

INTERPRETATION OF *FAJR ṢĀDIQ* AND *FAJR KĀDHIIB* IN AL-SHĀFI'Ī SCHOOL'S TEXTS: A HADITH AND ASTRONOMICAL PERSPECTIVES

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Abstract

This study explores the interpretation of false dawn (*fajr kādhib*) and true dawn (*fajr ṣādiq*) in al-Shāfi'ī fiqh texts through the lenses of hadith and astronomy. It compares classical definitions by al-Rāfi'ī and al-Nawawī with contemporary scientific and hadith-based perspectives. Using documentation and descriptive-critical analysis, the research finds that *fajr kādhib* is described as vertical light (*mustathil*) resembling a wolf's tail, appearing briefly and vanishing. In contrast, *fajr ṣādiq* is horizontal light (*mustaṭīr*) spreading across the horizon, gradually brightening. From a hadith perspective, this aligns with *al-mu'taridh* (true dawn) and *al-mustathil* (false dawn). Astronomically, *fajr kādhib* matches zodiacal light, which doesn't disappear, and *fajr ṣādiq* corresponds to sunlight scattering. Thus, the disappearance of *fajr kādhib*, as described in classical texts, lacks modern scientific support.

Keywords: false dawn; true dawn; al-Shāfi'ī school; hadith; astronomy

Abstrak:

Penelitian ini membahas interpretasi *fajr kādhib* (false dawn) dan *fajr ṣādiq* (true dawn) dalam teks fikih mazhab al-Shāfi'ī melalui perspektif hadis dan astronomi. Penelitian ini membandingkan definisi klasik oleh al-Rāfi'ī dan al-Nawawī dengan perspektif ilmiah dan hadis kontemporer. Dengan menggunakan teknik dokumentasi dan analisis deskriptif-kritis, hasil penelitian menunjukkan bahwa *fajr kādhib* digambarkan sebagai cahaya vertikal (*mustathil*) menyerupai ekor serigala, yang muncul sesaat lalu menghilang, sementara *fajr ṣādiq* adalah cahaya horizontal (*mustaṭīr*) yang menyebar di cakrawala dan perlahan semakin terang. Dari sudut pandang hadis, ini selaras dengan istilah *al-mu'taridh* (fajr sejati) dan *al-mustathil* (fajr palsu). Secara astronomi, *fajr kādhib* sesuai dengan cahaya zodiak yang tidak menghilang, sedangkan *fajr ṣādiq* mencerminkan penyebaran cahaya matahari. Dengan demikian, deskripsi *fajr kādhib* yang menghilang dalam teks klasik tidak didukung bukti ilmiah modern.

Kata kunci: *fajr kādhib*; *fajr ṣādiq*; fikih Al-Shāfi'ī; hadis; astronomi

A. Introduction

The emergence of the true dawn after the morning dawn is the primary condition for the obligation to perform the dawn prayer and to start fasting. As in the books of *fiqh*, it is stated that the time for the dawn prayer begins with the emergence of the true dawn and ends when the Sun rises and the true dawn appears after the morning dawn.¹ For that, it is crucial to know the signs of the emergence of true dawn. In the hadiths, it is mentioned that there are two types of dawn. First, the dawn is shaped like a wolf's tail. This dawn does not make prayer (*fajr*) permissible and does not forbid eating (for those who want to fast). Second, the dawn that stretches across the horizon. This dawn makes prayer (*fajr*) permissible and forbids eating (for those who want to fast).²

Several books of Islamic jurisprudence mention that the true dawn will appear first for a while, then "disappear". After that, the true dawn will appear. Among them, in the book *al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī* written by al-Nawāwī, it is mentioned that there are two dawns, namely the true dawn and the true dawn. The two dawns are defined by the characteristics and differences of the two dawns. The true dawn is illustrated like *dhanab al-sirḥān* (wolf's tail), where its light appears to rise upwards (vertically) from the horizon towards the sky, then "disappears" for a moment, and then the true dawn appears. It is called the true dawn, which means

¹ Ahmad Izzuddin, *Ilmu Falak Praktis Metode Hisab-Rukyat Praktis dan Solusi Permasalahannya* (Semarang: PT. Pustaka Rizki Putra bekerjasama Pustaka Al-Hilal, 2012), 83.

² Among them is the hadith narrated by *Sunan al-Dāruquṭnī* as follows:

ثَنَا مُحَمَّدُ بْنُ مَخْلَدٍ، ثَنَا مُحَمَّدُ بْنُ إِسْمَاعِيلَ الْحَسَائِيُّ، نَا يَزِيدُ، نَا ابْنُ أَبِي ذَيْبٍ، عَنِ الْحَارِثِ بْنِ عَبْدِ الرَّحْمَنِ، عَنْ مُحَمَّدِ بْنِ عَبْدِ الرَّحْمَنِ بْنِ ثَوْبَانَ، قَالَ: قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ: «الْفَجْرُ فَجْرَانِ فَأَمَّا الْفَجْرُ الَّذِي يَكُونُ كَدَنْبِ السَّرْحَانِ فَلَا يُجِلُّ الصَّلَاةَ وَلَا يُحْرِمُ الطَّعَامَ، وَأَمَّا الَّذِي يَذْهَبُ مُسْتَطِيلًا فِي الْأَفْقِ فَإِنَّهُ يُجِلُّ الصَّلَاةَ وَيُحْرِمُ الطَّعَامَ» سنن الدارقطني

"Muḥammad Ibn Makhlad told us, Muḥammad Ibn Ismā'il al-Hassānī told us, Yazīd told us, Ibn Abī Dhī'b told us, from al-Ḥārith Ibn 'Abdurrahmān, from Muḥammad Ibn 'Abdurrahmān Ibn Thawbān, he said, "Rasūlullāh SAW. said, "There are two kinds of dawn: The dawn which is like a wolf's tail does not make prayer lawful (i.e. it has not yet entered the time dawn) but allows eating (i.e. for those who wish to fast). As for the dawn that radiates long over the horizon, that is what makes prayer lawful (i.e., the Fajr prayer) and forbids eating (for those who wish to fast)." Sunan al-Dāruquṭnī. Al-Imām al-Ḥafīẓ 'Alī Ibn 'Umar al-Dāruquṭnī, *Sunan al-Dāruquṭnī* (Beirut: Dār al-Ma'rifah, 1422).

false or impossible dawn because the light only lasts for a few moments, disappears, and the sky becomes dark again.³

The definition of the false dawn, which states that the light only appears for a few moments and then "disappears," was not found during observation. This was stated by dawn observers in Indonesia, including Abdul Muid Zahid from LFPCNU Gresik and M. Basthoni from PWNU Central Java. They used the SQM tool, which was later developed into a tool called SOOF, to perform dawn observation. The results of their research found that there was no gap between the false dawn and the true dawn. So, the end of the false dawn and the emergence of the true dawn are not visible. After the false dawn appears, it is followed by the true dawn (overlapping two dawns).⁴ This reality is different from the concept of the true and false dawn, which exists in the books of Islamic jurisprudence, including the books of Islamic jurisprudence of the al-Shāfi'ī school.

Several studies that examine the meaning of the dawn of dawn and the dawn of dawn include those by Muhammad Rifqi Hasan.⁵ Who studied the astronomical interpretation of the beginning of prayer times. In his research, he also stated that based on the hadith, the sky begins to brighten after the appearance of the true dawn. While for the true dawn, the sky becomes dark again after its appearance. Rohmat⁶ and Unggul Suryo Ardi⁷ states that the emergence of the true dawn is a sign of starting fasting and the fajr prayer time. Qaṣṭalānī's research states that in Islamic jurisprudence, dawn and *shafaq* are two daily natural phenomena caused by the earth's rotation that produce light on the horizon just before sunrise and after

³ Muḥy al-Dīn ibn Sharf Al-Nawawī, *Al-Majmū' Sharḥ al-Muhadhdhab li al-Shayrazī* (Jeddah: Maktabah al-Irshād, n.d.), vol. III: 46.

⁴ Abdul Muid Zahid, "Pemanfaatan Fajar Shadiq dan Pemanfaatan SQM dalam Pengamatannya," in *Webinar Praktik Kompetensi Program Studi Ilmu Falak UIN Sunan Ampel Surabaya dengan Tema "Pemanfaatan Teknologi dalam Pengamatan Fajar Shadiq"*, 02 Rabiul Awal 1443 H/29 Oktober 2021 M, 2021; M. Basthoni, "Pemanfaatan Fajar Shadiq dan Pemanfaatan SOOF dalam Pengamatannya," in *Pemanfaatan Teknologi dalam Pengamatan Fajar Shadiq*, 02 Rabiul Awal 1443 H/29 Oktober 2021 M (Surabaya, 2021).

⁵ Muhammad Rifqi Hasan, "Astronomical Interpretation of Early Prayer Times (Study of Differences in Determination of Early Prayer Times from the Text and Astronomical Perspective)," *Al-Hilal: Journal of Islamic Astronomy* 2, no. 2 (2021): 194–213, <https://doi.org/10.21580/al-hilal.2020.2.2.6640>.

⁶ Rohmat, "Fajar Dalam Perspektif Syari'ah," *ASAS Jurnal: Jurnal Hukum Ekonomi Syariah* 4, no. 1 (2012), <https://ejournal.radenintan.ac.id/index.php/asas/article/view/1670>.

⁷ Unggul Suryo Ardi, "Problematika Awal Waktu Shubuh Antara Fiqih dan Astronomi," *AL-AFAQ: Jurnal Ilmu Falak dan Astronomi* 2, no. 2 (2021): 87–102, <https://doi.org/10.20414/afaq.v2i2.2921>.

sunset. The emergence of dawn is used as a sign of the entry of the fajr prayer time, while *shafaq* is a sign of the change in time for the Maghrib and Isha' prayer times. Moreover, M. Syaoqi Nahwandi⁸ stated that not all areas have the phenomenon of seeing the true dawn and the false dawn. For locations that cannot see the phenomenon of *shafaq* and true dawn, astronomers use the position of the stars in the sky as an alternative to determine the beginning of the time for the Isha' and Fajr prayer times.

Based on these studies, no one has studied the disappearance of the false dawn before the emergence of the true dawn. This article complements previous studies, namely studying the verification of the meaning of the false dawn and the true dawn in the books of *fiqh*, which turned out to be different from what was seen during observation. This study is closely related to the entry of the dawn prayer time because the requirement to be able to identify the emergence of the true dawn is to be able to observe the false dawn. For this reason, it is essential to know the characteristics of each of these dawns along with the limits of their beginning and final times.

B. Method

This research is literature research and is a type of qualitative research. Data were collected through documentation techniques and analyzed using the descriptive critical analysis method. The *fiqh* books that will be studied in this study are the *fiqh* books of the al-Shāfi'ī school, namely the books written by al-Rāfi'ī and al-Nawāwī. This is because the majority of the Muslim population in Indonesia follows the al-Shāfi'ī school of thought. Al-Rāfi'ī and al-Nawāwī are two *al-Shāfi'iyyah* scholars who continue to uphold the validity of Imam Al-Shāfi'ī's thoughts from the method of *istinbāṭ* of his law and the results of his *ijtihād*. Hadith and astronomy are the perspectives used to study the *fiqh* books of the al-Shāfi'ī school of thought written by al-Rāfi'ī and al-Nawāwī. Hadith is used as a theoretical basis for finding the initial legal basis used as a reference by the *Mujtahids* in taking laws related to the meaning of the false dawn and true dawn as markers of the entry of the dawn prayer time. Meanwhile, astronomy is used to interpret natural

⁸ Muhammad Syaoqi Nahwandi, "The Reformulation of Algorithm for Calculating Star's Position as the Sign of Isya and Fajr Prayer Times," *Al-Hilal: Journal of Islamic Astronomy* 1, no. 1 (2020): 53–86, <https://doi.org/10.21580/al-hilal.2019.1.1.5237>.

phenomena that indicate the start of prayer times as mentioned in the texts of the Qur'an and hadith as the position of the Sun (the height of the Sun) in horizon coordinates.

C. Result and Discussion

1. Definition of *Fajr* in al-Rāfi'ī's works

Al-Rāfi'ī explained the meaning of the false dawn and true dawn in *al-'Azīz Sharḥ al-Wajīz* and *al-Muḥarrar*'s books. The book *al-'Azīz* is a *sharḥ* (explanation) of *al-Wajīz* by al-Ghazzālī. So, it is called the book *al-'Azīz Sharḥ al-Wajīz*. The book *al-'Azīz Sharḥ al-Wajīz* is the primary reference among the al-Shāfi'ī school of thought. The method of explanation used by al-Rāfi'ī in the book *al-'Azīz* is to write down al-Ghazzālī's opinion on a *fiqh* issue first. He explains his opinion under al-Ghazzālī's opinion, accompanied by detailed arguments that are the background of the opinion, which has become the basis of the al-Shāfi'ī school of thought and has been formulated by al-Ghazzālī. Al-Rāfi'ī also includes several differences of opinion among scholars on a *fiqh* issue. He chooses a strong opinion and becomes the basis of the scholars of the al-Shāfi'ī school of thought.

In the book *al-'Azīz Sharḥ al-Wajīz*, Al-Rāfi'ī first mentions al-Ghazzālī's opinion about the dawn time entry. According to al-Ghazzālī, the dawn time begins with the emergence of the true dawn whose light spreads across the horizon, not starting with the emergence of the false dawn, which looks long like a wolf's tail and then its traces disappear, then continues with the time of *ikhtiyār* until *iṣfār*, and the time of *jawāz* until sunrise.⁹ In this book of *al-'Azīz*, al-Rāfi'ī defines the false dawn and true dawn by explaining it as explained by al-Ghazzālī. Even from the wording, Al-Rāfi'ī seems to paraphrase al-Ghazzālī's opinion regarding the signs of the entry of the time for dawn prayer and the definition of false and true dawn. Al-Ghazzālī uses stated:

وَوَقْتُ الصُّبْحِ يَدْخُلُ بِطُلُوعِ الْفَجْرِ الصَّادِقِ الْمُسْتَطِيرِ ضَوْؤُهُ لَا بِالْفَجْرِ الْكَاذِبِ الَّذِي يَبْدُو مُسْتَطِيلًا كَذَنِبِ
السَّرْحَانِ، ثُمَّ يَنْمَجِقُ أَثَرُهُ ثُمَّ يَتَمَادَى وَقْتُ الْإِخْتِيَارِ إِلَى الْإِسْفَارِ، وَوَقْتُ الْجَوَازِ إِلَى الطُّلُوعِ.

Meanwhile, al-Rāfi'ī stated:

⁹ Imām Abī al-Qāsim 'Abd al-Karīm Ibn Muḥammad Ibn 'Abd al-Karīm Al-Rāfi'ī, *Al-'Azīz Sharḥ al-Wajīz* (Beirut: Dār al-Kutub al-Ilmiyyah, 1997), vol. I: 373.

يَدْخُلُ وَقْتُ الصُّبْحِ بِطُلُوعِ الْفَجْرِ الصَّادِقِ وَلَا عِبْرَةَ بِالْفَجْرِ الْكَاذِبِ.

It can be seen in this sentence that the word "*yadkhul*" was put first by al-Rāfi'i so that it became *kalam* in the form of *fi'liyah* (verb), where initially al-Ghazzālī put the word "*yadkhul*" after the isim form "*waqt al-ṣubḥ*" which characterizes the form of *kalam ismiyah* (noun). This can also be seen from the insertion of the phrase '*ibrah*' by al-Rāfi'i between the words "*lā nakirah*" and "*bi al-fajr al-kāzib*". The word '*ibrah*' is used in jurisprudence, and jurisprudence has an important role. '*Ibrah*' shows the clarity of the desired meaning of information or propositions. It seems that al-Rāfi'i wanted to emphasize and clarify the existence of false dawn, which cannot be used as a marker of dawn.

As for the word "*al-mustaṭīr*" used by al-Ghazzālī, it is not included in the initial description of al-Rāfi'i. However, an explanatory explanation is given in the next section. Said by al-Rāfi'i:

وَالصَّادِقُ هُوَ الْمُسْتَطِيرُ الَّذِي لَا يَزَالُ ضَوْؤُهُ يَزْدَادُ وَيَعْتَرِضُ فِي الْأُفُقِ، سَعَى مُسْتَطِيرًا لِأَنْبِشَارِهِ

According to al-Rāfi'i, the word "*al-mustaṭīr*" is desired to have indications, first, its light does not disappear again and continues to grow brighter. From this word, it indicates an essential difference between the true dawn and the false dawn. Second, it is positioned horizontally on the horizon. This is also what breaks the difference with the true dawn, whose light is not precisely on the horizon but above the horizon. Therefore, it continues explaining that it is called "*mustaṭīran*" because its light stretches and spreads only on the horizon.

Al-Rāfi'i then continued the next explanation (description) regarding the meaning of "*mustaṭīran*" by submitting a fragment of the evidence in QS. Al-Insān: 7,

كَانَ شَرُّهُ مُسْتَطِيرًا

This verse is not directly related to the matter of true dawn. In some *tafsīr* books, the word "*mustaṭīr*" has a different meaning from "*mustaṭīl*". So, this once again clarifies the difference between *Fajr Kādhīb* and *Fajr Ṣādiq*. It should also be understood that linguistic rules are essential to explain the study of fiqh and usul fiqh by citing other evidence that uses the exact wording. The goal is to ensure no missing meaning (misinterpretation) or choice of wording. That's why in the *uṣūl fiqh*, an extraordinary discussion provides a long explanation of linguistic rules.

Next, al-Rāfi'ī gave an explanation of the meaning of dawn which also seemed to paraphrase al-Ghazzālī's wording. Where al-Ghazzālī used the sentence:

الَّذِي يَبْدُو مُسْتَطِيلًا كَذَنْبِ السَّرْحَانِ، ثُمَّ يَنْمَحِقُ أَثَرُهُ

Meanwhile, al-Rāfi'ī uses the sentence:

وَالكَاذِبُ يَبْدُو مُسْتَطِيلًا ذَاهِبًا فِي السَّمَاءِ، ثُمَّ يَنْمَحِقُ وَتَصِيرُ الدُّنْيَا أَظْلَمَ مِمَّا كَانَتْ

In al-Rāfi'ī's explanation, it is stated that the morning dawn has characteristics, the first of which is the light that appears to extend to the sky (*mustaṭīlan dhāhiban fi al-samā'*). This definition is not mentioned in al-Ghazzālī's book. Al-Ghazzālī only mentions that the morning dawn extends like a wolf's tail (*dhanab al-sirḥān*). However, it is interpreted with another, more detailed wording that its light extends to the sky. While the sentence "*dhanab al-sirḥān*" was later explained by al-Rāfi'ī because it is like a wolf's tail.

Furthermore, the second characteristic of the dawn is that its light disappears, and the world becomes as dark as before. The definition is slightly different from al-Ghazzālī's explanation. Whereas Al-Ghazzālī only says that the traces of the morning dawn disappear.

From here, it can be seen that the interpretation of the false dawn by al-Rāfi'ī, who said that the light of the false dawn will disappear, comes from al-Ghazzālī, as mentioned in the book of *al-Wajīz*. However, al-Rāfi'ī also added information about the state of the world, which is as dark as before (night) after the light of the false dawn disappears. Al-Rāfi'ī also explained what al-Ghazzālī used in the hadith, as an example of the false dawn is a wolf's tail and not the tail of another animal, which is an example following the example of the Arabs. Al-Rāfi'ī mentioned two reasons for these statements:

وَالْعَرَبُ تُشَبِّهُهُ بِذَنْبِ السَّرْحَانِ لِمَعْنَيَيْنِ: أَحَدُهُمَا: طُولُهُ. وَالثَّانِي: أَنَّ الضُّوْءَ يَكُونُ فِي الْأَعْلَى دُونَ الْأَسْفَلِ كَمَا أَنَّ الشَّعْرَ يَكْتُمُ عَلَى أَعْلَى ذَنْبِ الذِّئْبِ دُونَ أَسْفَلِهِ

The first reason is because it is elongated and the second is that it extends upwards, not downwards. This is how a wolf's tail looks like, its thick fur is above its tail, not below its tail. Then it is closed by quoting the hadith of the prophet regarding the explanation of the false dawn and the true dawn;

وَرَوَى أَنَّهُ ﷺ قَالَ: ((لَا يَغُرَّتْكُمْ الْفَجْرُ الْمُسْتَطِيلُ فَكُلُوا وَاشْرَبُوا حَتَّى يَطْلُعَ الْفَجْرُ الْمُسْتَطِيرُ

The use of the hadith provides information that the hadith is the main reference regarding the true and false dawn. Why not the Qur'an? Because in the Qur'an there is no detailed explanation of what the true and false dawn are. The existence of the prophet's hadith as an explanation of the Qur'an is seen in the discussion of the true and false dawn.

After mentioning al-Ghazzālī's opinion, al-Rāfi'ī continued by explaining his opinion about the time of dawn. According to al-Rāfi'ī, the time of dawn begins with the emergence of the true dawn, not with the emergence of the false dawn. The true dawn is a *mustaṭīr* dawn whose light does not disappear and continues to spread across the horizon. It is called *mustaṭīr* because it spreads (evenly) across the horizon. The false dawn is a dawn that appears to be elongated in the sky, then it disappears/disappears, and the world becomes as dark as before. The Arabs liken it to a wolf's tail because of two meanings (things): first, because of its long shape; second, because its light is above and not below like the many hairs above a wolf's tail and not below it. The evidence used by al-Rāfi'ī is the hadith narrated by Muslims, which means: "Do not be fooled by the lengthening dawn; eat and drink until the widening (spreading) dawn appears."¹⁰

Al-Rāfi'ī also explained the signs of the entry of the dawn prayer time in the book *al-Muḥarrar*, namely, the entry of the dawn is marked by the emergence of the true dawn. The book *al-Muḥarrar* is a fiqh book of the Asy-Syafii school which is classified as a type of *mukhtaṣar* (summary).¹¹ Therefore, its form is a more minor summary than *Al-'Azīz Sharḥ al-Wajīz*. This book only contains legal conclusions from al-Rāfi'ī's research without any citations of evidence (if any, only a few). *Al-Muḥarrar* is a *mustaqil* (independent) book, because even though it is a summary (*mukhtaṣar*) it does not summarize other books (not a derivative of other books). It is called *mukhtaṣar* because the wording used is efficient (brief).¹²

The wording in the book *al-Muḥarrar* regarding the time of dawn is as follows:

وَيَدْخُلُ وَقْتُ الصُّبْحِ بِطُلُوعِ الْفَجْرِ الصَّادِقِ، وَهُوَ الَّذِي يَسْتَطِيرُ ضَوْؤُهُ وَيَعْتَرِضُ فِي الْأُفُقِ وَيَبْقَى إِلَى طُلُوعِ الشَّمْسِ

¹⁰ Al-Rāfi'ī, *Al-'Azīz Sharḥ al-Wajīz*.

¹¹ Muafa, "Mengenal Al-Muharror, Kitab Masterpiece Ar-Rofi'i," *irtaqi.net*, 2017, <https://irtaqi.net/2017/10/19/mengenal-al-muharror-kitab-masterpiece-ar-rofi/>.

¹² Ibn Ḥajr Al-Haytamī and Muḥammad 'Alī Jumu'ah, *Al-Madkhal ilā Dirāsah al-Madhāhib Al-Fiqhiyyah* (Kairo: Dār al-Salām, 2009), 51.

In this statement, al-Rāfi'ī only wrote a brief conclusion related to the law. Namely the entry of the dawn prayer time. Where the entry of the dawn prayer time is marked by the emergence of the true dawn, namely the dawn whose light spreads (*yastaṭīr*) and stretches (*ya'tariḍ*) on the horizon, and the light remains until the Sun rises. Al-Rāfi'ī did not mention the true dawn and its signs in this editorial. Al-Rāfi'ī only mentioned in his footnote that this true dawn comes together with the true dawn (*wa kharaja bi al-ṣādiq al-kādhīb*). With this editorial, if interpreted textually, the true dawn comes out together with the true dawn. It is not mentioned whether the true dawn then disappears or not.

In the book of *al-Muḥarrar*, It is mentioned that the entry of the dawn prayer time begins with the emergence of the true dawn. The true dawn in this book is interpreted as a dawn whose light spreads and stretches across the horizon and remains until the Sun rises. This book also mentions that the time of *ikhtiyār* (choice) to perform the dawn prayer is not to be delayed until the time of *iṣfār*.¹³ In the editorial of the book, it is stated that the reference used to mention that the entry of the dawn time is when the true dawn appears is a hadith narrated by a Muslim, which means: "*There is no negligence in sleep, but negligence is in the person who does not establish prayer until the time of another prayer comes.*" (Narrated by Muslim). It is explained after that that the time of the dawn prayer appears with signs so that it remains following the others. And the true dawn comes out after the true dawn. In *Majmu'*, the people have agreed that the beginning of the dawn time starts from the emergence of the true dawn, which is the second dawn, and the end of the *ikhtiyār* (choice) time is when the light of dawn is bright. The *jawāz* time lasts until the Sun rises. Al-Rāfi'ī explained the *iṣfār* time as the dawn time when the light is bright from the hadith of *Khabar Jibrīl*, which was later known as the hadith from Jabir, which means: "*the time of prayer is between these two times*". What is meant by this prayer time is the *ikhtiyār* time. According to al-Rāfi'ī, prayer times are divided into six times, namely: the time of *faḍīlah* at the beginning of the time, the time of *ikhtiyār*, the time of *jawāz* without *makrūh* until the reddish dawn, the time of *makrūh*, the time of *ḥaram* and the time of *ḍarūrat* which is the afternoon.¹⁴

¹³ Imām Abī al-Qāsim 'Abd al-Karīm Ibn Muḥammad Ibn 'Abd al-Karīm al-Rāfi'ī, *Al-Muḥarrar fī Fiqh al-Imām al-Shāfi'ī* (Kairo: Dār al-Salām, 2013), 163.

¹⁴ Al-Rāfi'ī, *Al-Muḥarrar fī Fiqh al-Imām al-Shāfi'ī*.

2. Al-Nawawī's Explanation of *Fajr*

Al-Nawawī explains the meaning of the true and false dawn in the book *Al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī* and *Minhaj al-Ṭālibīn*. In the book *Al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī*, al-Nawawī begins his presentation with the original wording of the book *Muḥadhdhab* by al-Shayrazī as follows:

قَالَ الْمُصَنِّفُ رَحِمَهُ اللَّهُ تَعَالَى: وَوَقْتُ الصُّبْحِ إِذَا طَلَعَ الْفَجْرُ الثَّانِي، وَهُوَ الْفَجْرُ الصَّادِقُ الَّذِي يَحْرُمُ بِهِ الطَّعَامُ وَالشَّرَابُ عَلَى الصَّائِمِ، وَأَخْرَهُ إِذَا أَسْفَرَ

This statement states that in the *Muḥadhdhab* book, the dawn prayer begins when the second dawn appears, namely the true dawn, where the true dawn has legal implications, namely prohibiting food and drink for fasting people. And the end of dawn is until the time of *isfār* (light). In this editorial, there is no explanation of the true dawn and false dawn or the signs of the two dawns. The following sentence in the *Muḥadhdhab* book does not mention the definition of dawn and its signs. Next is the evidence used as a guideline to determine the beginning of the dawn prayer time, namely Jibril's hadith and Abī Qatādah's hadith.

However, in the branch section (*far'*), al-Nawawī mentioned *Aṣḥābunā's* opinion. The word *Aṣḥābunā* usually refers to *mujtahid* scholars in al-Shāfi'i school of thought. This section states that there are two dawns, the first being called the early dawn and the late dawn. At the same time, the second is called the second dawn (*thānī*) or the true dawn. Furthermore, al-Nawawī, by quoting *Aṣḥāb's* opinion, explained the characteristics of each dawn where the first dawn appears with an elongated shape (*mustaṭīl*) around the sky (*naḥw al-samā'*) like a wolf's tail (*dhanab al-sirḥān*), then disappears for a moment (*yaghīb dhālik sa'ah*), then the second dawn appears, namely the true dawn (*mustaṭīr*) which stretches (*mustaṭīr*) or spreads (*muntashīr*) with the word '*arḍ* (widens) on the horizon.

In this explanation, it can be seen that the explanation of the meaning of the false dawn, which appears, then disappears, and then the dawn of the true dawn appears, is followed by al-Nawawī from the opinion of *Aṣḥābunā* (a *mujtahid* scholar in the al-Shāfi'i school of thought). In the book *Muḥadhdhab li al-Shayrazī*, there is no mention of the signs of dawn. The book *Muḥadhdhab* only briefly mentions the signs of the dawn's entry with the emergence of the true dawn. Al-Nawawī again quotes *Aṣḥābunā's* opinion that the laws in fiqh related to the second dawn, or true

dawn, include the entry of the time for dawn prayer, the end of the time of *isyā*, the entry of the fasting time, the prohibition of eating and drinking for those who are fasting, the true dawn is a sign that the night has ended and the day has entered. From here, it is reaffirmed that the emergence of the early dawn (the *fajr kādhib*) is not related to the law of worship of Muslims according to the agreement of Muslims.

Al-Nawāwī again quoted the opinion of *Ṣāhib Shāmil* that the first dawn is called the false dawn because it is bright (*yudī*), then turns black/dark (*yaswadd*), and goes away. At the same time, the second dawn is called the true dawn because this dawn shows the actual time of dawn. The evidence used as a reference for this opinion is the hadith from Ibn Mas'ud, the hadith from Samrah, and the hadith from Ṭalq Ibn 'Ālī. From this explanation, it is known that the explanation of the false dawn, which appears then disappears and goes away, then is replaced by the true dawn, is an explanation taken by al-Nawāwī from the opinions of *Aṣḥābunā* and *Ṣāhib Shāmil*, not from the book *Muhadhdhab li al-Shayrazī*.

In the book *al-Majmū' Sharḥ Muhadhdhab li al-Shayrazī*, it is mentioned that the time for dawn begins when the second dawn appears, namely the true dawn with which food and drink are prohibited for fasting people, and the end of the time for dawn is when it is bright. As narrated, "*Indeed, Gabriel prayed the dawn prayer when dawn appeared, and prayed the next day when it was bright, and then turned and said: This is your time and the time of the Prophets before you, and between these two times is the time for prayer.*" Based on this narration, it is determined that the time of *ikhtiyār* (option) to perform the dawn prayer is from the beginning of the bright dawn. Then after that, the time of *jawāz* (permissible) runs until sunrise.¹⁵

In the further explanation in the book *al-Majmū' Sharḥ Muhadhdhab li al-Shayrazī*, it is stated that Abū Sa'īd al-Istakhrī that the end of the dawn prayer time is when it is already bright. In contrast, the time after that is the time of *qaḍā'* (replacement). The first school of thought is based on Abī Qatādah's hadith, which the Prophet did not like to call Morning Prayer because Allah called it the Fajr Prayer.¹⁶

Based on the essence of the book *al-Majmū' Sharḥ Muhadhdhab li al-Shayrazī* above, then mentioned the explanation (*sharḥ*) which explains that the hadith of

¹⁵ Al-Nawawī, *Al-Majmū' Sharḥ Al-Muhadhdhab Li Al-Shayrazī*.

¹⁶ Al-Nawawī.

Jibrīl is authentic, as well as the hadith of Abu Qatada and the hadith "*man adrak rak'ah min al-ṣubḥ*" narrated by al-Bukhārī and Muslim from the History of Abū Hurayrah. The people have agreed that the dawn prayer begins from the rising of the true dawn, namely the second dawn. The end of the dawn time is the time of *ikhtiyār*, namely when it is bright (shining). Then after that is the time of *jawāz* until the Sun rises. Istakhrī believes that the dawn prayer is over when the light is bright (*iṣfār*), while the time after that is the time of *qaḍā'* and it is sinful to delay the prayer until that time.¹⁷

In the explanation of its branches, it is mentioned that there are two dawns: the first is called the early dawn and the late dawn. At the same time, the second is called the true dawn. The first dawn appears with a shape extending into the sky like a wolf's tail, then disappears for a while. The second dawn appears, namely the true dawn (*Fajr*), which stretches or spreads across the horizon. *Aṣḥābunā* thinks that the existing laws are related to the second dawn, including the entry of the time for the morning prayer, the end of the time for *isya'*, the entry of the time for fasting, the prohibition of eating and drinking for those who are fasting, with it the night has ended and the day has entered. And there is no law related to the early dawn according to the agreement of the Muslims.

According to *Ṣāhib Shāmīl*, the first dawn is called the false dawn because it is bright, darkens, and disappears. In contrast, the second dawn is called the true dawn because this dawn shows the accurate time of dawn. The evidence used as a reference for this opinion is the hadith from Ibn Mas'ūd, the hadith from Samrah, and the hadith from Ṭalq Ibn 'Alī.¹⁸ The explanation of the false dawn and true dawn in the *Minhaj al-Tholibin* book is stated with a concise and dense editorial. This is because this book is a *mukhtaṣar* (summary) of the *al-Muḥarrar* book. However, this book also contains additional explanations by al-Nawāwī. The *Matn Minhaj al-Ṭālibīn* book is one of the popular and phenomenal books written by al-Nawāwī who is titled as a *Muḥarrir* (senior researcher) of the al-Shāfi'ī school of thought with al-Rāfi'ī.

In the *Minhaj al-Ṭālibīn* book, al-Nawāwī only wrote briefly about the time of dawn, where the emergence of the true dawn marks the time of dawn. The dawn,

¹⁷ Al-Nawawī.

¹⁸ Al-Nawawī.

whose light spreads and widens (stretches) on the horizon, and the light remains until the Sun rises. There is no further explanation about the meaning of the true dawn and how the true dawn differs from the false dawn. As for the time of *ikhtiyār*, it is the time that does not end until the time of *işfār* (bright). The words *yastaṭīr ḍaw'uh* (spreading its light) are taken from the *al-Muḥarrar* book, which means the same as *yantaşir*, also mentioned in the *al-Minhaj* book.¹⁹

Based on the explanation in the four books of *fiqh* of the al-Shāfi'ī school of thought by al-Rāfi'ī and al-Nawāwī above, it can be seen that in the *al-'Azīz Sharḥ al-Wajīz* book, the meaning of the false dawn by al-Rāfi'ī which says that the light of the false dawn will disappear comes from al-Ghazzālī, namely in the *al-Wajīz* book with the additional information that the state of the world will return to being dark as before (night) after the light of the false dawn disappears. Meanwhile, in the *al-Muḥarrar* book, al-Rāfi'ī does not mention the meaning of the false dawn. In this book, only the definition of the true dawn is mentioned, translated as the light that spreads (*yastaṭīr*) and stretches (*ya'tariḍ*) on the horizon, and the light remains until the Sun rises. The explanation of the false dawn is only found in the footnote explanation which states that this true dawn comes out together with the false dawn (*wa kharaj bi al-şādiq al-kādhīb*).

Meanwhile, in the *al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī* book, the explanation of the false dawn which appears then disappears and goes away, then is replaced by the dawn of the true is an explanation taken by al-Nawāwī from the opinions of *Aşḥābunā* and *Şāḥib Shāmil*, not an opinion taken from the *al-Muḥadhdhab* book by al-Shayrazī. The *Minhaj al-Ṭālibīn* book only mentions the entry of dawn time, the appearance of the true dawn, and the signs of the true dawn. As for the meaning of the false dawn and how the dawn of the true dawn differs from the dawn of the true dawn, it is not mentioned.

Based on the gold chain of the al-Shāfi'ī madhhab (the lineage of books and scholars in the al-Shāfi'ī's school). It can be seen that the *Minhaj al-Ṭālibīn* book by al-Nawāwī is a summary of the *al-Muḥarrar* book by al-Rāfi'ī. In contrast, the *al-Muḥarrar* book summarizes the *al-'Azīz Sharḥ al-Wajīz* book. As for the *al-'Azīz Sharḥ al-Wajīz* book is a *sharḥ* of the *al-Wajīz* book by Al-Ghazzālī. Thus, the

¹⁹ Muḥy al-Dīn Abī Zakariyā Yaḥyā Ibn Sharaf al-Nawāwī, *Minhaj al-Ṭālibīn wa 'Umdat al-Muḥtāṭ* (Jeddah: Dār al-Minhaj, 2005), 90.

explanations in these books are almost the same but with different wording. As for the *al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī* book is a *sharḥ* of the *al-Muḥadhdhab* book by al-Shayrazī which is also a continuation of the *al-Umm* book by al-Shāfi'ī. However, there are differences in the explanation of the true and false dawn.

3. Review of the Meaning of *Fajr* in the Works of al-Rāfi'ī and al-Nawāwī from the Perspective of Hadith and Astronomy

As the primary source of Islamic law, the Qur'an does not explicitly mention prayer times. Detailed and specific explanations are found in the hadiths of the Prophet Muhammad. The explanation includes the limitations of prayer times, some of which are found in the hadith of Jabir. Many hadiths mention the time of the dawn prayer. Most of these hadiths talk about the *asbāb al-nuzūl* of the revelation of QS. Al-Baqarah verse 187 explains the prohibition of the command to eat and drink until the white thread is visible from the black thread, namely dawn. Other editorials explain the types of dawn and their criteria.

From the text of the hadith, it is known that there were two dawns, namely the true dawn and the false dawn. Both are referred to in pairs with many names or terms. The false dawn is called the *al-mustaṭīl* dawn (dawn that rises/extends upwards), *al-sāṭi'* (bright upwards), *kadhhab al-sirḥān* (like a wolf's tail). The false dawn is called the *al-mu'tarid* (which spreads/evenly) and the *aḥmar* dawn (reddish in color). The hadith explains the false dawn, appearing before the true dawn (preceding it). This clarifies the verse of the Qur'an about "*khayṭ al-aswad min al-fajr*," which is used as a marker for the end of the *sahur* time and a sign of the beginning of the dawn time.

In addition, it mentioned the consequences of the emergence of each dawn, where the true dawn, which is the dawn that spreads/stretch across the horizon, permits prayer (i.e., *fajr* prayer) and forbids eating (for those who want to fast). In contrast, the false dawn, which is the dawn that is like a wolf's tail (extending upwards), does not permit prayer (i.e., it has not yet entered the time for *fajr*) but does not forbid eating (i.e., for those who want to fast). Thus, people who wish to fast are still allowed to eat and drink if the false dawn appears. However, if the true dawn has appeared, the time for *Fajr* praying has entered, so they must stop eating and drinking.

Based on the search for hadith, there is no information in the hadith that mentions the time gap between the false dawn and the true dawn. Are the false dawn and the true dawn connected, or is there a time gap (the false dawn disappears first, then the true dawn appears)? In the hadith, there is indeed information related to the call to prayer, which is thought to be the difference between the dawn call to prayer and the time before dawn. When the first call to prayer was announced by Bilal, indicating that it was still night, people could go home from the mosque to *sahur* (not for the dawn prayer). At the same time, Ummi Maktum announced the second call to worship, which indicated that dawn time had entered. However, in the hadith, there is no additional information about the relationship between the two calls to prayer and the natural phenomenon that marks the appearance of the false dawn and the true dawn.

In the *al-'Azīz Sharḥ al-Wajīz* book, al-Rāfi'i said that the light of the morning dawn would disappear (*yanmaḥiq*) and the state of the world will return to darkness as before (*wa taṣīr al-dunyā aḏlam*) after the light of the morning dawn is gone. While in the *al-Muḥarrar* book, al-Rāfi'i is about the gap between the false and true dawn. However, in the book's footnote, it is stated that the true dawn comes out with the false dawn (*kharaj bi al-ṣādiq al-kādhīb*). In the *al-Majmū' Sharḥ Muḥadhdhab li al-Shayrazī* book, it is stated that the false dawn appears then disappears for a moment (*thumma yaghīb dhālika sa'ah*), then the true dawn appears. Unfortunately, there is no further information about whether the term of *sa'ah* is long or short. Meanwhile, in the *Minhaj al-Ṭālibīn* book, there is no mention of the gap between the appearance of the true dawn and the false dawn.

From the search for the meaning of the false dawn and true dawn in the books above, there are two possibilities for the emergence of an explanation of the gap between the false and true dawn. The first possibility, the explanation of the gap between the false and true dawn, is passed down from one book to another through the *sharḥ* (explanation) and *mukhtaṣar* (summary), as in the book's genealogy described previously. In the *sharḥ* and *mukhtaṣar* there must be additions or reductions in the meaning of each sentence in the previous books which may also be added with the author's opinion. The second possibility is that an additional explanation of the time gap between dawns comes from observations of natural phenomena related to the true and false dawns where they lived. However, this

second possibility requires further investigation of the results of observations of these two at the time where they lived, which were carried out by the astronomers of that time.

At that time, al-Biruni (10th century AD) had already expressed his opinion in his book *al-Qānūn al-Mas'ūdī* about explaining the process or stages of dawn and dusk, where there are three stages of dawn and dusk.²⁰ First, is the weak dawn light, which has a tapered, elongated, and upright light beam. This dawn is called false dawn (*al-ṣubḥ al-kādhīb*) and is nicknamed the wolf's tail (*al-dhanab al-sirḥān*). The appearance of dawn at this stage does not bring legal obligations (prayer and fasting). Second, the dawn that stretches (horizontally) on the surface of the horizon, circles and begins to illuminate as if half of the earth's territory is lit. This condition affects animals (instinct) and humans to spread (do activities) according to their habits. This dawn is the true dawn, which is the beginning of the time for Morning Prayer and fasting. Third, the beginning of the arrival of light is accompanied by the color red, which follows after the two previous stages and precedes the rising of the Sun; this stage is the remaining time for humans to carry out religious obligations (time for morning prayer).²¹ In this explanation, al-Biruni explains the stages of the emergence of the true dawn, followed by the second stage of the emergence of the true dawn. Al-Biruni's explanation does not mention a 'break' between the actual and false dawn. Al-Biruni's explanation also does not explain the false dawn that disappears and is then replaced by the true dawn.

Looking at the results of observations of false and true dawns in Indonesia, which have recently become very popular, there was also no gap between them. After the false dawn appears, it does not disappear, followed by the appearance of the true dawn. This is based on the results of observations in several places by the Ministry of Religion and community organizations such as NU and Muhammadiyah, including Labuan Bajo, Banyuwangi, Semarang, and the Timau National Observatory in Kupang. Other observations were also carried out by the Ministry of Religion of the Republic of Indonesia in the National Observatory Area in Timau, Kupang. This

²⁰ Al-Bīrūnī, *Al-Qānūn Al-Mas'ūdī (Canon Masudicus): An Encyclopaedia of Astronomical Sciences* (Hyderabad-Deccan, India: The Dairatul Ma'arif il-Osmania (Osmania Oriental Publications Bure), 1955).

²¹ Nugroho Eko Atmanto, "Relevansi Konsep Fajar dan Senja dalam Kitab Al-Qanun Al-Mas'udi Bagi Penetapan Waktu Salat Isya dan Subuh," *Analisa* 19, no. 01 (Januari-Juni) (2012): 95–105.

area dramatically supports dawn observations with more accurate data because it has an apparent sky in the dry season and is very dark, far from light pollution. The results of these measurements also show no gap between the true dawn and the false dawn. The true dawn, both in the camera image and the light curve, is preceded by the appearance of the false dawn. In the camera image, the false dawn is a soft light along the ecliptic that looks brighter over time. In the light curve of the false dawn, this change is indicated by a curve that increases gradually. In the magnitude curve, the smaller the value, the brighter.²²

Al-Biruni also explained the concept of the dawn process, namely the presence of light that penetrates the layers of dust located around the earth (atmosphere). This is in line with the concept of false dawn in astronomy, namely that false dawn is the zodiacal light.²³ Zodiacal light is light caused by the scattering of sunlight by interplanetary dust scattered in the ecliptic plane that appears in the sky across the zodiac series (a series of constellations that the Sun appears to pass through). This is what causes the light of the false dawn to appear upwards like a wolf's tail, the direction of which is following the direction of the ecliptic. As for the true dawn, the scattering of sunlight by particles in the air surrounds the earth. Because the source of the light is the Sun and the scatterer is the air, the light of the dawn crosses along the horizon (horizon, sky). It is a sign of the end of the night, approaching sunrise. The closer the Sun reaches the horizon, the brighter the true dawn. Thus, the false dawn does not disappear because it is the zodiacal light, a product of the scattering of sunlight on interplanetary dust. The true dawn is the scattering of the Sun by particles in the air surrounding the earth.

If we look at the information in the Al-Shāfi'ī school of jurisprudence books as stated above, the majority of which indicates that there is a gap between the false and true is different from what is stated in the hadiths of the Prophet Muhammad and distinct from the results of observations of these dawn in Indonesia. There are two possible causes: 1) the difference in location between Indonesia and the area where the scholars are located causes differences in the appearance of two dawns.

²² Tim Kementerian Agama, "Pengukuran Fajar di Timau Konfirmasi Kebenaran Jadwal Salat Subuh Kemenag," 2022. See more on Humas BRIN, "BRIN Konfirmasikan Waktu Subuh Sudah Tepat," brin.go.id, 2022.

²³ Al-Bīrūnī, *Al-Qānūn Al-Mas'ūdī (Canon Masudicus): An Encyclopaedia of Astronomical Sciences*.

In addition, differences in sensitivity (accuracy, thoroughness) of observations in the past and present may also be a factor in the differences in results between the existence of a gap and no gap in the appearance of these dawns. 2) The choice of the diction *sa'ah* (a few moments) between the false and true dawn in the al-Shāfi'ī's *fiqh* book may be a choice of diction based on information from people who have reported observations of dawn, or the results of their observations of scholars or *fiqh* experts. The diction is then quoted from one book to the next. As explained previously, the books of Islamic jurisprudence are in the form of *sharḥ* and *mukhtaṣar* from previous books.

D. Conclusion

In the books of Al-Shāfi'ī school of jurisprudence written by al-Rāfi'ī and al-Nawāwī, the dawn *kādhīb* is defined as a light that appears to extend into the sky (*mustaṭīl*) like a wolf's tail, this light appears then disappears, and the world will return to being dark as before (night). Meanwhile, in the other books, there is no mention of the meaning of the dawn. In interpreting the true dawn, the four books of al-Shāfi'ī's school of jurisprudence define it as a light that spreads across the horizon (*mustaṭīr*), the light does not disappear and continues to spread (evenly) across the horizon until the Sun rises. The meaning of the true and false dawn is passed down from previous books because it is the *sharḥ* and *mukhtaṣar* of the last book. From the perspective of Hadith and Astronomy, there is no meaning of the false dawn and true dawn as explained in the *fiqh* book of the al-Shāfi'ī's school of thought written by al-Rāfi'ī and al-Nawāwī which states that there is a gap between the two dawns. From the perspective of hadith, there is only an explanation that there are two dawns: the dawn *al-mu'tariḍ* (true) and the *al-mustaṭīl* (false). From the perspective of Astronomy, the false dawn is light caused by the scattering of sunlight by interplanetary dust scattered in the ecliptic plane that appears in the sky across the zodiac series (zodiac light), while the true dawn is the scattering of sunlight by particles in the air that surrounds the earth. Based on this definition, the false dawn does not disappear, as mentioned in the al-Shāfi'ī school of jurisprudence books. This is supported by the results of observations in Indonesia, which show no gap between them. After the false dawn appears, it is followed by the true dawn of true (overlapping of two dawns).

E. Bibliography

- Ardi, Unggul Suryo. "Problematika Awal Waktu Shubuh Antara Fiqih dan Astronomi." *AL-AFAQ : Jurnal Ilmu Falak dan Astronomi* 2, no. 2 (2021): 87–102. <https://doi.org/10.20414/afaq.v2i2.2921>.
- Atmanto, Nugroho Eko. "The Relevance Concept of Dawn and Twilight in the Book of Al-Qanun Al-Mas'udi for Determine Isya' and Subuh Pray Time." *Analisa* 19, no. 01 (Januari-Juni) (2012): 95–105. <https://doi.org/10.18784/analisa.v19i1.158>.
- Basthoni, M. "Pemanfaatan Fajar Shadiq dan Pemanfaatan SOOF dalam Pengamatannya." In *Pemanfaatan Teknologi dalam Pengamatan Fajar Shadiq, 02 Rabiul Awal 1443 H/29 Oktober 2021 M.* Surabaya, 2021.
- Al-Bīrūnī. *Al-Qānūn Al-Mas'ūdī (Canon Masudicus): An Encyclopaedia of Astronomical Sciences*. Vol 2. Hyderabad-Decon, India: The Dairatul Ma'arif il-Osmania (Osmania Oriental Publications Bure), 1955.
- Al-Dāruquṭnī, Al-Imām al-Ḥafīz 'Alī Ibn 'Umar. *Sunan al-Dāruquṭnī*. Beirut: Dār al-Ma'rifah, 1422.
- Hasan, Muhammad Rifqi. "Astronomical Interpretation of Early Prayer Times (Study of Differences in Determination of Early Prayer Times from the Text and Astronomical Prespective)." *Al-Hilal: Journal of Islamic Astronomy* 2, no. 2 (2021): 194–213. <https://doi.org/10.21580/al-hilal.2020.2.2.6640>.
- Al-Haytamī, Ibn Ḥajr, and Muḥammad 'Alī Jumu'ah. *Al-Madkhal ilā Dirāsah al-Madhāhib al-Fiqhiyyah*. Kairo: Dār al-Salām, 2009.
- Humas BRIN. "BRIN Konfirmasikan Waktu Subuh Sudah Tepat." brin.go.id, 2022.
- Izzuddin, Ahmad. *Ilmu Falak Praktis Metode Hisab-Rukyat Praktis dan Solusi Permasalahannya*. Semarang: PT. Pustaka Rizki Putra, 2012.
- Muafa. "Mengenal Al-Muharror, Kitab Masterpiece Ar-Rofi'i." irtaqi.net, 2017. <https://irtaqi.net/2017/10/19/mengenal-al-muharror-kitab-masterpiece-ar-rofii/>.
- Nahwandi, Muhammad Syaoqi. "The Reformulation of Algorithm for Calculating Star's Position as the Sign of Isya and Fajr Prayer Times." *Al-Hilal: Journal of Islamic Astronomy* 1, no. 1 (2020): 53–86. <https://doi.org/10.21580/al-hilal.2019.1.1.5237>.
- Al-Nawāwī, Muḥy al-Dīn Abī Zakariyā Yaḥyā Ibn Sharaf. *Minhaj al-Ṭālibīn wa 'Umdat al-Muftīn*. Cet. 1. Jeddah: Dār al-Minhaj, 2005.
- . *Al-Majmū' Sharḥ al-Muhadhdhab li al-Shayrazī*. Jeddah: Maktabah al-Irshād, n.d.
- Al-Rāfi'i, Imām Abī al-Qāsim 'Abd al-Karīm Ibn Muḥammad Ibn 'Abd al-Karīm. *Al-'Azīz Sharḥ al-Wajīz*. Beirut: Dār al-Kutub al-Ilmiyyah, 1997.
- . *Al-Muḥarrar fī Fiqh al-Imām al-Shāfi'i*. Kairo: Dār al-Salām, 2013.
- Rohmat. "Fajar dalam Perspektif Syari'ah." *ASAS Jurnal: Jurnal Hukum Ekonomi Syariah* 4, no. 1 (2012). <https://ejournal.radenintan.ac.id/index.php/asas/article/view/1670>.
- Tim Kementerian Agama. "Pengukuran Fajar di Timau Konfirmasi Kebenaran

Jadwal Salat Subuh Kemenag," 2022.

Zahid, Abdul Muid. "Pemanfaatan Fajar Shadiq dan Pemanfaatan SQM dalam Pengamatannya." In *Webinar Praktik Kompetensi Program Studi Ilmu Falak UIN Sunan Ampel Surabaya dengan Tema "Pemanfaatan Teknologi dalam Pengamatan Fajar Shadiq"*, 02 Rabiul Awal 1443 H/29 Oktober 2021 M, 2021.