Miri Shefer-Mossensohn

Science among the Ottomans: The Cultural Creation and Exchange of Knowledge (Austin: University of Texas Press, 2015), pp. 262, \$55 (hardback), ISBN 978 1 4773 1221 6.

The history of Ottoman science and medicine is still a nascent field, and it deserves a novel scholarly approach. Its history constitutes a fascinating nexus of numerous intellectual traditions, thanks to the coexistence of Muslim and non-Muslim populations, as well as to a continuous interaction of the Ottoman world with foreign civilizations. The various cultures within the empire in fact offered a range of possibilities and resources to the practice of science. An illuminating historical survey of these possibilities can be found in Miri Shefer-Mossensohn's *Science among the Ottomans*. Like Adnan Adıvar's *La science chez les Turcs Ottomans* (Paris, 1939), her book is about science *among* the Ottomans rather than a distinctive *Ottoman* science.

Shefer-Mossensohn, who views science as a social concept, begins with a survey of canonical studies in the history of science such as Thomas Kuhn's, Karl Popper's and Michel Foucault's. She then examines the existing historiography on Islamic science, underscoring how the general narrative here has been confined to a linear understanding of progress or decline. Shefer-Mossensohn shows how the existing scholarship has been primarily concerned with the vital contributions of Muslim science to the West's scientific breakthroughs, and points out that this classic paradigm, which long shaped political and intellectual historiographies of the Middle East, still persist in the current scholarship on Islamic science. According to Shefer-Mossensohn, the study of Ottoman science has been neglected precisely because it does not correlate with the Eurocentric view of progress based on epistemic revolutions. Rather than focusing on novelty and progress as the results of science, her book is about how the Ottomans applied scientific knowledge within social practices. She stresses the fact that the Ottoman identity included diverse religious and ethnic affiliations, all within one empire, and aims to show how these various traditions from different geo-cultural sources intertwined in "the Ottoman pursuit of science" (pp. 14-15).

Although the book cannot be taken to be an example of connected histories, Shefer-Mossensohn pays particular attention to mobility and to the notion of fluid boundaries. Drawing on Keith Krause's model of scientific diffusion, she argues that, while the Ottomans did not "revolutionize" science and technology, they offered local variants according to their respective perceptions of efficiency and utility – and it is precisely this that deserves to be studied (p. 19).

The first chapter of *Science among the Ottomans* focuses on sources and categorizations of knowledge in the Ottoman Empire. For Shefer-Mossensohn, what makes the Ottoman experience of science unique is its eclectic nature within “a Eurasian matrix.” She refers to the Ottoman concept of knowledge with the umbrella term *‘ilm*, and maps out various sources of “legitimate knowledge” in the Ottoman world such as divine revelation, logic and reason, living tradition and popular consent (pp. 30–31). She examines the classification of knowledge using brief examples from early modern Ottoman scholars, Taşköprülüzade and Katip Çelebi, and illustrates how the hierarchical order among fields of knowledge did not merely depend on their perceived importance, but also on their presumed audience: a scholarly work was valued more highly if it addressed the learned elites.

In a relatively short chapter, Shefer-Mossensohn efficiently depicts the nature of knowledge in the Ottoman lands through a set of examples of how pre-Islamic, Greek and Islamic traditions merged in the fields of medicine and astronomy. She concludes the chapter by asserting that, due to an epistemological rupture, the notion of *‘ilm* changed in the nineteenth century. Although her argument does not seem very convincing in the context of her first chapter, which focuses on the early modern period but in all other respects fails to address later, nineteenth-century sources, the Ottoman nineteenth century is brought more fully into the narrative in the subsequent chapters.

In chapter two, Shefer-Mossensohn discusses where and how *‘ilm* was practiced. She introduces *medrese* culture, and also presents the palace and the harem as institutions of learning. During the nineteenth century, Ottoman educational policies aimed at uniformity, unity and discipline as effective instruments for the development of a centralized and modern state. Having recognized ‘European superiority,’ Ottoman authorities initiated a new agenda for improving the armed forces during the reign of Selim III (r. 1789–1807). This program brought about the foundation of new military and engineering schools staffed with European tutors, and promoted the travel of several Ottoman students to the European capitals to acquire a solid training in engineering and medicine. Nonetheless, this new way of thinking about education did not replace old forms, as traditional and informal teaching continued to exist.

In chapter three, Shefer-Mossensohn illustrates how cross-cultural dynamics facilitated the transfer of knowledge within the empire. Like other recent studies that reject the long-standing idea of Ottoman “seclusion,” that of Shefer-Mossensohn presents foreigners, such as diplomats and merchants, as agents of knowledge in the Ottoman Empire. She argues that the role of foreigners started to change once again in the nineteenth century, when the empire gained a (semi-)colonial character.

The last chapter shows the ramifications of scientific knowledge for political dynamics, both through foreign investments in infrastructural projects of transportation and communication, and through patron/protégé (*intisap*) relationships and charitable (*vakıf*) institutions in local settings.

Depicting science *among* the Ottomans through a social and cultural lens, Shefer-Mossensohn's book surveys fascinating episodes from the Ottoman context. However, it lacks a unifying argument. Thanks to its historiographical narrative, it will be a useful source for undergraduate students and non-specialists. Many of the topics that are briefly mentioned in the book deserve further research, reminding young scholars that there is still much to do in this exciting field of Ottoman history.

At the end of the book, one is left wondering what makes certain kinds of knowledge distinctively Ottoman. Shefer-Mossensohn insists on the eclectic nature of Ottoman science; yet such eclecticism was not unique to the Ottoman world. She suggests that historians do not have to examine progress in order to study science, which raises interesting questions about how we should define progress. What kind of 'progress' do we see, for example, in the Ottoman mixture of scientific cultures? How was this coexistence of texts, practitioners, and epistemologies perceived, overlooked, or challenged in the Ottoman Empire? What if Ottoman science was something beyond a monolithic amalgamation of various sources, perhaps even an arena of systems of knowledge in conflict? Popular trends in current historiography orient us towards connections and the concept of similarities; yet, perhaps it is time to reconsider the idea of difference as an equally powerful actor's category. These questions, of course, can not be expected to be answered in a single monograph. By offering us a new synthesis that represents the current state of the field, Shefer-Mossensohn's book addresses the perennial question of what happened to Islamic science and medicine after the Middle Ages. It offers a starting point for further discussions.

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