

According to Stephen Johnston, the astrological diptychs of Thomas Hood prove that he was involved with astrology, but the fact that they followed patterns established by Gerard Mercator and other Continental toolmakers shows the international influences in the creation of high-end instruments. Louise Devoy studies *aspecteria*, lists of astrological aspects, on various instruments; while she mentions the aspects that Johannes Kepler added to the traditional Ptolemaic aspects and the greater complexity engendered by the telescope, she does not let us know whether or not the new aspects were included in seventeenth-century and later *aspecteria*.

Marisa Addomine and Richard L. Kremer deal with astrological instruments in public spaces. Addomine looks at two clocks—the one presented by Giovanni Dondi to Gian Galeazzo Visconti and the Mantua clock. She notes that for astrological purposes the Dondi clock is easier to read than tables, while the Mantua instrument shows seasonal hours as planetary hours. Kremer examines the Görlitz Arachne, which he maintains was fashioned by Zacharias Scultetus in 1550, not at a later date by his brother Bartholomeus, as is usually claimed; like most sixteenth-century astrolabes it uses the Regiomontanus cusps and it measures astrological time, not civil time. Jim Bennett and Sylvia Sumira find references to the use of astronomical globes in astrology, but they cannot conclude that it was common practice. Richard Dunn considers the representation of instruments in pictures of astrologers but concludes that instruments were symbolic and didactic, not operational.

Though these are fine, interesting essays, as Marvin Bolt maintains in his summation to *Heaven and Earth United*, little is known overall about the use of instruments in astrological practices. Yet both these volumes together are a start to understanding how instruments were used, and they give us ideas and directions for future research.

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Bernardino Telesio and the Natural Sciences in the Renaissance.

Pietro Daniel Omodeo, ed.

Medieval and Early Modern Philosophy and Science 29. Leiden: Brill, 2019. xvi + 286 pp. €139.

The interest in Telesio (1509–88) has grown in the last decades. His sensualistic physic, as Omodeo's volume clearly shows, is indispensable for understanding the transformations in sixteenth-century intellectual history and in the scientific investigation of the world. After an overview of Telesio's historical impact on his immediate successors by Roberto Bondi, Miguel Angel Granada opens the series of thematic investigations by analyzing the concept of the soul, from its identification with the *spiritus a semine educatus* (natural soul) of *De Natura* (1565) to the more orthodox, but less congruent, *anima*

a Deo immissa (soul of divine origin) of the final edition of the work, in 1586. The important role played by the corporeal spiritus in the work of Agostino Doni, a key figure in the history of the Italian Reformation, is illustrated by Riccarda Suitner, who considers the influence on it of both Michele Serveto and Telesio.

The core of the volume is devoted to Telesio's explanation of a number of specific natural phenomena and its impact. Hiro Hirai analyzes the role of Aristotle and of some passages from Hippocrates (present in Cardano's work) on Telesio's doctrine of cosmic heat. Oreste Trabucco focuses in particular on the controversy of Federico Bonaventura on the winds, which followed the publication of the *Libelli* (1590). Bonaventura's criticism shows how difficult it was to maintain "a theory of matter framed in qualitative physics" from outside the Aristotelian philosophical system. Pietro D. Omodeo offers a precise analysis of the Telesian explanation of the tides, not only in relation to the medieval tradition (Albumasar and Alpetragius, in particular) but also to the work of more recent authors (Pico, Bruno, Pandolfo Sfrondati, Cesalpino). In presenting Telesio's explanation of the rainbow, Elio Nenci insists on its Aristotelian framework, recalling the crucial comments of Alexander of Aphrodisias and Olympeodorus.

Arianna Borrelli traces the presence of Telesio's meteorology in the work of Giambattista Della Porta, who certainly was not interested in building a coherent theoretical system, but probably read the pamphlet on air and earthquakes (1570) that shared some ideas on solar heat and thermal causes of rarefaction and condensation. Martin Mulrow publishes the report offered by Antonio Persio in his *De Natura Ignis* (Biblioteca Corsiniana, MS Linceo VII) of a dispute on the nature of light between his master and Quinzio Buongiovanni, professor of philosophy and medical theory at the University of Naples. The dispute most likely took place after the publication of the second edition of Telesio's main work (1570), and attests to Telesio's "genuine sensualism" and his efforts to "find an accurate language of description" of natural phenomena (189).

Rodolfo Garau emphasizes the historical impact of the doctrine of self-preservation in the explanation of motion and shows its influence on "proto-inertial natural philosophies" (235), found, for example, in the works of Descartes and Spinoza. Giulia Giannini shows there is no evidence of the Accademia Telesiana during the philosopher's lifetime, while after his death the Accademia Cosentina was configured as an encyclopedic academy, in which the use of the vernacular was particularly widespread. Alessandro Ottaviani publishes a *scholion* found in a copy of the 1565 edition of Telesio's *De natura*, now in the Biblioteca Corsiniana in Rome (31 A 9), which he attributes to Angelo Baronio.

The importance of this book lies not only in the careful contributions on the individual Telesian doctrines but also in the successful attempt to situate his work in the Italian and international intellectual debate. It invites us to focus on the limits of a too narrow Newtonian conception of science, as well as on the boundaries of

sixteenth-century anti-Aristotelianism. This was endowed with a polemical spirit, but it was actually nourished by Aristotelian conceptual tools. Omodeo's volume is valuable reading for specialists but it also provides students and scholars from other areas with important elements for understanding Renaissance natural philosophy.

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The Oxford Illustrated History of the Renaissance. Gordon Campbell, ed.
Oxford: Oxford University Press, 2019. viii + 506 pp. \$39.95.

This latest addition to the *Oxford Illustrated History* series offers a substantial and beautifully illustrated history of the cultural phenomenon of the European Renaissance. In many respects it is a fairly traditional treatment of the subject, focusing on elite culture in the fourteenth through sixteenth centuries in Western Europe, though there are occasional mentions of Eastern and Central Europe or of the lives of those not in the upper echelons of society. Its eleven chapters (authored by a total of fifteen eminent scholars) cover intellectual, military, religious, cultural, art and architectural, performance, literary, technological, and scientific history, before engaging with the global Renaissance.

As with any edited volume, the quality of individual chapters varies. All demonstrate the expansive knowledge base of their authors, but in some, insufficient clarity or organization somewhat obscures that impressive erudition. The intended audience of the volume may, therefore, find several of the chapters less approachable. Moreover, in many of the chapters, most notably Peter Mack's contribution on "Humanism and the Classical Tradition," there is a disappointing lack of discussion about Renaissance women. Mack's chapter provides excellent, pithy biographies of more than two dozen European humanist thinkers but fails to include a single woman among them; surely Christine de Pizan, Isotta Nogarola, Cassandra Fedele, Laura Cereta, and others deserve mention? Female scholars, artists, performers, and other participants in Renaissance culture are of course fewer in number than their male counterparts, but they still merit attention. By this omission, many (though not all) essays in this collection seem to answer Joan Kelly-Gadol's 1977 essay "Did Women Have a Renaissance?" with a resounding "no."

A few of the chapters, however, are excellent. Pamela Long and Andrew Morrall, in "Craft and Technology in Renaissance Europe," not only provide a fascinating overview of a wide variety of crafts and technological shifts; they make a clear and convincing case for the convergence of artisanal and learned cultures, a distinctive Renaissance feature. In an interesting, if somewhat disjointed chapter, François Quiviger takes on the question of "The Civilization of the Renaissance." After discussing Jacob Burckhardt, Stephen Greenblatt, John Jeffries Martin, and others who have engaged with this question, he traces an eclectic collection of themes to come to a compelling answer.