

Albert Van Helden, Sven Dupré, Huib Zuidervaart, and Rob van Gent, eds.  
*The Origins of the Telescope.*

History of Science and Scholarship in the Netherlands 12. Amsterdam: KNAW Press, 2010.  
vi + 368 pp. €49. ISBN: 978-90-6984-615-6.

25 September 1608. Perhaps this historic date should be recognized as one of those identifiable moments ushering in a groundbreaking development in the history of science. On that day, we are reminded several times in this book, the *Gecommiteerde Raden* of the province of Zeeland, seated in Middelburg, wrote a letter of recommendation for Hans Lipperhey declaring that the “bearer of this letter” has found “a certain art with which one can see all things very far away as if they were nearby, by means of sights of glasses, which he pretends to be a new invention” (11). Although this document is the oldest surviving mention of the telescope, it does not actually account for its invention. Lipperhey was not even granted a patent for this “certain art.” Scholarship has demonstrated over the last few decades the multiple “origins” (the *s* here is important) of this instrument. This book, therefore, is not trying to settle for good the priority dispute as to who specifically invented the telescope. It is rather looking at the numerous technical, mathematical, and social origins of one of the better-known instruments of science.

25 September 2008. This collection of sixteen essays is published as the proceedings of a conference held at the Roosevelt Academy in Middelburg, exactly

400 years after Lipperhey received his now-famous letter of recommendation — which he delivered in person to the Dutch States General in The Hague. The book's themes provide a good and useful review on the current state of knowledge regarding the telescope's first few decades of use and dissemination. A discussion of the telescope's "true inventor" fittingly opens the volume (Huib J. Zuidervaart), but as I mentioned earlier, this topic does not outweigh the mathematical, material, and sociocultural origins of the instrument. Optics is studied from the theoretical perspective of Kepler (A. Mark Smith, Antoni Malet), the speculative "projection" of an Elizabethan polymath, William Bourne (Sven Dupré), and the practical lens-grinding proficiency of Isaac Beeckman (Fokko Jan Dijksterhuis), who recognized "how difficult it is to learn a craft by oneself perfectly" (266). Three important essays focus on the material culture of early telescopes. One draws upon the careful inspection of still-extant seventeenth-century Italian lenses to put forward key assumptions about their provenance, grinding and polishing process, and optical performance (Giuseppe Molesini). A second one also uses optical analysis to follow the development of lens-grinding techniques from the medieval to the early modern period. This study helps understand why the introduction of a diaphragm on the very best seventeenth-century lenses provided — somewhat surprisingly — clear telescopic images even when the lenses displayed serious aberration (Rolf Willach). The last one lists the twenty oldest surviving telescopes produced prior to 1650 (Marvin Bolt and Michael Korey). The goal in creating an international database is to "enable classification of unsigned telescopes, detection of historic trends in the manufacture of lenses and supplementation of other forms of evidence on the dissemination of craft knowledge" (233). The sociocultural milieu surrounding the invention of the Dutch telescope is explored in chapters examining the city of Middelburg, "cradle of the telescope" (Klaas van Berkel), the patronage influence and significance of Count Maurits of Nassau's court (Rienk Vermij), and the Far East encounter with the famed instrument (Henk Zoomers). Other accounts, including music and medicine, seek to broaden the epistemic function of eyeglasses in early modern Europe (Katrien Vanagt, Eileen Reeves, Albert Clement). Galileo, finally, receives his share of attention. One essay looks at Galileo's telescopes and the very short window of two years (1609–11) during which time everything new that could be discovered was (Albert van Helden). Another one, underscoring one crucial, often forgotten letter by Paolo Sarpi, reconstructs Galileo's own narrative account of his "discovery" of the telescope (Mario Biagioli).

This collection of essays and accompanying bibliography are extremely useful and instructive to anyone less familiar with the historical, technical, and cultural studies related to the birth and early years of the telescope. I found, however, the overall scholarship uneven and the texts often repetitive — perhaps something unavoidable for such a thematic edited volume. The typesetting is also imperfect (I've noted dozens of typos and other minor formatting errors without looking for them). Lastly, I was puzzled by the suggestion, here and there, that the telescope was the first "functional scientific instrument" in modern history (11). It is not clear to me whether this claim is supported by the editors, and if it should be considered one

of the book's key underlying assertions. Such an important line of argument should have been better addressed in order to avoid any confusion about the historical and epistemic nature of the telescope.

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