

But all this does not mean that the justification of the war against the Indians resides in their infidelity, because already before Christ there was dominium—in a certain way legitimate and with a certain natural character—among the pagans. But that dominium among the Indians, says Sepúlveda, was of more intelligent servants over less intelligent servants. And this is not enough, because that dominium was not yet Christian; for this reason, it is legitimate that the pope fills that void by entrusting the task to Spain. In his reasoning Sepúlveda uses biblical, classical, and medieval sources; he wants to show that they were already used by renowned philosophers (Aristotle, Augustine, and Thomas) and jurists (Ulpianus and Gerson). In my opinion, the content of its arguments does not coincide with the medieval arguments, although the way of arguing is nourished by them to apply to the new reality of the recently discovered world.

This impeccable edition, prepared by Christian Schäfer, consists of an introduction to the historical-doctrinal context of the *Democrates Secundus*, the Latin text and its German translation, and appendixes that include, among others, a rich apparatus of notes to the text, a complete bibliography of sources and comments, and lists of terms, places, and persons. The volume is very useful for those interested in the thought of the second Scholastic, the natural law, and the Spanish philosophical-juridical tradition.

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doi:10.1017/rqx.2019.450

Steno and the Philosophers. Raphaële Andraut and Mogens Lærke, eds.
Brill's Studies in Intellectual History 276. Leiden: Brill, 2018. xii + 292 pp. \$126.

This erudite collection of essays fills a lacuna in studies of early modern natural philosophy and Nicolas Steno (1638–86). Most recent work has focused on Steno's anatomical discoveries or his conversion to Roman Catholicism and tenure as bishop of Titiopolis and vicar apostolic of Northern Europe. Because of his anti-Cartesian stance, Steno was characterized as “an object of derision,” trying to “prove Descartes wrong by slicing up brains” (2). Due to Steno's fideist letter to his former friend Spinoza, and uncharitable remarks about him by Gottfried Wilhelm Leibniz, Bishop Steno had also been “described as a spectacular scientific talent gone completely to waste” (2).

This book well rehabilitates Steno's reputation and reconstructs his place in late seventeenth-century natural philosophy. Stemming from a conference at the Institut des études avancées de Paris, the volume analyzes Steno's journey from natural philosophy to Catholicism; his anatomy set in the context of Cartesianism; his famous work in stratigraphy, paleontology, and natural history; and, finally, his place at the Medici court of Duke Ferdinando II. There are some particularly revelatory findings. Steno disagreed with Descartes's posited structure of the brain, particularly the description of the pineal gland and its function. Nonetheless, as Vasiliki Grigoropoulou's essay shows,

Descartes's mechanical model of the body and his application of geometry to nature exerted a "profound influence on Steno" (121). Indeed, as Troels Kardel demonstrated, Steno produced a geometric model of muscle contraction in his *Elementorum Myologiae Specimen* (1667), which demonstrated (correctly) that the swelling of contracting muscles is caused by the fact that they shorten. He was, however, "alone with his new myology," as he countered the "ancient conception according to which the shortening of a contracting muscle is caused by swelling" (147). In an erudite and interdisciplinary analysis, Kardel shows that Steno's discovery was also unrecognized due to misinterpretation of his diagrams, and because anatomists like Daniel Bernoulli (1700–82) conceived of his hypothesis as a kind of self-movement, antithetical to the mechanical philosophy postulating that bodies could only move due to other bodies and via contact.

There are also essays that analyze the nature of Steno's approaches to problems of natural philosophy. Justin E. H. Smith, for example, offers a thought-provoking analysis of the challenges Steno faced when establishing geology as a historical discipline and theorizing about past processes in nature, calling for historians to take a more synthetic approach in our investigations of the natural and human pasts. Smith convincingly demonstrates that Steno's interest "in natural philosophy was rooted in what might be called mythopoetic speculation," a religiously motivated thrust to his research (197). At the same time, Smith shows that Steno was a keen empirical observer sensitive to natural forms, looking to the fossil itself to infer processes that created it, distinguishing organic traces from the more crystalline forms that indicated inorganic mineral origins.

Steno's sensitivity to the subtleties of organic form to ascertain the origin of fossils was a much-debated issue in the seventeenth century. Early modern naturalists postulated that metals and minerals were spontaneously nurtured and generated in deep mines considered to be Mother Nature's womb, and stones that resembled living creatures could be generated without any organic origins. In other words, although we think of fossils as remains of living creatures, many seventeenth-century investigators thought these stones could be created spontaneously by nature as part of her inherent generative powers. Intriguingly, other stones curiously wrought by nature, such as trilobites, had been found that did not resemble any existing living creatures, giving weight to the idea that fossils were *lapides sui generis* or merely formed stones. Distinguishing between organic and inorganic was a tricky business, but as Steno could visualize muscle contraction, reducing it to geometric form, he could grasp fossilization processes in the traces of fossil stones.

Steno's virtuosic mind combined religious and natural-philosophical erudition, keen visual sensitivity, and kinetic genius in dissection, making him a difficult character to analyze in our specialized academic world. In its multivariate and considered approach, this volume goes a long way to reconstructing the quality and character of Steno's thinking and his intellectual milieu. I highly recommend it.

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doi:10.1017/rqx.2019.451