



## Theoretical and Practical Aspects of Ottoman Scientific Activities: Annual and Perpetual Calendars (1550–1710) Workshop, Istanbul, March 21, 2022

### Bilimsel EtkinliĐin Teorik ve Pratik Yönlere: Osmanlı Takvimleri (1550-1710) alıřtayı, İstanbul, 21 Mart 2022

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After two years of COVID isolation, a brilliant workshop entitled "Theoretical and Practical Aspects of Ottoman Scientific Activities: Annual and Perpetual Calendars (1550–1710)" was held in March in the Faculty of Letters, Istanbul University. The workshop was intentionally arranged for March 21 in reference both to Nawruz, and thus to the first day of the Ottoman calendar, and to the astronomical vernal equinox, which usually occurs on March 21. The impressive faculty buildings, built by the architects Sedat Hakkı Eldem (1908–1988) and Emin Onat (1908–1952) in the 1940s, created a historical atmosphere. The event was



organized as part of a TUBITAK-1003 project carrying the same title, under the supervision of Dr. Gaye Danişan of the Department of the History of Science (Istanbul University). Additional support was provided by the French Anatolian Studies Institute (Institut Français d'Études Anatoliennes) and the municipality of Eyüp Sultan.

The workshop attracted great interest from students and researchers across different disciplines. Students in the Department of the History of Science and members of Istanbul University's History of Science Student Club were involved actively in its organization. The purpose of the meeting was to assemble historians from different disciplines to discuss various aspects of Ottoman numerical, annual, and perpetual calendars of the 16<sup>th</sup> to 18<sup>th</sup> centuries, with reference to fields such as astrology, finance, and health. The workshop also aimed to promote general interest in the Ottoman calendars as historical sources.



Istanbul University student organization team and members of the TUBITAK-1003 project.



Dr. Gaye Danişan (left, Istanbul University) and Florence Somer (right, Institut Français d'Études Anatoliennes).

The workshop was opened by Dr. Gaye Danişan (Istanbul University) and Florence Somer (Institut Français d'Études Anatoliennes). In their welcoming speeches, both researchers highlighted the importance of this meeting as an opportunity for discussion and comparison of various studies on the Ottoman calendars. The interaction between Dr. Gaye Danişan, a specialist in Ottoman astronomy, and Florence Somer, an Iranologist, was particularly interesting as they underlined the cultural transfers between the Ottoman Empire and Persia during the early modern era.

The workshop was divided into four public sessions followed by a private discussion on the comparison of Ottoman and European volvelles. Each session addressed a particular theme. The first session, entitled “The Circulation of Information: Sources, Savants and Networks,” began with opening remarks by Dr. Feza Günergün, Head of the Department of the History of Science (Istanbul University). These were followed by Dr. Gaye Danişan’s presentation of the aforementioned TUBITAK-1003 project.

Emphasizing the importance of the Ottoman calendars as primary sources for the modern historiography of science, Dr. Danişan drew the audience’s attention to their theoretical and practical aspects. While she explained concepts of knowledge and science pertaining to the annual and perpetual Ottoman calendars, she also offered insights into practical matters such as the preparation and use of these sources. Danişan’s presentation not only established the general framework of the workshop but also underlined the originality of their project.

The second speaker, Feyza Betül Aydın, a PhD student in the Turkish Language and Literature Department of Medeniyet University and researcher on the TUBITAK-1003 project, made an interesting presentation on the marginal notes on Ottoman calendar manuscripts of the 16<sup>th</sup> and 17<sup>th</sup> centuries. Applying a linguistic approach, Aydın discussed the methods used to identify various authors, contents, and form profiles. Significantly, this discussion demonstrated the complexity of the Ottoman calendars in terms of the variety of language and writing styles used in the manuscripts.

The last speaker of this session, Dr. Hasan Karataş, an Ottoman historian from the Sociology Department of Istanbul Technical University, drew attention to an important feature of the history of Ottoman science during the classical period: the interest among Islamic groups such as the Zeyniyye order in astronomy and astrology. With reference to the works of Şeyh Vefa (*Rûznâme* and *Melhame-i Şeyh Vefa*), Karataş discussed the role of the Sufis in the circulation of knowledge between Anatolia and Egypt as well as the relationship between Islamic mysticism and science. After the first session, a lunch and an exhibition of Ottoman astronomical instruments were organized in the *Şeref Holü* (Hall of Honor) of the Faculty of Letters. The exhibition was a great occasion to magnify the workshop's impact.



Ottoman astronomical instruments exposition, *Şeref Holü* (Hall of Honor), Faculty of Letters, Istanbul University.

The second session was entitled “Calendars: Astronomy, Economy and Religion” and was chaired by Hüseyin Ölmez from the Arabic Language and Literature Department of Istanbul University. The session started with a contribution by Dr. Taha Yasin Arslan, from the History of Science Department of Istanbul Medeniyet University. During his presentation, Arslan explained how the Ottomans adopted, updated, and developed the rich heritage of Islamic astronomic tables of the Middle Ages. He also presented examples of the Ottoman calendars analyzed during his research, making these highly complex sources accessible to a larger audience.



Dr. Taha Yasin Arslan (Speaker, Medeniyet University) and Dr. Gaye Danişan (Commentator, Istanbul University).

The second speaker of this session was Dr. Fuat Aydın from Sakarya University’s Faculty of Theology. Aydın focused on the registers of the Ottoman sultan’s astrologer-in-chief. He also recognized how, aside from the Islamic dates, these sources reflected the religious diversity of the Ottoman Empire. In particular, Aydın highlighted the place given to the religious dates of the Christian and Jewish communities of the Empire within these sources.

The third speaker of the second session, Dr. Azize Fatma Çakır, a post-doctoral researcher in the TUBITAK-1003 project, made an original contribution by comparing three samples of financial calendars from the 17<sup>th</sup> to 19<sup>th</sup> centuries. Her analysis demonstrated the practical problems created for Ottoman finance through the simultaneous use of Lunar (Hicrî) and Solar (Mali Rumî) calendars.

The workshop's third session was entitled "Interactions: Earth, Sky and Genesis" and was chaired by Dr. Meltem Kocaman of Istanbul University's History of Science Department. The session opened with the intervention of Dr. Feray Coşkun from the Humanities and Social Sciences Department of Özyeğin University. Coşkun focused on a particular Ottoman cosmographic source, *Acâ'ibü'l-Mahlûkât*, through which she analyzed issues such as the balance of the earth, natural disasters, and meteorological phenomena. Her presentation offered original cultural perspectives on early Ottoman geographical perceptions.

Coşkun's presentation was followed by that of Dr. Gaye Danişan, of Istanbul University's History of Science Department, and Florence Somer, from the Institut Français d'Études Anatoliennes. Danişan and Somer's presentation focused on the rich iconography of Ottoman, Persian, and Arabic calendars. In particular, they examined the astronomical and astrological significance of these sources as well as their use of planetary symbols.

The final speaker of the third session was S. Ceren Özdemir, researcher in the TUBITAK-1003 project and alumna of the Department of the History of Science of Istanbul University. Özdemir's presentation was chronologically interesting, as her analysis concentrated on 19<sup>th</sup>-century Ottoman calendars, in particular the astronomical tables used to calculate solar and lunar eclipses. She then compared her data, derived from the annual and perpetual calendars of the 19<sup>th</sup> century, with those of the classical period.

The last session of the workshop, entitled "Theoretical and Practical Perspectives: Time, Health and Mindset," was chaired by Dr. Saltuk Duran of Istanbul Technical University's Sociology Department. Dr. Mustafa Yavuz, from the History of Science Department of Medeniyet University, spoke first. Yavuz began his presentation with an overview of the medicine of Avicenna as it appears in his *El-Kanun fi'l-Tıb*. He then discussed the impact of this source on Ottoman medicine. Yavuz's contribution was important as he explained how Islamic traditions persisted in Ottoman medicine despite modernization movements in this field during the 19<sup>th</sup> century.

The second speaker of the last session was Dr. Azize Fatma Çakır, a researcher in the TUBITAK-1003 project. Drawing on a rich corpus of archival material, Çakır identified interesting connections between seasons and various Ottoman medicinal practices. Çakır's presentation was followed by that of Nilgün Durusüt, a master's student in the Department of the History of Science of Istanbul University and researcher in the TUBITAK-1003 project. Durusüt delivered an interesting presentation on the methods she used to register various quantitative and qualitative data derived from the translations and transliterations of a large body of manuscripts within the TUBITAK-1003 project.

The final speaker of the fourth session was Dr. Ahmet Tunç Şen from the History Department of Columbia University (New York). Based on a rich corpus of primary sources,

Şen brilliantly inquired whether the concept of “scientist,” especially as it developed after the 19<sup>th</sup> century, corresponded to astrologers’ activities in the late medieval and early modern Islamic world.

After the fourth public session, the workshop transitioned to a private format. During the latter, researchers had a chance to make comparisons between Ottoman and European volvelle paper instrument models. These models, prepared by the workshop organization group, were a great success, because they were almost identical to the original paper instruments. The participants could thus manipulate these instruments and better understand how conversions were made between lunar and solar calendars. As a result, interesting discussions and questions arose among the participants.



Workshop dinner, *Profesörler Evi* (Professors House), Istanbul University.

After the workshop, an excellent dinner was organized in the amazing historical buildings of the *Profesörler Evi* restaurant on the Istanbul University campus. Overall, the workshop was highly successful, and the reactions of the participants and the audience were overwhelmingly positive. The topic was innovative and the contributions were very inspiring. The workshop successfully achieved its goals as it fostered vivid and wide interest in the Ottoman calendars as rich sources for the history of science.

