Eileen A. Reeves. *Galileo's Glassworks: The Telescope and the Mirror*. Cambridge, MA: Harvard University Press, 2008. 232 pp. index. illus. $21.95. ISBN: 978–0–674–02667–4.

The earliest encounters with the telescope, from the first application for a privilege by a spectacle-maker in Middelburg in September 1608 to the printing of the first celestial observations with this instrument in Galileo's *Sidereus Nuncius* in Venice in March 1610, have been construed in terms of breathtaking speed. Historians have marveled at the speed with which the instrument spread from Middelburg across Europe (for which the contingent fact of the whole world's having gathered in its place of invention, the Netherlands, for a peace conference was helpful); at the speed with which Galileo rushed in to publication of his telescopic discoveries; and, finally, at the speed with which he continued his telescopic observations — not to speak of his unwillingness to share his telescopes with other astronomers — even after the publication of *Sidereus Nuncius* in order to monopolize all celestial discoveries yet to make. Nevertheless, as we all know too well, nothing travels as fast as rumors and gossip. This fastness is precisely at the root of the tardiness with which Galileo reacted to the invention of the telescope, as Eileen Reeves argues in her newest book, *Galileo's Glassworks*. Reeves establishes that Galileo and his friend, Paolo Sarpi, already knew of the existence of the telescope by November 1608. But it was months before they were moved to action and tried to replicate the Dutch invention. Why? Reeves is not interested in sorting out the mere rumors from the hard historical facts. The strength of her approach in accounting for Galileo's reluctance to become involved in the route that would bring him fame is that she convincingly shows that the miscontrual of historical events and facts, inherent in the circulation of gossip and rumors, shaped the thoughts and beliefs about the telescope that were the cause of Galileo's otherwise strange idleness. The central argument of Reeves's book is that Galileo let time pass because he had every reason to believe that the new story was but an old tale. He was convinced that a mirror was involved in the Dutch telescope.

The Dutch telescope was made of two simple lenses, one convex and one

concave. The design of the instrument was obvious to all who had the opportunity to see it, thus not so to Galileo and his circle, who still had to rely on rumors for several months after they had first heard about the Dutch invention. Lacking the precise details of the design of the Dutch telescope, Galileo failed to distinguish the news from Holland from older tales about alleged telescopic devices. Reeves, a professor of comparative literature, skillfully brings to light stories circulating in travel and other literature in which telescopic properties were invariably attributed to mirrors. The Pharos, the lighthouse in ancient Alexandria on top of which an enormous mirror was positioned with which one was able to see enemy ships from far away (and to set them on fire), is perhaps the most familiar incarnation of legendary telescopic catoptrics, but translated in Latin as late as 1575, it was preceded by various medieval versions of the same device. Reeves shows that to Galileo as well as his contemporaries, the Pharos offered a cultural template for the new invention from Holland. Moreover, not only did Galileo and his friends blend Dutch rumors with Alexandrian stories, but Reeves also argues that the literary motifs had a correlate in sixteenth-century catoptrical experimentation. From Ettore Ausonio and Giovanni Battista della Porta nearby to Thomas Digges and William Bourne in faraway England, mathematicians experimented with lenses and mirrors in the hope to find a telescopic combination. According to Reeves, Galileo and his circle followed in their footsteps.

However, as convincingly as Reeves revises the chronology of the events in Galileo's life following the Dutch invention in September 1608, its more important contribution is to be found elsewhere. It is revealing that Reeves names Sarpi, not Francesco Maurolico or Johann Kepler, "a representative figure" (82) of the discipline of optics in Northern Italy around 1600. This book explores a culture of optics of which Galileo was a member. Only this recognition allows us to access and understand the concepts and models with which Galileo and his contemporaries approached a technological innovation. Reeves then shows us new ways in which to approach the interconnectedness of instruments and ideas crucial to our understanding of the disciplinary changes of early modern optics.

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