

works on the cycloid, which are not included in his published writings. To understand the meaning of the study of mathematics in the seventeenth century, in a context of uncertain practices on indivisibles and infinitesimals, one should not neglect geometry. One must also avoid an overly modernist approach, by putting aside the meaning of continuity and geometry for Descartes. Likewise, when Descartes, after reading Galileo in 1638, writes that his work is “built without foundation” (p. 164), it is not a question of mathematical physics but of “causes.” Unlike Galileo, Descartes was not concerned with an engineer’s physics—in the sixteenth-century Italian sense—but with a physics that needs a foundation in order to escape the simple issues of “useful and helpful.”

Schuster also offers plenty of details and information on the genesis of Descartes’s law of refraction and describes it in its historical context. The 1620s were a high moment of Descartes’s intellectual activity, devoted to work in the physical sciences and mathematics, and were capped by his *Regulae ad directionem ingenii*, in which he develops his method and philosophy. In Chapters 5, 6, and 7 Schuster draws a logical link from *Regulae ad directionem ingenii*, where Descartes’s thoughts find their proper organization, to their more accomplished expression in *Le monde; ou, Traité de la lumière*, a mix of scientific and methodological achievement (Chs. 10–12).

Schuster’s work, with its rich and innovative approach, emphasizes what could be called Descartes’s “work on science.” But there is a downside. I already noted that Descartes was not an “engineer.” It is important not to ignore the philosophical issues that led to his work from the beginning.

In this context, Mariafranca Spallanzani’s book *Descartes: La règle de la raison* introduces a Descartes occupied by a philosophical life nearly in the spirit of the ancients. This is a Descartes who does not put science alone at the center of his work but also belongs to the realm of philosophy. The essence lies in philosophical issues: how to remain oneself, while thinking by oneself, in the context of public activity and moral commitment. Spallanzani’s Descartes—as he appears in her research, which focuses less on technical aspects—is quite different from that of Schuster.

Spallanzani’s book consists of six chapters, each of them focused on a great Cartesian text, from *Regulae to Principae*. Descartes appears here as a philosopher—not as a philosopher of systems, which renews the understanding of Cartesian thinking, but as a philosopher in action. In addition, in the way he leads his own life and through his writings, he teaches us what a real philosophical life, conducive to “the happy life,” might be.

I would strongly recommend reading the two books simultaneously. This will bring the reader directly into the Cartesian practice of science—including its debates and contradictions—while at the same time presenting the new themes emerging from John Schuster’s work. One cannot escape the philosophical problems that arise from Descartes’s thinking. To do so would be to ignore its basic foundations, its proper heart: What about the question of Truth? What about the Finite and the Indefinite as described in the theory of ideas that makes the Infinite (the name of God) appear as the proper transcendent Being overlooking the Indefinite World?

The two books should be read together, because they offer much food for thought and, once again, testify to the richness of Descartes’s works and thought.

Michel Blay

Marian Turek (Editor). *Johannes Hevelius and His Gdańsk*. 251 pp. Gdańsk: Gdańskie Towarzystwo Naukowe, 2013. \$197.64 (cloth).

The celebrations of the four hundredth anniversary of the birth of Johannes Hevelius (1611–1687) have given a new impulse to the study of the life, work, and context of this early modern astronomer. Among the studies recently published, the proceedings of a 2011 conference held at the Polish Academy of Sciences (Gdańsk, 15–18 September 2011) have especially contributed to locating Hevelius in the intellectual history of astronomy (see R. Kremer and J. Włodarczyk, eds., *Johannes Hevelius and His World: Astronomer,*

Cartographer, Philosopher, and Correspondent [Polish Academy of Sciences, 2013]). This volume, edited by Marian Turek, disseminates the results of another conference, organized under the auspices of the Societas Scientiarum Gedanensis (Gdańsk, 25 November 2011). It complements the former publication by focusing on the socioeconomic and cultural environment of Hevelius and his astronomy. It is a dense and informative collection of almost twenty papers. Its strength resides in the contributors' rich knowledge of early modern Gdańsk, as well as their familiarity with its primary sources, the manuscript and archival documents.

The first part of the volume treats various facets of Hevelius's public and private life as a brewer and entrepreneur in the mercantile and maritime Baltic (Balcewicz and Błażejowski), as a member of the Old Town brewers' guild and a city councilor (Włodarski), as the owner of a scientific printing house (Siemiginowka), and as a proficient observer of the heavens and an inventor of instruments and clocks (Gnaciński and Szychliński).

The second and third parts of the volume are dedicated to seventeenth-century Gdańsk and its cultural life and institutions. It presents many *curiosa*, such as the correct determination of the location of Hevelius's houses (Dargacz) and his family tree (Januszajtis). The fire of 26 September 1679 that destroyed Hevelius's houses and observatory is carefully reviewed (Otto); reactions to this event reveal Hevelius's wide international network of friends and supporters, as well as his ethical and religious attitude in the face of this misfortune. A chapter on the teaching of natural subjects at the Gdańsk Academic Gymnasium, where Hevelius received his early education, focuses on the Peripatetic views of the professor of philosophy Adrian Pauli (Brodnicki); alas, a study of Hevelius's most original professor, the mathematician Peter Krüger, was not included.

The European dimension of Hevelius's work emerges especially from the fourth part of the book, which is devoted to his interactions with the Republic of Letters, powerful patrons (the kings of Poland and France), and scientific institutions (the Royal Society and the Académie Royale des Sciences). Hevelius shared ideals of collaboration and exchange with British and French correspondents such as Wallis, Oldenburg (Beeley and McLean-Flander), and Picard (Débarbat). He exchanged data and views with Jesuits such as Riccioli and the Warsaw court mathematician Kochański, who also mediated between him and the Accademia del Cimento in Tuscany (Lisiak). Consideration of scientific controversies is not limited to the famous polemic initiated by Hooke over the accuracy of Hevelius's observations. A chapter examines a controversy over cometary observations and theory (Milani) in which Hevelius's understanding of comets as corruptible bodies was disputed by two French scholars, Petit and Auzout, who sought to determine the regularity of the motions of these bodies they saw as eternal.

There is some repetition, as is almost unavoidable in a collected volume. Nonetheless, *Johannes Hevelius and His Gdańsk* is a major contribution to our understanding of Hevelius and his world, dealing with both local and international dimensions. The multifaceted personality and activities of this scholar, entrepreneur, inventor, and politician help us to understand the inextricable intertwining of science, culture, and society in seventeenth-century Europe. The volume also fosters our understanding of the collaborative nature of early modern science, as well as the controversies encouraged by new media such as the printing press, scientific journals, and the creation of institutions such as the Royal Society and the Académie Royale.

Pietro Daniel Omodeo

Joseph Agassi. *The Very Idea of Modern Science: Francis Bacon and Robert Boyle.* (Boston Studies in the Philosophy and History of Science, 298.) xvii + 315 pp., bibl., index. Dordrecht: Springer, 2015. \$159 (cloth).

This detailed study delves into the complexity of the dawn of modern science by considering the interplay between ideology, methodology, metaphysics, and historiography. The driving question: Why does early history of modern science place so much emphasis on induction as the method of science? The answer: It was part of the ideology of science rather than the methodology of contemporary leading scientists—a fact that is disregarded even by current sociology of science. Joseph Agassi gives particular attention to Francis