah* (the *law* of Yehovah). While the Jews were instrumental in preserving the scriptures, they have not been given a special authority to then change the laws of Yehovah, nor can any man trump Him in any matter - the calendar included!

Looking for a separate authority outside of scripture, or by going directly to Yehovah through His Holy Spirit and our advocate, Yeshua, is when we are merely looking for an excuse to do what we seem fit, trying to support what we believe is right in our own eyes. It is our own desire to be able to predict future dates, bringing everyone into uniformity, that attracts us to average mathematical timetables (calendars). But this desire is not a requirement of Yehovah! It's clear He would rather we have faith in Him to show us His time, when it comes, through His *ordained signs*.

WHAT WOULD JESUS DO?

We have seen that there is strong evidence for many calculated calendars, including the lunar-based Babylonian calendar, that existed thousands of years ago before the time of Jesus (Yeshua), the Messiah. However, the mere existence of these calendars does not prove that God (Yehovah) intended on their usage. When researching this subject, many change their focus from what is Biblically instructed and, instead, turn to question what did Yeshua, Himself, observe? And since there is no recorded event of Yeshua arguing over a calendar conflict with the Jewish leaders of the time, whatever He kept must have been correct.

The problem is most attempt to place the origin of the Hebrew calendar, the version we know today, prior to the first century C.E. We have provided overpowering evidence that this calendar did not exist in its current form, at the earliest, until the 9th century C.E. based on the mathematical drift contained within the Molad calculations. There is also no documented evidence of Jews adopting any of this calendar's concepts prior to the 4th century C.E. with Hillel's publication of the 19-year intercalary cycle. However, many will still attempt to correlate recorded events within Yeshua's ministry with the results of the Hebrew calendar's backpedaled calculations. Then, if those events occur on the same day of the week, this must prove that both the Jews and Messiah followed the Hebrew calendar exclusively.

With no evidence of the current Hebrew Calendar existing prior to this time, however, all these arguments are purely conjecture and merely create a hypothesis to fit the outcome. In other words, the Hebrew Calendar itself could have been fashioned to purposely match the days of the week. But by implementing a chicken-and-egg fallacy, it's believed that documented evidence can be ignored, and the opposite must be true. Yet even if you can match these events, you must also disprove whether another calendar method cannot possibly have the same result. We have already shown, due to the arbitrary Rules of Postponement, that both the Hebrew calendar and the timing of the moon's crescent can occur on the same day. Then, you must also be certain these events took place in a particular year as there are uncertainties for the exact year the crucifixion took place.

Other complications are involved in disproving when the observation of visual celestial signs took place in the past. You must assume that a particular day was clear of any clouds and that their movements have remained in a constant state of change, remaining exactly as they are today. Additionally, you must then translate elapsed time into certain days of the week, requiring a conversion to the Julian calendar. This is because our current Gregorian calendar, established by Pope Gregory XIII, dropped 10 days from the month of October in 1582 to better align this calculated calendar with the solar year that occurred during the of the Council of Nicea[47]. And while many rely on NASA computations to determine when observations of the moon should have occurred in the past, you cannot accurately calculate which renewed moon coincided with aviv barley in the fields. It is here most, once again, assume the spring equinox instead.

That being said, let's look at some of these arguments. One example comes from the *Living Church of God* where a minister, Mr. John Ogwyn, cites three primary events described in the New Testament that he claims prove the Hebrew Calendar. His reasoning is that all these events occurred on a specific day of the week that coincide perfectly with the dates calculated for the Hebrew calendar methodology (and not observation):

1. The crucifixion event in 31 A.D. occurred on a Wednesday afternoon.
2. The Last Great Day in 30 A.D. occurred on a weekly Sabbath.
3. The Last Day of Unleavened Bread in 29 A.D. occurred on the weekly Sabbath.

Wednesday Crucifixion in 31 A.D.

The first of these three events places Passover (the 14th of the 1st month) on a Wednesday for Yeshua to fulfill the prophecy that He would be in the grave for a full three days and three nights before his resurrection the following Sabbath at even. By referring to the 70-Weeks Prophecy and assuming a 3 ½-year ministry of Yeshua, Mr. Ogwyn places the crucifixion in 31 A.D.

However, when you compute the likely phases of the moon in 31 A.D., you will also find that mathematical calculations support an observed new moon crescent as being possible on the same day as the Hebrew Calendar's calculated first month that year. This means either methodology would fit this scenario and cannot exclusively conclude the Hebrew Calendar as being the only methodology instituted. In fact, John Ogwyn agrees with the crescent calculations and states that [18]:

> *"it is true that the observable new moon of Nisan would have also been seen on Thursday, April 12."*

But Mr. Ogwyn attempts to discredit the method of observation through his *bias* by stating:

> *"The equinox was March 23 at that time, and there would have certainly been some ripe grain for the priests to offer on the day of the Wavesheaf."*

But, as we have learned, the *equinox* is not a variable given within scripture and does not come into play when using the observational method based on Aviv barley. Mr. Ogwyn is merely assuming that barley would have matured the month prior. The prior new moon, however, would have been on March 13th. This is several days prior to the spring equinox. Historical observation has often found barley within Israel to not yet having reached the stage of Aviv by this time of the month. In fact, Aviv barley often falls in the same year as the Hebrew calendar. After all, the 19-year intercalary cycle, introduced by Hillel II, was based on historical observations of observed barley within Israel and often match one another – especially in its early stage of use before it began to slowly drift over the years.

Mr. Ogwyn also points out that the Hebrew Calendar happens to coincide with celestial evidence of a lunar eclipse occurring on the same day as the crucifixion. The use of lunar eclipses to coincide with the crucifixion is irrelevant. Many attempt to make this correlation to describe a darkness that covered the land during the time of the crucifixion (Matthew 27:45[1]) and then claim this was caused by a lunar or solar eclipse. But this event took place on Passover (the 14th day of the new moon) from around noon ("sixth hour") until around 3:00pm ("ninth hour"). A

solar eclipse would be impossible as this only occurs at the time of the moon's conjunction (at the beginning of the lunar month) and a lunar eclipse would have only been visually noticeable when the full moon could be seen in the sky, which does not rise until sundown. A full moon cannot be seen at 3:00pm ("sixth hour"), much less noon. A lunar eclipse also would not have caused any noticeable darkness for an extended period - especially during the day, and one lasting three hours as described here in scripture. It would be pure speculation, and not a very good one at that, to look for lunar eclipses as the basis for choosing a particular year as being significant here. Any lunar eclipse would have only been visible in another part of the globe this time of day.

The Last Great Day a Weekly Sabbath in 30 A.D.

The second one of these three events is based on New Testament testimony given in John 7 through 10. The claim is that the Last Great Day, described in chapter 7, also took place on the weekly Sabbath. Lunar calculations place the crescent moon event two days later than the Hebrew calendar. This claim assumes, though, that the events in John 7 took place during the evening portion of the Last Great Day and that, subsequently, the events in chapters 8, 9, and part of 10 took place during the daytime portion. It is also stated in John 9:14 that Yeshua healed a blind man during this time, which is described as taking place on the weekly Sabbath.

There is strong evidence that the events in John 7 took place on the Last Great Day, as we are told this in verse 37-38:

> *"On the last day, that great day of the feast, Jesus stood and cried out, saying, 'If anyone thirsts, let him come to Me and drink. He who believes in Me, as the Scripture has said, out of his heart will flow rivers of living water.'"* **{Underlined emphasis added}**

This reference to living waters was most likely a direct reference to the traditional Jewish water ceremony that was held during the Feast of Tabernacles. While this ceremony did not traditionally occur on the Last Great Day, the claim is that Yeshua was referencing this event that took place earlier that day and, therefore, this verse was given during the evening portion (as the Last Great Day was just beginning). The chapter continues until the day (or evening) comes to an end. We are told in John 7:53:

> *"And every man went unto his own house."*

The next chapter, John 8:1-2[1] states:

> *"But Jesus went to the Mount of Olives. Now early in the morning He came again into the temple, and all the people came to Him; and He sat down and taught them."*

Do we really know how much time passed between John 8:1 and 2? All we really know is that Yeshua's next visit to the temple took place early in the morning. It is just as possible that John 7:37 was describing the Last Great Day when everyone was gathered in the temple, the day following the Jewish water ceremony, and when the day had ended, everyone then went home? Remember, many people traveled to Jerusalem to keep the Feast of Tabernacles, a pilgrimage festival. If this was, indeed, taking place in the evening, would they have gone home when the Last Great Day had not yet concluded, only to return to the temple the very next morning? For

that matter, would Yeshua have gone up to the Mount of Olives? Although a few translations of John 8:2 state that Yeshua entered the temple *the next day*, most state it was simply *early in the morning*. A literal translation of John 8:2 from the Greek text is simply (Young's Literal Translation [2]):

> *"And at dawn he came again to the temple."*

Making the claim that this Last Great Day must have been a weekly Sabbath (referenced two chapters later) is a bit of a stretch. While it's very possible that these events, starting in John 8:2 and continuing into John 10:21 began on a weekly Sabbath, the only certainty we have is that it occurred sometime between "that last great day of the feast" (starting in John 7:37) and the very next identified event in John 10:22[2] which simply states:

> *"And the dedication in Jerusalem came, and it was winter"*

Obviously, the Feast of Dedication does not also immediately occur the very next day following the Last Great Day. With the earlier mention in 7:53 of everyone returning to their own homes, there seems to be an obvious break given here within the timeline that provides no definitive link to the events in John 8:2 - regardless of which calendar method you use. Additionally, what would be the point of describing where everyone had gone other than to signify the Feast had ended?

In fact, you could make this same connection that the events starting in John 8:2 took place during the Feast of Dedication (or the Feast of Lights). After all, John 8:12 also has Yeshua referencing lights:

> *"Then spake Jesus again unto them, saying, I am the light of the world: he that followeth me shall not walk in darkness, but shall have the light of life."*

Hanukkah is called the *Feast of Dedication* because it celebrates the Maccabees' victory over Greek oppression and the rededication of the Temple. But Hanukkah is also known as the *Festival of Lights*, as referenced by Josephus in his book the *Jewish Antiquities*. But this assumption would also be a stretch.

While it would fit nicely into their argument for the Hebrew calendar being used at this time, you cannot force it, and then claim it as being evidence. With no further description of time given within these chapters, it's just as likely that events beginning in John 8:2 took place on any weekly Sabbath between the Last Great Day, after everyone went home in John 7:53, and the Feast of Dedication, described in John 10:22. And again, this argument assumes this Feast of Tabernacles occurred in 30 A.D.

The Last Day of Unleavened Bread a Weekly Sabbath in 29 A.D.

The third of these three events is, once again, based on New Testament testimony of a weekly Sabbath in 29 A.D. Special focus is given to Luke 6:1[1] that states:

> *"Now it happened on the second Sabbath after the first that He went through the grainfields."*

The phrase "second Sabbath after the first" is cited by Hebrew Calendar supporters that this Weekly Sabbath was also the Last Day of Unleavened Bread - a scenario supported by today's Hebrew Calendar calculations in 29 CE. This is assumed since the Last Day of Unleavened Bread is the Second High Sabbath of the year. Once again, though, computer-generated models also make this scenario possible for an observed calendar, if aviv barley were seen a month prior to the Hebrew calendar (which would have intercalated a 13th month in 29 CE). Regardless of this fact, when we investigate Luke 6:1 further, we find that the argument using the phrase "second Sabbath after the first" is also very weak because it is based on the translation of an unusual Greek term "en sabbato deuteroproto".

Mr. T.C. Skeat (author of Scribes and Correctors of the Codex Sinaiticus) convincingly conjectures that the original copyist-publishers (or scribes) incorrectly interpreted this Greek phrase into what would be considered today a typo (smudge or blunder) of the original manuscript creating what is coined as a "ghost-word" (or a word which never had any real existence). When investigating this Greek phrase further, you will find that this is the only place in scripture - or in generally accepted documentation (including the Septuagint) - where this specific phrase is used. Barnes New Testament Notes [13] discusses this Greek word in Luke 6:1 and says:

> *"the word occurs nowhere else. It is therefore exceedingly difficult of interpretation."*

Even this same event described in Matthew 12:1 and Mark 2:23 simply refer to this day simply as the Sabbath with no mention of it being a Festival Day. Neither do they use this same Greek term. There is also no Hebrew term or phrase that would relate to "en sabbato deuteroproto". The generally accepted translation of the Greek word in Luke is "second-first" Sabbath. But without a secondary witness of this word being used anywhere in literature, we will never be able to adequately confirm its meaning within this context and is just as possible that this should be translated as being the second Sabbath in the count of seven Sabbaths to Pentecost.

Conclusion

None of these three cited events at the time of Yeshua, as shown, can be used to definitively determine the day of the week coinciding exclusively to the Hebrew calendar method. When we look to secular and Jewish history, however, we find that the Sanhedrin Court system of observation was still in effect during Yeshua's time on Earth and would likely have been the same method that Yeshua, the Messiah, kept. Any other method would have certainly caused concern for Yeshua's actions from the members of the Sanhedrin and claims against Him would have been far beyond simply breaking the Sabbath and Rabbinical laws with miraculous acts.

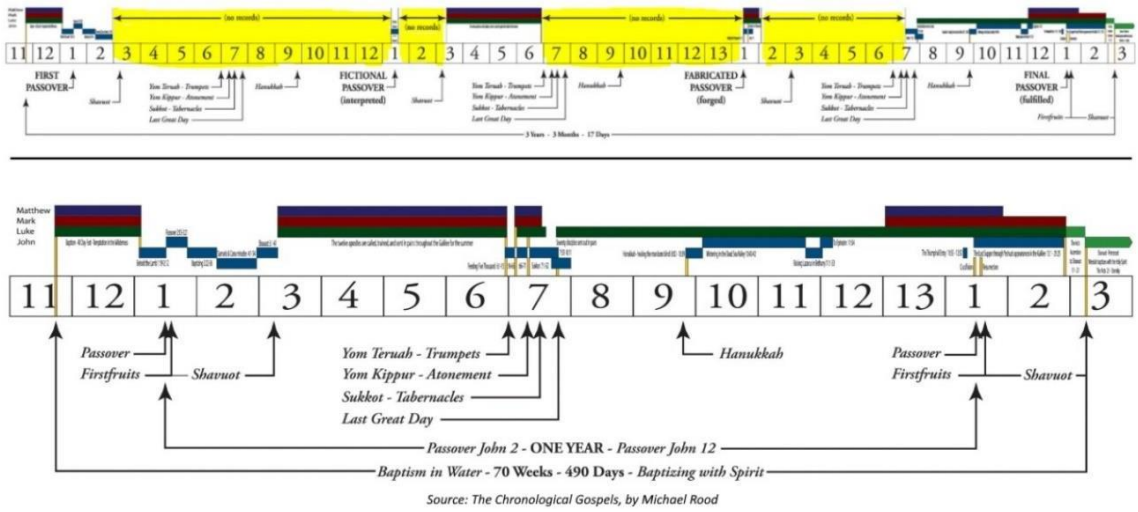
Ogwyn's theory above is also based on the assumption that Christ's ministry was 3 ½ years in length, and many accept this as fact. To achieve the years above, most will first start with Yeshua's birth in 4 B.C.E. and determine the start of His ministry after He turned 30 years of age. They then add this 3 ½-year ministry to end up with a 31 A.D. crucifixion.

Let's consider, for a moment, an alternative scenario. Mr. Michael Rood, author of the book *The Chronological Gospels*, suggests that Christ's ministry was 70 weeks in length, beginning with His baptism. This directly correlates with Daniel's Messianic prophecy of 7 and 62 weeks (totaling 69 full weeks) and a 70th week being cut off in the middle (with the crucifixion

occurring on a Wednesday and His resurrection when the week completed). Rood places the crucifixion in the year 28 A.D. Passover also falls on a Wednesday based on calculations of an observable crescent that year. With Yeshua turning 30 years of age that prior year (at the Feast of Tabernacles), He would have also been crucified in His first year of His coming-of-age (just as the Passover lamb was required to be of its first year). In his study, Mr. Michael Rood states [73]:

> *"It was Eusebius who first proposed a three-and-one-half-year ministry, three hundred years after the resurrection of Yeshua. Every church 'father' and historian for the first three centuries either clearly stated, or never contradicted, that Yeshua's ministry was 'about one year.' Eusebius proposed his undocumented assertion as a fulfillment of Daniel's 70 week prophecy, and now, after 1600 years, his eschatological adherents continue to voice his unprovable invention with unwavering conviction. His assumptions destroyed any chance of understanding the prophecy of Daniel that he was purportedly solving. Furthermore, Eusebius' followers have been left with unsolvable contradictions if his inventions are maintained."*

In fact, Michael Rood has constructed an entire timetable, day by day, based on the calculated timing of visible new moon crescents within Israel, using a 70-week ministry that fits within the entire gospel accounts in sequence. When compared to a possible 3 ½-year ministry, he shows how large gaps of time, up to a year, exist with no scriptural events being recorded whatsoever - which seems highly unlikely given the significance of His ministry. Rood's 70-week timeline synchronizes the four gospels surrounding one common event – the feeding of the 5,000. By placing the events of the gospels within this period, it brings great clarity to the life of Yeshua, and it presents His teachings in their proper context. For example, John 6:4 describes events as taking place at Passover, yet He is not in Jerusalem to keep the commanded pilgrimage festival and is, instead, distributing leavened bread.



Above, Michael Rood illustrates the recorded Gospel records in a sequential timeline. The top graph shows a 3 ½-year ministry with large gaps of time highlighted in yellow where no recorded events take place. The bottom graph shows a 70-week ministry containing all the Gospel records, all correlating with calculated lunar cycles.

Now, whether one fully accepts Rood's timetable or not, this only shows that backtracking dates

to fit more than one calendar method (including observation) is possible with the events in the Gospel record. While informative, Ogwyn's approach here alone CANNOT serve as evidence that any one method was, in fact, used during the time of Christ over another.

Summary

- Referencing a lunar eclipse at the time of the crucifixion is pointless as the crucifixion occurred in the early afternoon hours when the moon was not yet visible (the moon is full at the time of Passover and rises at sundown).
- The Hebrew calendar is not historically documented to have existed any earlier than Hillel II - and he is only attributed to the 19-year intercalalary cycle.
- Attempting to show the dates of the Hebrew calendar system match that of a Biblical event is pure conjecture since there is no evidence the calendar system ever existed at that time (as it could have been purposely designed to fit these events after the fact).
- Additional arguments proving certain Biblical events occurred on a particular day of the week are also weak.
- Many of these attempts rely on the assumption of a 3 ½-year ministry, which is simply accepted as fact despite evidence to the contrary.
- Utilizing today's mathematics of lunar cycles and applying a 70-week ministry, a pure observation method was also possible matching all the events within the Gospel record with a crucifixion in 28 A.D.

TODAY'S OBSERVATIONAL CALENDARS

We have already seen historical documented proof of calendars that were based on pure observation - including the Babylonian and Sumerian calendars. In fact, when you study any historical calendar, you will find they all originated with a repeating observation and analysis of the heavenly bodies. It is only over the course of time that man established calendar systems, using mathematics, to create repeating cycles of timetables. Although some of these mathematical calendars eventually become very impressive based on their overall accuracy (based on averages), it's really apparent in our more recent history that we have grown accustomed to relying on these man-made calculations in lieu of simply looking to the sky - especially in determining when specific annual events take place. This has created a mathematical bias in our overall thinking of time itself. Today, this mathematical thinking is so ingrained into our everyday lives that it can take some time to readjust back to the concept of keeping calendars solely based on observation. Our first notion is to believe that observation cannot be consistent and could cause discrepancies.

Even though it may be true that a single observer could be in error, multiple participants dramatically reduce any mistakes that can be made. Often, any mistake that is made is in how the observer interprets what is seen and how it should apply to scripture. Whereas mathematical discrepancies can range widely when you attempt to build a repeating formula based on averages. Not to mention, fixed formulas don't allow for any variance for the many variables involved - including the moon, sun, curvature of the atmosphere, crops, cloud formations, rainfall, temperature, altitude, longitude, latitude, and the mountains blocking one's view. Even if you were able to accurately calculate just one of these variables within a calendar formula, meshing all of them together into a single formula that can be used by any one person universally around the globe is, quite frankly, impossible for man to accomplish accurately on their own and is able consider all future fluctuations. The truth is that men rely on mathematics to feel that they are in control. Relinquishing that control to Yehovah's creation can be unsettling unless they also rely on Him for everything else in their lives.

But are we too late? Has math replaced all known civil calendars today? Knowing that observation is best when you have multiple participants, can we go back to the simplistic method of watching the skies and still function in a mathematical world? Can even a small group of people still function on a calendar that is based solely on observation? Yes. In fact, there are several groups of civilized people that still use such a method today.

The Islamic Calendar

One of two very strong examples of an observed calendar today includes the Islamic calendar. Many Christians (and Jewish Orthodox) would stop right here. *How can you consider an Islamic belief system when it comes to a Biblical Calendar?* If you're thinking the same thing, then I ask that you just bear with me for a moment.

The Islamic calendar has been established as an orderly method throughout Islamic history. Even today, this calendar is established using observation of the moon to begin its months every cycle - starting when the new moon crescent is sighted anywhere in the world as the sun goes down! The Wikipedia Encyclopedia further explains the Islamic calendar history [24]:

> *"Each month has either 29 or 30 days, but usually in no discernible order. Traditionally, the first day of each month is the day (beginning at sunset) of the first sighting of the hilal shortly after sunset. If the hilal is not observed immediately after the 29th day of a month (either because clouds block its view or because the western sky is still too bright when the moon sets...), then the day that begins at that sunset is the 30th. Such a sighting has to be made by one or more trustworthy men testifying before a committee of Muslim leaders."* **{Underlined emphasis added}**

And what is the *hilal*? The Wikipedia Encyclopedia [21] explains:

> *"Hilal is an Arabic term, meaning crescent moon, first developed in pre-Islamic Arabia. The very slight crescent moon that is first visible after a new moon. Muslims look for the hilal when determining the beginning and end of Islamic months, but they don't worship it."* **{Underlined emphasis added}**

Sound familiar? This method of establishing months is exactly what we just read from the Bible! In fact, Islamic history closely correlates with Christian and Jewish history from the time of Abraham. Much of today's Muslim faith is also founded upon Biblical text. But, just as mainstream Christianity believes the *New Testament* has abolished much of the *Old Testament* (instead of the *Old* serving as the foundation for the *Covenant* that the *New* advocates), Muslims have also changed or ignored portions of the original laws, established by Yehovah in the *Torah,* in favor for the *Quran* (along with portions of the *New Testament*). They believe that older texts have not been properly preserved and have become invalid over time. Because of this, the Islamic belief system has retained certain truths while others have been lost or replaced. Their calendar is no exception.

Although Islamic tradition does not recognize the *Aviv* harvest to begin its years, it instead measures years on a repeating 12-month lunar cycle. This places the start of the Islamic year on a constant drift earlier from the season in which it was last established - making their New Year fall at any time during the solar year. However, they continue to observe and announce the sightings of new moon crescents every month and determine their annual festivals on such sightings. They begin each month geographically from where the moon was first sighted and use a system of eyewitness testimony (much like the Sanhedrin system).

Even though the Islamic calendar is merely an example showing a remnant of historical observational practices, it should not be brushed aside as inconsequential. It serves as a witness to a form of Biblical time that has been lost on many today.

The Karaite Calendar

While many presume the Jews should be regarded for an answer to the Biblical calendar, most only look to the Orthodox Jews. Yet, as we have read, not all Jews agree to follow the Hebrew Calendar system. The Karaite Jews have used an observed calendar within their history, and

continue to do so today, which they have derived from the scriptures (or the Torah). Karaite Jews trace their origins back to the Middle Ages and believe to have come from the Sadducees of Yeshua's time (while the Pharisees became known as Rabbis). This also makes the Karaites a member of the Judah tribe for whom were entrusted with the living oracles. A group named Karaite Korner explains this history [27]:

> *"Then in the 8th century a last glimmer of hope appeared in the form of a shrewd leader named Anan ben David. Anan organized various non-Talmudic groups and lobbied the Caliphate to establish a second Exilarchate for those who refused to live according to the Talmud's man-made laws. The Muslims granted Anan and his followers the religious freedom to practice Judaism in the way of their anscestors. Anan himself was not a Karaite; although Anan rejected the Talmud he used similar irrational methods of interpreting Scripture as the Rabbis, such as intentionally taking words out of context. Anan's followers became known as Ananites and this group continued to exist down until the 10th century. On the other hand, those Jews who continued to practice the Tanach-based religion of their anscestors became known as Bnei Mikra ("Followers of Scripture") which was also abbreviated as Karaim ("Scripturalists"), in English "Karaites". This name derived from the old Hebrew word for the Hebrew Bible: Mikra, Kara. The name Karaim, meaning "Scripturalists", distinguished these Jews from the camp of the Rabbis who called themselves Rabaniyin ("Followers of the Rabbis") or Talmudiyin ("Followers of the Talmud")."*

The Karaite Jews, by rejecting the Rabbinical teachings and reverting strictly to Biblical scriptures, eventually regressed back to an observed calendar. We see here that the Karaite movement started in the 8th century. This just happens to be around the same timeframe secular history, and the calculated drift within the Molad calculation, signifies the Hebrew calendar was about to be established in its current form. Because the calculated Hebrew calendar was introduced by a Rabbinical authority, the Karaite Jews rejected the Orthodox Jewish traditions that contradict scripture. These included, specifically, the calculating of an intercalation cycle in the calendar (the 19-year cycle), using the Molad calculation of the moon (instead of the new moon crescent), and instituting calendar postponements. The Karaite Jews also believe that the Biblical *signs* of the new moon crescent and green-eared barley must be observed to establish a calendar - but specifically from Jerusalem.

As we have discussed earlier, forcing a fixed "timeline" through Jerusalem is not strictly instructed within the Bible. But Karaite Jews believe that an observation method was originally utilized by the Sanhedrin at the Temple in Jerusalem, and so they continue to practice their observations from this location by tradition. Karaite Jews publish reports of sightings from Jerusalem regularly. Even though the Karaite's provide an excellent example of Jewish peoples following a calendar method based solely on observation, many organizations in the Western World ignore this fact. In fact, the *United Church of God* focuses on the belief of a Jerusalem "dateline" as a basis for its rebuttal for using such a calendar concept. In their article "Does God Give a Calendar?", they state [52]:

> *"Does the Bible tell us that we should use Jerusalem? No, it does not. Jerusalem was of no importance until the time of David. Yet the Holy Days were being kept before his time. Also, a calendar existed and the Holy Days began to be revealed to Moses while he was still in Egypt."*

> *"Which point on earth was used for the precise moment of the new moon while Israel was in Egypt? Which point did Israel use prior to the establishment of Jerusalem as capital of Israel? Which point should the Church use today? Does the Bible answer any of these questions for us? No, it does not. Therefore, those who reject the Hebrew calendar have no biblical authority for the site they select for the occurrence of the new moon. They must rely only on their own authority for choosing whatever site they believe is correct."*

This is a valid argument against Jerusalem as a dateline. Yet, as we have already learned in this paper, even the Hebrew Calendar uses Jerusalem specifically in its Rules of Postponement to determine when the month of Tishri begins - either before or after the noon hour. We have already discussed the bias being applied when instituting a mathematical "dateline" using Jerusalem, or any other location which the Bible does not give. But all other aspects of the Karaite calendar serve as excellent example of Biblical scripture. It is simply the Jewish view of establishing law that causes them to use Jerusalem as being tied to the Biblical calendar. It should be noted that not all Karaite Jews use the Jerusalem dateline, and it is considered a "gray area" to the Karaite community.

Summary

Both calendar examples support a continuous history of calendars based on pure observation, still intact today. Apart from a Jerusalem "dateline" being applied to the Karaite calendar and the Islamic calendar ignoring the start of the year with the month of Aviv, these two calendars provide excellent examples of Biblical concepts. Therefore, we can see that this model does work, and it is certainly not a new idea that has been recently concocted by self-appointed calendar "experts," as some groups would have you believe. An observation-based calendar is not only historically established, but we have also seen that it is Biblically required! It is not a random method made up by men attempting to interpret the Bible and randomly create a calendar method for themselves. There are certainly different versions of observed calendars today that are based on different beliefs (i.e., Christian versus Jewish views on Jerusalem) and that still apply a calendar bias (such as the spring equinox or use of the conjunction), but all are genuinely concerned with following the instruction given in the Bible, which is clearly not the Hebrew calendar.

Finally, there are an ever-increasing number of groups keeping Festival dates based on a calendar of observation rather than calculation. A list of some of these groups is listed in the appendix. Although some variances do exist between the groups, many attempt to be in line with Biblical instruction. Hebrew calendar supporters will often reference the fact that there are so many variations of observable calendars as a reason to reject observation all-together. Although it is true that many variations exist, they primarily boil down to different viewpoints on very few items. One is the specific phase of the moon that should be used (waxing crescent, conjunction, new moon and some waning crescents), second is the start of the year (using Aviv barley, the spring equinox - with the new moon either closest to or immediately following) and, finally, whether observation can take place globally or limited to Israel (defined either by modern day or Biblical borders). All these points were discussed earlier in this paper.

COMMON CONCERNS

There are several arguments against using an observational calendar, but most are based on an incomplete understanding of observation or an inability to let go of the comforting mathematical bias. Many don't even attempt to use scripture to disprove observation, even though many already use observation of the sun to begin the Sabbath Day. Obviously, the sun and moon move differently in relation to an observer on the Earth's surface, but the action of watching for each of these *signs* is very similar. There is no scripture that shows any one of these *signs* as being calculated, much less one being observed and the other calculated. But it does support the blowing of trumpets and gathering for a meal at each expected renewed moon and to begin the year with the renewed moon of the *Aviv* harvest. But when discussing these aspects of the Biblical calendar, there are concerns that prevent some from fully accepting this methodology. Let's look at some of the more common issues.

Aviv Longer Than One Month

Some will claim that the *Aviv* barley harvest in Jerusalem can span over several months in length and cannot, therefore, refer to only one specific month. By utilizing observable signs, including that of the Aviv harvest, you begin days, months, and years at the appearance of its related sign, not after it has been completed. We don't wait until sunrise to confirm the sun is going down. We don't wait until the full moon to confirm when it has been renewed. And we don't wait for barley to be harvested in its entirety to confirm when it the time has arrived. Additionally, it should not be a common practice to wait for confirmation and then go back in time and declare the sign did exist, nor should we predict when it will occur in the future.

Therefore, once barley is found Aviv and harvestable (regardless of how long the harvest itself is expected to last), the sign can be confirmed. Only then, when the renewed moon arrives, can the month begin, and it can be considered the month/moon of Aviv barley. You do not go back to claim the previous new moon as Aviv. Finally, it is the first of the barley harvest that is then presented during the Days of Unleavened Bread and the people can then partake in the new harvest.

New Moon Sabbaths?

Another concern is that there is no clear direction to keep New Moons specifically as a Biblical Festival Day or as a Sabbath Day, nor are they listed in Leviticus 23. We have seen, though, the keeping of a New Moon Day supported in the Bible, including David himself. It is true that *New Moon* days are <u>not</u> listed as a Sabbath or *High Holy Day* as those listed in Leviticus 23, but just because they are not ordained as such does not mean we should then avoid them entirely. They do serve a purpose, much like the Preparation Day for the weekly Sabbath. The gathering together for a meal allowed God's people to be gathered in one accord to determine, and then communicate, the arrival of the renewed moon.

This leads to the belief that, since sacrifices are no longer required and the Levitical Priesthood has been dissolved, that references to a *New Moon Day* in scripture is now useless. However, it is true that if God intended on calculation for His calendar, there indeed would be no need for this day. Indeed, these days are even revealed in the Bible that they will continue to be celebrated in

the future coming *Kingdom of God* (Isaiah 66:23). There is absolutely no reason to believe we should disregard them today – any more than we should disregard the Biblical signs ordained by Yehovah Himself. These days do have a function, and His signs do serve a purpose. Who are we to then claim they should be precluded?

Crescent Worship

The shape of the crescent moon, as a symbol, can often be found in Pagan-related idols and practices. Because of this, many will negate the *new moon crescent* as being Biblical because they believe it is, instead, a Pagan symbol. Pagan practices, however, utilize the entire lunar cycle and follow traditional practices that correlate with each phase of the moon (new, waxing, full, waning, dark and eclipse) - not just at the time of the *new* crescent. Pagan practices, however, that involve the moon do not make the moon itself Pagan any more than Pagan's worshipping their sun god negates observing the sun to begin the *Biblical Day* or the *Sabbath*. This is a fickle argument that would require the elimination of any reference of the moon to determine times and seasons (including the Hebrew calendar).

Many Islamic traditions are also attributed to being a mixture of moon-god worship who was referred to as *Allah*. It is true there are Pagan practices associated with the name *Allah*[55], much like mainstream Christianity has adopted the practices of sun-god worship using the title "Lord" that happens to be a transliteration of the Pagan god *Ba'al*[53] – and then replacing Yehovah's actual name with the spoken name of *Ba'al*. Similarly, Jews also replace Yehovah's spoken name with the term *Adonai*, a term transliterated from the god *Adonis*[54]. Even today, *LGBT* movements have commandeered the sign of the *rainbow* to characterize their own agenda. Yet this does not mean that we should then avoid God's signs just because Pagans and others associate them within their worship. It is Yehovah that first ordained these signs in their courses and no one can hijack what He originally intended – the components that indicate His *times and seasons*.

Armstrong Followers

Some organizations turn to modern writings. For example, many *Church of God* groups will refer to the teachings of Herbert W. Armstrong. We read some of his material earlier that showed Mr. Armstrong accepted the Hebrew Calendar in his Good News article written in 1940. You find that many Festival-keeping organizations use Armstrong's viewpoint to establish doctrine (rather than scripture). Although Mr. Armstrong, I believe, was a strong follower of Yehovah's ways and established a solid foundation for the current-era *Churches of God*, he was still just a man capable of errors just as much as anyone. There is even historical evidence seen of his errors regarding the annual Festivals when the *Worldwide Church of God* rectified Pentecost from a Monday observance to Sunday in 1974. Before keeping Mondays, Mr. Armstrong personally observed Pentecost on the fixed day of Sivan 6 (the third month of the Hebrew calendar). Obviously when Armstrong recognized his errors he made a change, but there is no reason to believe that he was perfect in his doctrinal beliefs before his death (and neither should any of us). In the end, we all need to be able to defend our faith before the judgment throne as judgment begins with the House of Elohim (I Peter 4:17). If you place your faith in the opinions of men, you may find yourself in serious trouble when that day comes for you.

Forms of Communication

Another primary concern is that of communication and consistency that mathematics provides. Today, we have the modern conveniences of telephones, faxes, email, etc. for near-instant communication around the globe. Since these methods of communication were not around during the time of the Sanhedrin or earlier, how would people living long distances away from Jerusalem, such as pilgrims, know that the new months had begun if they missed the sign? This would mean that people around the world would possibly keep different days (or even a different month). Therefore, many assume mathematics resolves this problem. But, regardless of the methodology you believe was originally instituted during the time of the Sanhedrin (calculation or observation or both), the challenge of communication throughout the Diaspora remains the same! Since any calculation that may have been used was not always documented, a form of communication would still be needed to spread the mathematical findings of those entrusted to have obtained such calculations. As we covered earlier, many believe the calculations of the Hebrew calendar were held secret by a Yehovah-chosen group of individuals. Obviously, any possibility of inconsistency remains the same. The exception is if the Sanhedrin used secret calculations, they would not have needed to institute a method of witnesses and observing Feast of Trumpets for two days. This makes this argument moot for either method. Modern conveniences would, though, further reinforce the accuracy and consistency of an observational method through regular communication, whereas using a published mathematical calendar serves as its own form of communication - right or wrong.

We have also discussed that people who lived in Biblical times were *agrarian* in nature - living directly off the land - and were highly aware of their natural surroundings (including crops and the movements of heavenly bodies). Geographically speaking, areas outside of Israel - including Egypt - were not very far away and rarely required travel beyond a few weeks' time. Many would have allowed for any such variance. We have seen communication historically taking place using signal fires and messengers to spread the word more quickly. However, in most cases, those living great distances away from the Temple and from the Sanhedrin courts would still be able to observe Yehovah's signs locally, and most would have aligned themselves with those in Jerusalem. Even though it is possible some could be off by a day, they would be immediately corrected upon local eyewitness accounts, or at the next cycle along with the majority.

For individuals that may keep a Festival Day on the wrong date (without knowledge otherwise), there is no reason to believe Yehovah would not recognize their efforts. Surely, we are blessed when we attempt to keep Yehovah's holy festivals. Do we question whether those in the *Churches of God* that celebrated Pentecost on Mondays were not blessed? Yet they saw fit to modify their determination of the Holy Day to a Sunday and corrected their path when they realized they were astray. This is where the calendar becomes a process of faith - a faith in Yehovah to show us His *signs* and for us to look narrowly and search for them attentively rather than become complacent with mathematical averages.

CONCLUSION

We have now seen the Biblical perspective of Yehovah's ordained signs that can be observed in the sky above us - His magnificent timepiece! We can always look up, at any point in time, to determine His time simply by observing the sun and stars to begin the day, counting the days from each renewed moon, and counting months from the renewed moon of Aviv barley - just as He instructed within scripture. It is a system that does not predict when these events will occur into the future, rather they require us to have faith in Yehovah to present to us such signs as He deems fit - putting Him in full control of His times and seasons that He hast appointed for the Biblical Festivals and Sabbaths throughout the year. Beyond counting every seven days to keep His perpetual Weekly Sabbath, we are also given instruction to blow trumpets with examples of gathering to partake in peace offerings (or meals) at the beginning of the month - promoting everyone to be of one accord at the arrival of the renewed moon.

But then our *calendar* bias kicks into full gear. We tend to believe simple observation is simply inaccurate and inconsistent. Much like our *clock bias* that ignores the sun at High Noon and, instead, relies on standardized time zones and rules like Daylight Savings, we tend to prefer the man-made timetables to synch our clocks - mostly for the sake of unity and predictability. This is no different than believing we must create a mathematical calendar system, rather than relying on direct observation. For the planners out there, they become concerned that they cannot predict with any certainty which day future Biblical Festivals will fall and, instead, have patience to confirm when His signs arrive. This just seems too chaotic and unacceptable to many people. While it is also true that observation can have mixed results amongst the population if not properly communicated, rather than pleading for His grace to cover one's ignorance, most would rather rely upon man's interpretation of timetables - knowing they are in error and believing they have been granted grace because everyone else is doing the same thing!

Many church organizations will even create doctrine, decreeing their members to strictly use the Hebrew Calendar system and avoiding observation entirely - mostly for the sake of unity and to satisfy their conditioned bias. Instead of looking to Yehovah and watching for *His* ordained signs in the sky, they simply don't want to accept the fact that they are, instead, putting their faith into a man-made system. They would rather make excuses by pretending the Hebrew Calendar has been endorsed by God Himself, claiming it was given to Moses by God and was merely kept a strict secret amongst the elite priesthood, only being passed down verbally within the Oracles. Apparently, it must have been that only the priesthood was special enough to understand the secrets of God and, for everyone else, these calculations and rules must have conveniently been too complicated to understand were they to exist within scripture. All of this while ignoring the fact that the Hebrew calendar utilizes Babylonian names - including a Pagan deity, uses rules that directly contradict scripture, and is not even fully accepted by the Jewish community. Even Orthodox Jews that do follow the Hebrew calendar and live outside of Israel also keep *Yom Tov*

Sheni, deliberately observing two days for each Biblical Festival *just in case* they're mistaken of the correct day (yet most church organizations that endorse the Hebrew calendar won't even consider this as an option). Any discrepancies from actual events are simply ignored in favor of the supposed authority given to the Rabbinical leadership (at least for this specific topic) - a leadership that was once fought, on principle, by Yeshua Himself.

This is certainly an issue that needs to be addressed further by many church organizations today! Yet many of their members are afraid to ask their church leadership for answers to these conflicts. In fact, it is these organizations that have gone as far as to criticize their own members who attempt to even question today's Hebrew calendar. Mr. John Ogwyn of the *Living Church of God* agrees. He states [18]:

> *"Does God expect individual Christians to determine His calendar for themselves? Many self-appointed calendar experts each claim that their calendar is the right one. Did God intend the calendar to be proclaimed by an authoritative body? Or is it "every man for himself"? Increasingly, we see people simply doing what is right in their own eyes."*

In the statement above from Mr. Ogwyn, we can detect a *calendar bias*. Instead of acknowledging that an individual may simply be seeking the signs God has already ordained under His authority, Mr. Ogwyn assumes that these individuals are inventing their own calendar systems, claiming expertise under their own authority. While it is true that many freelancers create mathematical calendrical systems, very few of these are based directly on the celestial movements referenced in scripture or on pure observation of those bodies. On the other hand, even if an individual relies strictly on observation, there is often a *bias* that causes others to view this approach with skepticism. They assume that relying on Yehovah to reveal His signs through observation must be inaccurate or chaotic, and they simply doubt that such individuals know what they are doing. The *United Church of God* also recognizes the various groups struggling with this topic [19]:

> *"Several people and organizations have addressed this subject in recent years and have reached various conclusions. There are several interpretations currently being taught by various groups or individuals on this matter. Obviously, they cannot all be correct."*

They continue in their Doctrinal Summary Paper [41], though, fully accepting their *calendar bias* by choosing the Hebrew Calendar as the best option:

> *"While there are some important considerations and legitimate questions about the Hebrew calendar, it does serve as a tool which has been preserved by the Jews. Its origin is impossible to determine. The origin of the rules of postponement is also impossible to know with any degree of certainty. It is therefore impossible to prove that Hillel II created the rules of postponement during the fourth century. We simply don't have enough information to substantiate that claim."*

We see here an acknowledgment that they have not found answers to the issues surrounding the Hebrew Calendar - mostly because they don't exist in scripture. Notice they still claim the calendar as being preserved by the Jews, yet they don't even consider how the Jews themselves feel about the Hebrew Calendar. They do, however, understand that calculations do not exist in scripture:

> *"The Bible does not provide us the complete means for calculating a calendar. There are no calculations provided in the Scriptures. The Bible clearly indicates that there were the components of a calendar in existence almost from the beginning: hours, days, months, seasons, and years are all mentioned. These are the essential elements of any calendar."*

Yet their *calendar bias* continues by stating,

> *"Someone has to make a decision about the calculation of the calendar."*

The Biblical Calendar of observation requires no mathematical calendar system. Pure observation, on the other hand, reinforces the faith we should place in Yehovah - the Heavenly Father who is in control of the ultimate destiny for all of mankind. We cannot add to scripture by claiming calculations are then required or simply create a calendar system and rely, instead, on man's devices and computations (often involving mathematics so complicated that only computers can keep it all straight). It is then, suddenly, that this topic becomes overwhelming - it's no wonder why so many just simply turn back to the already established tradition of using the Hebrew Calendar. To them, it's reliable, predictable, and causes everyone to be integrated under the same umbrella.

The next step then often involves complicated gymnastics of proving that the events of the New Testament align with the Hebrew calendar and, therefore, must have been kept by Jesus Christ. This, of course, assumes a 3 ½-year ministry leading to the crucifixion in 31 C.E., fully accepting huge gaps of time where nothing noteworthy occurred. And as we have seen, the slow drift within today's Hebrew calendar's calculation proves, mathematically, that it was either created or, at least, re-calibrated in the 12th century C.E. with the earliest documented component, the 19-year intercalary cycle, as being introduced in the 4th century C.E. It is illogical to claim a system, created after-the-fact, must have been utilized when it didn't even exist yet. Simply put, this calendar system could have been created to fit the 3 ½-year ministry narrative.

I urge you, the reader, to seriously study this topic, let go of your *calendar bias* and tendencies toward calculation or relying on the opinions of ministers or earthly shepherds. Look to the Heavenly shepherd to guide you through the scriptures. Do not be discouraged by those that criticize you for only doing what is right in your own eyes. We are told in I Thessalonians 5:21[1]:

> *"Test all things; hold fast what is good."* **{Underlined emphasis added}**

We are given an example of how to test things in Acts 17:11[1]:

> *"These were more fair-minded than those in Thessalonica, in that they received the word with all readiness, and searched the Scriptures daily to find out whether these things were so."* **{Underlined emphasis added}**

Finally, we need to prove to ourselves the truth (that truth which was once delivered) by using scripture to be considered worthy when presented to Yehovah. II Timothy 2:15[1] explains:

> *"Be diligent to present yourself approved to God, a worker who does not need to be ashamed, rightly dividing the word of truth."* **{Underlined emphasis added}**

Therefore, we should be searching for what is right in the eyes of Yehovah! When we present ourselves before God, our church organization will not be standing beside us advocating for our actions. We must look to His Word; the answers are there; we just need our eyes opened to see it! Don't take my word for it, prove it to yourself and allow the Spirit of Yehovah to direct you. Stay on the path to always better yourself in serving Him - and may Yehovah bless and keep you on your journey.

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APPENDIX

Supporting reference material:
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Observable calendars as documented by encyclopedia:
http://en.wikipedia.org/wiki/Hebrew_calendar#Karaite_calendar
http://en.wikipedia.org/wiki/Islamic_calendar

Some groups that keep observed calendars/feasts:
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ADDITIONAL RESOURCES

Calculated vs. Observed Times and Seasons - A response to John Ogwyn; Shawn Richardson - http://www.shawnrichardson.com/Calculation-vs-Observation.htm

Biblical Calendar of Observation vs. Calculation - A response to United Church of God; Shawn Richardson - http://www.shawnrichardson.com/ResponseUCOG.htm

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ABOUT THE AUTHOR, SHAWN RICHARDSON

From his preteen years, Shawn Richardson has endeavored to consciously live according to Yehovah's principles as depicted within scripture, from both the Tanakh and New Covenant, which he believes the Torah serves as the foundation of truth and serves as the sole tangible source of corroborating divine authority within any doctrine. His education includes a Master of Science degree in Computer Information Systems technology and a Bachelor of Business Administration in Management of Information Systems. During that time, he served as a Senator for Student Government, Recording Secretary, and member of the Phi Theta Kappa Honor Society, was named on the Vice President's Honor Roll seven times and twice on the National Dean's List. As a member of the Worldwide Church of God, he was a member of the Youth Leadership Club where he also served as President for one year.

Shawn's career led him into the financial industry where he has functioned for over twenty-five years as a systems analyst primarily providing enhancements within mainframe systems and in robotic process automation and other various software that interacts with those legacy systems. He has also served as a Senior Supervisor and Technical Lead managing teams and is currently working as a Systems Analyst for Sammons Financial Group companies.

As an analytical thinker, Shawn often views Biblical scripture from a systematic and investigative approach following a predefined set of rules that the original writings, contained within the Bible, were inspired directly by the God of Abraham, Isaac, and Jacob - whose name is Yehovah. A name that expresses the true character and nature of God Himself as being eternal and never changing. His Word serves as the ultimate moral compass of righteousness and desires that all mankind atone for their sins and partake within the salvation provided by His Son, Yehoshua. Ye'shua, as He is also named, has also been with Yehovah for all eternity and was the creator of all things in this universe. He has served as the physical interaction of the Heavenly Father, through the emanating power of His Spirit, throughout all of history and in His ministry here on Earth. It is Ye'shua who is destined to return to this earth, once again, to establish His Kingdom and millennial reign to pay respect and to revere the majestic power of Yehovah Himself and where, ultimately, all of mankind will be resurrected and given the opportunity to serve Him and eventually stand final adjudication to be given eternal life.

For more information, check out Shawn's general website at shawnrichardson.com.

