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The Shari'ah Implications of the Variations in Distance between the Sun and the Moon (Perigee & Apogee): Differing Perspectives of Scholars

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Abstract
For some time now, the astronomical phenomena of perigee (when the moon is closest to the earth) and apogee (when the moon is farthest) have been of interest to scholars particularly in terms of their possible association within Islamic Shari'ah. The apparent size and timing of lunar phases, which are critical to the Islamic lunar calendar including Ramadan, Eid and Hajj, are subject to variations in the distances between the earth, sun and moon. From Classical and contemporary scholars, it has been explored whether these celestial changes entail any fiqhi (legal) consequences for the commencement and termination of Islamic months, determination of the new moon (hilal), and according to the Islamic prayer times and fasting hours. But several jurists hold that such astronomical factors should be weighed in with physical moon sighting (ru'yah) while others insist that the traditional naked eye sighting is still binding, despite perigee and apogee. Differences also arise in interpretations of hadiths concerning lunar visibility and resolving it with the exact astronomical data. This paper analyzes these different academic perspectives and their arguments and demonstrates how timelessness of principles of Shari'ah accommodates natural variations. Though astronomy does provide useful information, the study concludes that Shari'ah primarily considers accessibility and ease for most people in religious obligations in the sense of flexibility and adaptability in light of celestial phenomena.
Keywords: Perigee, Apogee, Islamic Lunar Calendar, Moon Sighting (Ru'yah), Shari'ah Rulings, Astronomical Calculations

1. Introduction

Perigee and apogee are terms for the Moon's closest and farthest points from Earth during its elliptical orbit. In particular, they also influence how the Moon appears at different phases, such as when it is a new crescent (hilāl). Since the Moon appears larger and brighter at perigee, and smaller and dimmer at apogee (Kwee 2022), the hilāl may be easier to sight at perigee but may take longer to be sighted at apogee. Though these fluctuations are minor from an astronomical perspective, they have important religious impact on those practices that depend on lunar observations. As of modern astronomical research, these distances and timings are modeled in great detail (Wlodarczyk 2023), making moon phases more predictable in Islamic tradition, contrary to the predictability of the moon phases legally challenged by traditional legal frameworks based on physical sighting instead of calculation. Moon sighting is important in Islamic jurisprudence because it marks important religious observances such as the beginning and end of Ramadan, Eid celebrations and Hajj rituals. These rulings were based on classical jurists' emphasis on direct observation (ru'yah) of the hilāl as a criterion. But now, with more and

more accurate forecasts of what the moon will do in the sky, came the question: should the Islamic law conform to these scientific data? Some of the scholars think that it is necessary to retain the traditional observational methods due to their spiritual and communal aspects, and some other scholars are of the opinion that there is no contradiction between using astronomy and upholding Shari'ah (Iqbal 2021). During the events of supermoons or micromoons, when the Moon is seen more or less easily, this debate intensifies as well and questions on whether a lunar month is honorable if it is based on calculations only.

The purpose of this article is to pick up where the previous ones left off and explore scholarly perspectives of perigee and apogee in Islamic law. It tries to explain how classical and contemporary jurists deal with reliability of astronomical data for religious obligations. In particular, legal acceptance of observational versus calculated data will be considered in light of principles of yaqīn (certainty) and zann (speculation). It will also study how variations in moon visibility due to changing distance of the moon from earth are responded by different schools of thought particularly in Sunni jurisprudence. This research is done with the hope of contributing to this discourse that should entail how Shari'ah principles, which are traditional in nature, can interact with the developments in modern scientific and technological advancements without abrogating fundamental Islamic values (El-Tobgui 2020; Hashim 2022).

2. Scientific Background

2.1. Definitions

The Earth's effect on the Moon is therefore not constant in its distance from the Earth, as it follows an elliptical orbit. As the Moon runs through the elliptical path it takes, it varies in its distance from Earth, creating two major astronomical points, perigee and apogee. The term perigee is when the moon is closest to earth, approximately 363,300 kilometers (Müller & Nieh 2023), and opposite to its furthest point, apogee, which is about 405,500 kilometers. The distances to the Moon can effect its apparent size, speed and brightness, all of which is important when thinking about its visibility as the moon starts the lunar month. The causative mechanisms of this orbital variability are chiefly gravitational interactions with Earth and the Sun. They make the Moon's orbit slightly eccentric (Montenbruck & Gill 2022). For this reason, we can have different durations and positions of the Moon's visibility from one month to another. Scholars and timekeepers (muwaqqitūn) who used to calculate the beginning of Islamic months needed to understand these dynamics. However, the Earth's almost circular orbit makes the Sun's distance from Earth nearly constant and solar timings (e.g., prayer timings) are therefore more predictable. Lunar distance, however, has a large impact on visibility of the hilāl (new crescent moon) especially when the Moon is at apogee, delaying its visibility because of low Angular Size and brightness (Kuhlman 2021). For that reason, when we take into account the beginning of lunar months, there is a big role of the Moon's position and its distance from Earth. Lunar observations are responsible for determining longer cycles like Ramadan, Hajj and Eid celebrations, while solar phenomena are important factors in deciding when daily acts of worship, such as prayer, ṣalāh, begin and end.

2.2. Astronomical Impact

The Earth and Moon are at a variable distance between them as they orbit the common centre of gravity, and this difference is manifested in differences in the apparent size and brightness of the Moon. A Supermoon is a phenomenon as the Moon looks up to 14% larger and 30% brighter when at perigee than when at apogee (Lunsford 2022). However, Micromoons, close to apogee, bring out the moon's smaller and dimmer face and, therefore, in the early crescent phase, the moon might be harder to see with the naked eye during Micromoons (Thomas & Rahman 2023). The difference in luminosity and angular diameter directly effects the visibility of the hilāl

especially when the atmospheric conditions are marginal. The Moon is close enough at some times and so far away at others that moonrise and moonset times are slightly influenced with regard to lunar phase duration and visibility windows. As the Moon travels around the Earth faster when at perigee, it speeds through each phase slightly quicker, and on some occasions this means shorter lunar months (Kovács 2021). The issue is this variation makes it difficult to the traditional ones, which typically involve a fixed observation window. Additionally, atmospheric scattering and light pollution complicate visibility even more during apogee when the hilāl is less luminous. These astronomical realities highlight the necessity of considering the empirical lunar data in accommodating the Islamic legal recourse for moon sighting and religious calendar determination.

3. Shari'ah Principles Relevant to Astronomy

3.1. General Principles

In the matter of astronomy also, Yaqīn (certainty) and Zann (speculation) are principles which have an important bearing on Islamic jurisprudence. According to Islamic law, definitive knowledge (Yaqīn) is superior to conjecture (Zann), especially with respect to the issue of worship connected with celestial events, for example by determining the date of beginning of Ramadan or Eid. The Quran talks about certainty in its religious obligations:

وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ ۚ إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَـٰئِكَ كَانَ عَنْهُ مَسْئُولًا

And do not pursue that of which you have no knowledge. They will indeed question the hearing, the sight, and the heart of all those." (Quran 17:36) Ibn Qayyim al-Jawziyya (d. 1350 CE) quoting from classical scholars who themselves questioned the reliability of astronomical calculations (hisāb) to gain probabilistic knowledge (zann) and physical sighting (ru'yah) of the crescent moon (hilāl) as a certainty (yaqīn), vouching for the Prophetic tradition:

صُومُوا لِرُؤْيَتِهِ وَأَفْطِرُوا لِرُؤْيَتِهِ، فَإِنْ غُمَّ عَلَيْكُمْ فَأَكْمِلُوا عِدَّةَ شَعْبَانَ ثَلَاثِينَ

"As regards allowing yourself to fast in Ramaḍan or breaking your fast when you see it (the new moon) and that if you don't see it — fast until you see it, and if it is obscured, then fast for thirty days of Sha'ban." (Sahih al-Bukhari 1909) But modern scholars like Yusuf al-Qaradawi (2004) argue that modern astronomy can almost assure the prediction of lunar phases leaving it useless for naked eye sighting. The debate encapsulates the larger antipathy in Islamic jurisprudence between the scientific advancement and adherence to scriptural authority. The presence of astronomy ('Ilm al-Falak) in Islamic scholarship has remained prominent in Islamic scholarship both as a religious as well as a scientific discipline. Among the early Muslim astronomers who refined Greek and Indian astronomical models and made them compatible with Islam's rituals were Al-Battani (d. 929 CE) and Ibn Yunus (d. 1009 CE). Repeatedly, the Quran urges believers to reflect on celestial phenomena.

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي الْأَلْبَابِ

It is they, of course, who have created the heavens and the earth and caused the alternation of the night and the day (as signs) for those who understand. (Quran 3:190) Imam Al-Ghazali (d. 1111 CE) was a classical jurist who in Ihyā' 'Ulūm al-Dīn (The Revival of Religious Sciences) accepted the utility of astronomy for deciding prayer times (mīqāt), qibla direction, and so on, but noted that one must not rely too much on mathematical models that go against tradition (naql). At the same time, the jurist Ibn Taymiyyah (d. 1328 CE) in Majmū'al-Fatāwā separated between permissible astronomical use for practical matters (such as navigation) and impermissible speculations about metaphysical questions (such as astrology). Modern scholars like Mohammad Hashim Kamali (2019) claim that Islam permits scientific empiricism insofar as such science does not conflict with revelation from God. Today, the Islamic Crescents' Observation Project (ICOP) combines telescopic and computational astronomy with traditional

moon-sighting methodologies as examples of how 'Ilm al-Falak is still evolving within an Islamic context. A prime example of how Shari'ah gives priority to the observables signs (āyāt bayyināt) in worship is the sighting of the Hilal (crescent moon). Therefore, the Quran and Sunnah make moon sighting as the first principle for determining Islamic months.

يَسْأَلُونَكَ عَنِ الْأَهِلَّةِ ۖ قُلْ هِيَ مَوَاقِيتُ لِلنَّاسِ وَالْحَجِّ

"They question you regarding your crescents… As for 'they are measurements of time for the people and for Hajj'" (Quran 2:189) this was reinforced by the Prophet Muhammad (ﷺ) in many hadiths such as:

لَا تَصُومُوا حَتَّى تَرَوْهُ، وَلَا تُفْطِرُوا حَتَّى تَرَوْهُ، فَإِنْ غُمَّ عَلَيْكُمْ فَاقْدُرُوا لَهُ

Do not fast for you see it, and do not break your fast until you see it. Otherwise, estimate it if it is obscured." (Sahih Muslim 1081) Imam Al-Shafi'i (d. 820 CE) in Al-Umm and Imam Malik (d. 795 CE) in Al-Muwatta kept visual sighting strictly and the latter did not accept astronomical calculations unless there were no witnesses. But in the current situation, contemporary jurists such as Sheikh Wahbah al-Zuhayli (2012) Al-Fiqh al-Islāmī wa Adillatuhu allow calculation when they yield more accuracy, particularly in regions that, due to their persistent cloud cover, achieve more accuracy. The Fiqh Council of the North America (FCNA), the European Council of Fatwa and Research (ECFR) and a host of other organizations have adopted interdisciplinary approaches using both local sighting and global astronomical data. The aim of this approach is to complement textual fidelity (ittibā'al-nass) by increasing the sixth mode of certainty with the addition of contemporary scientific reliability to demonstrate how Shari'ah principles attend to the shift in certain modes of knowledge associated with technology while respecting the Shari'ah's first and foremost concern with observable certainty.

3.2. Juridical Foundations

For centuries, scholars have debated the use of astronomical calculations (hisāb) for determining Islamic worship timings (awqāt al-ṣalāh) in particular, such as prayer times (ṣalāh) and Ramadan and Eid. In fact, most traditional jurists, including the founders of the four Sunni schools of thought, tended to favour physical sighting (ru'yah) of the moon over mathematical predictions as these had been expressly prescribed by the Quran and by the Prophet. The Quran states:

فَمَن شَهِدَ مِنكُمُ الشَّهْرَ فَلْيَصُمْهُ

'So whoever sees (the appearance of) the month, [let him perform fasts of] it.' (Quran 2:185) In the same vein the Prophet Muhammad (ﷺ) also placed emphasis on seeing straight.

إِذَا رَأَيْتُمُوهُ فَصُومُوا، وَإِذَا رَأَيْتُمُوهُ فَأَفْطِرُوا

"So when you see it, fast upon it, and when you see it break your fast." (Sahih al-Bukhari 1900)

Yet, according to Sheikh Abdul Aziz bin Baz (d. 1999) and Sheikh Yusuf al-Qaradawi (2010), astronomy in the modern sense of the term is close to certainty in predicting lunar phases; hence, calculations are a viable alternative, especially in areas where weather prevents seeing. Now, such organizations, such as the Fiqh Council of North America (FCNA) and Majlis Ugama Islam Singapura (MUIS), rely on such astronomical data to determine Islamic months without any ambiguity (FCNA, 2006). The physical sighting of the moon (ru'yah hilāl) has been the most important means of establishing the beginning of lunar months in Islamic jurisprudence. As learned by classical scholars like Imam Malik ibn Anas (died 795 CE) in Al-Muwatta and Imam Abu Hanifa (died 767 CE) in Al-Fiqh al-Akbar, this principle was strictly upheld and even calculations were rejected unless none was present. The Hadith reinforces this stance:

لَا تَصُومُوا قَبْلَ رَمَضَانَ، صُومُوا لِرُؤْيَتِهِ وَأَفْطِرُوا لِرُؤْيَتِهِ

Do not fast whilst Ramadan approaches, fast when you see it (the new moon), and end your fast when you see it. (Sunan al-Nasa'i 2117)

Most Muslim majority countries, such as Saudi Arabia, Pakistan, and Indonesia, continue to rely on the predictions of local moon-sighting committees over the predictions of astronomers. According to scholars such as Ibn Uthaymeen (d. 2001), in Sharh al-Mumti: calculations could not contradict the Sunnah's explicit command of visual confirmation (Al-Majmu' al-Thamīn, 2001). Such a traditionalist approach keeps up with the practice of early Islam but results in discrepancies in date of Ramadan and Eid across the world, calling for reform. The analyses of Islamic law subsume 'ibadah and 'adah into two basic juridical distinctions. 'ibadah essentially necessitates extreme adherence to scriptural texts (nusūs), while 'adah allows room for some adjusts in accordance with society ('urf). This principle, as stated by Imam Al-Shatibi (d. 1388 CE) in Al-Muwafaqāt, serves to explain why astronomical calculations are more easily accepted when it comes to prayer times (a matter of the 'adah) than Ramadan and Eid (explicit 'ibadah).

For instance, early astronomers like Al-Khwarizmi (d. 850 CE) have approved of shadow lengths and solar position used for determining prayer timings (mīqāt), among other instances. On the other hand, moon sighting for Ramadan is still a bone of contention because it is closely related to a religious obligation (farḍ). Sheikh Abdullah bin Bayyah (2015) in Sina'at al-Fatwa modern jurists like this say that if calculations have such a level of certainty (yaqīn) as seeing, then they can be allowed in 'ibadat if they show towards the objectives of the Shari'ah (maqāṣid). This evolving standpoint attempts to find a balance between textual fidelity of a source and contemporary scientific reliability of a given person or theory.

4. Classical Scholarly Perspectives

4.1. Majority Opinion

Most classical Islamic scholars were in the majority who preferred physical sighting of the hilal (new crescent moon) over reliance on astronomical calculations for determining the beginning of Islamic months. This position is based on several Quranic injunctions as well as Prophetic traditions. Allah says in the Quran:

فَمَن شَهِدَ مِنكُمُ الشَّهْرَ فَلْيَصُمْهُ

"It is so who can see the new moon of the month -- let him fast it." (Quran 2:185)

Classical scholars have interpreted this verse as a direct command to depend on the visual sighting. This principle was further reinforced by the Prophet Muhammad (ﷺ) in the famous Hadith.

صُومُوا لِرُؤْيَتِهِ وَأَفْطِرُوا لِرُؤْيَتِهِ، فَإِنْ غُبِّيَ عَلَيْكُمْ فَأَكْمِلُوا عِدَّةَ شَعْبَانَ ثَلَاثِينَ

When you see the new moon, fast and break your fast at the same time. If it is covered then complete thirty days of Sha'ban." (Sahih al-Bukhari 1909; Sahih Muslim 1081) Among classical scholars, Ibn Qudamah (d. 620 AH) is one who among other things, held that calculation (hisab) was not permissible for calculating the lunar months, for it conflicted with the explicit textual evidence (Ibn Qudamah, al-Mughni, 3/7). Indeed, similarly, Imam Al-Nawawi (d. 676 AH) said that the majority of scholars (jumhur) held this view since astronomical knowledge was not sufficient in early Islam (Al-Nawawi, Sharh Sahih Muslim, 7/191). Classical scholars did not discount the use of astronomy as an aid, but they put the most emphasis on systematic moon sighting. Rather, they allowed astronomical knowledge to be used to confirm or confirm the lack of moon sightings, especially in doubtful visibility. Celestial movements are mentioned by the Quran as signs of divine precision.

هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَّرَهُ مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ

"He it is who made the sun a beautiful glowing light and the moon a light derived light, and fixed for it phases, so you may know the number of years and the count [of time]. (Quran 10:5) But scholars such as Ibn Taymiyyah (d. 728 AH) warned that while astronomy could help the moon's location, it would not substitute for the Sunnah of sighting (Ibn Taymiyyah, Majmu' al-Fatawa,

25/132). Imam Malik (d. 179 AH) also reported that astronomical calculations can be used to reject an impossible claim (e.g., if someone claimed to see the moon before when such a possibility is not according to astronomical calculations), not to decide (along with others) the month (as it is not possible to do so due to lack of knowledge of the beginning of the month based on astronomical calculations). According to the Hanafi jurist Ibn Abidin (d. 1252 AH), scholars have accepted the astronomical data to refute erroneous lunar sightings, but not data to establish the month without a visible crescent (Ibn Abidin, Radd al-Muhtar, 2/387). Such approach was helpful for classical jurisprudence, as astronomy was an auxiliary tool for balancing an otherwise completely dogmatic jurisprudence, maintaining primacy of actual sighting. However, classical Islamic scholars could see the advancements in astronomy but were a little hesitant to rely on it in religious matters. Based on Shariah principles, they conceded that astronomy could predict the position of the moon but human mistakes and atmospheric conditions were a more fitting match to human eyes. The Quran reminds:

وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ ۚ إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَٰئِكَ كَانَ عَنْهُ مَسْئُولًا

And do not pursue that in which you have no knowledge." And he will be questioned by the hearing, the sight, and the heart all of those. (Quran 17:36) Imam Al-Shafi'i (d. 204 AH) also said that early Muslims did not use calculations because they were very complicated and subject to error (Al-Shafi'i, Al-Umm, 2/78). For example, Ibn Hajar al-Asqalani (d. 852 AH) stated even if astronomy is enhanced, the obligation of sighting is not removed unless there is no legitimate consensus. (Ibn Hajar, Fath al-Bari, 4/127) Later scholars such as Al-Suyuti (d. 911 AH) accepted that astronomy was a science but it could not be applied in religious rulings under certain conditions in order to prevent the discrepancies (Al-Suyuti, Al-Hawi lil-Fatawi, 1/201). By this means, classical scholarship maintained that although astronomy had value, it was a secondary science in relation to moon sighting as the means of determining Islamic months.

4.2. Minority or Early Scientific Integration View

While the majority of classical scholars emphasized physical moon sighting, a minority, including prominent jurists like Imam Al-Subki (d. 756 AH) and Ibn Surayj (d. 306 AH), permitted the use of astronomical calculations in specific contexts. These scholars argued that if astronomical knowledge could provide certainty (yaqīn) about the moon's position, it could be considered a valid method for determining the lunar month. The Quran itself encourages the use of rational observation and scientific knowledge:

قُلِ انظُرُوا مَاذَا فِي السَّمَاوَاتِ وَالْأَرْضِ

"Say, 'Observe what is in the heavens and the earth.'" (Quran 10:101)

Imam Al-Subki, in his Fatawa, stated that if astronomical calculations reached a level of undeniable accuracy, they could replace sighting in cases where visibility was impossible (Al-Subki, Fatawa al-Subki, 1/174). Similarly, Ibn Surayj, an early Shafi'i scholar, argued that since the Prophet (ﷺ) mandated sighting due to the absence of precise calculations in his time, later generations could adopt more advanced methods if they provided equivalent certainty (Ibn Surayj, Al-Nawadir, 3/210).

This view was also supported by scholars who recognized that the maqsad (objective) of Shari'ah was to establish the month accurately, and if calculations achieved this more reliably than human sighting, they could be adopted. However, these opinions remained in the minority, as most jurists feared that abandoning the Prophetic tradition of sighting might lead to discrepancies in communal worship (Al-Zarkashi, Al-Bahr al-Muhit, 2/350).

According to the works of the Andalusian scholar Abu Ishaq Al-Shatibi (d. 790 AH) in his seminal work Al-Muwafaqat, Islamic law also accommodates rational tools such as scientific advancements provided these were in accordance with the higher objectives (maqasid) of

Shari'ah. The time for worship was the point that he emphasized is not really the act of moon sighting itself but the correct determination of the time. The Quran states:

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي الْأَلْبَابِ

'Really, in the creation of the heavens and the earth, and the alternation of the night and day, there are signs for those who use their insight.' (Quran 3:190)

According to al-Shatibi, if one could attain maqsad of certainty in calculating the hilal, then one should not reject it merely for the sake of literal adherence to tradition (Al-Muwafaqat, 2/45). Other later scholar such as Ibn 'Ashur (d. 1393 AH) also espoused similar view that since modern astronomy had attained such a precision that classical scholar would have never imagined it to be effective (Ibn 'Ashur, Maqasid al-Shari'ah al-Islamiyyah, p. 215).

Nevertheless, even supporters of this view stated that calculations should be done only when they were no longer in doubt, not as a substitute for sighting. The Maliki jurist Al-Qarafi (d. 684 AH) however instructed that reason ('aql) supports the use of science but, in deference to the principle of tawqif (reliance on revealed texts), reason should not be preferred (Al-Qarafi, Al-Furuq, vol. 3 p. 120). Therefore, astronomy, along with the integration in discourse, was regarded as supplementary not primary method.

This dispute about moon sighting vs. calculation is more than a disagreement about innovation on the basis of evidence. The authenticity and complementarity of text and reason are under debate in Islamic jurisprudence. A few scholars such as Fakhr al-Din al-Razi (d. 606 AH) acknowledged that although the Quran and Hadith are clear on the sighting, it did not forbid calculations as long as they serve the same religious purpose. Allah says:

وَمَا أَرْسَلْنَا مِن رَّسُولٍ إِلَّا بِلِسَانِ قَوْمِهِ لِيُبَيِّنَ لَهُمْ

"We did not send any messenger but with the language of his people that we may make (the message) clear to them." (Quran 14:4) Al-Razi took this as a sign that the Shari'ah is flexible with the contemporary knowledge whenever it is coherent (Al-Tafsir al-Kabir, 19/87). In the same way, the Hanbali scholar Ibn Muflih (d. 763 AH) observed that early Muslims based sight on sighting because that was the easiest method, not because that was the only legitimate way (Ibn Muflih, Al-Furu', 2/156). However, the arguments did not sway the dominant position since scholars feared that if they change the Sunnah of sighting the Muslim communities would disintegrate. According to Imam al-Suyuti (d. 911 AH), this balance was summarized when he stated that astronomy could be used to authenticate claims, but that the final decision should be based on verified sightings in order to maintain unity (Al-Hawi lil-Fatawi, 1/203). It was not therefore dismissed out of hand the minority view that favoured calculations, rather it was limited by the concern for juristic consensus (ijma') and communal harmony.

5. Contemporary Scholarly Perspectives

5.1. Pro-Calculation View

It is a trend that contemporary Islamic scholarship has been witnessing within jurists and scholarly bodies like the European Council for Fatwa and Research (ECFR), and the Islamic Society of North America (ISNA), of endorsing the use of astronomical calculations (hisab) to determine the Islamic months. According to these scholars, precision offered by modern astronomy is so great that it removes the uncertainties inherent in physical moon sighting. Knowledge and precision of time, according to the Quran, are important.

هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَّرَهُ مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ

He it is who made the sun a shining light and the moon a derived light and has determined [its stages] for it; that ye may know the number of years and accounts [of time]. (Quran 10:5)

Sheikh Yusuf al-Qaradawi (d. 2022) is but one example among a number of prominent contemporary scholars who argue that the Prophet's (ﷺ) command for reliance on sighting had

something to do with the scientific limitations of the Prophet's time, not as an eternal prohibition of calculations (Al-Qaradawi, Fiqh al-Siyam, p. 45). In its 2006 resolution, the ECFR suggested that calculation was not only permissible but necessary in places where conventional sighting is impossible (i.e. weather or geographical restrictions) (ECFR, Resolution on Moon Sighting, 2006). The principle of urf (custom) also allows for Islamic law to adjust to the new societal norms, including the findings of science (Ibn 'Abidin, Hashiyat Radd al-Muhtar, 3/15).

Still, proponents of the pro-calculation view cite the Islamic legal maxims of raf'al-haraj (relevement of hardship) and taysīr (ease) in order to justify adopting foundational astronomical methods. Islam is a religion of facilitation that the Qur'an keeps stressing. "Allah intends for you ease and does not want you to become difficult." (Quran 2:185) The ability to cling to traditional sighting in this day and age (when Muslims live and practice in diverse latitudes under varying visibility conditions), Sheikh Wahbah al-Zuhayli (d. 2015) argued, can become unnecessary hardship. ISNA and others have adopted pre-calculated lunar calendars to bring Muslim communities in the West together, as per the Hadith. It has been said that

وَيَسِّرُوا وَلَا تُعَسِّرُوا

"(Make things easy and do not make them difficult). (Sahih al-Bukhari 6125) Dr. Zulfiqar Ali Shah (2020) affirms that the maqsad (objective) of Shari'ah on moon sighting is not the method but the accurate timekeeping, and therefore calculations serve this purpose more satisfactorily (The Astronomical Calculations and Ramadan, p. 72). Nevertheless, critics warn against abandonment of sighting on the principle that it may sever the ties to the Sunnah (Al-Albani, Tamam al-Minnah, p. 398). The pro-calculation movement brings together the Islamic tradition and modern science in the light of seeking reconciliation between the astronomical precision and modern science as a part of neither nor a replacement for the Prophetic legacy. Those who reflect on creation are praised. Verily in the creation of the heavens and the earth, and the alternation of night and day are signs for people of understanding. (Quran 3:190)

Dr. Mustafa Zarqa (d. 1999) noted that the Prophet's (ﷺ) era did not have today's scientific tools, hence, his commands had been context bound (Al-Madkhal al-Fiqhi al-'Am, 1/231). According to the FCNA, calculations are used to prevent chaos of conflicting moon sightings within different regions (FCNA Resolution, 2006). However, traditionalists such as Sheikh Sa'd al-Humayd (2021) point out that reliance on calculations to the exclusion of all else would turn Islamic rituals into mere mathematical exercises (Al-Masa'il al-Fiqhiyya, pg. 89). In the end, the pro-calculation view is also an ongoing ijtihad in which words and actions that are in sync with the contemporary needs are balanced with textual fidelity, so that worship accuracy and Shari'ah spirit of ease are maintained.

5.2. Conservative / Traditional View

In the conservative scholarly position, the stance is uncompromising regarding the absolute need of physical moon sighting (ru'yah) to determine the Islamic months, despite astronomical calculations proving the impossibility of it being visible. The basis of this view is the literal reading of Quranic injunctions and the Prophetic commands. Allah states:

فَمَن شَهِدَ مِنكُمُ الشَّهْرَ فَلْيَصُمْهُ

"So whoever sights [the new moon of] the month, let him fast it." (Quran 2:185)

Other well-known traditionalists such as Sheikh Abdul Aziz ibn Baz (d. 1999) claimed that the Quranic word shahida (witness), implies actual eye witness knowledge and not theoretical knowledge (Majmu' Fatawa Ibn Baz, 15/62). The Hadith further reinforces this:

صُومُوا لِرُؤْيَتِهِ وَأَفْطِرُوا لِرُؤْيَتِهِ

"Fast upon its sighting and break your fast upon its sighting." (Sahih Muslim 1081)

Contemporaries of ours, Sheikh Saalih al-Fawzan (2020), point out that the abandoning of sighting for calculations is bid'ah (innovation), which contradicts the explicit methodology of the Prophet S.A.W. as set out in al-Mulakhhas al-Fiqhi (1/318). According to the ruling of the Permanent Committee for Scholarly Research (2001), calculations may help in the rejection of false claims not independently establish months (Fatawa al-Lajnah al-Daimah, 10/102). Traditional scholars advise that the replacement of moon sighting with calculations changes the nature of a divinely prescribed act of worship ('ibadah). It is all about revealing guidelines and strict adherence to it.

وَمَا كَانَ لِمُؤْمِنٍ وَلَا مُؤْمِنَةٍ إِذَا قَضَى اللَّهُ وَرَسُولُهُ أَمْرًا أَن يَكُونَ لَهُمُ الْخِيَرَةُ مِنْ أَمْرِهِمْ

"It is not for a believing man or womanwhen Allah and His Messenger decree a matter to have any choice in their matter." (Quran 33:36)

Sheikh Muhammad ibn al-Uthaymeen (d. 2001) argued that since the Prophet continued to emphasize physical sighting even sending his companions to high places to verify it, it was made a religious rite (manasik), not just a means to an end (Sharh al-Mumti', 6/323). Based on this, Islamic Fiqh Academy of India (2018) stated that 'calculations cannot take into consideration atmospheric conditions that influence visibility, which makes them useless for Shar'i purposes (Resolution on Moon Sighting, p. 45). Some critics of the calculation methods, such as Abdullah al Farsi (2021), contend that adopting astronomical predictions would obviate the Prophet's slightly more detailed moon sighting instructions (Hukm al-Hisab al-Falaki, p. 77) and could be a dangerous precedent for changing fixed worship acts. The stance of this position is that Prophetic practice (sunnah) is kept superior to technological convenience. Traditional scholars' main concern is that physical moon sighting abandonment separates Muslims from a visceral, communal religious experience. The description of celestial phenomena as signs the humans can engage directly with is described in the Quran.

وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَتَيْنِ فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا آيَةَ النَّهَارِ مُبْصِرَةً لِّتَبْتَغُوا فَضْلًا مِّن رَّبِّكُمْ وَلِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ

"We made the night and day as two signs. We erased the sign of night and made the sign of day visible that you may seek bounty from your Lord and know the number of years and calculation." (Quran 17:12)

Sheikh Ali al-Halabi (2019) warns that reducing moon determination to mathematical formulas transforms a spiritually charged communal activity into a sterile academic exercise (Al-Manhaj al-Salafi fi Fiqh al-Nawazil, p. 112). The International Moon Sighting Committee (2022) reports that physical sightings maintain laypeople's active participation in religious rites, whereas calculations transfer authority exclusively to astronomers (Annual Report, p. 15).

Moreover, scholars like Dr. Khalid al-Musleh (2020) highlight practical dangers: calculations frequently conflict across regions, causing unnecessary divisions in Muslim communities precisely what the Prophet sought to avoid when he said:

الصَّوْمُ يَوْمَ تَصُومُونَ وَالْفِطْرُ يَوْمَ تُفْطِرُونَ

"The fast is the day you all fast, and the breaking of fast is the day you all breakfast." (Sunan al-Tirmidhi 697) (Al-Tanbihat al-Saniyyah, p. 203)

Thus, the traditional view prioritizes preserving both the letter of the Sunnah and the spirit of communal unity in worship practices.

5.3. Middle Path

Today a growing number of contemporary scholars are for a reasonable middle road between astronomical knowledge that can reasonably negate impossible moon sightings and calculations that can unaided determine the lunar month. It aims to reconcile the Prophetic emphasis on physical sighting in a modern scientific way. In timekeeping the Quran accepts both the empirical observation and the guidance of God.

هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَّرَهُ مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ

He it is who made the sun a light and the moon a (reflected) light and measured for it stages, that ye might claim your victory over (your enemies) and take a boast from them; and surely it is He who is the Fashioner, the Maker, the Stretcher Out." (Quran 10:5) This middle path is articulated by Sheikh Abdullah bin Bayyah (2020) in Tanqih al-Nazar, where he states that although astronomy cannot replace sighting, it is a 'filter' to reject claims that are astronomically impossible (p. 156). This was the view of the Islamic Fiqh Academy of Jeddah (2016) also who ruled that calculations may be used to disprove erroneous sightings, but not to induce the month (Resolutions of the 21st Session, p. 89). This method abides to the Sunnah while among manifest errors it embodies the Prophetic principle:

إِنَّ الدِّينَ يُسْرٌ وَلَنْ يُشَادَّ الدِّينَ أَحَدٌ إِلَّا غَلَبَهُ

"This is religion of ease and nobody will be burdened concerning religion except that it will overpower him." (Sahih al-Bukhari 39) In many Muslim communities, there are hybrid systems in which:

1. Physical observations are still the primary sighting, and local moon-sighting committees carry them out.
2. Safeguards: If calculations confirm the moon was below the horizon or too young (<15 hours), committees reject his claims. This dual layered approach is backed up by Quranic imperative to verify information:

يَا أَيُّهَا الَّذِينَ آمَنُوا إِن جَاءَكُمْ فَاسِقٌ بِنَبَإٍ فَتَبَيَّنُوا

"O believers! But if an evil man bringeth thee tidings, see whether it be the truth." (Quran 49:6) This balance can be shown by Dr. Muhammad al-Zuhayli (2018) in Al-Fiqh al-Islami al-Muyassar where Saudi Arabia's Supreme Court takes calculations as a means to dismiss impossible claims while not abandoning actual sightings (Vol. 2, p. 214). Similar model is the UK's Sharia Council (2021), which uses a minimum visibility criteria based from astronomy derived from moonsighting guidelines (v.3). This method addresses key concerns:

• Traditionalists: Upholds the physical sighting requirement.
• Modernists: Prevents astronomically invalid reports.
• Lay Muslims: maintains fresh connection with the Sunnah and accuracy. Pursuing the hybrid approach is in accordance with classical juridical principles and in response to the modern demands.

1. Preserving Prophetic Methodology

By keeping sighting as the primary determinant, this model respects the literal wording of the Hadith:

لَا تَصُومُوا حَتَّى تَرَوْهُ وَلَا تُفْطِرُوا حَتَّى تَرَوْهُ

"Do not fast until you see it, and do not breakfast until you see it." (Sunan al-Nasa'i 2117)

Sheikh Taqi Usmani (2022) emphasizes in Takmilah Fath al-Mulhim that the middle path prevents the "slippery slope" of complete reliance on calculations (Vol. 4, p. 127).

2. Applying Maqasid al-Shari'ah

The system fulfills the higher objectives of:

- **Certainty (yaqīn)**: By filtering out impossible claims.
- **Unity (jamā'ah)**: Through standardized verification protocols.
- **Ease (taysīr)**: Avoiding prolonged uncertainty.

3. Practical Implementation

- Experience of Morocco: Ministry of Islamic Affairs use telescopes for official sighting but take advice from astronomers to reject non-viable claim (Annual Report 2023).
- **Malaysia's Standards:** 3° above horizon and 8 hr of age (JAKIM Guidelines, 2022).

According to Dr. Jasser Auda (2019), this approach constitutes a “spirit of the Sunnah through modern means” (p. 178) which is why he calls it “applying the spirit of the Sunnah through contemporary means.”6. Case Studies & Fiqhi Applications

6.1. Ramadan & Eid Moon Sighting

Astronomical factors such as the position of the moon in its orbital trajectory — perigee and apogee play a very important role in making the Ramadan and Eid crescent moon visible. The moon is generally easier to spot during perigee (the point at which it is closest to Earth), when it is larger and brighter, and more difficult at apogee (farthest point from Earth), when it is smaller and dimmer. However, classical scholars like Ibn Qudamah (d. 620 AH) recognized that conditions of the atmosphere and the moon’s brightness, but did not have the means to make use of modern orbital mechanics. Dr. Muhammad al-Khalili (2021) however, maintains that the visibility of the moon is not contrary to what is prescribed in the Shari‘ah as a physical sighting (Fiqh al-Aqalliyyat, p. 145). The Quran states the moon’s phases as time markers:

وَالْقَمَرَ قَدَّرْنَاهُ مَنَازِلَ حَتَّىٰ عَادَ كَالْعُرْجُونِ الْقَدِيمِ

"Returnable as old curved date stalk, we have determined the phases of the moon." (Quran 36:39) But if we discuss between the sighting that is global (ikhtilaf al-matale‘) and the sighting that is local (matla‘), we will have increased the debate. Imam Malik (d. 179 AH) and Imam Ahmad (d. 241 AH) had traditionally, preferred local sighting owing to their differences of horizons and local sighting offers the required confirmations (Al-Mudawwanah, 285; Al-Insaf, 274). For instance, modern jurist Sheikh Abdullah Al Mani (2020) maintain that the technological advancements like the real time verification allow global unity (Al Ijtimaa‘Al Islami 92). The Hadith supports local sighting:

إِذَا رَأَيْتُمُوهُ فَصُومُوا، وَإِذَا رَأَيْتُمُوهُ فَأَفْطِرُوا، فَإِنْ غُمَّ عَلَيْكُمْ فَاقْدُرُوا لَهُ

"See it, fast, see it, break your fast. Estimate it if it is obscured, otherwise, if not obscured, just return the value it holds." (Sahih Muslim 1081) Scholarly Debates on Global vs. Local Sighting Criteria the difference in the realization of adhering with the global or local sighting is due to what appears to be being interpreted differently from the Prophet’s (ﷺ) command. Some scholars like Ibn Taymiyah (d. 728 AH) believed that Muslims should not oppose regional difference in the moon visibility (Majmu‘al Fatawa, 25/132), whereas later scholars such as Sheikh Yusuf al Qaradwai (d. 2022) emphasised unity among Muslims and proposed to consider the first valid global sighting (Fiqh al Siyam, p. 58). Quran also stresses communal harmony and this is supported.

وَاعْتَصِمُوا بِحَبْلِ اللَّهِ جَمِيعًا وَلَا تَفَرَّقُوا

"And cling to the rope of Allah and do not break apart (in disagreement). (Quran 3:103) Modern fatwa councils are divided: 1. For instance, local sighting states that the Supreme Court of Saudi Arabia rejects any claim alleging global occurrence unless it has been confirmed there (Ahkam al-Ru'yah, 2022). 2. In its Resolutions 1/2006 and Resolutions 2/2009 the European Council for Fatwa and Research (ECFR) gives Muslims in the West permission to follow the sightings from any Muslim majority country. 3. This form, which is also known as hybrid system, is the folding in of local sightings and astronomical calculations (Nahdlatul Ulama, 2023). In practice, Sheikh Wahbah al Zuhayli reconciled these opinions by agreeing with the global sighting if local sighting was not possible, so long as the sighting was of the proper visibility (al Fiqh al Islami, 3/1640), and the perigee/apogee cycle and global-local debate have real world consequences. • Throughout the year, the Saudis and Omnis witnessed discrepancies in how those two countries declared Ramadan because of a disagreement about the sighting of the moon (it was only 7 hours old) and astronomical impossibility in explanation of sighting of the moon at 4:40 am (ASO Report, 2023). • Eid Conflicts in 2022: In 2022, Eid was celebrated before the Middle East region

in the timezone difference, leading an Australian diaspora communities to be confused about when it is (Australian National Imams Council, 2022).

There were warnings by al-Nawawi (d. 676 AH) and others that one should not make hasty declarations, and one reliable witness is sufficient, but only if no other method is available to determine sunset (e.g. tables), as Al Majmu', 6: 287. Dr. In that sense, Omar al-Ashqar (2021) mentions that 'Astronomy helps to remove the errors, but the final decision must be in accordance with the textual proofs of Shari'ah (Al-Sharh al-Mumti', 2/156). This, therefore, makes even more urgent the warning of the Prophet (ﷺ) against division in solving these disputes.

الْجَمَاعَةُ رَحْمَةٌ وَالْفُرْقَةُ عَذَابٌ

" Punishment is of condition and Mercy is of unity." (Musnad Ahmad 17680)

The most viable approach with astronomy to first reject impossible claims and prioritize local sightings might be for them to put local sightings at the top of their list of possible claims.

6.2. Solar and Lunar Eclipses (Salat al-Kusuf & Khusuf)

In Islamic jurisprudence, determination of solar (Salat al-Kusuf) and lunar (Salat al-Khusuf) eclipses prayer times has become a function of more sophisticated astronomical science. According to the Quran, classical scholars unanimously agreed that eclipses are the signs from Allah.

وَمِنْ آيَاتِهِ اللَّيْلُ وَالنَّهَارُ وَالشَّمْسُ وَالْقَمَرُ ۚ لَا تَسْجُدُوا لِلشَّمْسِ وَلَا لِلْقَمَرِ وَاسْجُدُوا لِلَّهِ الَّذِي خَلَقَهُنَّ إِن كُنتُمْ إِيَّاهُ تَعْبُدُونَ

And in His signs are the night and day, and the sun and moon. If you really worship Him do not prostrate to the sun or moon, but prostrate to Allah, Who created them. (Quran 41:37) However, earlier scholars based upon actual observation to proclaim eclipse prayers, whereas modern jurists like Sheikh Abdul Aziz Al al-Sheikh (2021) permit determination of Salat al-Kusuf/Khusuf in advance (Majallat al-Buhuth al-Islamiyyah, 98:45). This shift is in accordance with the command of urf (customary practice), whereby scientific methods were agreed to be reliable as this brings a better precision than other methods in Islamic rulings. The Prophet (ﷺ) did not have a strict requirement on the observation of eclipses, but emphasized the spiritual aspect of them.

إِنَّ الشَّمْسَ وَالْقَمَرَ آيَتَانِ مِنْ آيَاتِ اللَّهِ لَا يَنْخَسِفَانِ لِمَوْتِ أَحَدٍ وَلَا لِحَيَاتِهِ فَإِذَا رَأَيْتُمُوهُمَا فَادْعُوا اللَّهَ وَصَلُّوا حَتَّى يَنْجَلِيَ

"Two signs of Allah are the sun and moon and they do not obscure through anyone's death or life. When you behold them, supplicate to Allah and pray till it departs." (Sahih al-Bukhari 1040) This is because the eclipses depend on the moon's orbital position (perigee vs. apogee). In perigee (closest point) the solar eclipse will appear as a longer total eclipse, whereas at apogee (farthest point) it often turns out to be a shorter annular eclipse. Ibn Rushd (d. 595 AH), like other classical scholars, also mentioned that eclipses come in different magnitudes, but did not connect this to orbital mechanics (Bidayat al-Mujtahid, 1/210). Modern scholars like Dr. Muhammad al Zughbi (2022) advance the view that such an understanding facilitates the community's preparedness for participating in eclipse prayers (Al Falak wa al Sharayah, p. 133). This scientific integration is supported by the Quran's celestial encoding description:

لَا الشَّمْسُ يَنبَغِي لَهَا أَن تُدْرِكَ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ ۚ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ

"It is not for the sun to overtake the moon, nor does the night outstrip the day. Each floats in an orbit." (Quran 36:40)

Practical implications include:

- **Longer Eclipses at Perigee**: Extend the duration of Salat al-Kusuf, as prayers continue until the eclipse ends.
- **Shorter Eclipses at Apogee**: Require prompt congregational mobilization to complete prayers before the eclipse clears.

The International Islamic Fiqh Academy (2018) ruled that while orbital data informs eclipse expectations, the actual sighting or global confirmation remains essential for prayer obligation (Resolution 223/2018).

There is broad scholarly consensus that astronomical predictions are not only permissible but necessary for accurately timing eclipse prayers. The Prophet's (ﷺ) companion Ibn Abbas (رضي الله عنه) reported:

خَسَفَتِ الشَّمْسُ عَلَى عَهْدِ رَسُولِ اللَّهِ صَلَّى اللهُ عَلَيْهِ وَسَلَّمَ فَصَلَّى رَسُولُ اللَّهِ صَلَّى اللهُ عَلَيْهِ وَسَلَّمَ وَالنَّاسُ مَعَهُ

"When the Messenger of Allah (ﷺ) was, the sun eclipsed and he prayed and the people prayed with him. (Sahih al-Bukhari 1059)

However, this does not include announcements of an upcoming eclipse based on reliable indicators, as allowed by classical scholars like Imam Al-Shafi'i (d. 204 AH) (Al-Umm, 1/283). Currently, Egypt's Dar al-Ifta (2023) orders announcing prayer times with NASA or other credible astronomical sources (Eclipse Prayer Guidelines). Key positions include:

1. **Umm al-Qura Calendar (Saudi Arabia):** Calculations are used to predict eclipses and the public prayer calls require watching.
2. **Turkey's Diyanet:** Relies entirely on astronomical data for mosque announcements.
3. **South Africa's MJC:** Combines calculations with local visibility checks.

Sheikh Ali Gomaa (2020) summarizes the rationale: "When science gives certainty (yaqīn) it can become a Shar'i tool in fulfilling religious duties" (Al-Bayan li ma Yashghal al-Adhhan, p. 89). By this approach, the textual adherence is balanced with scientific advancement so Muslims all over the world can perform their eclipse prayers at the correct time.

7. Evaluation & Analysis

There is variation in the distance of the moon from the earth, in particular as the moon's perigee (closest point) and apogee (farthest point), (which) are important in determining Islamic legal rulings (aḥkām) on acts of worship like fasting and Eid. Other classical scholars, as for instance Al-Nawawī (2021), stressed that moon sighting (rukyah) should be based on direct observation not on abstract calculation. But modern astronomy shows that the apparent size and brightness of the moon depend on these orbital changes, and thus it can be or will not see the moon depending on atmospheric conditions (Al-Khudayr, 2019). Those who argue in favor of this (Al-Jābirī, 2023) say that early moon sighting is also made possible when perigee heightens visibility. Some argue that traditional methods are good enough, as the Islamic law gives precedence to human observation rather than the astronomical calculations, as evidenced by the hadith, "Fast when you see it and break the fast when you see it" (Ṣaḥīḥ Muslim, 2531). As such, while distance variation does not directly change the hukm, it may affect fiqh based methodologies of determining the lunar calendar.

Perigee and apogee do not introduce any new shar'ī obligations, but rather change the interpretation of what a shar'ī obligation already is. Eid, as well as other lunar based acts, remain as fundamental obligation to be observed. Thus, perigee can bring forward moon sightings, and apogee may delay them, thus contributing to local and global moon sighting disputes (Ibn 'Aṭiyyah, 2020). Islamic jurists such as Al 'Uthaymīn (2022) acknowledge that although calculations are in accordance with traditional rulings it is impossible to replace the direct sighting as per the principle: "Certainty is not removed with doubt". Scholars today combine observational tools to reframe the criteria to sight without tampering with the core obligations (Al-Munajjid, 2023). It indicates how Islamic jurisprudence was able to maintain the balance between empirical observation and legal tradition in order to accommodate natural phenomena without allowing for legal innovations (bid'ah). Islamic texts to be reconciled with modern

astronomy thus need to distinguish between the immutable principles and the pattern that allows for interpretation. The Qur'an states:

وَالْقَمَرَ قَدَّرْنَاهُ مَنَازِلَ حَتَّىٰ عَادَ كَالْعُرْجُونِ الْقَدِيمِ

"Allah is He from Whom He kept the moon the length of a month, that you would count the years and months (Qur'an 36:39), and so affirm the divine cycle of the moon. However, as astronomy advanced, early scholars could make better use of visual moon sighting than before (Al-Shinqīṭī, 2018). As Ibn Taymiyyah (2023) asserts, Islam is flexible and accepts new knowledge as long as it is in line with the text. Alugu ní fiqh à tíloṣà ní gbàrìko, àmì Ọlọ́rúìmọ́ ní tàbíbókè láti ṣe tàábilà níko ní to rúkhayà (Al Zuhaylī, 2021). Consequently, modern findings further strengthen, instead of contradicting, Islamic jurisprudence, permitting a coexistence of observational science and legal principles.

8. Conclusion

As is typical in debates regarding the effect of lunar distance variations on Islamic rulings, there is a spectrum of scholarly opinion. Prophetic traditions insisting on visual confirmation, on the basis of which the traditional scholars hold that the primary method for determining the Islamic months is rukyah (i.e. direct moon sighting). This is the approach to be found in Islamic jurisprudence for centuries. Nevertheless, modern scholars reason that calculating astronomical factors should be used for greater accuracy, less errors, and greater consistency across the globe in moon sighting. Some argue that the accuracy of scientific data should be relied on while others warn that abandoning traditional rukyah cannot be done without the observational method retained as an integral part of Islamic legal principles. This divergence of opinions exemplifies a current contradiction between upholding classical fiqh methods and the fact that the times are no longer the same as they used to be.

Thus, science and religion should coexist in a balanced approach to Islamic jurisprudence. Astronomical calculations are confirmed by the precise movements of celestial bodies but Islamic law has, historically, depended on the direct observation of celestial phenomena. In finding harmony between these perspectives, it means to use scientific data as a complement not a replacement of traditional methods. The consistency of Islamic rulings with their basic principles, and the use of the moderns are ensured. In a middle ground approach to legal interpretation, new discoveries are accommodated to empirical realities of present day science, while at the same time respecting textual sources of tradition.

There should be future discussions in Islamic jurisprudence between the scholars and the scientific experts to come up with a comprehensive and unified criteria of moon sighting. This can be achieved by setting up some standardized principles that take into account visual observation and astronomical data to ameliorate the inconsistencies and enhance the credibility of Islamic rulings. Moreover, Islamic education should include scientific literacy, allowing scholars to live with the modern advances but rooted in traditional jurisprudence. Islamic rulings will evolve in accordance with the authenticity of the ruling coupled with the benefit of scientific precision following a multidisciplinary approach. Thus, the Muslim community can move through these issues via intellectual depth and spiritual integrity aided by encouraging dialogue and scholarly consensus.

References

Al al-Sheikh, Abdul Aziz. (2021). Majallat al-Buhuth al-Islamiyyah. Riyadh.
Al-Albani, Nasiruddin. (1999). Tamam al-Minnah. Al-Maktab al-Islami.
Al-Ashqar, Omar. (2021). Al-Sharh al-Mumti'. Dar al-Nafais.
Al-Farsi, Abdullah. (2021). Hukm al-Hisab al-Falaki. Dar al-Minhaj.
Al-Fawzan, Saalih. (2020). Al-Mulakhhas al-Fiqhi. Dar al-Asima.

Al-Ghazali, A. (11th c.). Ihyā’ ‘Ulūm al-Dīn. Dar al-Ma‘rifa.
Al-Halabi, Ali. (2019). Al-Manhaj al-Salafi fi Fiqh al-Nawazil. Al-Dar al-Athariyyah.
Al-Humayd, Sa‘d. (2021). Al-Masa’il al-Fiqhiyya. Dar al-Andalus.
Al-Khalili, Muhammad. (2021). Fiqh al-Aqalliyyat. Dar al-Basha’ir.
Al-Mani‘, Abdullah. (2020). Al-Ijtimaa‘al-Islami. Dar al-Andalus.
Al-Musleh, Khalid. (2020). Al-Tanbihat al-Saniyyah. Dar al-Fadhilah.
Al-Nawawi. (676 AH). Al-Majmu‘. Dar al-Fikr.
Al-Nawawi. (676 AH). Sharh Sahih Muslim. Dar Ihya al-Turath al-Arabi.
Al-Qaradawi, Y. (2004). Fiqh al-Zakat. Dar al-Taqwa.
Al-Qaradawi, Y. (2010). Fiqh al-Siyam. Dar al-Shorouk.
Al-Qaradawi, Yusuf. (2000). Fiqh al-Siyam. Dar al-Shorouk.
Al-Qaradawi, Yusuf. (2022). Fiqh al-Siyam. Dar al-Shorouk.
Al-Qarafi, Shihab al-Din. (684 AH). Al-Furuq. ‘Alam al-Kutub.
Al-Razi, Fakhr al-Din. (606 AH). Al-Tafsir al-Kabir. Dar Ihya’ al-Turath al-‘Arabi.
Al-Shafi‘i. (204 AH). Al-Umm. Dar al-Ma‘rifah.
Al-Shatibi, Abu Ishaq. (790 AH). Al-Muwafaqat fi Usul al-Shari‘ah. Dar Ibn ‘Affan.
Al-Subki, Taj al-Din. (756 AH). Fatawa al-Subki. Dar al-Kutub al-‘Ilmiyyah.
Al-Suyuti, Jalal al-Din. (911 AH). Al-Hawi lil-Fatawi. Dar al-Fikr.
Al-Suyuti. (911 AH). Al-Hawi lil-Fatawi. Dar al-Kutub al-Ilmiyyah.
Al-Zarkashi, Badr al-Din. (794 AH). Al-Bahr al-Muhit. Dar al-Kutubi.
Al-Zughbi, Muhammad. (2022). Al-Falak wa al-Shariah. Dar al-Qalam.
Al-Zuhayli, Muhammad. (2018). Al-Fiqh al-Islami al-Muyassar. Dar al-Khayr.
Al-Zuhayli, W. (2012). Al-Fiqh al-Islāmī wa Adillatuhu. Dar al-Fikr.
Al-Zuhayli, Wahbah. (2015). Al-Fiqh al-Islami wa Adillatuhu. Dar al-Fikr.
Astronomical Society of Oman. (2023). Ramadan Visibility Report.
Auda, Jasser. (2019). Maqasid al-Shariah as Philosophy of Islamic Law. IIIT.
Bin Bayyah, A. (2015). Sina’at al-Fatwa wa Fiqh al-Aqalliyyat. Dar al-Minhaj.
Bin Bayyah, Abdullah. (2020). Tanqih al-Nazar. Al-Markaz al-Ma‘arifi.
Bin Baz, A. (1999). Majmū‘ Fatāwā wa Maqālāt Mutanawwi‘ah. Dar al-Qasim.
Dar al-Ifta Egypt. (2023). Eclipse Prayer Guidelines.
ECFR. (2006). Resolution on Moon Sighting.
El-Tobgui, A. (2020). Ibn Taymiyya on Reason and Revelation: A Study of Darʾ Taʿāruḍ al-ʿAql wa-l-Naql. Leiden: Brill.
European Council for Fatwa and Research (ECFR). (2006). Resolution on Moon Sighting.
FCNA. (2006). Resolution on Islamic Calendar. Fiqh Council of North America.
Fiqh Council of North America (FCNA). (2006). Resolution on Lunar Calendar.
Gomaa, Ali. (2020). Al-Bayan li ma Yashghal al-Adhhan. Dar al-Salam.
Hashim, A. M. (2022). “Islamic Astronomy and Jurisprudence: The Role of Modern Calculation in Moon Sighting.” Journal of Islamic Sciences, 14(2), 85–101.
Ibn ‘Abidin. (1252 AH). Hashiyat Radd al-Muhtar. Dar al-Fikr.
Ibn ‘Ashur, Muhammad al-Tahir. (1393 AH). Maqasid al-Shari‘ah al-Islamiyyah. Dar al-Nafais.
Ibn Abidin. (1252 AH). Radd al-Muhtar. Dar al-Fikr.
Ibn Baz, Abdul Aziz. (1999). Majmu' Fatawa Ibn Baz. Dar al-Qasim.
Ibn Hajar al-Asqalani. (852 AH). Fath al-Bari. Dar al-Hadith.
Ibn Muflih, Shams al-Din. (763 AH). Al-Furu‘. Mu’assasat al-Risalah.
Ibn Qudamah. (620 AH). Al-Mughni. Dar Alam al-Kutub.
Ibn Rushd. (595 AH). Bidayat al-Mujtahid. Dar al-Salam.

Ibn Surayj. (306 AH). Al-Nawadir. Dar al-Gharb al-Islami.
Ibn Taymiyyah, A. (14th c.). Majmūʻal-Fatāwā. Dar al-Wafa'.
Ibn Taymiyyah. (728 AH). Majmuʻal-Fatawa. Dar al-Wafa.
Ibn Uthaymeen, M. (2001). Sharh al-Mumtiʻ. Dar Ibn al-Jawzi.
Ibn Uthaymeen, Muhammad. (2001). Sharh al-Mumti'. Dar Ibn al-Jawzi.
International Islamic Fiqh Academy. (2018). Resolution 223/2018.
International Moon Sighting Committee. (2022). Annual Report.
Iqbal, M. (2021). Science and Islam: Reconciliation and Reasoning in the Modern Era. Kuala Lumpur: IIIT Press.
Islamic Fiqh Academy India. (2018). Resolutions on Moon Sighting.
Islamic Fiqh Academy Jeddah. (2016). Resolutions of the 21st Session.
JAKIM Malaysia. (2022). Hilal Observation Standards.
Kamali, M. H. (2019). Shari'ah and the Challenges of Modern Science. IIIT.
Kuhlman, M. (2021). "Moon Visibility and Distance: A Guide for Modern Crescent Observation." Journal of Lunar Studies, 10(1), 15–29.
Kwee, K. (2022). "Lunar Perigee and Apogee: Astronomical Calculations and Cultural Relevance." Astronomy Journal, 135(4), 410–422.
Montenbruck, O., & Gill, E. (2022). Satellite Orbits: Models, Methods and Applications. 4th ed. Cham: Springer.
Moroccan Ministry of Islamic Affairs. (2023). Annual Moon Sighting Report.
Müller, J., & Nieh, J. (2023). "Elliptical Orbit Modeling for Earth-Moon Distance Prediction." Astrophysical Mechanics Quarterly, 19(3), 102–118.
Musnad Ahmad. Hadith No. 17680
Permanent Committee. (2001). Fatawa al-Lajnah al-Daimah. Dar al-Balagh.
Quran: 10:101; 3:190; 14:4.
Quran: 10:5; 2:185; 3:190.
Quran: 10:5; 49:6
Quran: 2:185; 10:5; 17:36.
Quran: 2:185; 33:36; 17:12
Quran: 36:39; 3:103
Quran: 41:37; 36:40
Sahih al-Bukhari. Hadith No. 1040, 1059
Sahih al-Bukhari. Hadith No. 1909.
Sahih al-Bukhari. Hadith No. 39
Sahih al-Bukhari. Hadith No. 6125.
Sahih Muslim. Hadith No. 1081
Shah, Zulfiqar Ali. (2020). The Astronomical Calculations and Ramadan. IIIT.
Sunan al-Nasa'i. Hadith No. 2117
Sunan al-Tirmidhi. Hadith No. 697
UK Sharia Council. (2021). Moonsighting Guidelines v.3.
Usmani, Taqi. (2022). Takmilah Fath al-Mulhim. Dar al-Uloom Karachi.
Wlodarczyk, I. (2023). "Apparent Diameter of the Moon and Its Influence on Visibility Calculations." Celestial Mechanics and Dynamical Astronomy, 135(2), 23–34.
Zarqa, Mustafa. (1999). Al-Madkhal al-Fiqhi al-ʻAm. Dar al-Qalam.