Stephen P. Blake, *Time in Early Modern Islam: Calendar, Ceremony, and Chronology in the Safavid, Mughal, and Ottoman Empires*, Cambridge: Cambridge University Press, 2013. 224 pages. ISBN: 978-1-107-03023-7.

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Historiography is indistinguishable from the concept of time, because the former necessitates a chronological framework. This relationship has so far attracted scholarly interest across multiple perspectives. The Islamic temporal notion or system, on the other hand, has not received as much attention as it deserves due to the smaller number of sources. However, a gradual improvement of the situation is expected,[1] and Stephen Blake's *Time in Early Modern Islam* can be situated in such an important strand. The book covers the Islamicate world's three early modern empires, namely, the Mughal (1526–1739), Safavid (1501–1722), and Ottoman (ca. 1299–1923), all of which created a new set of temporal systems within the context of their different cultural environments. These systems, however, inherited the basic Islamic concept of time that had emerged from the radical redefinition of such earlier religions as Judaism and Christianity. Blake, who specializes in this period, has published several monographs on its social history.[2] The comparative analysis presented in these three empires, despite its difficulty, undoubtedly gives us a profound insight into the early modern Islamicate world. Those of us who are interested in related periods, areas, or topics should benefit from his work, for the author conducts his analysis from a brand-new standpoint: that of re/fashioning the temporal notion or system found in these empires.

Blake analyzes these dynastic temporal systems by dividing their components into three pieces: calendrical, ceremonial, and chronological. The Introduction refers to Islam's radical reconstruction of already existing temporal systems by transforming

1 E.g., François Georgeon & Frédéric Hitzel (eds.), *Les Ottomans et le temps* (Leiden: Brill, 2012), and a special volume of the *Revue des mondes musulmans et de la Méditerrané* on "The imprints of Time: Calendars and Social Rhythms," vol. 136 (2014): https://remmm.revues.org/8816.

2 Stephen Blake, *Shahjahanabad: the Sovereign City in Mughal India, 1639–1739* (Cambridge: Cambridge University Press, 1991); *Half of the World: the Social Architecture of Safavid Isfahan, 1590–1722* (Costa Mesa, CA : Mazda, 1999).

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them into a strictly lunar calendar, regulating the five prayer times, and creating new ritual celebrations. In the pre-modern Islamicate world, the *munajjim* was the time expert in charge of all phases of the Islamic temporal system. Some of these scholars compiled astronomical handbooks (*zīj*), the accuracy of which was assured by fresh observations at several large-scale observatories that were, at that time, the most advanced in the Eurasian world. For the *munajjim*, the *zīj* functioned as the major reference for such basic practices as making the annual almanac and casting one's horoscope.

Chapter 1 provides a short overview of the three empires based on the most recent general histories and surveys. Chapters 2 through 5 analyze the Islamic temporal system's transformation as it moved in time and space in the three empires.

The second chapter concerns the calendar. The institution of the five daily prayers created an immense interest in devising more precise time-related divisions of the day. Although the principal timekeeping devices were sundials and water clocks, the desire to determine the prayer times as accurately as possible led Safavid and Ottoman astronomers to make mechanical clocks. The Safavids mainly were interested in such devices as showpieces, whereas the Ottomans were more practical: They considered accurate timekeeping a necessary preliminary to coming up with ever-more precise astronomical observations. The Ottoman scholar Taqī al-Dīn's (1525–85) initiative in a scientific observational program, however, fell victim to political rivalry and religious obscurantism. In Mughal India, Hindu raja Jai Singh (1686–1743), who had a passion for astronomy, constructed a large-scale observatory in Jaipur; unfortunately, it was old-fashioned and no match for its European counterparts.

The third chapter deals with the ceremonies marked by each empire in its temporal cycle. The early Muslim community widely celebrated two ceremonies: *ʿĪd al-Fiṭr and ʿĪd al-Aḍḥā*. Afterward, two other celebrations made their appearance: the Prophet's birthday and *ʿĀshūrā*. Although all of these empires inherited this common ceremonial tradition, each one constructed a new ceremonial cycle that melded Islamic rituals with indigenous and/or foreign rituals according to their specific circumstances. In Mughal India, due to the strong Persian presence at the court, *ʿĀshūrā* became the most popular of the four major Islamic ceremonies. In addition, the heavy Persian cultural influence resulted in the splendid Nau Ruz celebration derived from the pre-Islamic Persian tradition. Emperor Akbar (r. 1556–1605) also introduced a completely new ritual: the imperial birthday ceremony, an amalgam of Islamic, Indian Muslim, and Indic elements. The Safavid ceremonial

round, on the other hand, was firmly rooted in Persia's Zoroastrian heritage and recently adopted Shi'ite practice. While Nau Ruz remained extremely popular, *'Āshūrā* slowly began to supplant it as the dynasty's emblematic ritual. The Ottoman ceremonial cycle, unlike those of the Mughals and the Safavids, was entirely Islamic. While the commemoration of *'Āshūrā* was eliminated due to their hated Shi'ite rival, they added two unique canonical festivals: ceremonies that celebrated the imperial circumcision and the departure of the hajj caravan.

The fourth chapter analyzes the chronological perspective. The lunar Islamic (*hijrī*) calendar was seriously deficient when applied to an agrarian economy because it was not in harmony with the seasonal cycle. The need to resolve this problem was already apparent during the Umayyad dynasty (661–750). Thus one of the rulers decided to adopt a new solar era: the Kharaji Era. By the early modern period, the Mughal and Safavid empires had abandoned this calendar and introduced one or more solar eras, whereas the Ottomans chose not to do so, although it caused fiscal and political crises. After all, their legitimacy was rooted in their presentation of their dynasty as the successors to the rightly guided caliphs and protectors of Islam's two holy cities.

The Safavids, due to their lower population, centralization, and monetarization, were better able to deal with the fiscal problem caused by the Islamic calendar. They implemented solar eras, starting with Nau Ruz (i.e., the Vernal Equinox), from their long history of solar chronology. For the Mughals, however, the fiscal solution was more complicated due to the dense population and cultural diversity. Thus Akbar's introduction of a new solar calendar—the *Tarikh-i Ilahi*—in 1584 should probably be understood as part of his policy of "lasting reconciliation" (*ṣulḥ-i kull*) and an attempt to address commercial problems.

The last chapter before the Conclusion explains how each empire handled the apocalyptic atmosphere connected with the congruence of two millenarian events in the late sixteenth century: a Grand Conjunction in 1583 and the end of the first Islamic millennium in 1591. The chronological system based on the conjunctions of Jupiter and Saturn was established by Abū Ma'shar (787–886), the most influential astrologer of the pre-modern Eurasian world. The frequent transmission of his astrology from the eighth to the sixteenth century was greatly indebted to the works of the two Ismā'īlī authors: the Ikhwān al-Ṣafā' and Nāṣir-i Khusrau (1004–88). Although each empire responded to these events in its own way, the Safavids provided a common repository of theoretical and human resources. Haydar Remmal, a refugee from the Safavid Empire, joined the Istanbul court of Suleiman (r. 1520–66) and became a major agent of apocalypticism. The Nuqtavi Sufi Order, which

turned out the most eloquent and influential preachers of eschatological extremism in Mughal India, also came from that empire.

The Conclusion situates the Islamic concept of time in wider contexts. This concept is especially viewed from the Judaic and Christian traditions, and from the standpoint of its influence on early modern Europe.

One of this book's most meaningful contributions is that it sheds new light upon some of the dynamics of these empires by focusing on several temporal dimensions. As Blake states in the Introduction, the substantial political relationship among the empires was strictly limited due to the difficulties of distance. However, we cannot underestimate a fair amount of social and cultural mobility across them. The author's approach enabled him to describe these dynamics in very vivid terms. From this standpoint the fifth chapter, which deals with the millenarian movement, could be considered the highlight of the entire book.

The wide-ranging significance of this work also turns our attention to other dynamics related to the *munajjim,* who is central to each dynasty's temporal system. The Introduction presents this official as the time specialist who either trained himself or was trained via formal study at a madrasah or as an apprentice. However, he did not necessarily implement either the timekeeping or the astronomy based upon it. In fact, most of these individuals actually earned their living as astrologers, as Blake states, for in the pre-modern world astrology was often inseparably linked to astronomy as part of the astral sciences. George Saliba argues that the science of timekeeping (*'ilm al-mīqāt*) was created toward the beginning of the eleventh century and that, during this process, certain fields of astronomy were dissociated from astrology and posed as allies of the religious disciplines.[3] Those intellectuals who had mastered these kinds of astronomy were by and large familiar not only with the rational (e.g., astronomy) but also with the traditional sciences. And yet they are rarely represented as *munajjim* in contemporary sources. Therefore, the diversity of astral sciences and those responsible for implementing them would become elusive if the *munajjim* were presented as "the" time experts of the Islamicate world.

In connection with this matter, we could also find a significant transition of the "time expert" within the context of these empires. By the early modern era, the "time expert" had gradually started to be produced by the madrasahs in parallel with embedding the aforementioned fields of astronomy into the Islamic disciplines. As Blake also mentions, the *muwaqqit* (i.e., the specialist in astronomical timekeeping)

3 George Saliba, *Islamic Science and the Making of the European Renaissance* (Cambridge: MIT Press, 2007), 78.

had been an active staff member of many mosques since the early thirteenth century in Egypt and Syria. Istanbul was the principal center of astronomical timekeeping from the sixteenth century onward.[4] In addition, Naṣīr al-Din al-Ṭūsī (1201–74) rewrote the classical mathematical and astronomical texts, which served a significant function in teaching geometry and spherical astronomy at Safavid madrasahs.[5] In Mughal India, Akbar made the rational sciences an obligatory subject in the madrasahs. This transition from individual to institutionally trained time experts and their discipline is worth mentioning. Future works, perhaps by specialists in the astral sciences, would make this theme more profound from other aspects as well.

4 David King, *In Synchrony with the Heavens: Studies in Astronomical Timekeeping and Instrumentation in Medieval Islamic Civilization*, vol. 1, *the Call of the Muezzin* (Leiden: Brill, 2004), 18.

5 Husain Ma'sumi Hamadani, "Ustad-i Bashar," in N. Pourjavady & Ž. Vesel (eds.), *Nasir al-Din al-Tusi: philosophe et savant du XIIIe siècle* (Téhéran: Institut français de recherche en Iran/Presses universie taires d'Iran, 2000), 28–31; Sonja Brentjes, "Teaching the Mathematical Sciences in Islamic Societies: Eighth-Seventeenth Centuries" in A. Karp & G. Schubring (eds.), *Handbook on the History of Mathematics Education* (New York: Springer, 2014), 102–103.