

## The Lighthouse and the Observatory

An observatory and a lighthouse form the nexus of this major new investigation of science, religion, and the state in late Ottoman Egypt. By linking astronomy, imperial bureaucrats, traditionally educated Muslim scholars, and reformist Islamic publications, such as *The Lighthouse*, Daniel Stolz reveals new connections between the making of knowledge, the performance of piety, and the operation of political power through scientific practice. Contrary to ideas of Islamic scientific decline, Muslim scholars in the nineteenth century used a dynamic tradition of knowledge to measure time, compute calendars, and predict planetary positions. The rise of a “new astronomy” owed much to projects of political and religious reform: from the strengthening of the multiple empires that exercised power over the Nile Valley; to the “modernization” of Islamic centers of learning; to the dream of a global Islamic community that would rely on scientific institutions to coordinate the timing of major religious duties.

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# The Lighthouse and the Observatory

*Islam, Science, and Empire in  
Late Ottoman Egypt*

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Daniel A. Stolz  
*Northwestern University*



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*For Judy*

## Contents

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<i>List of Figures</i>	page ix
<i>List of Tables</i>	x
<i>Acknowledgments</i>	xi
<i>Note on Chronology and Transliteration</i>	xiii
<i>Abbreviations</i>	xiv
Introduction: Astronomy, Empire, and Islamic Authority at the End of Days	1
<b>Part I Geographies of Knowledge</b>	21
1 The Deaf Shaykh: Scholarly Astronomy in Late Ottoman-Egyptian Society	23
2 Astronomers and Pashas: Viceregal Imperialism and the Making of State Astronomy	74
<b>Part II Objects of Translation</b>	119
3 Positioning the Watch Hand: ‘Ulama’ and the Making of Mechanical Timekeeping in Cairo	121
4 Positioning the Planets: Translating French Planetary Tables as Ottoman-Islamic Knowledge	145
<b>Part III Islam, Science, and Authority</b>	171
5 Orbits of Print: Astronomy and the Ordering of Science and Religion in the Arabic Press	173
6 The Measure of Piety: Making Prayer Times Uniform	207

viii	Contents	
7	Different Standards: The Ramadan Debates and the Establishment of Lunar Crescent Observation	243
	Conclusion: Astronomy, the State, and Islamic Authority at the End of the Day	271
	<i>Appendix: Muhammad al-Khudari al-Dimyati's Introduction to his Commentary on the Brilliancy of the Solution of the Seven Planets</i>	279
	<i>Bibliography</i>	282
	<i>Index</i>	307

## Figures

---

1.1	Colophon of an 1889 copy of Muhammad al-Khudari's <i>Commentary on the Brilliancy</i>	page 32
1.2	Table for the conversion of dates, from Muhammad al-Khudari's <i>Commentary on the Brilliancy</i>	44
1.3	Position of the planets in the zodiac at the vernal equinox, 1239 (1824), from Muhammad al-Khudari's <i>Commentary on the Brilliancy</i>	48
1.4	Illustration of an eccentric model of solar motion, from Muhammad al-Khudari's <i>Commentary on the Brilliancy</i>	65
2.1	Mahmud al-Falaki's drawing of the total solar eclipse of 1860 at Dongola	75
2.2	Isma'il al-Falaki's account of the solar eclipse of 1860	76
2.3	Apparatus for testing the Brunner geodetic base-bar	90
2.4	"Astronomical map" of Qalyubiyya Province	99
2.5	Detail of "astronomical map" of Qalyubiyya Province	101
2.6	Mahmud al-Falaki, 1882	113
3.1	Table for the correction of timepieces according to the position of the sun in Cairo	133
4.1	Introduction to the Damietta translation of Lalande's <i>Abrégé</i> , 1808	153
4.2	Initial steps of Muhammad al-Khudari's calculation of the vernal equinox for 1239 [1824]	159
5.1	Extract from Muhammad Tawfiq Sidqi's essay on "Astronomy and the Qur'an"	202
6.1	Timekeeping table from Egyptian State Almanac, 1935	219
6.2	An effendi, 1931	227
6.3	Muhtar Pasha with the eclipse expedition of 1882	229
6.4	Telegraphic connection of observatory and timekeeping signals in Egypt, 1907	235



## Tables

---

4.1	Calculating the vernal equinox according to the technique of Muhammad al-Khudari	<i>page</i> 158
4.2	Calculating the vernal equinox according to the method of Lalande	159

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## Note on Chronology and Transliteration

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One reason that people needed astronomers in late Ottoman Egypt was to make sense of the relationship between several different calendars that were commonly in use. For the convenience of today's readers, I have simplified this situation: in general, I use Gregorian dates. When discussing a date given in a text, however, I use the calendar employed by the text's author, which is the *hijrī* ("Islamic") system, unless otherwise indicated. The Gregorian date follows in parentheses. While some degree of confusion is inevitable, my hope is that it might deepen the reader's appreciation for the necessity of the chronological knowledge that was cultivated by many of the people whose stories are told in this book.

Transliteration of Arabic terms follows the style of the *International Journal of Middle East Studies*. Outside of technical terms (e.g., *mīqāt*), diacritical marks are generally omitted, excepting 'ayn and non-initial *hamza*.

Transliteration of Ottoman Turkish terms follows modern Turkish orthography where possible.

## Abbreviations

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Azhar	al-Maktaba al-Azhariyya, Cairo
<i>BjHS</i>	<i>British Journal for the History of Science</i>
BnF	Bibliothèque nationale de France
<i>BSOAS</i>	<i>Bulletin of the School of Oriental and African Studies</i>
CEDEJ	Centre d'études et de documentation économiques, juridiques et sociales (Cairo)
<i>CSSH</i>	<i>Comparative Studies in Society and History</i>
DWQ	Dar al-Watha'iq al-Qawmiyya (Egyptian National Archives)
ENL	Egyptian National Library
<i>IjMES</i>	<i>International Journal of Middle East Studies</i>
IRCICA	İslam Tarih, Sanat ve Kültür Araştırma Merkezi
<i>JAOs</i>	<i>Journal of the American Oriental Society</i>
<i>JRAS</i>	<i>Journal of the Royal Asiatic Society</i>
Michigan	Special Collections Library, University of Michigan
<i>MNRAS</i>	<i>Monthly Notices of the Royal Astronomical Society</i>
QNL	Qatar National Library
RAS	Royal Astronomical Society
RGO	Royal Observatory, Greenwich

For scientific manuscripts in the ENL, I have adopted the sub-collection and topical abbreviations used in King's *Survey*.

DM	Dar al-Kutub: Miqat
K	Astronomy and Mathematics (MSS acquired between 1930 and 1950)
TM	Tal'at: Miqat
TR	Taymur: Riyada
TR	Tal'at: Riyada
ZK	Zakiyya