



# **The Lighthouse and the Observatory:** Islam, Science, and Empire in the Late Ottoman Egypt

**By Daniel A. Stolz**

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**W**riting interdisciplinary histories goes back to the first half of the 20th century, when the Annales School emerged as an alternative movement to the long lasting traditional narrative history based mostly on the linear assessment of states, great leaders, politics, wars and military powers. Instead, it put a new emphasis on the incorporation of academic disciplines, longer timespans, social and economic history, as well as everyday life and mentalities in a long-term perspective.

Daniel A. Stolz's book *The Lighthouse and the Observatory: Islam, Science, and Empire in the Late Ottoman Egypt* bears this kind of fragrance and taste with its approach. The author, a lecturer at University of Wisconsin, Madison, with a PhD from Princeton University in Near Eastern Studies, is a historian of the modern Middle East, particularly Egypt and the late Ottoman Empire. In his book, instead of taking up the issue in "linear decline", "modernization" or the "encounter with Western science and technology" rhetoric, the author proposes various interdisciplinary perspectives acting within such scopes as history of science and technology, religion, authority, bureaucracy, geography, everyday life, scholarly networks, the emergence of a new type of scholar working in new institutional settings, and the widening of the trajectory of scholarly activities. Having comprehensive knowledge of the scholars, literature, language and institutions, he discusses the Egyptian experience of science in relation with a wider Ottoman and global context without ignoring or neglecting the domestic peculiarities of 19th century Egypt.

By and large, the book tells the interesting story of late Ottoman Egypt and astronomy, looking at how astronomy connected the state and religious practices, how religious authority was negotiated through astronomy, the books of astronomical tables (*zij*) used by astronomers, translation movements, and how print affected the distribution of astronomic knowledge.

In the introductory remarks the author embarks on an explanation of the relation of astronomy, empire and religious authority, based on the question "how did

new, apparently secular sites of state science come to play and authoritative role in the religious practices of Muslims, while an older knowledge culture—a science produced in Islamic scholarly discourses—was refashioned as an object of historical memory?" He considers the history of astronomy in late Ottoman Egypt as a window onto the relationship between the globalization of science, the building of empire and the fashioning of Islam in a transformative period. In his view, history of astronomy serves to expand our view of the types of knowledge that is meaningful to the making of modern statecraft, science, religion and knowledge traditions.

The author dedicates Part I, titled "Geographies of Knowledge", to a comparative analysis of the astronomical practice within two different social contexts of Ottoman Egypt in the late 19th century. He takes up the issue in two chapters, the first of which, focuses on astronomical timekeeping as practiced by scholars, 'ulema', and second, introduces the emergence of a new kind of astronomer who were conscripted into state academies to undergo years of training in state observatories in Cairo and Paris. In this context, he ably compares Mahmud Hamdi (al-Falaki/the astronomer) and Ismail Mustafa al-Falaki, both of whom represented new institutions and power relations, along with the famous scholar Muhammad al-Khudari, based mainly on tradition. The author names astronomical practice carried out by the new type of astronomers as "viceregal" astronomy since it was conducted within a new set of spaces such as state observatories, government ministries, instrument workshops, and eclipse expeditions. He shows that new technology, as in the case of mechanical clocks and watches, did not render scholarly activity irrelevant, but broadened the audience for its practitioners.

Part II, titled "Objects of Translation", explores the role of the 'ulema' in the formation of timekeeping with mechanical devices in the capital Cairo, and the translation efforts of the French planetary tables by the 'ulema' as a part of Ottoman-Islamic knowledge. Here, the author explores the world of scholars who did not participate in the new institutions, groups and relations, however, nonetheless played pioneering roles in the making of certain technologies in late Ottoman-Egyptian society.

The author devotes Part III, "Islam, Science and Authority", to clarifying the relation and interplay between the religion of Islam, science (astronomy) and authority - mainly on the basis of Arabic press - and demonstrates how discussions of astronomy in the Arabic periodical press contributed to defining new terms of debate regarding science and religion through two journals: al-Muqtataf, issued by the students of Protestant missionaries and al-Manar. It also underlines the efforts to make the prayer times uniform as a measure of piety, delineates the beginning of Ramadan debates and the establishment process of the Lunar Crescent Observation.

All in all, Daniel A. Stolz's book is a welcome contribution to the history of the Middle East in general, and late Ottoman Egypt in particular. The strongest side of the book is that it provides the reader not only with a new well-balanced perspective of complex multifaceted and interconnected web of relations for the 19th century Ottoman Egypt, but it also shows through what ways scientific activity changed and transformed the society, profile of scholars, and scientific institutions, leading to the emergence of a synthesis between old and new, local and global. Another point that makes Stolz's book valuable is its use of a wide range of first and secondary sources consisting of archival catalogues in Egypt, USA, Paris, London, Cambridge; journals and newspapers in Arabic, English and French; rich manuscripts in Arabic; and up-to-date secondary literature. Therefore, with its new perspective and rich sources, Daniel A. Stolz's book *The Lighthouse and the Observatory: Islam, Science, and Empire in the Late Ottoman Egypt* can be considered as a successful work to serve as a model for prospective studies in the field.