



Historiography of *Imkan ar-Ru'yah* Thought Sayid Uthman bin Yahya

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Abstract: *The difference in determining the beginning of the lunar month is still a matter in society whether to use hisab or ru'yah, therefore the government has proposed the concept of imkan ar-ru'yah in order to unite the rukyat and hisab schools of thought. The criteria for imkan ar-ru'yah in question are when the Hilal is at an altitude of 3 degrees and an elongation of 6.4 degrees. This criterion is very different from the criteria for Imkan ar-ru'yah of Sayid Utsman, a classical Indonesian falak scholar. Utsman said that the Hilal can only be seen when it has a minimum altitude of 7 degrees. From here there is a gap between the imkan ar-ru'yah that applies now and the criteria for imkan ar-ru'yah proposed by Sayid Utsman. This article discusses how the criteria for Imkan ar-ru'yah of Sayid Utsman were valid at that time and the relevance of Sayid Utsman's thoughts on imkan ar-ru'yah in the present day. This paper refers to qualitative data collected using documentation methods to determine the criteria for imkan ar-ru'yah of Sayid Utsman at his time and the relevance of the criteria for imkan ar-ru'yah of Sayid Utsman at the present time. It was found that according to Sayid Utsman Imkan ar-ru'yah is at a height of 7 degrees under certain conditions and sometimes even reaches 8 degrees, using the hakiki takribi calculation system to determine the position of the Hilal. This calculation system has high accuracy and is applied by the wider community at that time, but if brought to the present day, this calculation system has been replaced by a more accurate hisab system, namely the contemporary hakiki.*

Keywords: *Historiography, Imkan ar-Ru'yah, Sayid Utsman.*

Abstrak: *Perbedaan penentuan awal bulan kamariah merupakan hal yang masih menjadi perdebatan di Masyarakat apakah menggunakan hisab atau ru'yah,¹ oleh karenanya pemerintah mengusungkan konsep imkan ar-ru'yah dalam rangka menyatukan mazhab rukyat dan mazhab hisab. Kriteria imkan ar-ru'yah yang dimaksud adalah apabila Hilal berada pada ketinggian 3 derajat dan elongasi 6,4 derajat. Kriteria ini berbeda jauh dengan kriteria Sayid Utsman, seorang ulama falak klasik indonesia. Utsman mengatakan bahwa Hilal hanya bisa terlihat pada ketinggian minimal 7 derajat. Dari sini terdapat gap antara imkan ar-ru'yah yang berlaku sekarang dengan kriteria imkan ar-ru'yah yang diusungkan oleh Sayid Utsman. Artikel ini membahas bagaimana keberlakuan kriteria Imkan ar-ru'yah Sayid Utsman pada masanya dan relevansi pemikiran imkan ar-ru'yah Sayid Utsman di masa sekarang. Tulisan ini mengacu pada data kualitatif yang dikumpulkan dengan metode dokumentasi untuk mengetahui kriteria imkan ar-ru'yah Sayid Utsman pada masanya dan relevansi kriteria imkan ar-ru'yah Sayid Utsman pada masa sekarang. Ditemukan bahwa menurut Sayid Utsman Imkan ar-ru'yah adalah pada ketinggian 7 derajat dalam kondisi tertentu bahkan terkadang mencapai 8 derajat, dengan menggunakan sistem perhitungan hakiki takribi untuk mengetahui posisi Hilal. Sistem perhitungan tersebut memiliki keakuratan tinggi dan diterapkan oleh masyarakat luas pada masanya namun jika dibawa pada masa sekarang sistem perhitungan tersebut sudah tergantikan dengan sistem hisab yang lebih akurat yaitu hakiki kontemporer.*

Kata Kunci: *Historiografi, Imkan ar-Ru'yah, Sayid Utsman.*

¹Wiwik Indayati, "Menyikapi Keragaman Hisab Rukyat Organisasi Masyarakat Di Indonesia," *AL – AFAQ Jurnal Ilmu Falak Dan Astronomi* 3 (2021): 140, file:///C:/Users/ASUS/AppData/Local/Microsoft/Windows/INetCache/IE/ZAV3C6UQ/mawaludin1,+5.Wiwik+Indayati+131-142[1].pdf.



A. Introduction

Sayid Uthman bin Yahya, a charismatic scholar of the 19th century, had an interesting idea, namely Imkan ar-ru'yah of 7 degrees. In the book *Īqaz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ-Ṣiyam*, he stated that the minimum limit of Hilal visibility is 7 degrees or 8 degrees under certain conditions². The criterion of Imkan ar-ru'yah of 7 degrees was applied for a long period, from the time before Sayid Utsman to a hundred years after his fatwa³. Mohamad Ilyas said that the Hilal can be observed if it has a height difference of more than 10.5 degrees for an azimuthal difference of 0 degrees⁴.

There have been many studies that discuss the various criteria of Imkan ar-ru'yah, both initiated by previous and current scholars. These include the criteria of al-Khawarizmi, Ibn Maimun, Danjon's Imkan ar-ru'yah, Ilyas's Imkan ar-ru'yah, Muhammad Mansur al-Batawi, and Syaikat Odeh⁵. However, it was found that one of the previous Imkan ar-ru'yah criteria based on Sayid Uthman bin Yahya's thought has not been studied. There is a need for a study of Sayid Utsman's criterion of Imkan ar-ru'yah as part of the wealth of astronomical knowledge in its historical context to be taken into consideration in determining the Imkan ar-ru'yah criteria for determining the beginning of the lunar month (qamariah) in Indonesia today, especially since these criteria apply in the same geographical location, namely Indonesia.

The purpose of this paper is to find out how the thought of Imkan ar-ru'yah of Sayid Uthman, from a historiographical perspective, specifically aims to examine how Sayid Uthman's ideas on Imkan ar-ru'yah were applied in the past and to assess the relevance of his thoughts on Imkan ar-ru'yah in the present. This paper argues that there are many Imkan ar-ru'yah criteria that have developed, both national and international, classical and contemporary criteria with their respective parameters but cannot unite them all. It turns out that in the early 19th century in Indonesia, precisely in Jakarta, there was a charismatic scholar who had Imkan ar-ru'yah criteria for determining the beginning of the lunar month. The Imkan ar-ru'yah criteria have never been studied by anyone, at least as a legacy of scientific wealth in the field of falaq (astronomy).

B. Methods

This research uses historical methods. Gottschalk explained that the historical method is a process of examining and critically analyzing records and relics of the past, starting with digging up sources, giving assessments, interpreting facts from the past to be analyzed, and getting a conclusion from the event⁶. Herlina explained that in the historical method there are four stages, which are:

²Sayid Utsman bin Yahya, *Iqazhun An-Niyam Fi Ma Yata'llaq Bi Al- Ahillah Wa Ash-Shiyam* (Jakarta: Al-Mubarakah, 1321).

³Rakhmad Zailani Kiki, "Polemik Keras Rukyatul Hilal Di Kalangan Ulama Betawi Abad Ke-19-20 M (1)," 2019, <https://www.nu.or.id/fragmen/polemik-keras-rukayatul-hilal-di-kalangan-ulama-betawi-abad-ke-19-20-m-1-cwojm>.

⁴Thomas Djamaludin, "VISIBILITAS HILAL DI INDONESIA," n.d.

⁵Ahmad Adib Rofiuddin, *Kalender Islam Global (Studi Penentuan Awal Bulan Hijriah Di Indonesia, Turki Dan Maroko)*, 2021.

⁶L Gottschalk, *Mengerti Sejarah. Terj. Nugroho Notosusanto Dari Understanding History* (Jakarta: UI Press, 2008).



1. Heurestik, the process of finding and collecting sources, information, and traces of the past,
2. Criticism, the process of critically examining sources, information, and traces of history, which consists of external criticism and internal criticism,
3. Interpretation, the stage or activity of interpreting facts and inferring the interconnected meaning of historical fact,
4. Historiography, the process of presenting the results of imaginative reconstruction of the past in accordance with its traces⁷.

This paper is classified as qualitative research, as its primary sources are literature data, specifically the book *Īqaz an-Niyam fī ma yata'allaq bi al-Ahillah wa aṣ-Ṣiyam*, and it uses documentation techniques to collect data. Qualitative analysis is employed to examine the criteria of *Imkan ar-ru'yah* proposed by Sayid Utsman during his time and the relevance of his criteria in the present day, using a historical approach.

C. Results and Discussion

The term *Imkan ar-ru'yah* consists of two words: *imkan*, which means possibility or capability⁸, and *ar-ru'yah*, which means seeing or understanding⁹. Literally, *Imkan ar-ru'yah* means "the possibility of the hilal being visible,¹⁰" referring to the phenomenon of the hilal's position, where, based on experience, the hilal can be observed with the naked eye¹¹. To observe the hilal, the astronomer (or *hisab* practitioner) must consider several factors, including the hilal's altitude above the horizon and its sufficient distance from the Sun (elongation). When formulating a hypothesis, one must also take into account statistical data on the success and failure rates of *rukyat al-Hilal*¹² (moon sighting).

Scholars have differing opinions regarding the use of *Imkan ar-ru'yah* to determine the beginning of the lunar month. According to al-Juzairi, there are two groups of scholars within the Shafi'iyah. The first is those who use pure *ru'yah* and the second is those who use *Imkan ar-ru'yah*¹³. As-Subki is considered the pioneer of the *Imkan ar-ru'yah* concept. As-Subki said that *hisab* can reject the testimony of *ru'yah al-hilal* if based on *hisab* Hilal cannot be seen, either due to too small a value of elongation or height based on experiences or simulations impossible to see¹⁴.

⁷N Herlina, *Metode Sejarah* (Bandung: Satya Historika, 2011).

⁸Ahmad Warson Munawwir, *Kamus Al-Munawir Arab-Indonesia Terlengkap* (Surabaya: PustakaProgresif, 1997).

⁹Munawwir.

¹⁰Susiknan Azhari, *Ensiklopedi Hisab Rukyat* (Yogyakarta: Pustaka Pelajar, 2012).

¹¹Ahmad Syifaul Anam, "Implikasi *Imkanurrukyat*: Tertolaknya Hasil Rukyat," n.d., 2.

¹²Azhari, *Ensiklopedi Hisab Rukyat*.

¹³Ayi Muhamad Taufik, "Kriteria *Imkan Al-Rukyah* Menurut Pandangan KH. Muhammad Yahya Di Pelabuhan Ratu Sukabumi Jawa Barat," (2019).

¹⁴"<https://www.youtube.com/watch?v=Adm-QQHBI4E>," n.d.



1. Intellectual Genealogy of Falak Science of Sayid Utsman bin Yahya

Sayid Utsman bin Yahya was a charismatic scholar and mufti at the end of the 19th century¹⁵. Utsman was born in Pekojan, Batavia (now Jakarta), in 1822 CE, corresponding to the 17th of Rabi'ul Awal 1238 AH. He was the son of Sayid Abdullah bin Aqil bin Umar bin Yahya and Aminah, the daughter of the prominent Egyptian scholar Sheikh Abdu ar-Rahman al-Misri¹⁶. Utsman began his education by studying religious sciences, including reading the Qur'an, tafsir (exegesis), ethics, theology, fiqh (Islamic jurisprudence), Sufism, nahwu (grammar), sharaf (morphology), hadith, and astronomy under the tutelage of his maternal grandfather, Sheikh Abdu ar-Rahman al-Misri. Utsman also studied the science of hisab (astronomical calculation) for determining the beginning of the lunar month with his grandfather. In addition to Utsman, there were other students who studied hisab with Sheikh Abdu ar-Rahman, one of whom was Abdul Hamid Ad-Damiri, the father of Muhammad Mansur al-Batawi. It was from Sheikh Abdu ar-Rahman that the chain of knowledge regarding hisab for determining the beginning of the lunar month in Jakarta originated¹⁷.

Utsman embarked on his intellectual journey for 22 years to various countries¹⁸. Based on the author's analysis, Utsman learned falak science while studying in Mecca. Where he first traveled intellectually in 1257 AH, corresponding to 1841 CE, at which time Utsman was 19 years old¹⁹. In Mecca, Utsman studied with Sayid Zaini Dahlan²⁰, who was a scholar who mastered astrology. One of his works in the field of astrology is *Mukhtashar fi Ma'rifah as-Sinin wa ar-Rubu' al-Musytahir*. Utsman lived in Mecca for 7 years, until he was 26 years old.

Sayid Uthman continued his scientific journey to Hadramaut. Uthman studied in Hadramaut for 15 years²¹. The next city that Uthman visited was Egypt²². Uthman studied in Egypt for 8 months²³. then Uthman continued his journey to study in Tunisia²⁴. After Tunisia, Sayid Uthman bin Yahya continued his journey back to Algeria. Shortly thereafter Uthman went to Fes, one of the

¹⁵Ahmad Shofi, *Menyoal Kafa'ah Syarifah Studi Kritis Pemikiran Fikih Sayyid Utsman Bin Yahya Tentang Kafa'ah Syarifah*, 2022.

¹⁶NeniNova MarchelinaNurfitri a'tul Akla, "PEREMPUAN DALAM PERSPEKTIFUTSMAN BIN ABDULLAH BIN AQIL BIN YAHYA(Telaah Atas Kandungan Kitab Perhiasan Bagus Untuk Anak Perempuan)," *DIALOKA: Jurnal Ilmiah Mahasiswa Dakwah Dan Komunikasi Islam*, 2 (2023): 65.

¹⁷Muammar. Muslich Shabir Muhammad Falih Abdul Ghoni, "Geneology of Astronomy Science In Java," *Hikmatuna* 6, no. Jurnal for integrative islamic studies (2020).

¹⁸Siti Maria Ulfah1Andy Hadiyanto2Abdul Fadhl3, "Moderasi Beragama Habib Utsman Bin Yahya Dalam Kitab Adabul Insan Dan Implikasinya Pada Pembelajaran PAI," *Ndonesian Journal of Islamic Religious Education (INJIRE)* 2 (2024): 105.

¹⁹Arwin Juli Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M)* (Medan: Umsu Press, 2021).

²⁰Muhammad Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje" (2023).

²¹Rakhmadi.

²²Irfan Magdanta, "Konsep Tauhid Sifat Dua Puluhan Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)" (UIN Antasari, 2019).

²³Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

²⁴Noupal.



major cities in Morocco. Then to Istanbul, Persia and Syria²⁵. Then continued his journey to the city of Palestine to make a pilgrimage to Baitul Maqdis and Masjid al-Aqsa and was given the opportunity to study again with Sheikh Abdul Qadir al-Jazairi. Uthman's journey ended with his return to Hadramaut. Uthman settled there for several years with his family and children and then returned to Indonesia via Singapore²⁶.

Sayid Uthman bin Yahya's odyssey in search of knowledge ended at the age of 40 years²⁷. And began to take part in the archipelago by becoming a Quranic teacher on a small scale in his hometown. Then became a teacher at the Pekojan mosque, replacing Haji Abdul Ghani who was old and no longer able to teach²⁸. During his work, Uthman was often asked for solutions to problems that arose in society, such as problems in determining the beginning of the lunar month that often occurred in the community. Uthman's books that discuss the determination of the beginning of the lunar month are Qaul ash-Shawab, Īqaz an-Niyam fī ma yata'allaq bi al-Ahillah wa aṣ-Ṣiyam, Drought of the Moon, Tamyiz al-Haq min aḍ-Ḍalāl fī masail al-Hilal and Tauhid al-'adillah 'ala syuruṭ ash-syuhud al-Hilal. and problems related to the direction of the Qibla²⁹, in fact these problems arose very frequently. This required Uthman to compile a book entitled Tahrir Aqwa al-Adillah fī Tashil Ain al-Qiblah from his works this shows how deep Uthman's knowledge in the field of Falak Science.

2. Applicability of Sayid Uthman's Imkan ar-ru'yah criteria in the past.

This research is a historical investigation into the criteria of *Imkan ar-ru'yah* proposed by Sayid Utsman. In historical research regarding a particular text, there are at least three key elements to consider: the text to be examined, the social conditions at the time the text was produced, and the accuracy of the text when applied to the present day. The following will discuss these three aspects. Initially, the phalac science that developed in Jakarta came from Sheikh Abdu ar-rahman al-misri, Sayid Uthman's maternal grandfather. Abdu ar-rahman had several students, among them Sayid Uthman and Abdul Hamid ad-damiri, the father of Muhammad Mansur al-batawi. It was to Syeh Abdu ar-rahman that they learned the hisab of determining the beginning of the lunar month³⁰. Syeh Abdu ar-rahman used the concept of Imkan ar-ru'yah in determining the beginning of the lunar month, which is a phenomenon of the position of Hilal which according to experience can be seen using the naked eye³¹.

Abdu ar-rahman used the altitude parameter in establishing the Imkan ar-ru'yah criterion, which is when the Hilal has an altitude of 7 degrees. The Imkan ar-ru'yah criterion of 7 degrees was applied for a very long time, namely long before the time of Sayid Uthman until about a hundred years from the time of Sayid Uthman's fatwa³². According to Haji Muhammad Hasan, the

²⁵Magdanta, "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)."

²⁶Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

²⁷Noupal.

²⁸Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M)*.

²⁹Rakhmadi.

³⁰Ghoni, "Geneology of Astronomy Science In Java."

³¹Anam, "Implikasi Imkanurrukyat: Tertolaknya Hasil Rukyat."

³²Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M)*.



Imkan ar-ru'yah criterion of 7 degrees is based on istiqla at-tam, giving the benefit of the doubt. Because people have never seen Hilal at an altitude below 7 degrees with a valid vision³³.

Another piece of evidence that suggests the 7-degree hilal height criterion was recognized at that time is the strong criticism voiced by Sayid Utsman against the Shari'ah court for accepting the testimony of a hilal sighting at an altitude of 2.5 degrees. According to Utsman, a hilal at an altitude below 7 degrees could not have been visible to the public at that time³⁴. Utsman documented his learnings from his grandfather in a book titled *Iqaz an-Niyam fī ma yata'allaq bi al-Ahillah wa aš-Ṣiyam*. The background for the creation of this book was to address issues that had arisen in society. The book deals with the determination of the beginning of the lunar month, particularly for Ramadan and Shawwal, including the concept of *Imkan ar-ru'yah* in establishing the start of the lunar month. As taught by his grandfather, Sayid Utsman also used the concept of *Imkan ar-ru'yah* to determine the beginning of the lunar month. According to Sayid Utsman, the hilal could potentially be seen if it reached an altitude of 7 degrees, as stated in his work *Iqaz an-Niyam fī ma yata'allaq bi al-Ahillah wa aš-Ṣiyam*.

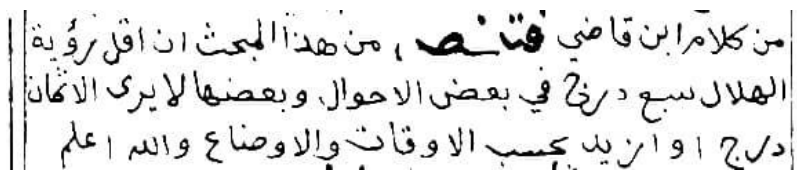


Figure 1. Shows the statement of Sayid Utsman explaining that *Imkan ar-ru'yah* occurs at an altitude of 7 degrees or higher at a specific time, as stated in the book *Iqaz an-Niyam fī ma yata'allaq bi al-Ahillah wa aš-Ṣiyam*.

“Based on the statement of Ibn Qadhi, this discussion is established. The minimum limit for Imkan ar-ru'yah is 7 degrees under certain conditions, while under other conditions, it is only visible at an altitude of 8 degrees or higher, based on calculations of time and circumstances.”

In addition, Sayid Uthman also wrote in another work stating that Hilal may be seen when at an altitude of 7 degrees, following Sayid Uthman's words:

³³Rakhmadi.

³⁴Iqnaul Umam Asshidiqi and Fathor Rausi, “Pemikiran Muhammad Mansur Tentang Imk?N Al-Ru'yah Dalam Kitab Mīz?N Al-I'tid?L,” *AL - AFAQ: Jurnal Ilmu Falak Dan Astronomi*, 2021, 17, <https://doi.org/10.20414/afaq.v3i1.2633>.



مرور سبایمان ترسبوت نکلین ایتود باب الشهادة اداث. اد فون شرط
مشهود به یا ایتو شرط ۲ رؤیه شیخ معتبر قد علماء یا ایتو شیخ کتریم. فد شرع مک
اداله ایتو شرط ادا امکان. فد رؤیتش یعنی بهوسات سهارى بولن ایتو
فاتوت بوله دافت دلیهت فد اث فد عاده بیاسات. مک نکلورغ کورغث
ایتو تیغکیش توجه درجه. اد فون نجکالو کورغ درى توجه درجه. مک
مستحیل رؤیتش فد عاده. درى سبب ترلا لویکیل دان ترلا لودکت. فد
متهارى مک قیاد کتریم اسکسی شیخ مثاکو ملیهت فد اث. برمول نصت درى

Figure 2. Sayid Uthman's statement that Imkan al-rukyat is at an altitude of 7 degrees in Tamyi al-Haq min adh-Dhalal.

"If it is possible to see the day of the Moon according to custom, then it should be at least seven degrees high. But if it is less than seven degrees, then it is impossible to sight it according to custom, because it is too small and too close to the Sun, so the witness who claims to have seen it is not accepted³⁵."

Uthman explained that the Imkan ar-ru'yah criterion of 7 degrees is the result of the opinion of Imam Ibn Qadhi and Imam Ibn Hajar. Uthman used a calculation system to determine the position of the Hilal, which is classified as a hakiki takribi system. It is a calculation system that uses data on the movement of the Sun and the Moon by Ulugh Beyk. There are five kinds of data on the movement of the Sun and the Moon in the book of Īqaz an-Niyam which serve to calculate the position of the Hilal, namely: the first al-'alamah, is the average calculation of the time of ijtimak The second al-hishah, is the ecliptic arc measured eastward from the vertex up to the foot of the Moon's astronomical latitude. the third al-Khashah, is the average calculation of the position of the Moon, the fourth al-markaz, is the average calculation of the position of the Sun and the fifth al-auj, is the farthest position of the Sun from the Earth on the arc of its trajectory. The muqawam ash-Shams is the actual position of the Sun at the time of ijtimak and Bu'du an-nayrayn is the distance between the Sun and the Moon after correction. These seven tables are written using jumali letters without periods except for nun and the number of days in the al-'alamah column is written with hindi numerals³⁶.

Here are seven tables of data on the circulation of the Sun and Moon and how they are calculated:

³⁵ Magdanta, "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)."

³⁶ Yahya, *Iqazhun An-Niyam Fi Ma Yata'allaq Bi Al- Ahillah Wa Ash-Shiyam*.



a. Majmu'ah Year Data Table

Table 1: Data on the year of majmu'ah contained in the book *Īqaz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ-Ṣiyam*.

الجدول الاول في السنين المجموعة من سني الهجيرة التامة فالجم ليوم وعة للساعات وق للدقائق و7 للبرج وكذا للدرج					
السنين المجموعة	العلامه	الحصة	الخاصة	المرکز	الاولج
السنين المجموعة	الايام عتقا	ق 77	ق 77	ق 77	ق 77
1310	1310	د	ح ك ل ط	ي ب ع	الخرى
1320	1320	هـ	و ب ن ر	ي ب ع	ي هـ ن
1330	1330	ر ط ي د	ط ح ك هـ	ي ب ع	و ك ل
1340	1340	ب ا ب ط	ب ا ك و خ	ي ب ع	ح ا ي
1350	1350	ب ب ر ك د	ب ب د ك ا	ي ب ع	ب ا ك ن
1360	1360	هـ ط ك ط	هـ د م ط	ي ب ع	ر ك و ل
1370	1370	ا ل د	ر ك هـ ب	ي ب ع	د ط ا ي
1380	1380	ا ب ر ل ط	ي ب ع هـ	ي ب ع	ك ن
1390	1390	ح ط م د	ا ب ع	ي ب ع	ط ا د ل
1400	1400	ا هـ م ط	ح ك و م ا	ي ب ع	هـ ب ر ي

Table 2: Translation of majmu'ah year table

Tabel Data Tahun Majmu'ah															
Tahun Majmu'ah	Al-'Alamah			Al-Hissah			Al-Khassah			Al-Markaz			Al-Auj		
	Hari	Jam	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt
1310	4	1	4	3	22	33	10	2	13	1	23	10	3	10	50
1320	5	17	9	6	13	3	5	10	13	10	5	50	3	10	58
1330	7	9	14	9	3	33	0	18	13	6	18	30	3	11	6
1340	2	1	19	11	24	3	7	26	13	3	1	10	3	11	14
1350	3	17	24	2	14	33	3	4	13	11	13	50	3	11	22
1360	5	9	29	5	5	3	10	12	13	7	26	30	3	11	30
1370	7	1	34	7	15	33	5	20	13	4	9	10	3	11	38
1380	1	17	39	10	16	3	0	28	13	0	21	50	3	11	46
1390	3	9	44	1	6	33	8	6	13	9	4	30	3	11	54
1400	5	1	49	3	27	3	3	14	13	5	17	10	3	12	2



b. Mabsuthah Year Data Table

Table 3: Data on the year of mabsutoh contained in the book *Īqaz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ-Ṣiyam*.

الجدول الثاني في السنين المبسوطة الناقصة أي التي دون العشرة					
السنين المبسوطة	العلامة	الحصة	الخاصة	المركز	اللاوج
1	ايام عقق	حرق	حرق	حرق	ق
2	24 ح	720	ط ح	ط ح	ا
3	البرلر	نو و	ط لو	ط لو	ب
4	6 ر كه	كد ط	و ك ط كد	ي ك ر ح	ب
5	ن با ند	ا ب ب	ط ب	ط ب	7
6	5 ر ك ر	ا ي ه	ح ط	ي و ك	د
7	5 د نا	ا ح ح	ا ح ح	ط كه لو	ه
8	2 ط	كو كا	ط لو	ط دن	و
9	6 ك ح	ر د كد	ي ح كد	ط د ح	و
10	4 ر نو	ر ك ر	ح ك ب	ح لو كد	✓
11	ا نو ه	ر ك ل	ر ح	2 ب م	ح

Table 4: Translation of the mabsuthah year table

Tabel Data Tahun Mabsuthah														
Tahun Mabsuthah	Al-'alamah			Al-Hisshah			Al-Khassah			Al-Markaz			Al-Auj	
	Hari	Jam	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt	Drj	Mnt
1	4	8	48	0	8	3	10	9	48	11	19	16	0	0
2	1	17	37	0	16	6	8	19	36	11	8	32	0	2
3	6	2	25	0	24	9	6	29	24	10	27	48	0	2
4	3	11	14	1	2	12	5	9	12	10	17	4	0	3
5	7	20	2	1	10	15	3	19	0	10	6	20	0	4
6	5	4	51	1	18	18	1	28	48	9	25	36	0	5
7	2	13	39	1	26	21	0	8	36	9	14	52	0	6
8	6	22	28	2	4	24	10	18	24	9	4	8	0	6
9	4	7	16	2	12	27	8	28	12	8	23	24	0	7
10	1	16	5	2	20	30	7	8	0	8	12	40	0	8



c. Lunar Month Data Table

Table 5: Month data contained in the book *Īqaz an-Niyam fī yata'llaq bi al- Ahillah wa aṣ-Ṣiyam*.

المجلد الثالث في الشهور العربية فتتويهم كل شهر توخذ من الشهر الذي قبله وتقوم شهر صفر الصفر الخالي وتقوم شهر محرم من شهر الحجة				
الشهور	العلامه	الحصة	الخاصة	المركز
العربيه	ايام عة ف	٢٢ ف	٢٢ ف	٢٢ ف
محرم	١	١	١	١
صفر	١	١	١	١
ربيع الاول	١	١	١	١
ربيع الثاني	١	١	١	١
جمادى الاولى	١	١	١	١
جمادى الاخر	١	١	١	١
رجب	١	١	١	١
شعبان	١	١	١	١
رمضان	١	١	١	١
شوال	١	١	١	١
القعدة	١	١	١	١
الحجه	١	١	١	١
محرم	١	١	١	١

Table 6: Translation of month data table

Tabel Data Bulan												
Bulan	Al-'Alamah			Al-Hisshah			Al-Khassah			Al-Auj		
	Hari	Jam	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt	Bjr	Drj	Mnt
Muharam	0	0	0	0	0	0	0	0	0	0	0	0
Safar	1	12	44	1	0	40	0	25	49	0	29	6
Rabiul Awal	3	1	28	2	1	20	1	21	38	1	28	13
Rabiul Akhir	4	14	12	3	2	1	2	17	27	2	27	19
Jumadil Awal	6	2	56	4	2	41	3	13	16	3	26	26
Jumadil Akhir	7	15	40	5	3	21	4	9	5	4	25	32
Rajab	2	4	24	6	4	1	5	4	54	5	24	38
Sya'ban	3	17	8	7	4	42	6	0	43	6	23	45
Ramadan	5	5	52	8	5	22	6	26	32	7	22	51
Syawal	6	18	36	9	6	3	7	22	21	8	21	57
Zulqa'dah	1	7	20	10	6	43	8	18	10	9	21	4
Zulhijah	2	20	4	11	7	23	9	13	59	10	20	10
Muharam	4	8	48	0	8	3	10	9	48	11	19	16



d. Ta'dil al-Ayyam Data Table

Table 7: Data of ta'dil al-Ayyam found in the book of *Īqaz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ-Ṣiyam*.

جدول الرابع في دقائق تعديل الايام											
ك	ح	ث	ج	د	هـ	و	ز	ح	ط	ي	م
١	١	١	١	١	١	١	١	١	١	١	١
٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢
٣	٣	٣	٣	٣	٣	٣	٣	٣	٣	٣	٣
٤	٤	٤	٤	٤	٤	٤	٤	٤	٤	٤	٤
٥	٥	٥	٥	٥	٥	٥	٥	٥	٥	٥	٥
٦	٦	٦	٦	٦	٦	٦	٦	٦	٦	٦	٦
٧	٧	٧	٧	٧	٧	٧	٧	٧	٧	٧	٧
٨	٨	٨	٨	٨	٨	٨	٨	٨	٨	٨	٨
٩	٩	٩	٩	٩	٩	٩	٩	٩	٩	٩	٩
١٠	١٠	١٠	١٠	١٠	١٠	١٠	١٠	١٠	١٠	١٠	١٠
١١	١١	١١	١١	١١	١١	١١	١١	١١	١١	١١	١١
١٢	١٢	١٢	١٢	١٢	١٢	١٢	١٢	١٢	١٢	١٢	١٢

Table 8: Translation of ta'dil al-ayyam table

Tabel Data Ta'dil Al-Ayyam												
Derajat Matahari	aries	Taurus	Gemini	Cancer	Leo	Virgo	Libra	Scorpio	Sagitarious	Capricorn	Aquarius	Pisces
0	4	9	11	8	6	7	13	17	16	9	2	0
5	5	10	11	8	5	8	13	17	15	7	1	1
10	6	10	10	7	6	9	14	17	14	6	1	1
15	7	11	10	7	6	10	15	17	13	5	0	2
20	8	11	9	6	6	11	16	17	11	4	0	3
25	9	11	9	6	7	12	16	16	10	3	0	3

e. Ta'dil al-Khashah Data Table

Tabel 1: *Data of al-Khossoh's ta'dil contained in the book $\tilde{I}qaz\ an\text{-}Niyam\ f\tilde{i}\ yata'llaq\ bi\ al\text{-}Ahillah\ wa\ a\tilde{s}\text{-}\tilde{S}iyam$.*

[illegible]

**Table 10:** Translation of ta'dil al-khashah data table

Tabel Data Ta'dil al-Khasah																								
Derajat Matahari	Aries		Taurus		Gemini		Cancer		Leo		Virgo		Libra		Scorpio		Sagittarius		Capricorn		Aquarius		Pisces	
	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt
0	4	59	2	41	0	52	0	2	0	30	2	19	4	59	7	41	9	29	9	59	9	7	7	18
1	4	54	2	36	0	44	0	2	0	32	2	23	5	5	7	46	9	31	9	59	9	4	7	14
2	4	50	2	31	0	47	0	1	0	35	2	27	5	11	7	50	9	33	9	58	9	1	7	4
3	4	45	2	28	0	44	0	1	0	37	2	32	5	16	7	55	9	36	9	57	8	53	7	5
4	4	40	2	24	0	41	0	0	0	40	2	37	5	32	7	59	9	38	9	57	8	55	7	0
5	4	35	2	20	0	38	0	0	0	43	2	43	5	27	8	3	9	40	9	56	8	52	6	56
6	4	30	2	15	0	36	0	0	0	46	2	48	5	33	8	8	9	41	9	55	8	47	6	52
7	4	25	2	11	0	34	0	0	0	47	2	53	5	39	8	12	9	42	9	53	8	46	6	48
8	4	20	2	7	0	32	0	1	0	52	2	58	5	45	8	17	9	44	9	52	8	43	6	43
9	4	15	2	3	0	29	0	1	0	55	3	3	5	50	8	21	9	46	9	50	8	40	6	34
10	4	11	1	54	0	27	0	2	0	58	3	8	5	56	8	25	9	48	9	48	8	36	6	35
11	4	6	1	55	0	26	0	2	1	2	3	13	5	2	8	29	9	45	9	47	8	33	6	30
12	4	1	1	51	0	25	0	3	1	5	3	19	5	8	8	33	9	50	9	46	8	29	6	24
13	3	56	1	47	0	23	0	4	1	9	3	24	5	13	8	37	9	51	9	44	8	25	6	21
14	2	51	1	43	0	21	0	5	1	12	3	24	5	19	8	41	9	52	9	43	8	22	6	16
15	3	47	1	40	0	18	0	6	1	15	3	35	5	24	8	44	9	53	9	41	8	18	6	11
16	3	43	1	36	0	17	0	7	1	19	3	40	5	30	8	48	9	54	9	34	8	15	6	6
17	3	38	1	33	0	16	0	8	1	23	3	45	5	35	8	51	9	55	9	37	8	11	6	1
18	3	33	1	29	0	15	0	9	1	27	3	51	5	40	8	54	9	56	9	35	8	7	5	57
19	3	28	1	26	0	13	0	10	1	31	3	56	5	45	8	58	9	57	9	33	8	3	5	52
20	3	24	1	23	0	11	0	11	1	35	4	2	5	50	9	1	9	57	9	31	7	54	5	47
21	3	19	1	14	0	9	0	12	1	39	4	7	6	56	9	11	9	58	9	29	7	55	5	42
22	3	15	1	16	0	8	0	15	1	43	4	12	7	1	9	7	9	58	9	27	7	51	5	37
23	3	11	1	13	0	7	0	16	1	47	4	17	7	6	9	10	9	59	9	25	7	47	5	33
24	3	7	1	10	0	6	0	18	1	51	4	22	7	11	9	13	9	59	9	23	7	43	5	28
25	3	3	1	7	0	5	0	19	1	56	4	27	7	16	9	16	10	0	9	20	7	39	5	23
26	2	58	1	4	0	4	0	21	2	0	4	33	7	21	9	19	10	0	9	17	7	35	5	18
27	2	54	1	1	0	3	0	23	2	5	4	39	7	26	9	21	10	0	9	15	7	31	5	13
28	2	49	0	58	0	3	0	25	2	9	4	46	7	31	9	23	9	59	9	13	7	27	5	9
29	2	46	0	55	0	2	0	27	2	10	4	52	7	36	9	26	9	59	9	10	7	23	5	4

f. Ta'dil al-Markaz Data Table

Table 11: *Data of ta'dil al-markaz found in the book of Ẓiqāz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*

الجدول السادس تعديل المرد											
الرقم	ع	ث	ج	د	هـ	و	ز	ح	ط	ي	ق
١	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٤	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٥	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٦	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٧	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٨	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٩	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٠	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١١	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٢	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٣	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٤	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٥	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٦	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٧	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٨	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
١٩	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٠	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢١	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٢	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٣	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٤	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٥	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٦	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٧	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٨	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٢٩	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٠	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣١	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٢	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٣	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٤	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٥	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٦	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٧	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٨	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٣٩	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٤٠	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٤١	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٤٢	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج
٤٣	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج	ج



Table 12: Translation of ta'dil al-markaz data table

Tabel Data Ta'dil al-Markaz																								
Derajat Markaz	Aries		Taurus		Gemini		Cancer		Leo		Virgo		Libra		Scorpio		Sagittarius		Capricorn		Aquarius		Pisces	
	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt	Drj	Mnt
0	1	56	2	53	3	35	3	52	3	39	2	56	1	56	0	56	0	14	0	0	0	18	1	0
1	1	59	2	55	3	36	3	52	3	38	2	54	1	55	0	54	0	13	0	0	0	19	1	2
2	2	1	2	57	3	37	3	52	3	37	2	52	1	53	0	52	0	12	0	0	0	20	1	4
3	2	3	2	58	3	38	3	52	3	36	2	51	1	51	0	50	0	11	0	0	0	22	1	5
4	2	5	2	59	3	39	3	52	3	35	2	49	1	48	0	48	0	10	0	1	0	23	1	7
5	2	6	3	1	3	40	3	52	3	34	2	47	1	46	0	47	0	9	0	1	0	21	1	9
6	2	8	3	3	3	41	3	52	3	33	2	45	1	44	0	45	0	9	0	1	0	25	1	11
7	2	10	3	5	3	41	3	52	3	32	2	43	1	42	0	43	0	8	0	2	0	26	1	13
8	2	112	3	7	3	42	3	52	3	30	2	42	1	40	0	42	0	7	0	2	0	28	1	14
9	2	14	3	8	3	43	3	52	3	29	2	40	1	38	0	40	0	7	0	2	0	29	1	16
10	2	16	3	9	3	44	3	52	3	28	2	38	1	36	0	39	0	6	0	3	0	30	1	18
11	2	18	3	10	3	45	3	51	3	27	2	36	1	34	0	37	0	6	0	3	0	31	1	20
12	2	14	3	12	3	46	3	51	3	25	2	34	1	32	0	36	0	5	0	4	0	33	1	22
13	2	21	3	13	3	46	3	51	3	24	2	32	1	29	0	35	0	4	0	4	0	34	1	23
14	2	23	3	15	3	47	3	50	3	22	2	30	1	27	0	33	0	4	0	5	0	36	1	24
15	2	25	3	16	3	48	3	50	3	21	2	28	1	25	0	32	0	3	0	6	0	37	1	27
16	2	27	3	17	3	48	3	49	3	19	2	26	1	23	0	30	0	3	0	6	0	38	1	29
17	2	29	3	19	3	48	3	48	3	18	2	23	1	21	0	29	0	2	0	7	0	40	1	31
18	2	31	3	20	3	49	3	48	3	17	2	21	1	19	0	28	0	2	0	7	0	41	1	33
19	2	33	3	21	3	49	3	47	3	15	2	19	1	17	0	26	0	1	0	8	0	43	1	35
20	2	35	3	23	3	50	3	47	3	14	2	17	1	15	0	25	0	1	0	9	0	44	1	37
21	2	37	3	24	3	50	3	47	3	12	2	15	1	13	0	24	0	1	0	9	0	46	1	39
22	2	39	3	26	3	51	3	45	3	10	2	13	1	11	0	23	0	1	0	10	0	47	1	41
23	2	40	3	27	3	51	3	45	3	8	2	11	1	10	0	21	0	0	0	11	0	49	1	43
24	2	42	3	28	3	51	3	44	3	7	2	9	1	8	0	20	0	0	0	12	0	50	1	45
25	2	44	3	30	3	52	3	43	3	5	2	7	1	6	0	19	0	0	0	13	0	52	1	46
26	2	46	3	31	3	52	3	43	3	3	2	5	1	4	0	18	0	0	0	14	0	53	1	48
27	2	48	3	32	3	52	3	42	3	1	2	3	1	2	0	17	0	0	0	15	0	55	1	50
28	2	50	3	33	3	52	3	41	2	59	2	1	1	0	0	16	0	0	0	16	0	52	1	52
29	2	51	3	34	3	52	3	40	2	57	1	54	0	58	0	15	0	0	0	17	0	58	1	54



g. Hishah as-Sa'ah Data Table

Table 13: data of hissoh as-sa'ah contained in the book *Īqaz an-Niyam fī yata'llaq bi al-Ahillah wa aṣ- Ṣiyam*.

المجدول السابع جدول الخاصة لمعرفة حصّة الساعة الواحدة

الساعة في اليوم في	خاصة الوقت	الساعة في اليوم في	خاصة الوقت	الساعة في اليوم في	خاصة الوقت	الساعة في اليوم في	خاصة الوقت
عق ق	٧٧	عق ق	٧٧	عق ق	٧٧	عق ق	٧٧
٠	٢٦	١	٢٦	١	٢٦	١	٢٦
١	٢٦	٢	٢٦	٢	٢٦	٢	٢٦
٢	٢٦	٣	٢٦	٣	٢٦	٣	٢٦
٣	٢٦	٤	٢٦	٤	٢٦	٤	٢٦
٤	٢٦	٥	٢٦	٥	٢٦	٥	٢٦
٥	٢٦	٦	٢٦	٦	٢٦	٦	٢٦
٦	٢٦	٧	٢٦	٧	٢٦	٧	٢٦
٧	٢٦	٨	٢٦	٨	٢٦	٨	٢٦
٨	٢٦	٩	٢٦	٩	٢٦	٩	٢٦
٩	٢٦	١٠	٢٦	١٠	٢٦	١٠	٢٦
١٠	٢٦	١١	٢٦	١١	٢٦	١١	٢٦
١١	٢٦	١٢	٢٦	١٢	٢٦	١٢	٢٦
١٢	٢٦	١٣	٢٦	١٣	٢٦	١٣	٢٦
١٣	٢٦	١٤	٢٦	١٤	٢٦	١٤	٢٦
١٤	٢٦	١٥	٢٦	١٥	٢٦	١٥	٢٦
١٥	٢٦	١٦	٢٦	١٦	٢٦	١٦	٢٦
١٦	٢٦	١٧	٢٦	١٧	٢٦	١٧	٢٦
١٧	٢٦	١٨	٢٦	١٨	٢٦	١٨	٢٦
١٨	٢٦	١٩	٢٦	١٩	٢٦	١٩	٢٦
١٩	٢٦	٢٠	٢٦	٢٠	٢٦	٢٠	٢٦
٢٠	٢٦	٢١	٢٦	٢١	٢٦	٢١	٢٦
٢١	٢٦	٢٢	٢٦	٢٢	٢٦	٢٢	٢٦
٢٢	٢٦	٢٣	٢٦	٢٣	٢٦	٢٣	٢٦
٢٣	٢٦	٢٤	٢٦	٢٤	٢٦	٢٤	٢٦
٢٤	٢٦	٢٥	٢٦	٢٥	٢٦	٢٥	٢٦
٢٥	٢٦	٢٦	٢٦	٢٦	٢٦	٢٦	٢٦
٢٦	٢٦	٢٧	٢٦	٢٧	٢٦	٢٧	٢٦
٢٧	٢٦	٢٨	٢٦	٢٨	٢٦	٢٨	٢٦
٢٨	٢٦	٢٩	٢٦	٢٩	٢٦	٢٩	٢٦
٢٩	٢٦	٣٠	٢٦	٣٠	٢٦	٣٠	٢٦
٣٠	٢٦	٣١	٢٦	٣١	٢٦	٣١	٢٦

Table 14: Translation of *hishah as-sa'ah* data table

Tabel Data Hishah as-Sa'ah															
Hishah al-Qamar				Hishah as-Sa'ah				Hishah al-Qamar				Hishah as-Sa'ah			
Bjr	Drj	Jam	Mnt	Bjr	Drj	Jam	Mnt	Bjr	Drj	Jam	Mnt	Bjr	Drj	Jam	Mnt
0	0	2	12	3	5	2	1	6	10	1	1	9	15	2	0
0	5	2	12	3	10	2	1	6	15	1	1	9	20	2	1
0	10	2	12	3	15	1	1	6	20	1	1	9	25	2	2
0	15	2	12	3	20	1	1	6	25	1	1	10	0	2	4
0	20	2	12	3	25	1	1	7	0	1	1	10	5	2	5
0	25	2	12	4	0	1	1	7	5	1	1	10	10	2	6
1	0	2	11	4	5	1	1	7	10	1	1	10	15	2	7
1	5	2	11	4	10	1	1	7	15	1	1	10	20	2	8
1	10	2	10	4	15	1	1	7	20	1	1	10	25	2	9
1	15	2	10	4	20	1	1	7	25	1	1	11	0	2	9
1	20	2	9	4	25	1	1	8	0	1	1	11	5	2	10
1	25	2	8	5	0	1	1	8	5	1	1	11	10	2	11
2	0	2	7	5	5	1	1	8	10	1	1	11	15	2	11
2	5	2	7	5	10	1	1	8	15	1	1	11	20	2	12
2	10	2	4	5	15	1	1	8	20	1	1	11	25	2	12
2	15	2	5	5	20	1	1	8	25	1	1	-	-	-	-
2	20	2	4	5	25	1	1	9	0	1	1	-	-	-	-
2	25	2	3	6	0	1	1	9	5	1	1	-	-	-	-
3	0	2	3	6	5	1	1	9	10	1	1	-	-	-	-



Here's how to calculate the position of the Hilal found in the book *Īqaz an-Niyam*³⁷:

- 1) Take the majmu'ah, mabsuthah, and ash-syahru year data (using the previous month's data) then add them up according to their type (al-'alamah with al-'alamah, al-hishah with al-hishah and so on). The number of al-'alamah that reaches 60, must be made into one hour. The number of as-sa'ah (hours) that reach 24, must make one day and the number of al-ayyam (days) that exceed seven, then deduct with seven and multiples. It should also be noted that the maximum values of daqaiq, al-Duruj and buruj are 60, 30 and 12.
- 2) Take the value of ta'dil al-khashah.
- 3) Take the value of ta'dil al-markaz
- 4) Calculate the value of bu'du bayna nayyirayn by means of ta'dil khosoh + ta'dil markaz
- 5) Calculate the value of ta'dil ash-shams by means of bu'du bayna nayyirayn x 5' + ta'dil markaz
- 6) Calculating the wasat ash-shams value by means of al-auj + markaz
- 7) Calculating the value of muqawwam ash-shams by means of wasat ash-shams - ta'dil ash-shams
- 8) Calculating the value of ta'dil ayyam
- 9) Calculating the value of bu'dul al-mu'addal by means of the value of bu'du bayna nayyirayn - ta'dil ayyam
- 10) Determining the value of hissoh as-sa'ah in the seventh data table with the khosoh data argument.
- 11) Determining the value of *hissoh as-sa'ah* in the seventh data table using the *khosoh* data argument.
- 12) Calculating the value of *ta'dil al-'allamah* by multiplying *bu'du al-mu'addal* by *hissoh as-sa'ah*.
- 13) Calculating the value of *al-'alamah al-mu'addalah* by subtracting *ta'dil al-'allamah* from *al-'allamah*, with reverse calculation. If the result of this calculation is 1 ج ٢, then *ijtima'* occurs on Sunday after 3 hours and 10 minutes, or 9 hours and 10 minutes on Sunday night. After determining the time of *ijtima'*, proceed to calculate the value of the Hilal's height by dividing the *ijtima'* value by 0.5 (i.e., $21.10 \times 0.5 = 10.50$).

So the Imkan ar-ru'yah criteria recognized at the time of Sayid Uthman were when the Hilal had a height of 7 degrees, as was the criterion for determining the beginning of the month by Sayid Uthman. He used the hakiki takribi calculation system, which is a calculation system that uses Ulugh Bek's Moon and Sun data and is the most accurate calculation system at that time.

3. Relevance of Sayid Uthman's Imkan ar-ru'yah Criteria in the Present Time

Science and technology will always develop along with the times. Such is the case with the hisab for determining the beginning of the lunar month, starting from urfi hysab and now developing into contemporary hysab. The hishab used by Sayid Uthman to determine the position of Hilal is

³⁷Sayid Utsman bin Yahya, *IqaZ An-Niyam Fi Ma Yata'allaq Bi Al- Ahillah Wa Ash-Shiyam* (Jakarta: Al-Mubarakah, 1321).



included in the type of hisab hakiki takribi because it still uses the Ulugh Beg table, where the calculation only reaches the average motion of the celestial body. Therefore, the results are only approximate or close to the truth. In the present era, the hisab is no longer accurate because it has been replaced by contemporary hisab, which has higher accuracy, as the hisab for determining the beginning of the lunar month used by the government today.

The government uses ephemeris hisab to determine the beginning of the lunar month. This hisab is included in the category of contemporary hakiki hisab because it uses data from the latest research and has a more thorough and complex correction system along with advances in science and technology. If the Sayid Uthman hisab system is compared with the ephemeris hisab system, it will cause differences in the calculation results. Often, there is a difference in the value of minutes and sometimes even in the value of degrees. So it is only natural that at the time of Sayid Uthman, his system had a fairly high imkan ar-ru'yah criteria compared to the current government's imkan ar-ru'yah criteria. In addition, at the time of Sayid Uthman, the implementation of ru'yah al-hilal must use the naked eye in contrast to the current government which allows ru'yah al-hilal to be done using aids.

D. Conclusion

The research findings demonstrate that Sayid Utsman's criteria for imkan ar-ru'yah involve an elevation angle of seven degrees, extending to eight degrees under specific conditions. The data indicate that Sayid Utsman's conceptualization of imkan ar-ru'yah served as the standard for determining the commencement of the lunar month employed by the society at that time. It incorporated a computational system designed to ascertain the position of the Hilal. This computational system is classified as a hisab hakiki takribi methodology, which possessed a high degree of accuracy for its era.

However, this computational system is no longer applicable in the present day due to numerous limitations, such as producing only approximate or nearly accurate results. Additionally, its operational complexity is significantly greater compared to contemporary hisab systems. Consequently, this method has been replaced by modern hisab methodologies that offer higher precision. When Sayid Utsman's hisab system is compared to ephemeris-based hisab systems, discrepancies emerge in the calculation outcomes, often differing by minutes and occasionally even by degrees. Therefore, it is understandable that during Sayid Utsman's time, the criteria for imkan ar-ru'yah were considerably stringent compared to current governmental standards. Moreover, in Sayid Utsman's era, the observation of the Hilal had to be conducted with the naked eye, whereas today, the use of assistive instruments is permitted for ru'yah al-hilal.

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