An Analytical Introduction to the *Fiqh* of Moonsighting

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1. The Insufficiency of Moonsighting in One Country for Distant Lands

Question (1): His Eminence Ayatollah al-Khoei (may his soul be sanctified) in his book *Minhāj al-Ṣāliḥīn, discussed* the reasoning behind his edict (*fatwā*) that the sighting of the moon in one country is sufficient for other countries that share part of the night, even if the beginning of the night in one country is at a different time from the end of the night in another country. He presented two arguments in support of this: one scientific and one religious, along with some supporting evidence.

However, our esteemed Marjaʿ (may his shadow endure), who adapted the *Minhāj* according to his own edicts and disagreed with his late teacher on this matter, omitted the entire discussed proof in his work. This may have been due to the inappropriateness of such a discussion in a book dedicated for the sake of edicts (*fatāwa*). Nevertheless, by doing so, he deprived scholars and students of insight into his distinguished opinion on this matter, a topic that remains the subject of ongoing debate. It would be greatly appreciated if a concise explanation of His Eminence's (may his shadow endure) view on this issue, in response to what was presented by Ayatollah al-Khoei (may his soul be sanctified), could be provided. Thank you.

Answer: Ayatollah al-Khoei (may Allah's pleasure be upon him) stated in his argument for his position: ***"Two things signify this to us:* (*First:*) *The lunar months begin based on the movement of the moon and its specific position relative to the sun in its natural orbit. At the end of the orbit, it enters the sun's rays, and during this phase* (*i.e. the new moon phase*)*, it cannot be seen from any point on Earth. Once it***

moves out of this phase and becomes visible, the lunar month ends and a new one begins.

It is clear that the moon leaving this position marks the beginning of a new lunar month for all parts of the Earth, regardless of their east or west. Even if the moon is visible in some areas and not in others, due to an external factor such as the sun's rays or geographic obstructions and so on, it is not related to the moon's exit from the state of conjunction (i.e. the new moon phase). This phenomenon is unique and can only occur once in the universe; it does not vary with different locations, unlike the sunrise, which is specific to each location and happens at a distinct time for every region.

In light of this explanation, it becomes clear that comparing this cosmic phenomenon to the rising and setting of the sun is flawed. The Earth, due to its spherical shape, naturally has a specific sunrise and sunset for each location, so there cannot be a single sunrise or sunset for the entire Earth. This is different from the moon's exit from the shadow of the sun, which, due to its lack of a connection to specific locations on Earth, does not change based on geography.

As a result, the sighting of the crescent moon in one country is a definitive sign (amāra qaṭʿiyya) that the moon has moved out of its relative position to the sun and marks the start of a new lunar month for all of humanity, not just for the country where it was sighted or the areas that share the same horizon.

Hence, the popular opinion (mashhūr) that countries must be unified in their horizons, is based on the mistaken belief that the moon's exit from the sun's rays in different parts of the Earth is akin to sunrise and sunset. However, as you have understood, the moon's departure from this state is not connected to any particular location on Earth, since its state remains the same whether the globe was present or not."[1]

It should be noted regarding what his Eminence (may his soul be sanctified) has stated that, while there is a distinction between the phenomena of day and night and the phenomena of the new moon,

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[1] *Minhāj al-Ṣāliḥīn* by Sayyid Abū l-Qāsim al-Mūsawī al-Khūʾī, vol. 1, p. 280, 2nd edition.

crescent, full moon, and other phases of the moon, the difference lies in that day and night occur in different parts of the Earth depending on their alignment with the sun. As for the moon's phases, such as the new moon, crescent, full moon, and the decrease back to the new moon phase, this pertains to the observer on the Earth's surface. In reality, the moon is in a constant state: half of it, not facing the sun, is always dark, and the other half, facing the sun, is always illuminated, except during an eclipse. If one were to observe the moon from space, between the Earth and the sun, it would always appear full, unless it is eclipsed by the Earth's position between it and the sun.

In summary, while the difference between the phases of the moon and the cycle of day and night is valid in its origin, it does not logically imply that the beginning of the lunar month for all people on Earth starts at the same time with the moon's exit from the sun's shadow, as his Eminence (may his soul be sanctified) argued in the previous statement. This would only hold true if the custom, as approved by divine law, had adopted this as the beginning of the lunar month, but this is certainly incorrect. Otherwise, it would necessitate that the beginning of the lunar month for half of the Earth's hemisphere would occur during the daytime, which is not supported by custom, as the month is understood to begin at night.

This is also what is understood from the religious texts. The reliable narration (*muʿtabara*) of Ḥammād b. ʿUthmān, from Abū ʿAbd Allāh (peace be upon him) states: *"If they see the crescent before midday, it is for the previous night; if they see it after midday, it is for the coming night."*[2]

Also, in the report of ʿUmar b. Yazīd: *"I said to Abū ʿAbd Allāh (peace be upon him): 'The Mughīriyya claim that this day is for the upcoming night.'* He said: *'They have lied; this day is for the previous night. As for the people of Baṭn Nakhla,*[3] *where they saw the crescent, they said: The sacred month has begun.'"*[4]

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[2] *Al-Kāfī*, vol. 4, p. 78.

[3] Baṭn Nakhla: A place between Mecca and Taif.

[4] *Al-Kāfī*, vol. 8, p. 322.

His Eminence (may his soul be sanctified) later became aware of this issue[5] and based his conclusion on the idea that when the crescent is sighted in one location, the beginning of the month is confirmed for places that share part of the night, even if the beginning of the night in one place is the end of the night in another. As for places where the night ends and day arrives before the night in the place of sighting, the beginning of the month would be the following day.

For example, if the crescent is sighted in Nouakchott (the capital of Mauritania) on a Saturday night, but after the night has ended in Sydney (the capital of Australia), the beginning of the month would be on Saturday in the place of sighting and its neighbouring areas that share part of the night. However, in Australia and similar places, it would be on Sunday.

However, by adhering to this, his Eminence (may his soul be sanctified) acknowledged that the beginning of the lunar month is a relative matter that differs depending on the location on Earth, and it is not the same everywhere, which he had originally claimed.

Though this is a form of relativity, there is another form which corresponds to the view that the determination of the beginning of the lunar month in any place is based on the visibility of the crescent in the horizon of that place. It is essential to observe that both customary and religious evidence supports one of these two views. Which one should we adopt?

It can be argued that the second view is supported, and the evidence is as follows:

The First Evidence: The lunar month, i.e. the time between two crescents, was a time measure used by the Arabs before Islam. The term "month" in their language originally referred to the moon, which was named for its prominence and visibility. It was then applied to the period between two crescents because it is marked by the moon, and it is distinguished by the beginning and the end of this period.[6]

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5 *Mustanad al-ʿUrwat al-Wuthqā* (*Kitāb al-Ṣawm*), vol. 2, p. 119.

6 See: *Maqāyīs al-Lugha*, vol. 3, p. 222; *Tahdhīb al-Lugha*, vol. 6, p. 50; and *al-Muḥkam wa-l-Muḥīṭ al-Aʿẓam*, vol. 4, p. 185.

The Arabs adopted the lunar months as their primary time measurement system,[7] and they did not rely on the solar months, which were used by the Persians and Romans, although many aspects of life, such as agriculture, depend on the solar year's seasons. The reason they preferred the lunar months was that it was a time measure that did not require complex calculations, unlike the solar months.[8] It also suited their regions, where the sky was mostly clear throughout the

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7 Some researchers have suggested that the Arabs partially used the solar calendar (See: *al-Mufaṣṣal fī Tārīkh al-ʿArab qabl al-Islām*, vol. 6, p. 505).

8 Shaykh al-Raḍī said in *Sharḥ al-Kāfiya*, vol. 3, p. 312: "Know that, in the reckoning of the Arabs, the night precedes the day, because their years are based on the lunar months. This is because most of them were people of the open lands (the deserts), for whom it was difficult to know the beginning of the month except through moon-sighting (*al-istihlāl*). So when they saw the crescent, they knew that the month had begun. Thus, the beginning of the month for them was the night, because moon-sighting occurs at the beginning of the night."
And Sayyid al-Ṭabāṭabāʾī said in *al-Mīzān fī Tafsīr al-Qurʾān*, vol. 2, p. 56: "By his very creation, the human being necessarily needs to measure his actions and activities—all of which are of the nature of movement—by time. This in turn necessitates that continuous time, upon which their affairs unfold, be divided into smaller and larger segments such as night and day, the day, the month, the seasons, and the years, through divine care that administers the affairs of His creation and guides them towards the proper ordering of their lives. The evident form of this division—from which both the learned and the ignorant, the Bedouin and the urban dweller benefit, and which is easy for all to retain—is the division of days by lunar months. This is something grasped by every person of sound perception and unimpaired senses, unlike the solar months, whose significance and whose precise calculation were not recognised by humankind until centuries and long epochs after the beginning of life on Earth, and even then, they are not always within the capacity of all people."

year, making it easy to determine the days of the month simply by observing the moon at night.[9]

The alignment with their reliance on lunar months, rather than solar months, is that the determining factor for the beginning of the month in any place should be the possibility of sighting the crescent in that location. This is something accessible to all, both the urban and the Bedouin, whether close to the first place where the crescent is seen or far from it. However, using the criterion of the moon's appearance and its visibility in a distant place, such as the Roman or Persian lands or some seas, where the location shares part of the night, does not align at all with the reason for their reliance on lunar months. It is a measure not accessible to everyone, as it is clear that one cannot verify the moon's sighting in distant places except through precise scientific calculations or with the availability of fast communication methods, which they did not have.

In other words: If their foundation was that the criterion for the beginning of the lunar month is the sighting of the crescent, even in very

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[9] And perhaps among the manifestations of the Arabs' reliance on the states of the moon in determining the days of the month is their concern with assigning specific names to them.
al-Masʿūdī said in *Murūj al-Dhahab*, vol. 2, p. 193: "The Arabs used to describe the moon on every night of the month according to its illumination and other features, by way of question and answer. They would say: it was said to the moon, 'What are you, son of one night?' It would say: 'The suckling of a young ewe whose people have settled at Ramīla.' It was said: 'Then what are you at two nights?' It would say: 'The offspring of two slave-girls…'"
And he said on p. 195: "The Arabs used to name the first three nights of the month, saying: 'three *ghurar*' (bright beginnings), and the three that follow them: 'three *sumar*', and the three that follow them: 'three *zuhar*'… Then he said: As for what the Arabs adopted in naming the moon, they call it '*hilāl*' on the night of its rising, and as long as it has not yet become round it is a '*hilāl*'. Then they call it '*qamar*' when it becomes round, and when it grows thick and luminous they call it '*qumayr*.'"

distant places, this would necessitate that they would not deny the entry of the new month in their own regions simply due to the absence of the moon's appearance—with clear skies and no potential obstacles to sighting—except as a temporary situation until news arrives from other places regarding whether the crescent was seen. This is similar to a situation where the sky is clouded over, and they could not sight the moon. It is evident, however, that this was not the case.

In conclusion, there should be no doubt that what was considered the criterion for the beginning of the lunar months among the Arabs before Islam was precisely what was mentioned earlier, and not what was suggested by his Eminence (may his soul be sanctified).

When the noble Islamic religion came, it confirmed the Arabs' reliance on lunar months. Allah, the Mighty and Majestic, says: *"***They ask you about the crescent moons. Say: 'They show the times appointed for people (*mawāqīt*), and for the pilgrimage.***"* [Q2:189], meaning they are designated times for people's affairs, both in their worldly and spiritual matters. The Sacred Law based its rulings and legislations on the lunar months, and there was no indication from it to reject what had become the established practice regarding the criterion for the beginning of the lunar month. Had there been such a ruling, it would have become well-known and widely acknowledged, as is apparent.

The Second Evidence: The consequence of adhering to the idea that the month begins in countries to the east of the place of sighting due to their sharing part of the night with it is either that the night would be divided between two months, the first part before the crescent was seen, which would belong to the previous month, and the remainder would belong to the new month, or the beginning of the month would occur before the crescent is visible in any place on Earth. Both scenarios are far from people's conventional understandings (*murtakazāt ʿurfiyya*).

The Third Evidence: The implication of using the criterion of sighting the crescent for the beginning of the new month, even in a place very far from the location of the person concerned, is that the fast, breaking of the fast, Hajj, and other religious duties of the Prophet (peace be upon him and his progeny) and the Imams (peace be upon

them), which have fixed days within the lunar months, would not often fall on their actual days. This is because it is clear that they (peace be upon them) relied on the sighting of the crescent in their own regions or nearby areas. Even though, in many cases, the crescent was visible the night before in very distant places, as demonstrated by modern computer programs that show the moon's position for thousands of years past and future.

For example, in many instances, the crescent of Shawwāl, for instance, would be visible in Australia, South Africa, or South America on a Saturday night. However, because it was not visible in Medina or Iraq that night, a situation that happens frequently in our time, the Prophet (peace be upon him and his progeny) or the Imam (peace be upon him) would fast that day, even though, in reality, it was the day of Eid al-Fitr, on which fasting is not prescribed. This, in itself, is quite far-fetched.

It is increasingly far-fetched by the fact that the Prophet (peace be upon him and his progeny) and the Imams (peace be upon them) were fully aware of the moon's position in other places. This knowledge only required precise scientific calculations to determine the height of the crescent above the horizon, its angular distance from the sun, and the ratio of the illuminated portion of the moon to its largest diameter. Such calculations were not beyond the expertise of the Arabs or others skilled in astronomy, even during their time (peace be upon them). Once it was known that the crescent would be visible in Australia, for example, with an elevation of twelve degrees and a distance of eight degrees from the sun, and that the illuminated portion would be, say, 3%, it would then be certain that it could be seen with the naked eye in those countries, provided there were no obstructions such as clouds, even if it was not visible in the Arabian Peninsula or Iraq. There is no need for knowledge of the unseen (*ʿilm al-ghayb*) to suggest that the Prophet (peace be upon him and his progeny) and the Imams (peace be upon them) did not use this method in these matters.

In fact, knowing this, in general terms, did not require precise scientific calculations. It was sufficient for people to learn from experience and observation the conditions of various places and countries in terms of the visibility of the crescent, which was well-known to many.

Regardless, there is no doubt that the fasting of the Prophet (peace be upon him and his progeny) and the Imams (peace be upon them), as well as their breaking of the fast, was based on the sighting of the crescent in their countries or nearby regions, even if, in reality, the crescent was capable of being sighted earlier in distant places, such as the Levant or Abyssinia.

One of the narrations that confirms this, is the narration from Abū ʿAlī b. Rāshid (may Allah be pleased with him), who said: *"Abū al-Ḥasan al-ʿAskarī* (*peace be upon him*) *wrote to me a letter, dating it Tuesday, the last night remaining of Shaʿbān in the year 232 AH. Wednesday was a day of doubt, and the people of Baghdad fasted on Thursday. They informed me that they saw the crescent on Thursday night, and it did not set until a long time after twilight. I thought that Thursday was the first day of Ramaḍān and that the month began on Wednesday in Baghdad. Then he wrote to me: 'May Allah increase your success, for you have fasted with our fast.' Later, I met him and asked him about what he had written. He said: 'Did I not write to you? You fasted on Thursday, and you should fast only on the basis of sighting* (*ruʾyā*)*.'"*[10]

The significance of citing this narration lies in the explicit statement by Imam al-ʿAskarī (peace be upon him) that Thursday was the first day of *Ramaḍān* whether in his place of residence (peace be upon him), the enlightened city of Medina,[11] or in the place of the questioner, Baghdad. This was the case even though precise astronomical calculations indicate that the crescent of Ramaḍān was clearly visible

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[10] *Tahdhīb al-Aḥkām*, vol. 4, p. 167.

[11] Ibn al-Jawzī said in *al-Muntaẓam*, vol. 3, p. 364, under the events of the year 233 AH:
"In this year, Yaḥyā b. Harthamah—who was also the governor of the path to Mecca—arrived with ʿAlī ibn Muḥammad b. ʿAlī al-Riḍā b. Mūsā b. Jaʿfar (peace be upon them) from Medina."

on the night of Wednesday, corresponding to April 20, 847 CE, in most of Africa and the Americas.

The Fourth Evidence: The report of Muʿammar b. Khallād, from Abū al-Ḥasan (peace be upon him), [Muʿammar] said: *"I was sitting with him on the last day of Shaʿbān, and I did not see him fasting. A meal was brought to him, and he said, 'Come closer.' This was after the afternoon prayer. I said to him, 'May I be sacrificed for you, did you fast today?' He said, 'Why not?' I said, 'It has been reported from Abū ʿAbd Allāh (peace be upon him) that he said regarding the day of doubt: 'It is a day where success has been granted to them.' He said, 'Do you not know that this is when someone does not know if it is from Shaʿbān or from Ramaḍān? If a person fasts that day and it is from Ramaḍān, it is considered a day where success was granted to them. However, if there is no doubt or confusion, then no...'"*[12]

The relevance of this narration is that Imam al-Ḥasan (peace be upon him) based the requirement for precautionary fasting on the day following the 29th of Shaʿbān on the uncertainty of whether the day belongs to Shaʿbān or to Ramaḍān. In this context, the most that can be inferred from a clear sky and no clouds or obstruction to moonsighting in the region is that it would be known that the crescent has not been seen in a manner visible to the naked eye. If it were sufficient to rely on the possibility of the crescent being seen, even in the horizon of another country, then that day would also be considered uncertain, as it would not be clear whether it is from Shaʿbān or Ramaḍān. Thus, the Imam (peace be upon him) does not recommend fasting on that day as a precaution, and this is apparent.

The Fifth Evidence: The reliable narration (*muʿtabara*) of Muḥammad b. ʿĪsā, in which he said: "*Abū ʿAmr wrote to him: 'Inform me my master, it sometimes happens that the crescent of Ramaḍān is uncertain, and we do not see it while the sky is clear of any obstructions. The people do not fast, and we likewise do so with them, and some people from the scholars of astronomy say that it will be seen that same night in Egypt, Africa, and Andalusia. Is it permissible, my master, to accept what*

[12] *Tahdhīb al-Aḥkām*, vol. 4, p. 166.

the astronomers say in this regard, even if it causes a difference in the fasting of the cities, so that their fasting and breaking of fast differ from ours?' He (*peace be upon him*) *wrote back, 'Do not fast on the basis of doubt. Break your fast when you see the crescent, and fast when you see the crescent.'"*[13]

The significance of this narration lies in the questioner's acknowledgment of the concept of differing horizons, as he did not doubt that, if the astronomers' calculations were correct and the crescent was visible that night in Egypt, Africa, and Andalusia, the obligation of fasting would be different for the people of those regions. This shows that, in his understanding, the fasting of Ramaḍān would only be obligatory for those who could see the crescent in their respective lands. It never occurred to him that the people in his own city might still be required to fast, even though the crescent was not visible there, simply because it had been seen in another country.

As for the Imam's (peace be upon him) response, it does not signify a rejection of this understanding, but rather confirms it by stating that

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[13] *Tahdhīb al-Aḥkām*, vol. 4, p. 159. It is to be noted that the Shaykh (may his soul be sanctified) began this narration by naming Muʿammar b. Khallād, for whose book there exists an authentic (*ṣaḥīḥ*) chain of transmission to in *al-Fihrist*. However, it is highly unlikely that he was the actual source of the narration, since the Shaykh does not begin with his name except in this single instance. What is more likely is that the chain of transmission to it is the one mentioned in the thirty-third narration, in which ʿAlī b. Muḥammad b. Yaʿqūb appears, and he has not been deemed reliable. The fact that he is among the shaykhs of Ibn Qūlawayh in *Kāmil al-Ziyārāt* is of no benefit here.

As for what appears in some copies of *al-Tahdhīb*, where he is mentioned as being conjoined with Muḥammad b. ʿAlī b. al-Faḍl, who is trustworthy, this is an obvious error. For this would entail Ibn al-Faḍl narrating from ʿAlī b. al-Ḥasan b. Faḍḍāl, which is not possible according to the generational strata (*ṭabaqāt*), since the former belongs to the tenth generation while the latter belongs to the seventh. This is in addition to the repeated occurrence of Ibn al-Faḍl narrating from Ibn Yaʿqūb.

fasting should only occur when the crescent is seen, whether in their own region or not.

This is the most important evidence that can be used to support the view that the criterion for the beginning of the lunar month in each location is based on the visibility of the crescent in that place.

Then Ayatollah al-Khoei (may his soul be sanctified) said: "***The second: The texts supporting this position, among them we shall mention…"***

1. ***The authentic narration (ṣaḥīḥa) of Hishām b. al-Ḥakam, from Abū ʿAbd Allāh (peace be upon him), who said regarding someone who fasts on the twenty-ninth day: "If he has just testimony (bayyina) from the people of a city (miṣr) that they fasted thirty days based on the sighting, he should make up one day."***[14]

This narration through its absoluteness (iṭlāq), signifies that if the month is thirty days in one city, it is also thirty days in other lands, without any distinction between whether these lands share the same horizon or not. If the term "city" were meant to refer to the specific location with the same horizon as the place of the questioner, then the Imam (peace be upon him) would have clarified that. The lack of such clarification, despite the fact the Imam (peace be upon him) was in a position to clarify (maqam al-bayān), demonstrates the absolute nature of this statement.

2. ***The authentic narration (ṣaḥīḥa) of Abū Baṣīr, from Abū ʿAbd Allāh (peace be upon him), in which he was asked about the day that should be made up from Ramaḍān: "Do not make it up unless two just witnesses from all the people of prayer testify when the beginning of the month is." He also said: "Do not fast on that day unless the people of the cities make it up, and if they do, then fast."***[15]

The relevance of this narration lies in two parts:

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[14] *Tahdhīb al-Aḥkām*, vol. 4, p. 158.

[15] *Tahdhīb al-Aḥkām*, vol. 4, p. 157.

> ***Firstly: The statement "Do not make it up unless two just witnesses from all the people of prayer testify when the beginning of the month is" signifies, in the clearest manner, that the beginning of the lunar month is the same for all the people of prayer, regardless of their country and horizons. It does not differ according to the different horizons of the lands.***
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> ***Secondly: The statement "Do not fast on that day unless the people of the cities make it up" further confirms that the lunar month does not vary based on the different horizons of the cities, and it is the same for all the inhabitants of the lands and cities.***

In other words, this statement also signifies that the sighting of the crescent in a city is sufficient for the other cities, whether they share the same horizon or not, because the ruling on the confirmation of the crescent (the moon's exit from the new moon phase) applies universally to all people on Earth, not just to a specific region.

3. ***The authentic narration (ṣaḥīḥa) of Isḥāq b. ʿAmmār in which he said: "I asked Abū ʿAbd Allāh (peace be upon him) about the crescent of Ramaḍān being unclear to us on the twenty-ninth of Shaʿbān. He said: 'Do not fast unless you see it, and if the people of another town testify that they saw it, then make up the fast.'"***[16]

This authentic narration (ṣaḥīḥa) also apparently signifies, through its absoluteness (iṭlāq), that the sighting of the crescent in one place is sufficient for its confirmation in all other places, regardless of whether these places share the same horizon or not. Otherwise, it would have been restricted (taqyīd), due to the fact that Imam (peace be upon him) was in a position to clarify (maqam al-bayān).

4. ***The authentic narration (ṣaḥīḥa) of ʿAbd al-Raḥmān b. Abī ʿAbd Allāh, who said: "I asked Abū ʿAbd Allāh (peace be upon him) about the crescent of Ramaḍān when it is obscured to us on the twenty-ninth of Shaʿbān. He said: 'Do not fast unless you***

[16] *Tahdhīb al-Aḥkām*, vol. 4, p. 158.

see it, and if the people of another town testify that they saw it, then make up the fast.'"[17]

This narration is akin to the previous one in terms of signifying what we have previously mentioned.

Critical notes on the explanations provided by Ayatollah al-Khoei (may his soul be sanctified):

1. Regarding the authentic narration (*ṣaḥīḥa*) of ʿAbd al-Raḥmān b. Abī ʿAbd Allāh and Isḥāq b. ʿAmmār, the context is one of doubt about whether the month of Ramaḍān had begun due to the uncertainty of the crescent being visible in the sky, obscured by clouds or other factors. These narrations do not apply to a situation where the moon is certainly not visible in the sky, and the doubt stems from the possibility of the crescent being visible in another place that shares part of the night.
   To clarify: The subject of the question in both reports is when the crescent of Ramaḍān is obscured (*ghamma*), and "*ghamma*" linguistically means "to conceal." However, it is clear that what is intended here is not the concealment of the crescent by clouds, for if that were established, it would suffice for the establishment of the month, since actual sighting is not required in that case, as is apparent. Therefore, the attribution of concealment to the crescent must be a figurative attribution (*isnād majāzī*), meaning the attribution to its place (*isnād al-maḥall*); namely, the concealment of the rising-place (*maṭlaʿ*) of the crescent by the clouds. Thus, it refers to doubt about the existence of the crescent at its rising-place in the horizon of the locality.
   The substance of the question is as follows: If clouds—meaning white or thin cloud cover—obscure the rising point of the crescent, such that there is doubt as to whether the crescent exists behind them, what is the duty of the legally responsible person (*mukallaf*) at that point? The Imam (peace be upon him) replied that fasting that day is not obligatory if the crescent is not seen;

[17] *Tahdhīb al-Aḥkām*, vol. 4, p. 157.

however, if the people of another town testify that they saw it that night, then making up the fast becomes obligatory. The purport of this, in light of the correlation between the ruling and its subject matter (*munāsabāt al-ḥukm wa-l-mawḍūʿ*), is that if doubt concerning the existence of the crescent in the horizon of one's own town is removed by observing the sighting of the crescent in another nearby town, such that this establishes the crescent's existence in the horizon of the first town, and that it was merely concealed by clouds from observers, then making up the fast becomes obligatory.

Accordingly, the term "town" (*balad*) in the two narrations is not to be understood absolutely, whereby it would include distant towns whose sighting of the crescent cannot possibly serve as evidence for its existence in the horizon of the *mukallaf*; such as where the non-appearance of the crescent in that horizon has been ascertained, or where doubt remains despite certainty that it was sighted in another town.

2. The authentic narration (*ṣaḥīḥa*) of Hishām b. al-Ḥakam cited, and likewise, the reliable narration of Samāʿa,[18]—in which he asked Abū ʿAbd Allāh (peace be upon him) about a day of Ramaḍān concerning which there is disagreement, he said: "If the people of a town unite upon fasting it on the basis of sighting, then make it up, provided they are five hundred persons"—do not apply to the issue under discussion. This is because they are addressing a different matter, namely the condition that there be no conflicting legal evidence (*muʿāriḍ ḥukmī*) that opposes the testimony concerning the sighting of the crescent in the other town. In other words, the sighting must be established either through decisive, widespread transmission or through a testimony that is not contradicted by a counter-testimony negating it. This is apparent in the narration of Hishām, whereby the Imam (peace be upon him) stipulated the establishment of

[18] *Man lā Yaḥḍuruhu l-Faqīh*, vol. 2, p. 77.

testimony regarding the fasting of the people of the town. The expression "the people of the town" is used with regard to their collective agreement upon the confirmation of sighting, which typically only occurs through decisive widespread transmission or through testimony that has not been opposed by negating evidence. This is what is referred to in other narrations as well,[19] where sighting is described as one person saying, "I saw it," and so the people respond: "You have spoken the truth," or where "One sees it then ten see it, and when ten see it, a thousand see it."

In summary, the intent is to emphasise establishment of proof (*qiyām al-ḥujja*) and to ensure its confirmation among the people of that city. The mere presence of two witnesses claiming sighting, in isolation, is not sufficient, such as where they alone claim to have seen it despite the presence of many others engaged in moon-sighting.

Even clearer than the authentic narration (*ṣaḥīḥa*) of Hishām in this respect is the reliable narration (*muʿtabara*) of Samāʿa, which commands making up the fast (*qaḍāʾ*) when the people of the town unite upon fasting on the basis of sighting and they number at least five hundred persons.

If, therefore, the Imam (peace be upon him) in both narrations was addressing this point, then it cannot be justified to read his statement absolutely, such that it would include a town whose horizon is not established as being shared with that of the *mukallaf*. For it has been established in its proper place in the science of legal theory (*ʿilm al-uṣūl*) that whenever it is ascertained that the speaker is in the position to clarify (*maqām al-bayān*) from one aspect and there is doubt about whether he is in the position to clarify from another aspect, there is no rational principle (*aṣl ʿuqalāʾī*) that requires him to be in the position to clar-

[19] *Tahdhīb al-Aḥkām*, vol. 4, pp. 156, 164.

ify from the second aspect also, whereby one could then understand all aspects of the statement in an absolute manner (*muṭlaq*).

3. As for the subject matter (*mawḍūʿ*) in the two narrations of Abū Baṣīr, or for the sake of precision, the two statements from a singular narration, as expressed by his Eminence (may his soul be sanctified), then they only concern "the day that is made up from the month of Ramaḍān." From this expression it is understood that some people used not to fast the day of doubt as an obligatory fast, but would later make it up after the end of Ramaḍān. The Imam (peace be upon him) prohibited making up that day unless prior sighting of the crescent was established. Given that it is not certain that the phrase "the day that is made up from the month of Ramaḍān" refers to every instance of a day of doubt; rather, it is plausible that it refers specifically to the day in which doubt arose due to the presence of a cause in the sky that might have obstructed sighting, the Imam's reply should not be read absolutely, which would otherwise require making up the fast even if sighting was established in a distant town, whose sighting of the crescent and sighting in the horizon of the *mukallaf* have no relationship whatsoever.
   This is in addition to the fact that the argument based on either of the two statements (or narrations) is itself unsound.
   As for the first, as has been noted by al-Muḥaddith al-Kāshānī (may his soul be sanctified),[20] it appears that the narration is suggesting that the testimony regarding the sighting of the crescent is valid based on the testimony of a Muslim, without considering the belief (*īmān*) of the witnesses. There is no indication in the narration that the testimony can come from any specific Muslim country, except with some interpretation (*taʾwīl*). This would be by taking the phrase "people of prayer" (*ahl al-ṣalāh*) in the report, to mean the lands of the people of prayer.

[20] *Al-Wāfī*, Vol. 11, pg. 137.

This would be understood by way of omitting the genitive construction (*ḥadhf al-muḍāf*), and taking the word "all" (*jamīʿ*), which is apparent in its comprehensive sense (*istighrāq*), to mean "any" (*ayy*)—that is, in a distributive sense (*badliyya*). There is no justification for interpreting the report away from its prima-facie and then using it as evidence.

As for the second, it is also unsound, because its prima-facie suggests the obligation to fast that day based on the making up (*qaḍāʾ*) of the people of all the distant cities (*amṣār*) from the lands of the Muslims, and this is something that cannot be maintained. For this reason, he (may Allah sanctify his spirit) interpreted the definite article (*alif wa-l-lām*) in the word "cities" (*al-amṣār*), which is apparent in its comprehensive universal sense (*ʿumūm istighrāqī*), as having a distributive universal sense (*ʿumūm badlī*), so that the meaning becomes: "Do not fast that day unless the people of any of the cities make it up." However, there is no specific evidence for this; rather, the matter oscillates between the aforementioned reading and the possibility that what is meant by "the cities" (*al-amṣār*) is specifically the cities near the town of the *mukallaf* whose inhabitants' practice he can usually be aware of. Indeed, this is closer to the apparent meaning of the report than what he (may his soul be sanctified) stated.

In summary, it has become clear that the narrations whose absoluteness (*iṭlāq*) Sayyid al-Khoei (may his soul be sanctified) relied on in order to support his argument do not suffice. Even if their absoluteness was granted for the sake of argument, the five previous pieces of evidence are sufficient to restrict them (*taqyīd*) and nullify their supposed generalisation (*ʿumūm*), so ponder well.

Furthermore, there are two additional narrations that may also be used to support his argument (may his soul be sanctified):

1. The reliable report (*muʿtabara*) of Muḥammad b. ʿĪsā that was mentioned as the fifth evidence.

The foundation of the argument based on this narration is that when the Imam (peace be upon him) refused to answer Abū ʿAmr, the one who had engaged him in writing, that what the astronomers (*ḥisāb*) said about the difference of horizons (*ikhtilāf al-āfāq*) in sighting the crescent was permissible, and said instead: "Do not fast on the basis of doubt. Break your fast when you see the crescent, and fast when you see the crescent," this indicated that he considered Abū ʿAmr to be in a state of doubt (*shākk*) about the arrival of Ramaḍān in his town despite the clarity of the sky and the non-appearance of the crescent on the horizon. This can only be because of the possibility that what the astronomers said about the possibility of sighting the crescent in distant lands is correct, and that sighting it there is sufficient for the entry of the month in all lands. Accordingly, the report indicates the position of the unity of horizons (*waḥdat al-āfāq*), contrary to what Abū ʿAmr incorrectly imagined.

However, this argument is weak, for it entails that the Imam (peace be upon him) intended by his answer to clarify to Abū ʿAmr the possibility that what the astronomers said is correct on the one hand, and at the same time to clarify his error, namely, that there is a difference in the obligation to fast for the people of the cities (*amṣār*) on the assumption that what astronomers said is correct. Yet the wording of the answer is very far from conveying the mentioned meaning.

The more likely interpretation is that the Imam (peace be upon him) did not intend to answer Abū ʿAmr's question regarding the potential acceptance of astronomical calculations for sighting, and perhaps this was because the Imam (peace be upon him) was cautious about one understanding the validity of calculations in determining the crescent's visibility from his words. This is something the Imams (peace be upon them) had repeatedly emphasised their rejection of. However, when Abū ʿAmr mentioned at the beginning of his statement: "it sometimes hap-

pens that the crescent of Ramaḍān is uncertain" (*rubamā ashkala ʿalaynā hilāl ramaḍān*), and its apparent meaning was that doubt (*shakk*) had settled with him regarding the existence of the crescent on the horizon of his town despite there being no obscurity (*ghalla*) in the sky—perhaps because of the possibility that the crescent was very faint and close to the horizon at sunset and could not be seen due to certain impure temperaments (*amzija*) on the part of the observer—the Imam (peace be upon him) deemed it appropriate to emphasise abandoning fasting on the day of doubt (*yawm al-shakk*) and that both fasting and breaking the fast are based on sighting (*ruʾya*). Thus, there is nothing in his (peace be upon him) answer that indicates the position upholding the unity of horizons.

In other words, there is no indicator (*qarīna*) in the Imam's (peace be upon him) answer that the doubt (*shakk*) assumed in it is due to the possibility of sighting the crescent in distant lands, such that it could be said that it requires upholding the unity of lands (*ittiḥād al-bilād*) in the beginning of the month. Rather, what is closer is that it is due to the fact that the non-sighting of the crescent—even when there is no source of obscurity (*ʿilla*) in the sky—does not remove doubt about the existence of the crescent on the horizon, as is appropriate to the expression "becomes problematic" (*ashkala*) at the beginning of the question.

In fact, it could be said that the Imam's (peace be upon him) failure to address the conclusion drawn by Abū ʿAmr regarding the differing fasting obligations if the astronomical calculations were correct could be seen as an implicit approval of the correctness of Abū ʿAmr's reasoning. So ponder well.

2. The report of Ibn Abī Ḥamza,[21] who said: "I was with Abū ʿAbd Allāh (peace be upon him) when Abū Baṣīr asked him: 'May I be sacrificed for you, the night when one

[21] *Al-Kāfī*, vol. 4, p. 156.

> hopes for what one hopes for?' He (peace be upon him) replied: 'On the twenty-first or the twenty-third [of Ramaḍān].' Abū Baṣīr said: 'But if I cannot manage both?' He (peace be upon him) said: 'What is easier than two nights to seek what you are looking for?' He then said: 'Sometimes we see the crescent here, and then we are told by someone from another land that the crescent was not visible. What should we do?' He (peace be upon him) replied: 'What is easier than four nights to search for it…'"

The argument drawn from this narration is that the phrase "someone from another land informs us to the contrary" signifies that the person was told the crescent was sighted in another land on a night preceding the night it was seen in the town of the questioner. It is noteworthy that the Imam (peace be upon him) advised caution by considering four nights, which reflects the possibility of the crescent being visible in the other land. Importantly, the Imam (peace be upon him) did not differentiate between whether the other land was near or far from the town of the questioner, suggesting there is no distinction between them. This would imply that if the crescent is seen in any location, it is sufficient for determining the beginning of the month in other locations, which supports the desired conclusion.

However, this argument is weak. The explanation is as follows: When the Imam (peace be upon him) refrained from specifying the Night of Qadr (*Laylat al-Qadr*), saying "What is easier than two nights to seek what you are looking for?" Ibn Abī Ḥamza attempted to extract a definitive answer by assuming the first day of the month was uncertain between two possible days. This would imply that it would not be sufficient to only look for the Night of Qadr between two nights. He might have brought up the issue of the crescent being seen in a different land to imply that if the claimant to the sighting were from the same land as the questioner, acknowledging the possibility of

the sighting would contradict what the texts say, namely, that when one person sees it, a thousand people see it.

In summary, the question posed by the narrator "perhaps we see the crescent…" was merely a hypothetical scenario where the beginning of the month was uncertain within the town of the questioner, and he did not intend to suggest that the sighting in any location outside the town would result in uncertainty within the town. Similarly, the Imam (peace be upon him) was clarifying that, given the uncertainty about the beginning of the month, one should search for the Night of Qadr for four nights. He was not discussing whether a sighting of the crescent in another town should cause uncertainty about the beginning of the month in the observer's own town.

In other words, the final part of the narration is intended to clarify that, if the beginning of the month is uncertain within the town, one must seek the Night of Qadr for four nights. It is not meant to signify that the sighting of the crescent in another location necessitates doubt about the beginning of the month in the observer's town, regardless of whether the other location shares the same horizon.

Additionally, the authenticity of the narration's chain of transmission is questionable. Ibn Abī Ḥamza, the narrator from the Imam, is actually al-Baṭā'inī, and not al-Thumālī as some manuscripts show, and al-Baṭā'inī is not considered reliable by the prevailing scholarly opinion.

Then Ayatollah al-Khoei (may Allah's pleasure be with him) said: ***"What supports this is what has been narrated in several traditions regarding the method of performing the prayers for Eid al-Fitr and Eid al-Adha, and the takbīr that is said during them. Among the takbīr is the saying: 'I ask You, on this day, which You have made a day of celebration for the Muslims.'"***

It is apparent that the reference in this saying by the Imam (peace be upon him) to "this day" refers to a specific, defined day that Allah (the Exalted) has made for all the Muslims as

a day of celebration. It does not refer to every day that is designated as Eid al-Fitr or Eid al-Adha, based on the differing moonsighting across various horizons.

On one hand, Allah (the Exalted) has made this day a holiday for all Muslims, not just for the people of a particular town where the Eid prayer is held.

Therefore, the conclusion from this is that the Eid day is a singular day for all, regardless of the differing horizons and locations.

This is further signified by the glorious that clearly signifies that the Night of Decree (Laylat al-Qadr) is a single night for all people of the Earth, irrespective of their countries or horizons. This is due to the fact that the Qur'ān was revealed on a single night, which is Laylat al-Qadr, and it is described as being better than a thousand months. On this night, all affairs of wisdom are decreed. It is well-known that these decrees do not apply to a specific location but rather to all people of the Earth.

Additionally, several traditions mention that on Laylat al-Qadr, the decrees regarding life spans, sustenance, and afflictions are written, and all matters are decreed. It is clear that these decrees are made for all of humanity, not just for a specific region.

The conclusion in light of these two points is that Laylat al-Qadr is a single night for all people on Earth, not for each region to have its own specific night.

Moreover, all the narrations are silent regarding the necessity of having a unified horizon for this matter. There is not even a weak narration that specifies such a requirement.

This shows that the popular opinion on this issue is not based on any narrations but rather on the analogy made between this issue and the rising and setting of the sun. As you have learned, this analogy is flawed.

It should be noted regarding what his Eminence (may his soul be sanctified) has stated:

1. **The individual unity (*al-waḥda al-shakhṣiyya*) of Eid day and *Laylat al-Qadr*** cannot be fully realised even according to his Eminence's (may his soul be sanctified) later position, where he chose that only the countries that share part of the night with the place of sighting would begin the month on the same day, and for other countries, the start of the month would be the following day. So, how can his Eminence (may his soul be sanctified) claim that the Eid day is a specific, defined day for all Muslims, and similarly that *Laylat al-Qadr* is a single night for all people on Earth, irrespective of their countries and horizons?

In summary, it is impossible to maintain that the unity of the Eid day and Laylat al-Qadr is a personal unity. Rather, it is a **unity of type**, not a personal one.

2. **The silence of all narrations regarding the necessity of unified horizons** (*ittiḥād al-ufuq*) **for moonsighting,** even if it were valid (and as we have seen, it is not), would signify the soundness of the other opinion. This view holds that the criterion for the beginning of the month in any place is based on the sighting of the crescent in that location. This is a principle that does not require further clarification, as people already act according to it based on their common understanding. On the other hand, the view that the beginning of the month is determined by the sighting of the crescent in a place on Earth that shares part of the night with the place of the legally responsible person is the view that requires further clarification.

3. **It has become clear** from the previous discussion that the widespread opinion among scholars regarding the necessity of unified horizons for determining the start of the month is not due to comparing the rise of the crescent to the sunrise. Instead, it is based on a different rationale, which has already been explained.

In conclusion, the **widespread opinion** among our scholars,[22] which remained unchallenged until the time of al-Muḥaddith al-

[22] As for the scholars of the majority (i.e. Ahl al-Sunna), it is sometimes claimed that they are in agreement, apart from some of the Shāfiʿīs, on the sufficiency of moonsighting in one country for all countries. However, what appears from the statements of a number of them is contrary to this claim.

al-Kāshānī al-Ḥanafī said in *Badāʾiʿ al-Ṣanāʾiʿ*, vol. 2, p. 83: "If the people of one town fasted thirty days, and the people of another town fasted twenty-nine days, then if the fasting of that town was based on sighting the crescent, the people of the other town must make up one day if the distance between the two towns is short such that the horizons do not differ. But if the distance is great, then neither town is bound by the ruling of the other, because the horizons of lands differ when the distance is substantial; thus, for the people of each town, consideration is given to the horizon of their own town, not that of another."

Ibn Rushd said in *Bidāyat al-Mujtahid*, vol. 1, p. 231: "Is it obligatory upon the people of a town, if they do not see the crescent, to rely on the sighting of another town, or does each town have its own sighting? There is disagreement on this. As for Mālik, Ibn al-Qāsim and the Egyptians narrated from him that if it is established with the people of one town that the people of another town saw the crescent, then they must make up that day which they broke their fast while others fasted. The Medinans narrated from Mālik that sighting does not become binding by report for those other than the people of the town in which the sighting occurred, unless the ruler compels the people to act upon it. This was also the view of Ibn al-Mājishūn and al-Mughīra from among the companions of Mālik. They unanimously agreed that this is not to be considered for distant lands such as al-Andalus and the Ḥijāz."

al-Nawawī said in *al-Majmūʿ Sharḥ al-Muhadhdhab*, vol. 6, p. 273: "If they see the crescent of Ramaḍān in one town and do not see it in another, then if the towns are close, their ruling is the ruling of one town, and it is obligatory upon the people of the other town to fast, without disagreement. But if they are far apart, then there are two well-known views in the two methodological approaches: the more correct of them is that fasting

is not obligatory upon the people of the other town — and this was decisively adopted by the author, Shaykh Abū Ḥāmid, al-Bandanījī, and others; it was also preferred by al-ʿAbdarī and al-Rāfiʿī and the majority of the Shāfiʿī jurists. The second view is that it is obligatory, and this was held by al-Ṣaymarī and preferred by al-Qāḍī Abū al-Ṭayyib, al-Dārimī, Abū ʿAlī al-Sinjī, and others."

Ibn Qudāma said in *al-Mughnī*, vol. 3, p. 7: "If the people of a town see the crescent, fasting becomes obligatory upon all towns. This is the view of al-Layth and some of the companions of al-Shāfiʿī. Others said: if the distance between the two towns is short such that the horizons do not differ because of it, such as Baghdad and Basra, then fasting is obligatory upon both by the sighting in one of them. But if the distance between them is great, such as Iraq and the Ḥijāz or al-Shām, then each town has its own sighting.

It is narrated from ʿIkrima that he said: each town has its own sighting. This is the view of al-Qāsim, Sālim, and Isḥāq, due to what is narrated from Kurayb, who said: I came to al-Shām, and the crescent of Ramaḍān appeared while I was in al-Shām, and we saw the crescent on the night of Friday. Then I came to Madinah at the end of the month, and Ibn ʿAbbās asked me and mentioned the crescent, saying: When did you see the crescent? I said: We saw it on the night of Friday. He said: You saw it on the night of Friday? I said: Yes, and the people saw it and fasted, and Muʿāwiya fasted. He said: But we saw it on the night of Saturday, so we will continue fasting until we complete thirty days or we see it. I said: Is the sighting of Muʿāwiya and his fasting not sufficient for you? He said: No. This is how the Messenger of Allah (peace be upon him and his progeny) commanded us."

al-Mardāwī said in *al-Inṣāf*, vol. 3, p. 273, regarding the case where the people of a town see the crescent:

"There is no disagreement regarding the obligation of fasting upon the one who sees it. As for the one who does not see it, if the horizons are the same, then fasting is obligatory upon them as well. If the horizons differ, then the correct position of the school, that is, the Ḥanbalī school, is that fasting is also obligatory."

He then said in *al-Fā'iq*: "Sighting in one town obliges all legally responsible persons; and it is said: it obliges those whose horizon is close." Then

Kāshānī (may his soul be sanctified), who passed away in 1091 AH, is the most reasonable and worthy of acceptance.

There remains one point to address, which is that it was previously believed that if the crescent moon was sighted in one place, it indicated that it could also be visible in places to the west of that location. Some scholars (may Allah be pleased with them) justified this by stating that the moon does not reverse or stop.

However, it later became clear that this statement is not universally applicable. It only applies to cases where the two locations are relatively close in latitude, such that the difference between them is no more than one or two degrees, depending on the circumstances. This is because the crescent moon increases in size as it moves westward. For example, if the crescent is visible in Sydney, Australia, and its age at sunset there is 21 hours and 36 minutes, then in Tehran, its age would be 27 hours and 50 minutes, in Najaf, it would be 28 hours and 19 minutes, and in London, it would be 30 hours and 57 minutes, and so on. However, this does not mean that it would be visible in all places to the west of Sydney, because the visibility of the crescent depends on its altitude above the horizon. For instance, the crescent might be visible at an age of 20 hours with an altitude of 8 degrees, but not visible at an age of 30 hours if it is only at an altitude of 2 degrees. Differences in latitude affect the moon's altitude at sunset, so it is not possible to determine whether the crescent will be visible in London just because it was seen in Najaf.

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he said: "Our Shaykh, namely Shaykh Taqī al-Dīn [Ibn Taymiyya], said: Horizons differ by agreement of those who possess knowledge; if they are the same, fasting is obligatory, and if they differ, then it is not."
From the above statements it becomes clear that the Ḥanafīs and Mālikīs only held the sufficiency of moonsighting in one town for other towns that are not distant or not very distant, not for all towns universally. Likewise, most of the Shāfiʿīs do not hold the sufficiency of sighting in one town for towns that are not close to it. Furthermore, among the Ḥanbalīs there are those who do not hold this view, such as Ibn Taymiyya, in addition to many other jurists whose names have been mentioned above. This should be carefully noted.

Additionally, it was once believed that if two locations were on the same longitude (i.e., if they had the same sunrise and sunset times), the sighting of the crescent in one location would automatically mean it would be visible in the other as well.

Similarly, if the crescent was sighted in a place west of the observer's location, and the crescent remained visible after sunset for a period longer than the difference in sunrise and sunset times between the two places, it was thought to indicate that the crescent could also be visible in the observer's location. If it wasn't seen, it would be due to obstructions such as fog or clouds and their like.

However, it later became clear that this reasoning is only valid if there is no significant difference in latitude between the two locations, such as one or two degrees or so, depending on the circumstances. As noted earlier, with differing latitudes, the moon's altitude at sunset varies. Thus, the crescent may be visible in one place and not in another, even if they are on the same longitude.

In light of the above, it becomes clear that the correct way to determine whether the crescent moon is visible in the observer's location, after it has been sighted in another country, is to rely on precise astronomical data that determines the moon's altitude at sunset and its angular distance from the sun in both locations. If the moon's characteristics in the observer's location are equal to or better than those in the location where the crescent was sighted, it can be reasonably concluded that the crescent will be visible in the observer's country as well. If not, it will not be.

This is the conclusion regarding this issue, as discussed in the detailed writings of His Eminence (may his shadow endure) in the commentary on the *Book of Fasting* (*Kitāb al-Ṣawm*) from *al-ʿUrwat al-Wuthqā*, and all praise is due to Allah, the Lord of all the Worlds.

2. The Insufficiency of Sighting the Crescent with Optical Aids

The Question (2): It was previously asked of His Eminence, the Marjaʿ (may his shadow endure), whether the sighting of the crescent

through a telescope (or binoculars) that provides certainty to the observer about its identity as a crescent, but which is not visible to the naked eye, should be accepted. The question asked whether the sighting should be considered valid for the observer and for others. His Eminence (may his shadow endure) responded that the sighting of the crescent through a telescope is not accepted, neither by the observer nor by others. Some scholars ask about the reasoning behind this ruling, given that the term "sighting" (*ruʾyā*) in the texts is used absolute and should encompass both the naked eye and aided sight (telescope). Just because the sighting through a telescope is not conventionally intended by the word does not prevent it from falling under it when used absolutely. Furthermore, it is argued that the sighting through a telescope provides a clear view of the crescent and fulfils the purpose of sighting, which is to detect the appearance of the crescent in the horizon, not its specific method of detection.

This is in addition to the authentic narration (*ṣaḥīḥa*) from ʿAlī b. Jaʿfar, from his brother Mūsā al-Kāẓim (peace be upon him), who was asked about a person who sees the crescent in Ramaḍān alone and no one else sees it, and whether they can fast. The Imam (peace be upon him) said: *"If they are certain, they should fast; if they are doubtful, they should fast with the people."*[23]

For even if it were not specifically about someone with exceptionally sharp vision—as indicated by his statement "and no one else sees it" (*lā yubṣiruhu ghayruh*) instead of "and no one else saw it" (*wa-lam yubṣiruhu ghayruh*)—it would at the very least include such a person by virtue of its absolute nature (*iṭlāq*).

Accordingly, it is evidence for the sufficiency of seeing the crescent with an extremely sharp eye, and we can extend this to sighting with a telescope due to the unity of the underlying reason (*manāṭ*).

Answer:

1. **As for relying on the absoluteness (*iṭlāq*) of the narrations concerning sighting, this is problematic because the crescent**

[23] *Tahdhīb al-Aḥkām*, vol. 4, p. 317.

was, among the Arabs, a marker (*mīqāt*) by which they determined the lunar month upon which they relied in various aspects of their lives. When the pure Islamic religion came, it confirmed them in this practice. Allah says: "They ask you about the crescent moons. Say: 'They show the times appointed for people (*mawāqīt*), and for the pilgrimage.'" It is certain that what is suitable to be a marker for people in general is the crescent that appears on the local horizon (*al-ufuq al-maḥallī*) in a manner visible to the ordinary unaided eye. As for what can only be seen with magnifying instruments, or what only a rare person with exceptionally sharp vision can see, this is not suitable to be a marker for people in general.

This contextual indicator (*qarīna*) necessitates that we understand the sighting (*ruʾya*) mentioned in the narrations as having been taken as a means to the appearance of the crescent on the horizon with a size and elevation appropriate for it to be seen by the ordinary unarmed eye, were it not for external obstacles such as clouds and the like.

2. **As for the authentic narration (*ṣaḥīḥa*) of ʿAlī b. Jaʿfar, it appears that what is meant by the narrator's statement "and no one else sees it" (*wa-lā yubṣiruhu ghayruh*) is merely that sighting has not occurred by others, not that it is impossible for it to occur due to the observer's unique sharpness of vision such that no one comparable to him exists—for this is a hypothetical scenario with no reality in any era, as is evident. Accordingly, the subject matter of the authentic narration is not specifically someone with extremely sharp vision who sees from the crescent what others do not see. As for its absolute usage (*iṭlāq*) whereby it is argued to allow for this case, then it is problematic for the reasons mentioned above.**

   However, one could argue that this **authentic narration (*ṣaḥīḥa*)** addresses a different matter, both at the level of question and answer. In fact, it is regarding whether the sighting of the crescent by one person is considered proof for them alone.

Many texts, including those from Muḥammad b. Muslim, Abū Ayyūb al-Khazzāz, ʿAbd Allāh b. Bukayr, and Abū al-ʿAbbās, emphasise that the sighting by a single person is not valid unless it is corroborated by others. The narrator might have wanted to inquire whether this ruling applies only to others or to the individual themselves, especially as some of the jurists of the Sunni schools held that the person who saw it could act on their own sighting and should not fast unless the general people do. The Imam (peace be upon him) responded that the sighting is valid for the individual if they are certain, but they should follow the community if they are not sure, meaning that their sighting is only valid for themselves and not for others.

Accordingly, the authentic narration is to clarify that a sighting made by one person alone is authoritative for himself but not for others, and it does not have absoluteness (*iṭlāq*) whereby it can subsume cases where the crescent is not visible to the common eye.

This is also supported by the understanding that if the criteria for determining the start of the lunar month were based on the appearance of the crescent on the horizon in a way that can be seen with the naked eye or through strong telescopes, it would mean that the fasts, if determined by astronomical sightings or telescope sightings, would not always match the actual days they should have occurred. This is because the Prophet (peace be upon him and his progeny) and the Imams (peace be upon them) always relied on the common practice of sighting the crescent with the naked eye. It is rare for the crescent to be clearly visible with the naked eye and at a good height on one night, while not being subject to sighting via telescopes or other tools the previous night. Can such a discrepancy possibly be maintained?!

3. The Non-Establishment of the Crescent via Astronomers' Reports

The Question (3): His Eminence, the Marjaʿ (may his shadow endure), mentioned that the crescent moon cannot be established by the reports of astronomers, despite the fact that astronomy is based on solid scientific principles and precise mathematical calculations. The probability of error in these calculations is almost negligible, and astronomers continue to produce accurate tables for the sunrise and moonrise, as well as the positions of other planets in the solar system. These calculations have been highly precise and have not deviated from reality a single time, at least within this century. Furthermore, astronomers provide detailed observations regarding the moon's entry into conjunction (i.e. *al-maḥāq*) and its exit, the time of sighting, its angular distance from the sun, and its height above the horizon, the observation of its maximum distance from the earth and its minimum distance from it, all of which are considered to be accurate, reliable information and not based on conjecture.

Given this, why should the reports of reliable astronomers about the birth of the crescent moon not be accepted as a valid basis for determining the start of the new lunar month?

The Answer: The conclusion derived from the legal proofs (*adilla sharʿiyya*) is that the beginning of the lunar month is determined by the visible appearance of the crescent moon in the horizon, in a manner that is observable to the naked eye, were it not for external obstructions such as clouds. The mere existence of the crescent in the horizon, even if it has "been born" or "has exited conjunction," is not sufficient if it is not visible to the naked eye or can only be seen with magnifying instruments or specialised observation.

On this basis, the reports of astronomers about the birth of the crescent and its emergence from conjunction (maḥāq) are not sufficient for ruling that the new lunar month has begun, even if they are based on definitive mathematical calculations.

When astronomers report the possibility of seeing the crescent with the naked eye in certain areas, whether absolutely or under specific weather conditions (referred to as *ideal circumstances*), this is based on two factors:

1. **Astronomical calculations** related to the crescent's position in the given locations, such as its age, height above the horizon, and angular distance from the sun, all of which influence its visibility.
2. **Field observations** that depend on actual sightings to verify the minimum conditions required for the crescent to be seen with the naked eye, considering its age, height, distance from the sun, and other relevant factors.

There is, however, disagreement among astronomers on the conditions necessary for the crescent to be visible. For example, some astronomers believe the crescent can be seen when it is 14 hours old, while others require it to be at least 16 hours old, and still others say it must be 18 hours or more. Similarly, some believe the crescent can be seen when it is 4 degrees above the horizon at sunset, while others insist it must be at least 5 degrees, with some requiring 6 degrees or more. The same variability applies to other factors affecting the visibility of the crescent.

As a result, it is not appropriate for the *mukallaf* to rely on the astronomers' reports regarding the visibility of the crescent in a specific area, unless it has been confirmed that the crescent is visible with the naked eye in that location, free from any external obstructions. This is in line with the texts that prohibit reliance on conjecture and opinions regarding the crescent, as stated by Imam al-Bāqir (peace be upon him): *"When you see the crescent, fast, and when you see it, break your fast. It is not a matter of opinion nor of conjecture, but of sighting."*[24]

However, if the person gains certainty (*ʿilm*) or confidence (*iṭmiʾnān*)—even through experience and practice—that the crescent in their local horizon, with a certain size, height, and other relevant

[24] *Tahdhīb al-Aḥkām*, vol. 4, p. 156.

factors, is visible to the naked eye but was not seen due to clouds, fog, or dust, then they are required to act based on their knowledge or certainty, and to follow the sighting accordingly.

4. The Ruling on Testimony for Crescent Sighting That Contradicts Astronomers' Reports

The Question (4): It is reported that His Eminence, the Marjaʿ (may his shadow endure), sometimes does not accept the testimony of witnesses on the sighting of the crescent if it contradicts the reports of astronomers who state that the crescent cannot possibly be seen. This is despite the fact that the testimony is based on direct observation, which is sensory (***ḥissī***), while the astronomers' reports are based on calculations that are conjectural (***ḥadsī***). What is the reason for this?

The Answer: The reports of astronomers fall into two categories:

1. **Those that rely on mathematical calculations and are not subject to personal judgment (*ijtihād*) or conjecture (*ḥads*), such as their reports about the time of the birth of the crescent, the moment of its emergence from conjunction (maḥāq), the extent of its elevation above the horizon, the ratio of the illuminated portion to the diameter of the disk, and similar matters. Astronomers do not usually differ regarding this type, though some may err in their calculations.**
2. **Those that are subject to conjecture and judgment and rely on experience and practice, such as the statement of some that the crescent is not capable of being sighted unless it is at an elevation of six degrees above the horizon, or is twenty-two hours old, or is at such and such a distance from the sun, and similar matters. In this type, differences of opinion are frequent.**

When the testimony of witnesses about the sighting of the crescent contradicts the reports from astronomers in the first category (those based on precise calculations), there is usually certainty (*ʿilm*) or confidence (*iṭmiʾnān*) that the witnesses' testimony is incorrect, especially

if astronomers have reported that the crescent is still in conjunction or has already set before sunset, yet the witnesses, whether they be two or more, claim to have seen it. In such cases, the testimony is generally not accepted.

However, if the testimony of the witnesses contradicts the reports from astronomers in the second category (those based on estimates and judgments), then the situation is more complex. It might be possible to feel confident that the testimony is mistaken by reviewing circumstantial evidence and further observations, but it is not always conclusive. If, however, the witnesses are trustworthy (i.e. they are just and meet the conditions for valid testimony), their testimony should be accepted, even if there is some uncertainty in the astronomers' predictions.

In summary, the key condition for the probative-force (*ḥujiyya*) of the witnesses' testimony (*bayyina*) is that there must not be any certainty or reasonable assurance that the testimony is erroneous. If there is certainty or confidence that the testimony is mistaken, for example, based on precise astronomical data that indicates the crescent is not visible, then the testimony is not accepted. Otherwise, if the testimony is from reliable witnesses, it should be accepted, regardless of the astronomers' reports.

5. On Individual Testimonies Regarding the Sighting of the Crescent

The Question (5): Sometimes, individual testimonies regarding the sighting of the crescent moon come from trustworthy individuals in nearby countries with similar horizons. These testimonies, when considered together, form a substantial number, such as thirty individual reports. Despite this, His Eminence, the Marjaʿ (may his shadow endure), does not accept them or rely on them for establishing the start of the lunar month. What is the reasoning behind tris?

Answer: The reason His Eminence does not accept such individual testimonies is when, in each country, a group of people observe the moon but only a few claim to have seen it, while the others, who have

similar knowledge of the moon's position and the same level of eyesight, do not report seeing it. This assumes clear skies and no apparent obstructions that would prevent others from seeing the crescent. In such a case, claims of sighting are generally not accepted, as confirmed by several narrations:

1. **The reliable narration (*muʿtabara*) of Abū Ayyūb Ibrāhīm b. ʿUthmān al-Khazzāz,** from Abū ʿAbd Allāh (peace be upon him) who was asked, *"How many witnesses are needed to verify the sighting of the crescent?"* He replied: *"The month of Ramaḍān The month of Ramaḍān is an obligation* (*farīḍa*) *among the obligations of Allah, so do not fulfil it through conjecture* (*ẓann*). *The sighting of the crescent is not that a number of people stand and one says 'I have seen it' while the others say 'We have not seen it.' When one sees it, a hundred see it, and when a hundred see it, a thousand see it…"*[25]

2. **The authentic narration (*ṣaḥīḥa*) of Muḥammad b. Muslim,** from Abū Jaʿfar (peace be upon him) who said: "When you see the crescent, fast, and when you see it, break your fast. It is not by opinion (*raʾy*) nor by astrology (*tanjīm*), but by sighting (*ruʾya*). And sighting is not that ten people stand and look, and one says 'There it is' while nine look but do not see it. When one sees it, ten and a thousand see it…"[26]

3. **The trusted narration (*muwaththaqa*) of ʿAbd Allāh b. Bukayr b. Aʿyan,** from Abū ʿAbd Allāh (peace be upon him) who said: "Fast by the sighting and break your fast by the sighting. The sighting of the crescent is not that a man or two men come and say 'We saw it.' Rather, sighting is that the speaker says 'I saw it' and the people say 'You have spoken truthfully'…"[27]

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[25] *Tahdhīb al-Aḥkām*, vol. 4, p. 160.

[26] *Tahdhīb al-Aḥkām*, vol. 4, p. 156.

[27] *Tahdhīb al-Aḥkām*, vol. 4, p. 164.

In all of these narrations, the Imam (peace be upon him) emphasises that a claim of sighting by one or two individuals among a large group of moon-sighters is not reliable. The underlying issue is that if the crescent is truly visible in the horizon, others should also be able to see it. This leads to the likelihood that claims of sighting are often based on sensory error or misidentification of something other than the crescent. This has been demonstrated in many cases.

6. The Circumstances Surrounding the Crescent of Eid al-Fitr in the Year 1419 AH

The Question (6): Why did His Eminence, the Marjaʿ (may his shadow endure), not accept the sighting of the crescent on the night of Monday in 1419 AH (Islamic year), despite the following:

A. There were reports from several reliable witnesses regarding the sighting of the crescent on that night, with no counter-testimonies, considering that there were natural obstacles such as clouds and fog in different regions that could have prevented others from seeing it?

B. The announcement of the moon's sighting by some scholars in Iran, based on the testimony of a group of believers in various regions there, with most of the Iranian population breaking their fast on this basis. Iran is located to the east of Iraq, and a sighting in Iran is typically simultaneous with a sighting in Iraq, except for any obstruction such as clouds. The same situation applied to other Muslim countries, many of which announced that Monday was the first day of Eid al-Fitr.

Answer: His Eminence (may his shadow endure) was certain that the crescent of Shawwāl could not have been visible on the night of Monday, and that all those who testified to seeing it that night had, at best, made a mistake in their perception and mistook something else for the crescent, which happens frequently. The reasoning for this certainty is twofold:

1. Precise astronomical calculations confirmed that the crescent of the month of Shawwāl would be born (begin to emerge from conjunction) after sunset on Sunday, making it impossible to

sight it at sunset in Asia, Africa, and even in Europe and America. The compilers of calendars and astronomical observatories in various parts of the world—such as Iran, Iraq, Britain, Lebanon, Egypt, Syria, Malaysia, and others—unanimously agreed that the crescent of Shawwāl for the year 1419 AH would not have emerged from conjunction at sunset on Sunday in Pakistan, India, Iran, the Gulf states, Iraq, Syria, Lebanon, Jordan, Egypt, and the countries of the Arab Maghreb. Thus, anyone claiming to have sighted it in these countries is undoubtedly either lying or mistaken.

It is clear to anyone familiar with the methods of astronomers that their reports about the time of the crescent's birth are not based on conjecture and guesswork, nor are they subject to personal judgments, so that it could be said that conjectural reports have no weight against sensory testimonies of sighting. Rather, they rely on purely mathematical calculations that are not susceptible to error except by a margin of .001%, and the possible margin of error does not exceed one minute!

2. On Monday night, the weather was clear in many parts of Iraq, including Najaf, Karbala, Baghdad, and Hilla. Tens of thousands of people went out to observe the crescent, but 99% of them were unable to see it with the naked eye. Only a few people who used telescopes were able to see it. This raised the question: How could the crescent be visible on two nights and only be seen by a few people, and seen so faintly, almost like a thin thread? How could the previous month have been complete, and the crescent for this month be so faint and difficult to see, even with advanced equipment?

For these two certain reasons, his Eminence (may his shadow endure) was certain that there was no possibility of sighting the crescent on the night of Monday. This was confirmed beyond dispute on the night of Tuesday, when the sky was clear in many regions of Iraq, including Najaf, Karbala, Baghdad, and Hilla, and tens of thousands of

people looked for the crescent, yet 99% of those who looked were unable to see it!! Some of those who did see it used binoculars to do so, and without them they were unable to see it!

How astonishing! How can the crescent be two nights old yet be seen by only a few individuals, and only as a thin thread like a single hair! Indeed, how can the previous month be complete yet the crescent of this month be seen only as extremely faint and fine, such that most people are unable to see it!

In summary, what prevented his eminence the Sayyid (may his shadow endure) from relying on the testimony of those claiming to have sighted the crescent on the night of Monday was what has been mentioned above. As for those who confirmed the sighting of the crescent on that night here and there, their basis for doing so was the availability of a number of testimonies regarding its sighting, without paying attention to their contradiction of established astronomical facts, or due to the mistaken belief that these are conjectural calculations based on speculation and guesswork, and therefore should not be given weight against sensory testimonies.

It is worth noting two matters:

1. It has been observed that for many years, on the 30th night of every Ramaḍān, a considerable number of witnesses from various locations claim to have sighted the crescent, and the Marjaʿ is informed of this, whereupon they announce the confirmation of the Eid crescent on that night based on the testimonies of those individuals. This has resulted in the month of Ramaḍān not being completed for these authorities for decades, which is certainly incorrect. The only reason for this is reliance on claims of sighting on a night when it is astronomically impossible to see the crescent. Therefore, a limit must be set to this annually recurring situation by not accepting testimonies that contradict definitive scientific criteria.

2. The majority of Muslims this year broke their fast on Tuesday, contrary to what has been stated in some accounts. Those who

announced the arrival of Eid al-Fitr on this day were the Muslims in the countries of East Asia such as Indonesia, Malaysia, the Philippines, and Thailand; the Muslims of the Indian subcontinent (Bangladesh, India, and Pakistan); the Sultanate of Oman; the countries of Central Asia (Tajikistan, Uzbekistan, Kyrgyzstan, and Turkmenistan); Azerbaijan; Turkey; and some countries of the Arab Maghreb such as Tunisia and Algeria.

Appendix: Ways to Establish the Beginning of the Lunar Month

Ruling 249. The beginning of each lunar month is established by four things:

First: That a person sees the new moon with their own eyes. The sighting must be with the *naked eye*, meaning an unaided, ordinary eye. Therefore, if the crescent is not visible with the naked eye, then seeing it through a telescope is not sufficient.[28]

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[28] Since ancient times, the new crescent (*hilāl*) has served among the Arabs as a timekeeping marker by which the lunar month began, and they relied upon it in various aspects of their lives. Islam endorsed this very practice. The Noble Qur'an, in Sūrat al-Baqarah, verse 189, states:

'They ask you about the new moons. Say: they are markers of time for the people, and for the pilgrimage.'

In reality, the moon constitutes a natural calendar for human beings, enabling people—whether literate or illiterate, and wherever they may be in the world—to make use of this natural timekeeping system. It is obvious that the social order of human life cannot function without a calendar: that is, without a precise and universal means of determining dates. For this reason, the Almighty God has provided everyone with this universal natural calendar to support the organisation of life.

Indeed, one of the distinguishing features of Islamic law is that its rulings are based upon natural measures, for natural measures are accessible to all and are unaffected by the passing of time.

By contrast, artificial or technical measures are not available to everyone. This is why we find that Islam sometimes uses the 'span of the hand', sometimes the 'pace', sometimes 'finger joints', and sometimes 'the height of a person' as standards. Similarly, for determining time, it sets measures such as 'sunset', 'the break of dawn', 'the sun passing the meridian', and 'the sighting of the moon.'

It is self-evident that what qualifies as a *mīqāt* (time marker) for people—*and that too in a general and universal sense*, as referenced in the noble verse—is a crescent moon that is **visible to the naked eye**. But a crescent that can only be seen through binoculars or telescopes, and which cannot

be seen with the unaided, ordinary eye once those instruments are removed, does *not* possess the necessary quality to serve as a universal time marker for all people across different eras.

Just as it would follow—were the legal criterion to be the sighting of the crescent through a telescope—that the fasts of the Messenger of God (s), the Eid al-Fiṭr observed by him and by the Imams (a), the hajj, and all other acts that the sacred law has designated for specific days of the year, would in certain cases not have occurred on their actual, real dates. It is evident that those noble figures relied on naked-eye sighting for determining the beginning of the lunar month, and the narrations and textual sources transmitted from the Infallibles (a) clearly pertain to naked-eye sighting and do not extend to magnifying instruments such as binoculars or telescopes.

In other words, in the conventional calendar that has been customary since ancient times, the night considered to be the first of the month was the night in which, after two or three nights of the crescent not being visible (at the end of each lunar month), the moon reached a degree and position that made it visible to the unaided eye. The moon's reaching such a condition serves to establish a temporal boundary that can function as a criterion for commencing the lunar month for the general public—much like the 'permitted limit' (*ḥadd al-tarakhkhuṣ*), which is a spatial boundary determining the point from which a traveller must begin shortening his prayers.

It is clear that if this temporal boundary were defined as the point when the moon becomes visible through instruments, then given that such visibility in many cases occurs one night earlier than visibility with the naked eye, several consequences would follow:

1. It would not constitute a time-mark accessible to people of all ages, places, and eras.
2. The criterion for beginning the month would become something entirely different from what was recognised among the people at the time of the Prophet (s) and the Imams (a), and different from the conventional calendar of their era.
3. One would be forced to conclude that Islam introduced a new form of calendar—one to which the general population of that time had no access whatsoever—and this is clearly an untenable position.

Rather, the apparent meaning of the noble verses, the narrations, and the established practice of the Infallibles (a) is that the calendar endorsed by Islam is precisely the conventional lunar calendar that was prevalent in those eras.

Among the further consequences of recognising **instrument-assisted sighting** as legally valid is this: with the invention of new devices and the continual setting of fresh records in crescent sighting, the threshold of visibility would be pushed progressively backward throughout different periods of time. Thus, whenever new astronomical instruments with greater capability and higher quality become available to observers, crescents are sighted which—despite having identical coordinates and characteristics—*could not be seen in earlier years*. This reveals that in past years, the beginnings of numerous months—and consequently people's fasting, breaking of the fast, and other acts—were determined **later than they actually occurred**, simply because stronger instruments were not yet available. This phenomenon has indeed occurred in recent years, as the threshold for crescent visibility has repeatedly retreated earlier. Accordingly, with the discovery of future instruments enabling the sighting of crescents that are currently invisible to us, it may eventually become clear that the beginnings of certain months occurred even earlier than we now assume.

In addition to the foregoing points, if the legal criterion were the moon's reaching a degree or position in which it becomes visible through instruments, then the crescent-sighting effort (*istihlāl*) of the Noble Prophet (s) and the Imams of Guidance (a), as well as their emphatic instructions regarding *istihlāl* in the narrations, would be rendered somewhat meaningless. For the very purpose of *istihlāl* as practised in those eras—performed with the eye, without the use of instruments—was that *if the crescent was seen*, it would be known that the new month had begun, and *if the sky was clear yet the crescent was not seen*, it would become evident that the first of the month would be the following night. However, if the criterion were the capability of visibility through powerful telescopes, then **the fact that the crescent is not visible to the naked eye would establish nothing at all.**

As an example, in the narration in which Imām al-Kāẓim (a) explains the meaning of the emphasis on fasting on the *Day of Doubt* (*yawm al-shakk*),

It is self-evident that using binoculars, telescopes, or similar magnifying instruments to **locate** and **track the position** of the crescent in the sky is unobjectionable. However, the crescent must be such that **if the binoculars or telescope are removed**, the moon would **still be visible to the naked eye**.[29]

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he explicitly tells his interlocutor that '**when the sky is clear and the crescent is not sighted, no doubt remains for a person such that he would fast out of the mere possibility of having reached the month of Ramadan.**' Yet it is obvious that if the criterion for the beginning of the month were the moon's reaching a state in which the crescent is visible by means of instruments, then at a time when people had no access to such assisted-vision tools, simply failing to see the crescent with the naked eye would *not* be sufficient to eliminate the possibility that the coming night and day could belong to the month of Ramadan.

Therefore, the sighting of the crescent—just like many other legal standards—is an customary, commonly understood (***'urfī***) criterion accessible to ordinary people. For instance, when clothing soiled with blood is washed and the physical blood is removed, the garment is considered pure even if the *colour* (stain) remains. The presence of a microscopic particle of blood on the garment—something invisible to the unaided eye and detectable only under a powerful microscope—cannot be taken as the standard for ruling that the garment remains impure. Similarly, in the matter of the ***ḥadd al-tarakhkhuṣ*** [the distance from which a traveller begins to shorten their prayer], as previously explained under the ninth condition of the traveller's prayer, the criterion is the sighting with the normal eye, and the use of binoculars or telescopes can never serve as the standard for determining a city's boundary.

[29] Just as, for example, in determining whether one has reached the *ḥadd al-tarakhkhuṣ*—a natural boundary that, in many times and places, can be ascertained simply by looking and noticing whether the inhabitants at the edge of the city are no longer visible—one may, for convenience, measure the distance in kilometres and use tools such as a vehicle's odometer to reach it more easily.

Likewise, to make it easier to determine the times of sunrise, sunset, and other prescribed prayer times—though in many cases these times can be

Of course, if there is an obstacle such as clouds or heavy dust in the sky, and one is certain that **were it not for that accidental obstruction**, the crescent would definitely have been visible with the naked eye, then the beginning of the month is established.

Second: If a group of people whose statement yields certainty (*yaqīn*) or confidence (*iṭmi'nān*) say that they have sighted the crescent with the naked eye in the same city or in cities that share the same horizon (*ittiḥād al-ufuq*) with it, then the beginning of the month is established. The same applies to anything else that leads to certainty, as well as any reasonable method through which confidence is attained.

Third: The testimony of two dutiful (*'ādil*) men stating, *'We have sighted the crescent with the naked eye',* establishes the beginning of the month. However, if they describe the crescent's characteristics in contradictory ways, the beginning of the month is not established.

Likewise, the month does not begin if one has certainty or confidence that they are mistaken, or if their testimony is contradicted by

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identified naturally—one may utilise astronomical calculations and software.

Similarly, in order to understand the visibility characteristics of the crescent and to determine which cities share the same horizon (*muttaḥid al-ufuq*) in the matter of crescent-sighting (as explained In Ruling 255), one may use visibility maps generated by calculation and software.

With these clarifications, it becomes evident that **using technology and instruments merely to facilitate access to the legally-established criterion** is entirely different from the sacred law itself establishing a criterion which, in many cases, could only be accessed by means of technology and specialised tools.

In addition, as previously noted, taking **instrument-assisted sighting** as the legal standard would imply that the sacred law designated as a criterion something that the vast majority of people, for more than a thousand years—not only lacked access to, but could not even properly conceive of—such that they might have exercised precaution concerning it. Indeed, even today a considerable number of people still do not have access to such tools.

other evidence or by something equivalent to a contradiction. For example,

- if a large group of people in the city attempt to sight the crescent, yet no one besides those two dutiful men claims to have seen it;
- or, if a group conducts crescent-sighting, and two dutiful men among them claim to have sighted the moon while the rest do not—and within this group there are two other dutiful men who, in their knowledge of the crescent's location and in sharpness of eyesight, are comparable to the first two, and the sky is clear, with no possible obstruction preventing those others from seeing the crescent,

—then in such cases, the beginning of the month is not established by the testimony of the two dutiful men.

Fourth: If thirty days have passed since the beginning of the previous month, then the next month is established. For example,

- when thirty days have passed from the beginning of Shaʿbān, the first of the month of Ramadan is established; or
- when thirty days have passed from the beginning of the month of Ramadan, the first of Shawwāl is established.

Ruling 250. Investigating or inquiring about the establishment of the new month—regarding a day whose status as the first of the month is uncertain—is **not obligatory**.

If the first of the month has **not** been established for a person by any of the methods mentioned in the previous Ruling—whether they investigated or not—then that doubtful day is counted as belonging to the month one is already in.

Therefore, if a person does not know whether, for example, the next day is the **thirtieth of Shaʿbān** or the **first** of the month of Ramadan, they may, *without asking or searching*, count that day as part of Shaʿbān and not fast. Likewise, if one does not know whether the following day is the **thirtieth** of the month of Ramadan or the **first of Shawwāl (Eid**

al-Fiṭr), they may refrain from questioning or investigating; in that case, they **must** fast that day. In both situations, if it becomes clear later that the day was in fact the first of the new month, the person has committed **no sin**.

Ruling 251. The beginning of the month is not established merely by the ruling of a *ḥākim al-sharʿ* (religious authority), unless the individual attains certainty or confidence—whether from the ruling itself or from the fact that the month has been established for the authority—that the crescent has indeed been sighted with the naked eye in the same city or in cities that share its horizon (*ittiḥād al-ufuq*).

Ruling 252. The beginning of the month is not established by the predictions of astronomers, unless their statements lead a person to certainty or confidence that the crescent has been sighted with the naked eye in the same city or in cities that share its horizon.[30]

Ruling 253. The elevation of the moon or its late setting, as well as the crescent not being particularly thin, does not prove that the previous night was the first night of the month.[31]

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[30] Therefore, if trustworthy astronomers and experts—whose statements generate confidence—provide information regarding the characteristics of the moon on a specific date, even months or years in advance, and those characteristics are such that the individual gains confidence that the crescent will be **visible with the naked eye** in their own region, then based on this confidence, the beginning of the month is established for them.

[31] Although the crescent on the first night of the month may sometimes have a very low illumination percentage (being extremely thin) and remain above the horizon for only a short period after sunset, in many cases the first-night crescent appears with a significant illumination percentage—for example, 2 or 3 per cent (and occasionally more)—and with a long duration of visibility, such as more than an hour after sunset, or even longer. This occurs even though the crescent was not visible the previous night, and it is certain that such a night is indeed the first night of the month. This is a well-established and definitive point from the standpoint of astronomical expertise.

Similarly, if the moon has a halo,[32] this does not indicate that it is the second night. Nor does the moon's fullness prove that the night in question is the fourteenth night of the month.

Ruling 254. If the crescent is sighted after midday (*zawāl* / the time of *ẓuhr*) and before sunset with the naked eye, this is proof that the coming night is the first night of the month. However, if the crescent is not visible to the naked eye, its sighting through a telescope is not sufficient.[33]

Ruling 255. If the beginning of the month is established in one city, it is likewise established in other cities that share the same horizon with it. What is meant here by 'sharing the horizon' is that if the crescent is visible in the first city, then it would also be visible in the second city provided there is no obstruction, such as clouds or dust.

In other words, if the sighting of the crescent in one city **entails** (i.e. is inseparably linked with) its sighting in another city—meaning that if the crescent is sighted in City 'A', then one can be certain that it would also be sighted in City 'B'—then the sighting in City 'A' establishes the beginning of the month for City 'B' as well. To clarify this matter, it is useful to note several points:

Scientifically, the lag time (duration above the horizon) and the illumination percentage of the crescent on the first night depend on factors such as the time of conjunction between the moon and the sun, and whether the moon is at apogee or perigee, details of which are explained in astronomical literature.

These same factors also cause the full moon occasionally to occur on a night other than the fourteenth —for example, on the thirteenth or the fifteenth.

[32] That is, the unilluminated portion of the moon may appear as a faint luminous halo.

[33] It is worth noting that the crescent is sometimes sighted with the naked eye during the daytime before sunset in certain northern European and North American countries, where the conditions of sunset and the brightness of the sky differ from those of other regions.

1. The *entailment* of crescent-sighting between two regions has **no connection** to their prayer-time schedules, nor to their sunrise and sunset times.
   Thus, it is entirely possible that in two cities that share the same sunrise and sunset times or have similar call for prayer (*adhān*) times, the crescent may be easily visible in one city but **not** in the other. Indeed, in some cases, visibility in the second city may be **impossible**.
   Therefore, *sharing a horizon* with respect to crescent-sighting is **not the same** as sharing a horizon with respect to sunrise, sunset, or *adhān* times.

2. The *entailment* of crescent-sighting in one city relative to another depends on the **position of the moon** in the two regions, along with other factors that influence crescent visibility.[34]

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[34] In general, crescent visibility in any region after twenty-nine days of a lunar month depends on factors such as:
- the illumination percentage of the crescent,
- the thickness of the crescent's central arc,
- the altitude of the crescent above the horizon,
- the lag time (duration the crescent remains after sunset),
- the angular separation between the moon and the sun, and
- the distance between the moon and the earth.

These factors can be determined through mathematical calculations with zero or near-zero margin of error, and nowadays the results of such calculations are readily available to individuals through specialised software.
One way to determine whether there is an entailment of crescent-sighting between two cities is to compare the crescent-visibility characteristics of both locations. Suppose the crescent is sighted in Bojnourd, but in Mashhad, due to cloud or dust, the crescent-sighting effort yields no result. If software-based calculations show that the crescent in Bojnourd had, for example, 7 degrees of altitude and 1 per cent illumination, and the position of the moon in Mashhad is such that it has more than 7 degrees altitude and more than 1 per cent illumination, then in this case the

3. From a scientific standpoint, in order to determine—*without mathematical calculations or specialised software*—whether such an entailment exists between two cities (that is, whether sighting in one city necessarily implies sighting in the other), there is a general and widely applicable rule as follows:

   'If the city in which the crescent has been sighted lies to the east of the city in which it has not been sighted, then—provided the two cities lie on the same line of latitude—the beginning of the month is established for the western city as well.'

   Moreover, in many cases, even with a difference of one or two degrees in latitude, the sighting of the crescent in the eastern city also establishes the beginning of the month for the western city.
   It is worth noting that in cities that are very close to one another, the sighting of the crescent in one city generally establishes the beginning of the month in the other as well—even if the city in which the crescent is sighted lies **to the west** of the other. However, if the western city in which the crescent has been sighted has **very weak visibility conditions**, such that the crescent there is at the borderline of visibility, then the sighting in the western city does **not** establish the beginning of the month for the eastern city, even if the two cities are geographically close.

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beginning of the month is also established in Mashhad by virtue of the sighting in Bojnourd. In technical terms, Bojnourd is considered to share the same horizon (*muttaḥid al-ufuq*) with Mashhad.
In general, whenever the crescent is sighted in a city (such as Bojnourd in the above example) whose visibility conditions are weaker than those of another city (such as Mashhad), or when the visibility characteristics of the two cities are essentially the same, the sighting in the first city establishes the beginning of the month in the second as well.
From what has been stated, it becomes clear that national borders and administrative divisions have absolutely no role in determining whether two locations share a horizon.

Therefore, the sighting of the crescent in **Mashhad** establishes the beginning of the month in **Neyshabur, Fariman, Quchan, Sabzevar, Shahrood, Damghan, Tehran, Qazvin, Saqqez, Sardasht**, and similar cities in the overwhelming majority of cases. However, in other circumstances—for example, when the two cities differ greatly in latitude, or when the city in which the crescent is sighted lies clearly **to the west** of the other—[35] the establishment of the beginning of the month depends on the **specific visibility characteristics** of the crescent.

4. From the explanations in the previous point, it becomes clear that the *entailment* of crescent-sighting between two cities (i.e. sharing a horizon in the matter of crescent-sighting) is, in many cases, **one-directional**. This does **not** mean that if the crescent is sighted in *either* of the two cities, it will necessarily be sighted in the other. For example, the fact that crescent-sighting in **Mashhad** establishes the beginning of the month for **Tehran** does *not* mean that sighting in Tehran would establish the beginning of the month for Mashhad.[36]

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[35] Except for cities that are extremely close to one another, as explained earlier.

[36] By reflecting carefully on the explanations given above, it becomes clear that the criterion for establishing the beginning of the month—after twenty-nine days have passed from the previous month—is that the crescent must be visible to the naked eye in the duty-bound person's (*mukallaf*) own city. If the crescent is sighted in the person's city—or if they gain confidence that the crescent would be visible there were it not for clouds, dust, or similar obstructions—then the beginning of the month is established. Otherwise, it is not established, and the ruling of the month in which the person already is remains in effect. There is no need to investigate sighting reports from other cities, nor to refer to mathematical calculations, software, or similar tools. This is precisely the simple and accessible criterion that has, in natural circumstances, been available across different eras and in many places.

Ruling 256. A person who, in previous years, was certain that the crescent of **Shawwāl** had been established and therefore broke their fast, but who has now become aware of the differences in the jurisprudential foundations regarding crescent-sighting and has begun to doubt their past certainties—fearing that the days on which they broke their fast might not actually have been Eid—**is not required** to make up those days (i.e. perform their *qaḍā'*). However, if a person **becomes confident** that their previous certainty was mistaken, then they **must** make up those days. Nevertheless, **no deliberate-violation expiation (*kaffārat al-ʿamd*)** is required.

Ruling 257. If the beginning of the month of Ramadan is *not* established for a person and they therefore do not fast, but it is later established that the previous night was the first of the month, they must make up that day's fast, but no expiation (*kaffārah*) is required.

However, if it becomes established *during the day itself* that that day is the first of the month, its ruling has been explained in Ruling **36.**

Ruling 258. On a day when a person does not know whether it is the **last day** of the month of Ramadan or the **first of Shawwāl**, they must fast. However, if they realise **during the day** that it is the first of Shawwāl, they must break their fast.

Ruling 259. If a person, believing that Eid **al-Fiṭr** has been announced and that fasting is not required, breaks their fast—such as by eating or drinking during the day—and later realises that it was *not* Eid but rather the **last day** of the month of Ramadan, then they must make up one fast, but **no deliberate-violation expiation** is required. If they realise this **during the day after having already committed a nullifier (*mufṭir*) of the fast**, then based on obligatory precaution (*iḥtiyāt*

Examining the sighting status of other cities serves only as a helper and indicator, useful in cases of cloud, dust, or other obstructions, to determine whether the crescent would have been visible in the *mukallaf*'s own city. Similarly, astronomical calculations, software, and geographical assessments are tools that make this investigation easier (although such investigation is not, in principle, obligatory).

wājib), they must **abstain** from eating, drinking, and all other invalidators (***mufṭirāt***) of the fast until sunset.

Ruling 260. A person whose **months of the year have become indistinguishable** to them and who cannot identify the month of the month of Ramadan among the other months—such as a prisoner who has no means of determining the months and cannot attain certainty or confidence regarding the month of Ramadan—must act **according to their strongest supposition** (*ẓann*). Based on obligatory precaution, they must exert **full effort** to obtain the strongest possible **supposition.**

However, if there is **no way** to arrive at a stronger **supposition**, then if using **drawing lots (*qurʿah*)** leads to a stronger **supposition**, they may use it as a **last resort.** If no **supposition** can be reached at all—meaning that all possibilities appear equal—then they must choose **one of the months** they think might be the month of Ramadan and fast that month. In this case, they must keep that month in mind; therefore:

- if it is later established that the month they fasted **was** the month of the month of Ramadan, their fasts are **valid;**
- if it becomes clear that the month they fasted was **after** the month of Ramadan—such as fasting in **Shawwāl** or **Dhū al-Qaʿdah**—then nothing further is required of them, and the fasts they performed count as **make-up fasts** for the month of Ramadan;
- however, if it is established that the month they fasted was **before** the month of Ramadan—such as fasting in **Rajab** or **Shaʿbān**—then those fasts are **not sufficient.**

In this latter case:

- if the month of Ramadan has already passed, they must perform **make-up fasts** for that month of Ramadan;
- but if the month of Ramadan has **not yet come**, then they must fast the actual month of Ramadan when it arrives.