

Theological Research Report

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In Loving Memory

of

Dr. Charles V. Dorothy

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

If you would like to contribute to the work of service that my wife and I are providing for our brethren (and future brethren) around the world, please send your donation to Carl D. Franklin at our temporary Santa Fe, New Mexico mailing address: UPS Store #6411, 3005 S. St. Francis Drive, 3A, Box 404, Santa Fe, NM 87505. Our permanent mailing address will be printed in Issue 32.

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Introductory Remarks

Issue 31

March 22, 2015

Dear friends,

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

The topic of Issue 31 is the observation of the new moon of Abib. The central question is: Should each year's holy day season be set by the visible crescent of Abib or by the calculation of the Molad of Tishri?

The exegesis of Exodus 12:1-2 and Deuteronomy 16:1 that is presented in this issue gives, I believe, a definitive answer. When I asked Dwight Blevins of Grand Junction to review the exegesis, this was his response:

Bravo, Carl!

Again, you have demonstrated the value of scholarship. Your reasoning is sound, your explanations are systematic and clear, aiming at providing a solution to the question. And, that you have well accomplished.

This is vital information to many who have serious questions about this issue, and I think your approach is one that I have not seen before. Surely, any who read this with an open mind will come to see the error of the vision only concept of the new moon.

Warm regards,
Dwight

Included in this issue is Appendix A, which contains my correspondence with Mohammad Shawkat Odeh of the Islamic Crescents' Observation Project (ICOP), Abu Dhabi, UAE. Mohammad has generously given his written permission to

publish material from his website. His material relates the difficulties and problems involved in attempting to sight the new moon.

We have sold our home and will be on the Santa Fe Trail by Friday, April 17. You may reach us at our old address until April 17: Klumbis Rd., Dowagiac Michigan, 49047-9779. You may also reach us 24/7 both before and after April 17 at my email address: carldfranklin@reagan.com. My cell phone number is: 1-505-216-8478. We will have Internet Access as we travel to Santa Fe and after we arrive.

We have no permanent address yet in Santa Fe, but you can reach us at the following postal box until we have one:

Carl D. and/or Jean M. Franklin
UPS Store #6411
3005 S. St. Francis Drive, 3A
Box 404
Santa Fe, NM 87505

A real estate agent in Santa Fe has been very helpful. She has taken the time to personally check new listings and has sent us information on a number of houses that may fit our needs. She will have several homes for us to look at when we reach Santa Fe on Monday, April 27.

We hope and pray that this issue will greatly comfort you and settle any questions or doubts you may have regarding the validity of the Calculated Hebrew Calendar. We would appreciate your prayers for our safety and success in finding a new home.

Warmest regards,
Carl and Jeanie

An Exegesis of Exodus 12:1-2 and Deuteronomy 16:1

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March 21, 2015

The following interpretation of Exodus 12:1-2 and Deuteronomy 16:1 was written to defend the belief that the observance of God's holy days should be based on sighting the new crescent of the first month:

...That the current Hebrew calculated calendar is based on 1) the darkness of the conjunction period, and 2) an average of that conjunction period...**this is not what God told Moses in Ex. 12:1-2, Deut. 16:1. He said, "Look Moses, do you see that moon. That is the new moon Abib, the beginning of months"**...As God was re-teaching the children of Israel things about His calendar as opposed to the Egyptian pagan calendar, and how He wanted them to observe the new moons, leading to the re-teaching of holy day observances. You can't see the moon or any part of it if it is in conjunction or an average of that conjunction — it is still in it's dark phase and is not new until it is sighted as the first crescent of light.

Below are the Scriptural passages that are referenced to support the belief that observation of the new crescent is a command of God:

Ex. 12:1-2

12 And the LORD spake unto Moses and Aaron in the land of Egypt, saying,

2 This **month** [Hebrew *chodesh* ²³²⁰] shall be unto you the beginning of **months** [Hebrew *chodesh* ²³²⁰]: it shall be the first **month** [Hebrew *chodesh* ²³²⁰] of the year to you. KJV

Deut. 16:1

16 **Observe** [Hebrew *shamar* ⁸¹⁰⁴] the **month** [Hebrew *chodesh* ²³²⁰] of Abib, and **keep** the passover unto the LORD thy God: for in the **month** [Hebrew *chodesh* ²³²⁰] of Abib the LORD thy God brought thee forth out of Egypt by night. KJV

The writer who referenced these two passages has combined them in the following interpretation: **“Look Moses, do you see that moon. That is the new moon Abib, the beginning of months.”**

This combined interpretation of Exodus 12:2 and Deuteronomy 16:1 is based on three major assumptions: 1) that the Hebrew word that is translated “observe” means visual sighting, 2) that the Hebrew word that is translated “month” means the new crescent, 3) and that “Abib” is the name of the moon.

In examining these three definitions, it is important to remember that no word of Scripture is of “private interpretation” (II Pet. 1:20). The Greek literally means “of itself”; that is, no word in Scripture can be lifted out of its context and interpreted apart from other verses in which it is used. This is the standard for interpreting the meaning of every word that is used in Scripture.

Do the three definitions in the above interpretation of Exodus 12:2 and Deuteronomy 16:1 agree with other verses in these chapters where the same Hebrew words are used? An examination of the words that are translated “observe,” “month” and “Abib” will reveal the answer.

Observe:

In English, the word “observe” is used for seeing with the eyes as well as for celebrating or commemorating a designated time. However, the Hebrew verb that is translated “observe” does not carry both meanings.

The Hebrew word for observing with the eyes is *rahaḥ*⁷²⁰⁰. This Hebrew verb is used 18 times in the book of Exodus. It is translated “see,” “saw” or “have seen” in 17 verses and “looked” in one verse. *Rahaḥ* is used 16 times in the book of Deuteronomy and is translated “see” in every case.

But *rahaḥ*⁷²⁰⁰ is NOT used in Deuteronomy 16:1. The word “observe” in Deuteronomy 16:1 is translated from the Hebrew verb *shamar*⁸¹⁰⁴, which is never used for visual sighting. *Shamar* is used exclusively to refer to obeying God’s commands for His feast days.

The King James translators, who were the leading Hebrew scholars of their day, understood the parallel meaning of the two Hebrew verbs that are used in Deuteronomy 16:1: “**Observe** the month of Abib, and **keep** the passover....” The command to observe the month is immediately followed by a command that specifies the time of the month to observe.

The use of *shamar* in Deuteronomy 16:1 limits the meaning of “observe” to keeping a feast at the time appointed by God. This definition is confirmed by the use of *shamar* in the following commands in Deuteronomy 16 for observing the Feast of Pentecost and the Feast of Tabernacles:

Deut. 16:10-15

10 And **thou shalt keep the feast of weeks** unto the LORD thy God with a tribute of a freewill offering of thine hand, which thou shalt give unto the LORD thy God, according as the LORD thy God hath blessed thee:

11 And thou shalt rejoice before the LORD thy God, thou, and thy son, and thy daughter, and thy manservant, and thy maidservant, and the Levite that is within thy gates, and the stranger, and the fatherless, and the widow, that are among you, in the place which the LORD thy God hath chosen to place his name there.

12 And thou shalt remember that thou wast a bondman in Egypt: and **thou shalt observe** [Hebrew *shamar*⁸¹⁰⁴] **and do these statutes.**

13 **Thou shalt observe** [Hebrew *shamar*⁸¹⁰⁴] **the feast of tabernacles seven days**, after that thou hast gathered in thy corn and thy wine:

14 And thou shalt rejoice in thy feast, thou, and thy son, and thy daughter, and thy manservant, and thy maidservant, and the Levite, the stranger, and the fatherless, and the widow, that are within thy gates.

15 **Seven days shalt thou keep a solemn feast** unto the LORD thy God in the place which the LORD shall choose: because the LORD thy God shall bless thee in all thine increase, and in all the works of thine hands, therefore thou shalt surely rejoice. KJV

Month:

The translators of the King James Version also understood the meaning of the Hebrew noun *chodesh*, which is translated “month” in Exodus 12:2 and Deuteronomy 16:1. Although this Hebrew word literally means “new moon,” it is most often used in the Hebrew text to signify the months of the year, which are based on the lunar cycle. That this is the meaning of *chodesh* in Exodus 12:2 is confirmed by the use of *chodesh* in the following instructions for the observance of the Passover:

Ex. 12:3-6

3 Speak ye unto all the congregation of Israel, saying, In **the tenth day** of this **month** [Hebrew *chodesh*²³²⁰] they shall take to them every man a lamb, according to the house of their fathers, a lamb for an house:

4 And if the household be too little for the lamb, let him and his neighbour next unto his house take it according to the number of the souls; every man according to his eating shall make your count for the lamb.

5 Your lamb shall be without blemish, a male of the first year: ye shall take it out from the sheep, or from the goats:

6 And ye shall keep it up until **the fourteenth day** of the same **month** [Hebrew *chodesh*²³²⁰]: and the whole assembly of the congregation of Israel shall kill it in the evening.
KJV

God's command in Exodus 13:1-4 for observing the Feast of Unleavened Bread eliminates all doubt as to the meaning of *chodesh* in Exodus 12:2:

Ex. 13:1-4

13 And the LORD spake unto Moses, saying,

2 Sanctify unto me all the firstborn, whatsoever openeth the womb among the children of Israel, both of man and of beast: it is mine.

3 And Moses said unto the people, **Remember this day, in which ye came out from Egypt**, out of the house of bondage; for by strength of hand the LORD brought you out from this place: there shall no leavened bread be eaten.

4 **This day** came ye out **in the month** [Hebrew *chodesh*²³²⁰] **Abib**. KJV

It would be contrary to Scripture to translate *chodesh* as "new moon" in this command of God because the children of Israel did not come out of Egypt on the day of the new moon. The children of Israel left Egypt on the day of the full moon of Abib. This is the day that Moses was instructing them to commemorate by observing the Feast of Unleavened Bread.

The instructions in Exodus 13 for observing the Feast of Unleavened Bread are a continuation of God's commands in Exodus 12 for observing the Passover. The meaning of *chodesh* in Exodus 12:2 must be understood in the light of Exodus 13:4 as the context of both verses is the feasts in the month of Abib.

The same is true of the context of Deuteronomy 16, which provides more insight into the commands of God in Exodus 13:1-4. The verses that precede Deuteronomy 16 help to explain the command in Exodus 13:2 to sanctify the firstborn (See Deuteronomy 15:19-23). This command was delivered to Moses after the sparing of the firstborn sons of the twelve tribes of Israel at midnight on the Passover day. Because God passed over them when He destroyed the firstborn of the Egyptians, they were to honor Him by sacrificing the firstborn males from their flocks and herds each year at the beginning of the 15th day of Abib—the first day of the Feast of Unleavened Bread. (See also Exodus 34:18-20.)

Deuteronomy 16:3 reveals that these sacrifices were to be offered on all seven days of the Feast of Unleavened Bread:

Deut 16:1-3

16 Observe [Hebrew *shamar* ⁸¹⁰⁴] the **month** [Hebrew *chodesh* ²³²⁰] of Abib, and **keep** the passover unto the LORD thy God: for in the **month** [Hebrew *chodesh* ²³²⁰] of Abib the LORD thy God brought thee forth out of Egypt by night.

2 Thou shalt therefore sacrifice the passover unto the Lord thy God, [firstborn males] of the flock and the herd, in the place which the Lord shall choose to place his name there.

3 Thou shalt eat no leavened bread with it; seven days shalt thou eat unleavened bread therewith [with the flesh of the sacrificed animals], even the bread of affliction; for thou camest forth out of the land of Egypt in haste: **that thou mayest remember the day when thou camest forth out of the land of Egypt** all the days of thy life. KJV

The sacrificing of the firstborn during the Feast of Unleavened Bread makes it clear that the term “passover” in Deuteronomy 16 represents the feasts in the month of Abib as a whole. These feast days were to be a lasting memorial of their deliverance from bondage in Egypt:

As in Exodus 13:1-4, the context of Deuteronomy 16:1 supports the King James translation of *chodesh* as “month.” Numerous translations acknowledge that this is the correct translation of *chodesh*. Below are a few examples:

Deut. 16:1

16 Observe [Hebrew *shamar*⁷²⁰⁰] the **month** [Hebrew *chodesh*²³²⁰] of Abib by celebrating the Passover to GOD, your God. It was in the **month** [Hebrew *chodesh*²³²⁰] of Abib that GOD, your God, delivered you by night from Egypt.

THE MESSAGE: The Bible in Contemporary Language © 2002 by Eugene H. Peterson. All rights reserved.

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Deut. 16:1

16 “Observe [Hebrew *shamar*⁷²⁰⁰] the **month** [Hebrew *chodesh*²³²⁰] of Aviv, and keep *Pesach* to *Adonai* your God; for in the **month** [Hebrew *chodesh*²³²⁰] of Aviv, *Adonai* your God brought you out of Egypt at night.

CJB (Complete Jewish Bible)

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Deut. 16:1

16 “In honor of the LORD your God, **celebrate** [Hebrew *shamar*⁷²⁰⁰] the Passover each year in the early spring, in the **month** [Hebrew *chodesh*²³²⁰] of Abib ...

Holy Bible, New Living Translation ®, copyright © 1996, 2004 by Tyndale Charitable Trust. Used by permission of Tyndale House Publishers.

The King James translation of Deuteronomy 16:1 is an accurate interpretation of the Hebrew text. The Hebrew noun *chodesh* is used twice in this verse and carries the same meaning in both places. To interpret the first *chodesh* as the new crescent when the second *chodesh* is clearly referring to the month is not rightly dividing the Word.

Abib:

This Hebrew noun means a head or ear of grain (Lev. 2:14) or literally, “green ears” (Ex. 13:31). God gave this name to the first month of the year to identify it as the time of the spring barley harvest (Ex. 13:4; 23:15; 34:18 and Deut. 16:1). (See *McClintock and Strong Encyclopedia*, s.v. “Abib”.) The barley was planted after the end of the holy day season, when all the harvests of the year had been reaped. It was sown as soon as the fall rains softened the soil, and sprouted in the fall but lay dormant during the cold winter months. Under the warmth of early spring, it grew stalks on which the grain appeared and matured. The maturation of the “green ears” of barley in the month of Abib signaled the beginning of the annual holy day season with the Passover and Feast of Unleavened Bread, during which the first sheaf of barley was cut and offered as the Wave Sheaf.

Understanding the Meaning of “New Moon”

The writer of the combined interpretation of Exodus 12:1-2 and Deuteronomy 16:1 is firmly convinced that the term “new moon” means the visible crescent. This individual insists that the month does not begin until the appearance of the new crescent because God would not begin the month with a time of darkness.

Is this the mind of God? The Scriptures hold the answer. Here are the words that God inspired His apostles and prophets to write:

Rom. 11:33-34

33 O the depth of the riches both of the wisdom and knowledge of God! how unsearchable are his judgments, and his ways past finding out!

34 For who hath known the mind of the Lord? or who hath been his counsellor? KJV

Ps. 139:12

12 Yea, the darkness hideth not from thee; but the night shineth as the day: **the darkness and the light are both alike to thee.**

God does not see darkness and light as we do; in His eyes they are the same. God does not need light because He is Light. He does not need darkness because He never sleeps. He made light and darkness for His physical creation. Without both light and darkness, life on Earth would not be able to survive. Plants need darkness to sprout and put down roots, and they need light to grow leaves and bear fruit. Most animals need daylight to feed and darkness to hide from predators. Scavengers and predators generally feed in the darkness of night and rest during the day. We fleshly humans need daylight for work and other activities, and darkness for sound sleep after each day's labors.

The creation of light and darkness is an ongoing process—a perpetual testimony to the power of God:

Isa 45:7

7 I form the light, and create darkness: I make peace, and create evil [Hebrew *rah*⁷⁴⁵¹]: I the Lord do all these things. KJV

Some have interpreted this verse as likening darkness to evil. An examination of the Hebrew text will show that this is not the meaning at all. The Hebrew word that is translated “evil” means adversity and affliction. (See Zodhiates, *Old Testament Dictionary, Hebrew-Greek Key Word Study Bible*.) This verse is contrasting darkness with light because they are opposites, just as adversity and peace are opposites.

There is nothing bad or displeasing to God in the darkness that He instituted at the creation of the world. Genesis 1:31 tells us, “And God saw **everything** that He had made, and, behold, it was **very good**.”

The account in Genesis 1 reveals that light and darkness were God's first acts of creation:

Gen 1:3-5

3 And God said, Let there be light: and there was light.

4 And God saw the light, that it was good: and God divided the light from the darkness.

5 And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day. KJV

Fox translates the latter part of Verse 5 as follows:

Gen 1:5

5 And there was setting, and there was dawning; day one.

At the creation of the world, God chose to begin the day at sunset rather than sunrise, so that the darkness of night precedes the daylight. At sunset, one day ends and another day immediately begins.

Likewise, the month begins with the conjunction, which ends one lunar cycle and begins another. The word “conjunction” is formed from *con* (together) + *jugere* (join), so named because it links each lunar cycle to the next in an unbroken succession of lunar months.

The conjunction takes place at a specific point in time during the “dark of the moon,” a 1 ½ to 3 ½-day period when the light side of the moon is facing away from Earth. The exact time that the conjunction occurs during this period will vary from month to month. (Since the moon’s orbit is elliptical, its distance from Earth increases and decreases, making it “speed up” and “slow down” relative to the turning of the earth.)

During the dark period before the conjunction, the completion of the old lunar cycle takes place. At the point of conjunction, the new lunar cycle immediately begins. Although no part of the moon can be seen in the sky at the point of conjunction, the moon is not totally covered (except in the rare event of a solar eclipse). The narrow section of the moon that is not covered is the new crescent, already formed but too thin and too close to the sun to be sighted by observers on Earth. It can, however, be viewed with high-power cameras used by astrophotographers (See Wikipedia, s.v. “New Moon.”)

It is an astronomical fact that the renewal of the moon takes place at the time of the conjunction. That is the beginning of the new crescent. In this early stage, it is hidden from our eyes, but it shines as bright as the day in God’s eyes. He is the Creator of the moon and its cycle, and He chose to place the new moon at the time of the conjunction. The new crescent is formed at the conjunction and continues to grow during the remainder of the dark period. If this period of time is not counted as part of the new month, it will shift the dates of the holy days and they will not be kept at their appointed times.

Those who begin counting the month from the day of the visible crescent are following a faulty interpretation of the Hebrew text and are overlooking the astronomical facts. The crescent cannot be sighted until twelve hours or more (often 1 to 3 days) after the new lunar cycle begins. By the time it is sighted, it is in the waxing phase and is no longer new.

The true definition of the new moon is illustrated on most calendars as a black circle, acknowledging that the new lunar cycle begins at the conjunction. That is why E. H. Lindo refers to the mathematical conjunction as the New Moon or the “rebirth” of the moon. (See Lindo, *A Jewish Calendar for Sixty-Four Years*, pp. 10-11, 1838.)¹

The beginning of the month can only be determined by calculating the time of the conjunction. It cannot be determined by waiting until the new crescent is visible. The month begins when the lunar cycle is renewed at the time of the conjunction. This is by God’s design. God Himself established the beginning of the month when He set the moon in its orbit and created the first lunar cycle.

God does not want us to put our trust in the light of the new crescent but to look to the light of His Word. It is not the darkness of the conjunction that is evil but the spiritual darkness of faulty interpretations that lure believers away from truth.

¹—A copy of Lindo’s book may be read or downloaded by “Ctrl + Clicking” on the following link:

 [7---SkyDrive-Public Access Hebrew Calendar Folder--November 19 2012](#)

Exhibit A

From: Carl D. Franklin
To: Moh'd Odeh

Islamic Crescents' Observation Project
Re: Article about Crescent Visibility

Greetings! I have been researching ancient lunar calendars for many years and am currently writing a paper on the New Moon. I recently found your website and was delighted to read the very informative material about sighting the crescent, especially since it has been reviewed and approved by a number of leading astronomers. I would be grateful to receive your kind permission to reproduce your information giving full acknowledgment to the Islamic Crescents' Observation Project. This information would be a valuable addition to my paper.

Best regards,
Carl D. Franklin

carldfranklin@reagan.com

**RE: Seeking Permission to Quote Moh'd Odeh
Site enquiry**

From:
Mohammad Odeh
Sent:
Tue, Feb 17, 2015 at 9:20 am

To:
carldfranklin@reagan.com

Greetings Dear Carl,

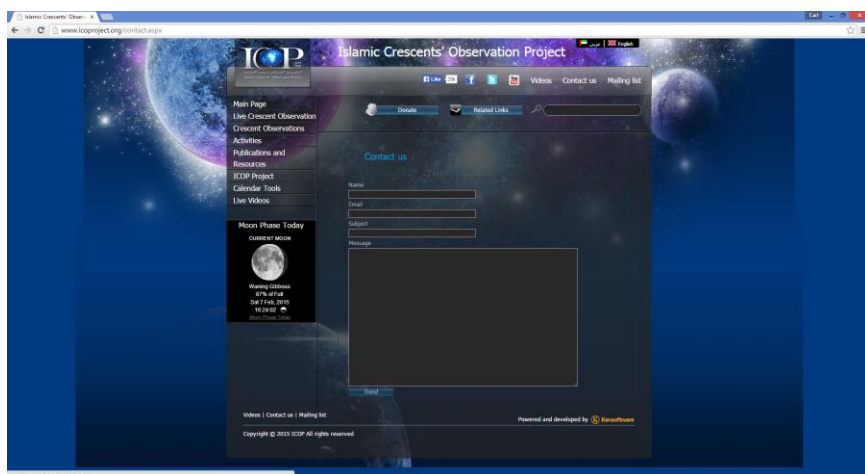
Thank you for your kind email and your interest. It is our pleasure to give you the permission to use the data from our website. Wish you all the best in your work.

Best Regards
Mohammad Shawkat Odeh
Islamic Crescents' Observation Project (ICOP)
P.O. Box 41353, Abu Dhabi, UAE
Mobile: (00971) 50-8215336
modeh@icoproject.org
<http://www.icoproject.org/>

From: ICOP Site [mailto:site@icoproject.org]
Sent: Monday, February 16, 2015 6:35 PM
To: info@icoproject.org
Subject: Seeking Permission to Quote Moh'd Odeh - Site enquiry

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<http://www.icoproject.org/contact.aspx>



The Moon orbits Earth once every 29.53 days (average of synodic month). Because of this revolution, phases of the Moon change as the Moon's position change relative to the Earth and the Sun.

So, during the Moon's orbit, if the Moon, Earth and the Sun lie exactly at the same line and the Moon in the middle, the Sun will illuminate half of the Moon that faces it, and the other half which faces us, will be dark because it does not reflect rays of the Sun (However, due to the inclination of the Moon that might reach up to 5 degrees, it may reflect a very small percentage of Sun's rays, but according to my information no observer yet reported seeing such crescent).

At this point, the Moon is called Wane or New Moon. After that, the Moon continues orbiting the Earth and begins to reflect a small amount of Sun's rays and now we see the Moon as a very small waxing crescent. Afterwards, it becomes first quarter, full Moon, last quarter, waning crescent and then wane again.

Moon's age is measured from the moment of the wane (New Moon). We often say this Full Moon is 14 days old, which means that the number of days since the wane is 14. And we say this crescent is about 2-3 days old. But, did any one ask himself what is the minimum age of crescent that we can see?

Generally, through a telescope, it is not likely to see a crescent that is less than 12 hours, i.e. if we want to observe the thin waxing crescent to determine the beginning of an Arabic month, the Moon should be in the wane phase (New Moon) 12 hours ago or more.

But why?!

The wane Moon (New Moon) is located exactly at the Sun's direction, so the Sun's glare will prevent us from seeing it, in addition, the percentage of the reflected rays out of the wane Moon (New Moon) is nearly equal to zero, and this percentage increases as the Moon's age increases.

Thus, GENERALLY [the] human eye through a telescope can't detect any reflected rays from the Moon if the Moon's age is less than about 12 hours.

When to Locate the Waxing Crescent?

The new waxing crescent is located near the Sun, so we shall wait until Sunset, because it is obviously not possible to observe the thin waxing crescent before Sunset. In addition, we must wait a reasonable time until the twilight decreases, i.e. until we can differentiate between Moon's light and twilight glare, a 10-minute period could be enough sometimes to detect the thin waxing crescent.

Where to Locate the Waxing Crescent?

As mentioned above, the wane Moon (New Moon) is located exactly near the Sun. If we assume that the Moon will set when it is wane (New Moon), generally it will set along with the Sun, but we are looking for a new crescent, which means that it is still near the Sun. So, we must look at the west, a little bit over the Sunset point.

Are the 12 hours only, enough as a factor to determine the crescent visibility?

Of course not. There are several factors that must be met in order to view the thin waxing crescent: Some of these factors are:-

- The crescent's altitude.
- The angular distance between the centers of Sun and Moon.
- The Moon's staying (the interval between the Sunset and the Moon set).
- The azimuth difference between the Sun and the Moon.

What's the Meaning of Astronomical Calculations of the Crescent?

Most people think that the astronomical calculations mean absolute determination of crescent visibility, but this is not true, the astronomical calculations include the following:

- 1)--The time of the wane Moon (New Moon) must be determined, and this time is accurately calculated. For sure there is no chance for any error.
- 2)--Some of the above factors are determined. Such as the Moon's altitude, the angular distance between the centers of the Sun and the Moon at the Sunset, Sunset time and the Moon set time, Moon's staying period, ...etc.
- 3)--The results of the above calculations must be compared with crescent visibility conditions in the previous years, and with the accurate practical and international observations.

Note: It is absolutely impossible to see the thin waxing crescent after sunset if the Moon didn't reach the Wane phase (New Moon) yet. How can we see the new crescent if it is not wane yet?!" Who claims that he viewed the thin waxing crescent before the New Moon instant, is like the one who claims that he saw the Sun before dawn, or he saw the baby before delivery", ancients said.

Conclusion:

To locate the thin waxing crescent, we have to start looking for it after a while of the sunset at the West, a little bit above the point at which the Sun sets, in its best cases, crescent sets about one hour after Sunset.

"New MOONS" Not "New MOON"!!

The New Moon phase is defined as **the instant at which the apparent celestial longitudes of the Moon and the Sun are the same**. Considering the Sun, Moon, and the Earth to be points not disks. Adopting this definition, the New Moon phase is certainly a unique instant all over the world. But in reality the Sun, the Moon, and the Earth are viewed as disks not points, and so, observers on the Earth in different locations will not see the centers of the Sun and the Moon at the same longitude in the same instant.

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

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

But to observe the very thin crescent shortly after the New Moon phase, and to know the exact interval between the New Moon phase and the observation time (Moon's age), we should adopt the instant of the New Moon phase that occurs from the location of observation. Consequently, times of the New Moon phase in this document are calculated for Amman, or for Iraq in the Iraqi report.

To calculate the Topocentric new Moon, prayer times, and Qiblah direction, kindly download the program "[SalatTimes](#)" by Ali Alhadad.

Comments from Scientists Concerning the above Paragraph

1)--Dr. Myles Standish, president of the Ephemerides Commission / IAU, "I found the explanation of the Moon's phases very well-written and easy to understand. The example using solar eclipses to illustrate why true "New Moon" occurs at different times on the Earth should be very helpful for people."

2)--Mr. Dennis McCarthy, United State Naval Observatory (USNO), "I've looked over the "New MOONS not New MOON" section and it looks good."

3)--Mr. Jean Meeus, A well-known astronomer and mathematician, and author of many astronomical books, which are devoted to astronomical calculations, "Counting the age of the Moon from the topocentric New Moon makes sense for instants shortly (a few hours) after the conjunction."

4)--Dr. Richard Miles, British Astronomical Association (BAA), "My first thoughts are that the text is essentially correct. Many astronomical phenomena are expressed in terms of the geocentric condition, which can never actually be observed as it is impossible to reach that particular observing site (at the centre of the Earth !)."

5)--However the geocentric configuration is a useful one for distant objects but of course the Moon is near.

6)--Of course the centres of the Earth, Moon and the Sun are rarely in line - this corresponds to a total solar eclipse. At other times, locations away from the line, there is a crescent Moon. Thus even at New Moon from any particular location the crescent will change in extent and position.

Likewise when New Moon is defined for a particular observer on the Earth, as the Moon and Sun sharing the same celestial longitude (Right Ascension), the crescent will be positioned either north or south near to but not necessarily centered on the poles of the Moon (libration of the Moon defines the extent to which it appears to wobble).

Of course there will be a line roughly in longitude where all observers on the Earth will see the Moon and Sun at the SAME Right Ascension."

7)--Mr. Ali Alhadad, holds Bsc and Msc in the fields of mathematics and Computer logic, "I find your article (Visibility of Crescents) interesting and I have the same opinion regarding the use of Topocentric New Moon instead of the Geocentric one.

However, only two comments I have in mind: 1- The difference between Topocentric and Geocentric New Moons can reach up to +-2 hours, 2- The difference between Geocentric Elongation and Topocentric can reach up to 1 degree (These two statements are not in the current version of your paper but still worth to mention)

8)--Mr. Roy Bishop, the editor of the The Observer's HandBook, of the Royal Astronomical Society of Canada (RASC), revised the above paragraph in detail, and made a few corrections.

9)--Prof. Francois-Rene Querci, astrophysicist at Midi-Pyrenees Observatory in Toulouse, revised all this document and made a few corrections.

10)--Dr. Reinhold Bien, and Dr. Ulrich Bastian, Astronomisches Rechen-Institut in Germany, gave some comments. However, they tend to prefer the geocentric configuration than the topocentric.

Many thanks for those who assist JAS, their efforts are highly appreciated. Furthermore, JAS welcomes any other comments or suggestions.

Methods to Start the Islamic Months in Different Countries

There is not a unique method adopted by all the Islamic countries to start the Islamic months. There are many methods spread all over the Islamic World, some of them are:-

1)--If the Wane Phase (New Moon) occurs before midnight, then the next day is the first day of the Islamic Month. This method is adopted in astronomical books and magazines and some Islamic countries.

2)--If the Wane Phase (New Moon) occurs before Sunset, then the next day is the first day of the month. Since the Islamic day starts at Sunset not at midnight.

3)--Some countries adopt specific criteria, such as the Moon's age, altitude, the interval between Sunset and Moon set,...etc., and if the Moon fulfills these criteria at Sunset, then the following day is the first day of the Islamic Month.

4)--Some countries adopt the actual sighting of the crescent with the assistance of astronomical calculations. This is the most reliable and accepted method among people and scientists, as well as among most of scientists of Islamic Shari'a nowadays. JAS adopts this method, since the Prophet Mohammad "ASWS" ordered us not to start the month unless we sight the crescent, thus it must be seen, and we use astronomical calculations in order to know where and when to observe, as well as the probability of observing the crescent, since sometimes it would be useless to observe the crescent if the calculations show that there is no crescent in the sky after Sunset!

5)--Other countries adopt several different ways, some of them make the month 29 and 30 days alternately, others make Ramadan either 29 or 30 days always, and finally some countries don't adopt any specific thing!

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