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### **WHAT STARTS A NEW MONTH: THE LUNAR CONJUNCTION OR FIRST VISIBILITY?**

where many photos of the exact same scene are taken simultaneously, but where the focal length for the photographic lens is slightly different for each one of those many simultaneous photos. This enables us to blur out different parts of each picture, thereby highlighting the parts in each picture that are in sharp focus. When these images are then combined, then all the things in sharp focus in each picture combine to give us a sharp overall image of the whole object in question.

If you have ever taken a portrait photo of a person at a distance of perhaps 10 yards with a telephoto lens, then you have done something like this. By focusing the telephoto lens on the person's face, you automatically blurred out the background behind the person's face. And by using different settings for your focus, you can blur different parts of your picture. So if you had taken several simultaneous photos with that telephoto lens, with one photo in sharp focus on the nose, the next photo in sharp focus on the cheeks, and the next photo in sharp focus on the ears, then by image stacking those three photos you would be able to create one single photo in which all parts of the person's head would be in extremely sharp focus.

In image stacking people commonly use about 8 different photos of the same object to form one composite image. When Kelly Beatty states that Legault's photo "took A LOT of image stacking", I take that to mean that Legault took a lot more than just 8 simultaneous photos to get his "razor-thin lunar crescent". Exactly how many different images Legault used is immaterial for us.

The point is this:

**The new crescent was actually there, but it was not visible to the unaided human eye. However, by employing four specific steps Legault was in fact able to capture that image. Those four steps were: 1) he built a screen to ensure that no direct sunlight would enter the telescope; 2) he filtered out the near-infrared waves, 3) he manipulated the brightness / contrast adjustment to remove glare, and 4) he resorted to a lot of image stacking. Without these four steps Legault would not have captured the new crescent.**

The article concludes by stating that the unaided human eye is usually able to see the new crescent when it is about 20 hours old, with the absolute record (under the most favorable conditions possible) for the unaided eye standing at 15 hours and 32 minutes.

So much for the article on the Sky & Telescope website. Let's look at what this means within the Church of God context of seeking to understand when a new month should start.

### **SO WHEN DOES A MONTH START?**

It is quite clear from the Bible that every month must start with the new moon. Let's start with Exodus 12:2.

This **month** *shall be* unto you the beginning of **months**: it *shall be* the first **month** of the year to you.

The word "month" in this verse is a translation of the Hebrew noun "**chodesh**". This noun "chodesh" is formed from the primitive root verb "chadash". This verb "**chadash**" is used ten times in the Old Testament, and it means: **to renew, to repair**.

To illustrate this meaning, here are all the verses in which the verb "chadash" is used in the Old Testament:

- Isaiah 61:4 = they shall REPAIR (chadash) the waste cities
- 2 Chronicles 24:4 = ... was minded to REPAIR (chadash) the house
- 2 Chronicles 24:12 = carpenters to REPAIR (chadash) the house
- 2 Chronicles 15:8 = and RENEWED (chadash) the altar of the LORD
- 1 Samuel 11:14 = and RENEW (chadash) the kingdom there
- Job 10:17 = You RENEW (chadash) Your witness against me
- Psalm 51:10 = RENEW (chadash) a right spirit within me
- Psalm 104:30 = You RENEW (chadash) the face of the earth
- Psalm 103:5 = your youth is RENEWED (chadash) like the eagle's
- Lamentations 5:21 = RENEW (chadash) our days as of old

These verses make quite clear that "chadash" means "to make something new" or "to repair". Now the noun "chodesh" which is formed from this verb "chadash" means first and foremost "a NEW moon", **a moon that "has been renewed"**! That focus is not at all on what we call "a month".

Hebrew also had a word for "month" that does not refer to the new moon. That word is "yerach". There are two verses that illustrate the relationship between "yerach" and "chodesh". Let's look at them.

And in the eleventh year, in **the month (yerach)** Bul, which *is* the eighth **month (chodesh)**, was the house finished throughout all the parts thereof, and according to all the fashion of it. So was he seven years in building it. (1 Kings 6:38)

This verse shows that "yerach" means "month" as we think of "a month", and "chodesh" means "new moon". So a better way to translate this verse is as follows: "... in the **MONTH** Bul, which is the eighth **NEW MOON** ...".

Whenever counting was involved, then it was always new moons that were counted, not months. In other words: when they counted, then they counted the number of new moon days that were involved; rather than counting the number of 29-or-30-day periods that were involved. A new moon is one day, while a month is a period of time from 29 - 30 days, but which period starts with a new moon day.

The same point is also illustrated in the following verse.

And all the men of Israel assembled themselves unto king Solomon at the feast in **the month (yerach)** Ethanim, which *is* the seventh **month (chodesh)**. (1 Kings 8:2)

The above comments also apply to this verse; i.e. "... the feast in the MONTH Ethanim, which is the seventh NEW MOON". Notice also that "Ethanim" is the old name for the month now called "Tishri".

With this background it should be apparent that the use of "chodesh" in Exodus 12:2 really means:

"This **new moon** *shall be* unto you the beginning of **new moons**: it *shall be* the first **new moon** of the year to you."

So God's focus in establishing a month is on the day when the moon is renewed, the new moon day.

### **SO WHEN IS THE MOON "RENEWED"?**

The question now is this:

Is the moon actually "renewed" at the time of the conjunction, the time of Thierry Legault's photo?

Or is the moon only "renewed" when we are able to visually observe that first new crescent with our own unaided eyes, some 16 - 40 hours later?

To phrase this another way: does the moon's renewal depend on our ability to visually observe evidence of that renewal, or is the moon's renewal an objective fact that is totally independent of what we may or may not be able to observe? Does the moon's renewal depend on what we can see, or does our ability to see something have nothing at all to do with the moon's renewal? Does the moon's renewal have to fit in with our abilities, or do we have to accept that the moon's circuit does not depend on our ability to observe that circuit.

It should be abundantly clear that the moon's renewal takes place at the time of the conjunction! That should always have been clear. But Thierry Legault's photo now provides visual evidence for this renewal taking place at the time of the conjunction.

Thierry Legault's photo is VISUAL EVIDENCE that a month must start with the lunar conjunction and NOT with the time when that new crescent is first observed visually.

Relying on visual observances of the new moons is nothing more than a ritualistic practice. It is ritualistic because it turns **something that used to be done of necessity** at a certain point in time into a rigid requirement for all subsequent generations.

God has always expected us to use our minds in applying His laws to all of our various circumstances. The more we know and understand, the more God expects us to incorporate that knowledge and understanding into our way of applying His laws to our lives.

We have always understood that **God's laws are principles** that we need to apply. The Apostle Paul explained that "**the letter kills**, but the spirit gives life" (2 Corinthians 3:6). **The letter of the law is always a constraint**, because the letter of the law cannot accommodate "the spirit of the law". And the spirit of the law always supercedes the letter of the law.

As an example, according to the letter of the law King David did wrong when he ate the shewbread (1 Samuel 21:6). Jesus Christ Himself clearly said that "**it was not lawful** for David to eat that shewbread" (see Matthew 12:4), yet David was held guiltless in this matter. The point is that with every law and instruction from God **we are expected to discern God's intent** for that law or instruction!

Now God's use of the word "chodesh" in Exodus 12:2 (Exodus 12:2 is a record of something that God Himself literally said to Moses!), rather than using the word "yerach", shows that God's intent is to focus on "the renewal of the moon".

**The constraint in applying this intent inherent in God's instruction has in the past been our human inability to discern the exact time of the renewal of the moon. God never expects us to do more than the best we are capable of doing. In one sense, God doesn't really care two hoots about whether it is conjunction or first unaided visibility. What God cares about is that we do the best we possibly can with the means and knowledge at our disposal. What God cares about is that "to him that KNOWS to do good and does it not, TO HIM it is sin" (James 4:17).**

So in Old Testament times after the annual cycle was changed from exactly 360 days to our present approximately 365.25 days, and also during New Testament times, the best the people of Israel could possibly do in establishing the renewal of the moon as the start of a new month was for them to rely on visually observing that first new crescent. God accepted that. God didn't expect them to use the exact time of the renewal of the moon (i.e. the time of the conjunction) because they were simply not capable of doing that. And God doesn't expect the impossible from anyone.

As I have already indicated, in God's sight the time of the conjunction is not really more important than the time of first visibility. What is important before God is how we use our minds. **God has no place for robots that offer mindless obedience!** Obedience without the mind's active participation has no value before God. It is the mind that God is always training and testing. It is Satan who demands mindless obedience from his followers.

So when our understanding increases, then God most certainly expects us to apply that increased understanding to all of the principles underlying all of His laws. All of God's laws are statements of principles.

Fast forward to our age.

We today can understand that the actual renewal of the moon takes place at the time of the conjunction, something that Thierry Legault's photo demonstrates visually. We today can very accurately predict the time for every lunar conjunction. This knowledge (of when the lunar conjunction will occur) is readily available from a host of different sources. Anybody can look up this information on many different websites on the internet.

So today we don't have to guess or pretend that the moon is only renewed when we ourselves are capable of seeing that first new crescent. We know that it was in fact renewed from 16 - 40 hours BEFORE it was possible for us to visually observe that first new crescent.

## **CONSIDER THE START OF THE SABBATH**

Here is something the people who insist on starting each month with first unaided visibility of the new crescent don't usually consider.

We know that the day starts and ends at sunset. So the Sabbath starts with sunset on Friday evening. And in Old Testament times the people of Israel relied on seeing the sun disappear over the horizon to tell them that a new day had started.

But that's not how the people who insist on visual observation of the new crescent for starting a month

keep the Sabbath! They don't look to the horizon to tell them when Friday ends and when the Sabbath starts!

No, they look at their clocks and watches. And from previously calculated tables (or from information published in a local newspaper) they know the precise time when the sun will set for their area. It doesn't matter whether the sky is heavily overcast, so that it starts to look dark two hours before sunset, or whether they are living on the east side of a high mountain, where for them the sun disappears from view around three o'clock in the afternoon. They KNOW that the sun will set at 7:04 p.m. (or whatever time it may be), and that is the time they use to start the Sabbath that week.

#### WHY DO THEY DO THAT?

Well, the people of Israel in biblical times didn't have Citizen watches and Seiko watches; they didn't have newspapers that printed sunrise and sunset times. So the only thing a conscientious Israelite could do is take visual note of the time when the sun was setting. And it was always good to err on the safe side: i.e. start keeping the Sabbath a few minutes before sunset, and not ending the Sabbath until a few minutes after sunset on Saturday evening.

Now in mountainous areas a person couldn't really rely on visibility, because the sun might disappear behind a mountain several hours before the actual sunset time. So people in such areas would have to rely on experience coupled with some kind of calculations or estimates, always erring on the safe side.

Similarly, on very cloudy Fridays people would have to rely on experience and estimations for when the Sabbath would start.

Today we don't have to estimate and we don't have to rely on experience. Today we base our expectations for sunset on data that has been made available to us, and then we use our personal watches or clocks to tell us when the time of sunset has arrived.

Now would God expect us today to still rely on visually observing the setting sun on a Friday, in order to establish the start of the Sabbath? Or is it perfectly acceptable before God for us to rely on the accurate calculations that predict the time when the sun will set. The answer here is obvious, isn't it? Yes, it is certainly very acceptable for us to rely on printed information for sunset times.

[As an aside for those who like to visually observe the sunset: When you look at the setting sun, technically you are actually seeing something that isn't there! It takes about 8 minutes for the light emitted from the sun's surface to reach the Earth. So for the last 8 minutes before you observe the sun setting below the horizon, the sun is in fact no longer there ... it has already disappeared below the horizon. Just an interesting thought, which I don't believe has any significance in our discussion. There are all kinds of intricacies in these matters.]

So the people who insist on starting a month with the first visually observed crescent insist on visibility for starting each month; but they freely accept calculated knowledge instead of visual evidence for determining the start of the weekly Sabbath.

My point is: It is not only acceptable for us to inculcate our knowledge about sunset times into our observance of the weekly Sabbath; it is highly desirable for us to do so, especially when visual observation of a sunset would be impossible. And it is equally desirable for us to make use of our accurate advance knowledge of lunar conjunctions to determine the start for each month, for the purpose of establishing God's annual feasts and Holy Days. Today we have access to the precise time when the moon is renewed every month. And I believe that God expects us to incorporate that understanding into our determinations for the start of every month.

If we today insist on starting a month with the first visibility of the new crescent, then that is somewhat like us playing games. It would be like us saying to God: "Lord, we know that the moon was actually renewed from 16 - 40 hours ago, but we feel that You probably didn't want us to know that. So we'll just carry on with the way things were done for a certain period of time back in the past."

Consider the following:

In 1 Samuel 20:5 David said to Jonathan "**to morrow is the new moon** (chodesh) ...". And a few verses later, in 1 Samuel 20:18, Jonathan said to David "to morrow is the new moon (chodesh) ...". The implication of these two verses is that **everybody in the whole country** knew that "to morrow is the new moon".

Now IF the new moon was going to be "to morrow", THEN OBVIOUSLY the new crescent had not yet been observed! Any time someone can say "TO MORROW is the new moon" they cannot possibly be relying on observation.

If you carefully think through these two verses, then it should be apparent that there was a time in Israel's history when the start of a new month was NOT determined by visual observation of the first new crescent. And neither was it determined by the calculations of the modern Jewish calendar which depend totally on the existence of the Julian calendar of the Romans.

### **EXAMPLES OF CHANGES**

As time has progressed, so God has instituted certain changes to take changed circumstances into account. Here are some examples:

1) Originally God made allowance for men to marry their own sisters. All the way to the time of Abraham (over 2000 years after the creation of Adam) it was still acceptable for a man to marry his half-sister. Today this is no longer acceptable before God.

2) Originally the only sacrifices that God accepted were voluntary, without being connected to any sacrificial system. At the time of Moses God then established a very specific sacrificial system. Today that sacrificial system is not something we should practice.

3) Originally the Passover consisted of killing and eating an animal. Today the Passover does not involve the killing of a lamb.

4) At the time of establishing the Levitical priesthood God instituted an elaborate system of ritual washings. Today those ritualistic washings are not something we are required to observe.

5) At the time of Moses God gave laws that regulated slavery. Today we are not supposed to engage in slavery. It was never God's intention that any human being would ever be a slave to any other human being.

6) In the Old Testament God established the custom of circumcision. Physical circumcision was a requirement for any male who wished to observe the Passover (Exodus 12:48). Today God does NOT require physical circumcision for men who come into God's Church. This was a big issue in Acts 15, with people saying: you can't change something that has always been required (Acts 15:5, etc.). But it turned out that the way things had been done in the past WAS NO LONGER A REQUIREMENT. You know the rest of Acts 15.

To me this issue of physical circumcision is a clear parallel to Israel at a specific period in the past

having used first visibility of the new crescent to establish the start of every month.

Physical circumcision was no longer required BECAUSE THE APOSTLES CAME TO UNDERSTAND **THE REAL INTENT** BEHIND PHYSICAL CIRCUMCISION. That real intent was "circumcision that is of the heart" (Romans 2:29).

So note!

At no point did God tell Paul or any other apostle "I don't want you to insist on non-Israelites being circumcised as a requirement for coming into My Church". God didn't give anyone a direct message like that. Rather, it was a case of the apostles themselves coming to **a clearer understanding of the real intent** behind God's instructions regarding circumcision, that caused the New Testament Church to do away with physical circumcision as a requirement for becoming a member of God's Church. Acts 15 shows that this was a major upheaval for the Church.

The parallel to us should be obvious.

Once we have come to understand the real intent for God's instruction to start each month with "the renewal of the moon", THEN we are required to implement that real intent to the best of our ability.

Starting each month with the visibly observed new crescent is like insisting on physical circumcision. Starting each month with the lunar conjunction is like understanding that circumcision must be of the heart, i.e. it must take the actual intent underlying that instruction into account.

7) **At the time of David the start of every month could not have been based on the visual sighting of the first new crescent.** Then during Jesus Christ's ministry the Jews based the start of each month on the visual observance of the new crescent, because that was the best they could do in order to get close to "the renewal of the moon". Today we can get closer to the actual intent than relying on first visibility; today knowledge of the time of the lunar conjunction is freely available.

8) During Old Testament times God did not require people to be baptized. So Abraham, Isaac, Jacob, Moses, Samuel, David, the prophets, etc. were never baptized. Yet these people will all be in the first resurrection. In Acts 4:12 Peter stated: "neither is there salvation in any other, for there is none other name under heaven given among men whereby we must be saved". But none of God's servants in the Old Testament called upon "the name of Jesus Christ of Nazareth" (Acts 4:10). So this statement didn't apply in Old Testament times.

9) At the time of Adam's creation God established an annual cycle of 12 months of exactly 30 days each, for a year of exactly 360 days, zero hours, zero minutes and zero seconds. Because of man's sins, at some point God decided to change those perfect cycles for the imperfect lunar and solar cycles we have to contend with today. Understand that a lunar cycle of approximately 29.5 days is **a penalty from God!** Likewise, a yearly cycle of approximately 365.25 days is **another penalty from God!**

There is a difference between a blessing that has been established by God, and a penalty that God has imposed for disobedience. With the blessing God in effect says: here is what I have given you, and here is how you can use this blessing. But with a penalty God frequently says: **go figure!** That is, God says: now you go and figure out how to deal with this penalty I have imposed on you. A penalty is a punishment, and God expects us to use our character and integrity to figure out how to come to grips with the effects of that penalty.

So when God altered the monthly and yearly cycles, God did NOT spell out the best way for human beings to deal with those altered cycles. Rather, God basically said: go figure! You didn't want My way

of life.

But God had already in the days of Moses revealed that His intent was to start every month with the renewal of the moon. And until relatively modern times the best that man could "go and figure" was to take the time of the first visible new crescent as the time to represent the renewal of the moon.

Consider that **nowhere in the Bible** do you find an instruction that tells us to start every month with the visual sighting of the first new crescent! At no point did God ever tell Israel HOW to determine the renewal of the moon. God told them WHAT to do (i.e. to start every month with the renewal of the moon), but God did NOT tell them HOW to do that!

But that is not the same as saying that God actually wanted people to use first visibility as their criterion for establishing the start of a new month. God simply recognized that way of starting every month because that was the best that people at that time could do.

After God had changed the heavenly cycles to their present state, probably at some time around the start of the Babylonian captivity, from then onwards using first visibility of the new crescent was the best that people could do. And that is precisely what the Babylonians did for their calendar.

So when Ezra returned from Babylon to Jerusalem in the 450's B.C., then he established that Babylonian calendar as authoritative for the Jewish people in Judea. And because it was the Babylonian calendar therefore Ezra also retained the Babylonian names for the months. In so doing Ezra very clearly rejected the old Hebrew names for the months (e.g. Abib, Bul, Ethanim).

Ezra accepted the Babylonian calendar, but based on first visibility in Jerusalem and not in Babylon, not because it was Babylonian but because it was the best calendar anyone could have devised based on the knowledge that was available to people at that time. The Babylonian calendar was an attempt to start every month with the renewal of the moon. There was nothing that Ezra could have faulted with the Babylonian calendar, other than perhaps the pagan names for the months. But he clearly made no issue out of those pagan names.

At that time nobody was able to predict the exact time of the renewal of the moon, i.e. the time of every lunar conjunction. So the Babylonian calendar was good.

Incidentally, the Babylonians moved their system to Rome. And today we still use primarily a Roman calendar, instituted by Julius Caesar, later refined as the Gregorian calendar. We use it because in practical terms it is the best one available to us today. It is the closest to keeping the annual seasonal cycle constant. So we today are not really that far removed from Ezra showing approval for the calendar of the Babylonian Empire. [That is, we use it for our daily lives, but not for determining God's Holy Days.]

At any rate, all these things show that God has repeatedly changed instructions, or accommodated changes because of changed circumstances. Probably the most notable one of those changes was doing away with the necessity of physical circumcision as a requirement for becoming a Christian. Simply because something was done a certain way for almost 2000 years in the past does not mean that this must be the way it should be done in perpetuity.

Now when I came into God's Church in the 1960's I accepted the present Jewish calendar for the purpose of determining God's annual feasts and Holy Days. Around 15 years ago I came to understand the real problems with the present Jewish calendar. It was far easier to recognize the problems with the present Jewish calendar than it was to understand what the correct alternative to the Jewish calendar should be. It took me a while to clearly understand all the correct principles that apply to a correct



calendar.

The reason why it took a while for me to come to a correct understanding is something that Mr. Armstrong explained many times. It was a case of "it is ten times more difficult to unlearn error than it is to learn the truth in the first place". I came to this subject of the calendar from the perspective of always having accepted the Jewish calendar as "God ordained". So it took a while for me to unlearn that error.

Now in the process of coming to a correct understanding there was a time when I myself was not yet clear on this "conjunction versus first unaided visibility" question. I didn't yet understand the differences and their implications. So there was a time when I said something like: "I myself believe that every month should start with the lunar conjunction. However, if a majority of the groups making up the scattered Church of God would decide to go with first visibility of the new crescent for the start of every new month, then I would go along with that for the sake of unity."

**That statement is no longer correct. I have over the past approximately 10 years come to the clear understanding that God really would want us to start every month with "the renewal of the moon", i.e. with the conjunction. This "renewal of the moon" is something that Thierry Legault's photo has now demonstrated in a visual way. And so starting the month with the first visibility of the new crescent is now no longer an option for me.**

Now the only option for me is to start every new month (for the purpose of determining feasts and Holy Days) with the sunset that follows the conjunction. That is what I believe God expects from us today, based on the knowledge and information to which we all have such ready access.

Thierry Legault's photo is the evidence for the renewal of the moon at the time of the conjunction, not 16 - 40 hours later.

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