

BOOK REVIEWS

***Nebel und Sternhaufen – Geschichte ihrer Entdeckung, Beobachtung und Katalogisierung*, by Wolfgang Steinicke (Books on Demand GmbH, Norderstedt 2009), pp. 676, 350 illustrations. ISBN 978-3-8370-8350-7 (hard cover), €59.90, 21.6 × 14.8 mm.**

This is the text of a thesis submitted to Hamburg University by the historian of astronomy and deep-sky observer Wolfgang Steinicke. He is well known for his web page on the NGC/IC catalogues, and the present book *Nebulae and Clusters - the History of Their Discovery, Observation, and Cataloguing* presents his in-depth research on the genesis of John Louis Emil Dreyer's *New General Catalogue* and its supplemental *Index Catalogues*.

While there are many books dealing with Messier's catalogue—K. Glyn Jones' book *Messier's Nebulae and Clusters* (1991) is especially relevant for historically-minded readers—there is nothing equivalent for the NGC and its IC supplements, yet they contain >100 times more objects and are the concerted effort of many astronomers. Dreyer compiled his catalogue from many sources, without giving precise references. Steinicke's immense task was to reconstruct the genesis of the NGC, and he presents the various discoverers through short biographies, describes their instruments, and determines their success rate (i.e. the number of verified nebulae that were announced by a given observer for the first time). Only for 34 objects was the author unable to uncover the history of discovery, due to the fact that Dreyer also used private communications, and most of his correspondence has not been recovered.

The reading of this book brings forth a panorama of professional and amateur astronomical activities in the second half of the nineteenth century. Many excerpts from research papers, letters and observing books are quoted. Besides the Herschels, the activities of Lord Rosse and his collaborators, Wilhelm Tempel, Edward Swift and Edward E. Barnard, are extensively described, but not a single contributor—even when his success rate was extremely modest—was neglected. The final 100 pages deal with special aspects of nebular observations, the relation between drawings and photography, the discovery of spiral pattern, and the controversy about the existence of the nebulae surrounding the Pleiades.

The small print text allowed Steinicke to include an enormous amount of information—about five times that of a normal book. The author has provided an indispensable work on the genesis of one of the most important celestial catalogues, and it can be recommended to any serious deep-sky observer and historian of astronomy. An English edition of this book will be published by Cambridge University Press in the near future.

Another product of Steinicke's analysis, the creation of an historical NGC, with a catalog of its objects and documentation of their often complex history of discovery will be provided on the web at the following site: <http://www.ngcicdetectives.org/>

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***Eastern Astrolabes, Historic Scientific Instruments of the Adler Planetarium & Astronomy Museum. Volume II*, by David Pingree (Chicago, Adler Planetarium & Astronomy Museum, 2009), pp. xxii+268, ISBN 1-891220-02-0, US\$75:00, 285 × 224 mm.**

This is the second volume of the *Historic Scientific Instruments of the Adler Planetarium & Astronomy Museum* (see Figure 1); the first volume, by R. Webster (2007), was about their *Western Astrolabes*.

The astrolabe is a very important astronomical instrument

of the Medieval Period, and there are several good books about it, including Morrison's *The Astrolabe* (2007), which I reviewed earlier in the year in this Journal (see Volume 12, page 85).

The author of *Eastern Astrolabes ...*, David Pingree (1933–2005), is a former Professor from Brown University, and was a very prominent figure in the study of ancient astronomy, and particularly Indian astronomy (see Burnett et al., 2004). His bibliographical study (Pingree, 1970-) of Sanskrit works on astronomy and mathematics is highly appreciated, even though his interpretation of Indian astronomy was sometimes controversial (e.g. see Ohashi, 2002; van der Waerden, 1980).

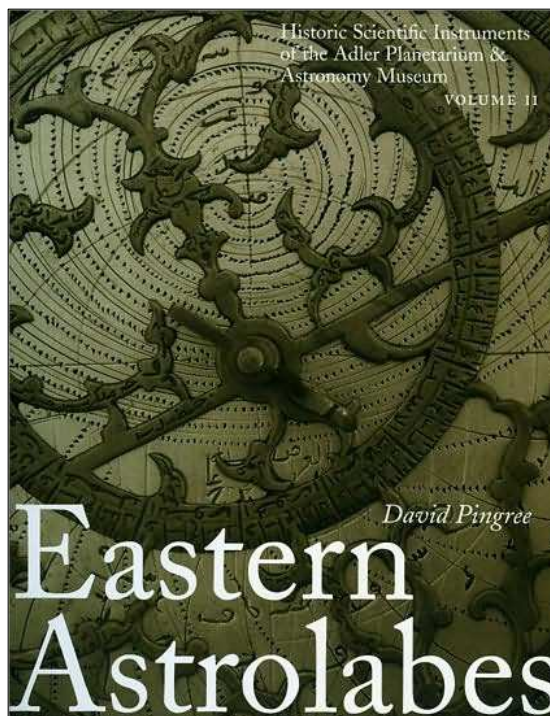


Figure 1: The front cover of *Eastern Astrolabes*.

The present volume is an annotated catalogue of the Eastern astrolabes in the Adler Planetarium & Astronomy Museum in Chicago, and it contains several clear pictures and a detailed commentary. The main part of this book consists of the following catalogues:

- (a) Maghribi [an Arabic word meaning 'western' which roughly corresponds to the Islamic World in Spain (formerly) and western North Africa] Astrolabes.
- (b) Mashriqi [an Arabic word meaning 'eastern' which roughly corresponds to the Islamic World in the Middle East, West Asia and South Asia] Astrolabes.
- (c) Sanskrit Astrolabes.
- (d) Other [Astronomical] Instruments.

Besides images of the front and back, each component of the astrolabe is shown in high-resolution pictures. The photographs are so clear that inscriptions in Arabic, Sanskrit, etc., can easily be read. The English commentary is detailed, and star-names, city-names, etc., which are inscribed on the astrolabes, are well identified. In addition, a thorough list of references is given for several instruments, which will be useful for future researchers.

As this volume is intended to be an annotated catalogue of the astrolabes, the general theory of the astrolabe is not explained here. So readers who are not familiar with the

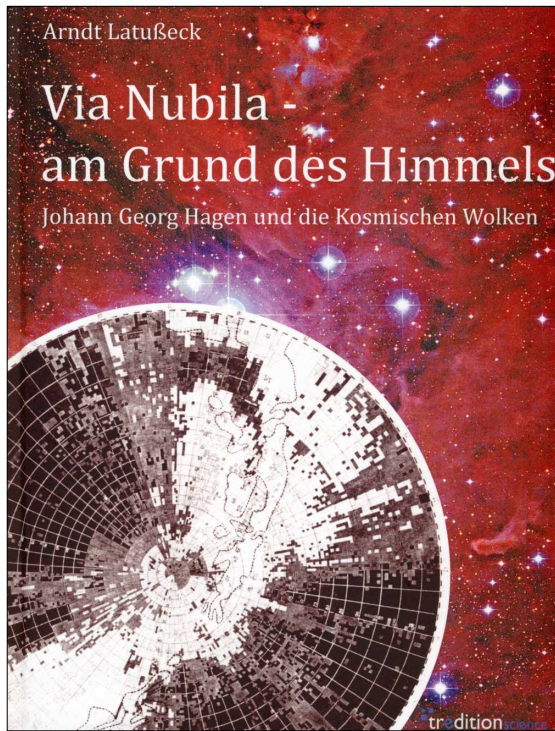


Figure 2: Front cover of Latußeck's book.

astrolabe are advised to read a theoretical book, such as Morrison (2007), first, and then study the actual examples included in *Eastern Astrolabes*. For those readers who can read Arabic or Sanskrit, this volume is a veritable 'goldmine' for their own detailed investigations.

Although the title of this volume is the *Eastern Astrolabes*, several other astronomical instruments, such as quadrants, qibla [direction of the sacred Kaaba in Mecca] indicators, sundials and celestial globes are also described. They will also interest researchers of classical astronomical instruments.

The admirable printing technology of this volume enables us to study the construction of the astrolabes in detail, even if we cannot access the actual instruments. According to the Introduction in this volume, some researchers are preparing catalogues of the astrolabes in other areas, so we can expect that the study of the astrolabe will be developed further.

This is a masterpiece from a 'giant' researcher of the twentieth century. Now, Pingree's disciples are also quite active in the field of the history of mathematics in India (see Hayashi et al., 1997; Plofker, 2009).

References

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***Via Nubila - am Grunde des Himmels. Johann Georg Hagen und die Kosmischen Wolken*, by Arndt Latußeck (tradition GmbH, Hamburg 2009), pp. 577, 84 illustrations (some in colour). ISBN 978-3-86850-472-9 (hardcover), €59.00, 22.7 x 17.2 mm.**

This is the text of a thesis submitted by the historian of astronomy and deep-sky observer Arndt Latußeck to Hamburg University. The author will be known to readers of this journal through his related publication "William Herschel's fifty-two fields of extensive diffused nebulosity" (*JAH*², 11, 235, 2008). The cosmic clouds are one of the most elusive observational phenomena in the sky. Their discoverer, Austrian-born Jesuit astronomer Johann Georg Hagen (1847–1930), started in 1910 a visual study of all nebulae listed in Dreyer's NGC, which resulted in a *Preparatory Catalogue for a Durchmusterung of Nebulae*. As a by-product of these observations, he often perceived a background of faintly luminous 'cosmic clouds', which seemed to occur more frequently towards the galactic poles. He often encountered harsh criticism, because these clouds could not be registered on photographic plates, and seen only by a few astronomers. Hagen noted that William Herschel had seen some of these areas "... affected with milky luminosity ...", and Barnard had been able to photograph dark clouds in and near the Milky Way.

The book *Via Nubila - At the Bottom of the Sky. Johann Georg Hagen and the Cosmic Clouds* (see Figure 2) describes Hagen's life and character, and the history of the discovery of and research into 'Hagen's clouds' up to the present. While Hagen sought support in England (without success), the US (with some success) and continental Europe (with some resonance, especially in German-speaking countries), the case was not settled at the time of his death. It was Friedrich Becker who carried out the final observations and published Hagen's *Rassegna delle Nebulose Oscure*. Dorothea Klumpke, the widow of the English astrophotographer, Isaac Roberts, published photographs of Herschel's fields, and offered rewards to those who would conduct research on cosmic clouds. The French amateur, Marcel de Kerolr, tried to prove their existence by photographic material, and the Vienna Observatory Director Kasimir Graff observed such clouds visually in the Ori-Tau region. However, in the early 1950s, Becker in collaboration with Joseph Meurers, was able to prove on the basis of artificial star fields that most of Hagen's findings were due to contrast phenomena in star-rich and star-poor regions. Nevertheless, in some cases there were also correlations with galactic cirrus, and the case is not completely settled.

The author has thoroughly researched the existing material, not only published sources, but also extensive archival material, observing books and correspondence, kept at the Vatican Observatory, at the estate of Friedrich Becker, and other institutions. The present book constitutes an exhaustive study of one of the most controversial observing phenomena in twentieth century astronomy. It is an admirably complete case study and makes fascinating reading—unfortunately only for those who are still familiar with what was the 'lingua franca of science' in the early twentieth century.

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