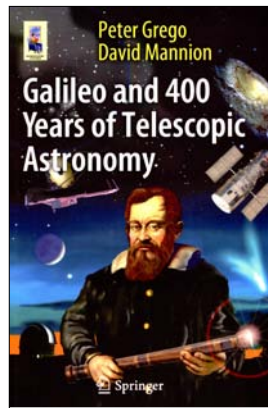


## BOOK REVIEWS

**Galileo and 400 Years of Telescopic Astronomy**, by Peter Grego and David Mannion (New York, Springer, 2010), pp. x + 300, many b&w and color figures, ISBN 978-1-4419-5570-8, 235 × 155 mm, US\$29.95, €32.05.

This is a book in the Astronomers' Universe series, featuring popularly-written texts that cover many topics, from the Big Bang to the future of the Universe, from terraforming to Tunguska. The book under review is one of the few of this series dealing with astronomical history. The authors are an amateur astronomer involved in planetary observations (and a writer of other books in this series), and an astronomy teacher.



At first glance, the bearded person on the cover looks as if he is a pop singer accompanying himself on a guitar. But no, the shiny thing is nothing but his perspicillum, held by Galileo, with an illuminated dome in the background, and the HST and the JWST floating in the air.

While Galileo is mentioned specifically in the title, and is the subject of an extensive chapter, the other chapters cover ancient astronomy, Newton, the Solar System, the Universe beyond the Solar System and non-optical astronomy. The book contains about 170 figures and some tables, and in addition, a few 'hands-on' experiments (like building a replica Galilean telescope, sketching lunar craters or observing the phases of Venus). The final 50 pages are filled with a listing of useful websites, pages of physical units and basic mathematics, a glossary, and a (rather incomplete) index. The narrative progresses at a quite fast pace, since the text is interrupted by tables and illustrations—some of which are quite rare pictures (although it may be questioned if the fantasy portrait of Robert Hooke should not have been replaced by sounder information). At the end of the book, listings of important books, facts and internet resources are given.

The emphasis of the book clearly lies on the Solar System—which is the first author's specialty—while stars, our Galaxy and the Universe beyond are treated on a mere 28 pages. Nevertheless, for someone who looks for a primer in astronomical history, this book is certainly an attractive option, and a quite good one since the number of flaws is remarkably small. Let me just mention two of these.

On page 212, the authors give the name of the Königsberg photographer of the corona during the 1851 solar eclipse as *Mikhail* [sic] Berkowski. Even the authors of a recent thorough study could not figure out his first name (see <http://www.museum-digital.de/thue/pdf/publicinfo.php?oges=566> for a picture and the reference.), but I just noted that the address on a card cabinet of about 1860 offered by eBay indicates that "J. Berkowski" is correct.

Among the German Moon-mappers, on page 132 the authors list Schröter, Mädler, and Löhrmann. However, not all German names have umlauts: for example, Wilhelm Lohrmann was the founder of the observatory of Dresden Technical University which now carries his name.

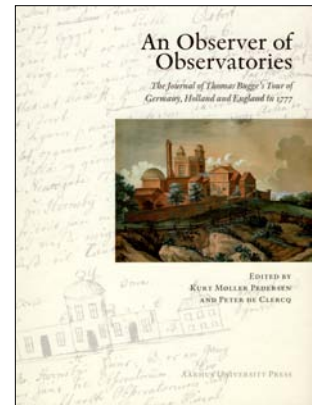
Quite a high percentage of the information gathered in the book seems to have been taken from the web, and detailed bibliographic information is lacking in the text. Yet some readers may be tempted to seek further information by surfing the web on their own.

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**An Observer of Observatories: The Journal of Thomas Bugge's Tour of Germany, Holland, and England in 1777**, edited by Peter De Clercq and Kurt Møller Pedersen (Aarhus, Aarhus University Press, 2010), pp. 220, many figures, ISBN-13: 978-87-7934-311-5, 275 × 215 mm, €40.95.

Several travel journals of astronomers offer glimpses of the state of astronomy in the second half of the eighteenth century. The first, and least known, is that of Bengt Ferrner (1724–1802), Professor of Astronomy at Uppsala, who describes trips to the Netherlands and England in 1758-1762, even though his account was published only (in Swedish) in 1956. Joseph-Jérôme de Lalande (1732–1807) wrote accounts on his trips to England in 1763 (available in English since 2002 on-line at <http://www.watkinsr.id.au/Lalande.pdf>), and Holland in 1774 (which remains unpublished). Jean (Johann) Bernoulli III (1744–1801), son and grandson of mathematicians of the same name and an astronomer at Berlin Observatory, wrote and published *Astronomical Letters Where an Idea is Given About the Present State of Practical Astronomy in Various European Cities* (which was originally written in French), and he continued this task with *Letters on Various Subjects Written During a Voyage Through Germany, Switzerland, Southern France and Italy in 1774 and 1775*.



Almost a quarter of a century later, the Danish astronomer, Thomas Bugge (1740–1815), Professor of Mathematics and Astronomy at the University of Copenhagen, travelled through Germany and on into post-revolutionary France, mainly to discuss the introduction of the metric system with French authorities. His 1798 report, first published in Danish, was soon translated into German and English. Bugge's *Travels in the French Republic Containing a Circumstantial View of the Present State of Learning ... in that Country* (1801) was a well-informed and objective report that was reissued by M.P. Crosland at the MIT Press in 1969.

But there exists another, earlier report by Bugge, written in 1777, i.e. almost at the same time as those by Bernoulli, giving supplementary information on activities in Germany, the Netherlands and England. At the time, Bugge was newly appointed to the Chair at the University of Copenhagen, and was keen to modernize the existing observatory on top of the famous *Round Tower*. Thus he undertook a trip through Germany to Holland and England to learn more about the state of astronomy and instrument-making in these countries. In his travel diary he noted what he saw, persons that he met and which books and instruments he bought. He also included dozens of sketches and drawings, which add greatly to the historical value of his manuscript.

This document lay undiscovered in the Royal Library in Copenhagen until 1969, when Kurt Møller Pedersen found it and prepared a provisional transcript. Forty years later, Bugge's diary is now available in an English translation, with an Introduction and notes by Pedersen and fellow-historian of science, Peter de Clercq. While Bugge's actual text covers hardly a quarter of any page, its margin is usually filled with his drawings and sketches of houses, instruments etc., and the remaining space is filled with portraits of academics and instrument makers, and with images of buildings and instruments, many of which survive in museums today. Brugge visited instrument-makers like Peter and George Dollond and Jesse Ramsden and clock-makers like John Arnold and Alexander Cumming. In Oxford, he visited Thomas Hornsby and the new Radcliffe Observatory, which was still under construction (and his sketch, showing a semispherical dome, is far from its later appearance). In Cambridge he saw the observatory at St. John's College; in Richmond the newly-established Kew Observatory; and at Greenwich Nevil Maskelyne

guided him through the Royal Observatory, where he saw marine chronometers by Thomas Mudge, and John Harrison's "... large and very composite ..." time-keepers H1 and H4.

The editors have done a magnificent task identifying individuals and instruments, and there are 249 footnotes to assist the reader in finding his/her way through the scientific world of 1777. This richly-illustrated volume will be of value to anyone who is interested in the history of science and technology in the eighteenth century.

Note 1. Although biographical material on Bugge can be found in the Danish and Swedish Wikipedia, he is not included in Thomas Hockey's 2007 *Biographical Encyclopedia of Astronomers*. He was one of the observers of the 1761 Venus transit, and his astronomical activities reached their peak in 1781-1783, after the refurbishment of Copenhagen Observatory. Later, he became Head of the Geodetic Survey in Denmark, Lecturer in Mathematics and an author of textbooks in mathematics and astronomy. A first biographical sketch, strangely not included in the bibliography of the book under review, was written by Brugge's son, Mathias, and was published in Linddenau's *Zeitschrift für Astronomie*, Volume II, pp. 245-250 (1816). There, on page 246, we find the sentence "A detailed description of this voyage [of 1777] was left behind as a manuscript." It is strange that more than 150 years had to elapse before it was discovered in the Royal Library in Copenhagen.

Note 2. The original manuscript of Bugge's diary can be inspected at <http://www.kb.dk/permalink/2006/manus/659/dan>.

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