practitioner" and "natural philosopher." To Cormack, Thomas Harriot was a mathematical practitioner who never became a natural philosopher, while to other contributors he was an influential natural philosopher alongside Kepler, Descartes, and Galileo who was also an expert mathematical practitioner (pp. 35, 52, 91). Differences in historical interpretation and classification such as these could have been discussed in greater depth. It is odd that the burgeoning historiography on "hybrid experts," artisan/practitioners, and artisanal philosophers does not make much of a showing. A longer introduction or concluding chapter might have elaborated on the book's central findings. While each chapter's abstract makes navigating within the book easier, there is no index. Typographical and formatting errors abound.

Overall, this slim yet wide-ranging volume offers compelling perspectives for broadening the scholar/craftsman debate. It is relevant to anyone studying the history of science in early modern Europe. As a whole, the essays capture the complexities of the theoretical, practical, and material concerns of mathematical practitioners and invite further discussion.

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Gregorio Baldin. *Hobbes e Galileo: Metodo, materia e scienza del moto*. (Biblioteca di Galileiana, 6.) xxiv + 242 pp., figs., bibl., index. Florence: Leo S. Olschki Editore, 2017. €34 (paper).

As Thomas Hobbes straightforwardly asserts in his *Critique du De mundo*, Galileo Galilei—whom Hobbes had occasion to meet in Arcetri during his third European Grand Tour—is to be considered "the greatest philosopher not only of our century, but of all centuries." Indeed, as Hobbesian scholarship has often underscored, the affinities between Galileo's and Hobbes's natural philosophies are abundant. Yet Gregorio Baldin's book is the first attempt at providing a general and comprehensive evaluation of the historical and theoretical connections between the two thinkers. As Baldin thoroughly demonstrates, Galileo's works were widely known, debated, and often translated, both inside the Newcastle circle that Hobbes attended during the 1630s and among Marin Mersenne's acquaintances and correspondents. According to Baldin, Galileo's influence contributed crucially to shaping the basic principles of Hobbes's mechanistic philosophy. Hobbes's nominalist and conventionalist theory of science, as well as his hypothetical approach to physics, indisputably distinguishes him from Galileo (pp. 107, 126). Nonetheless, the very core of Hobbes's natural philosophy is Galilean: that is, the distinction between—in the later formulation of Robert Boyle—primary and secondary qualities; and the idea that the *objective* properties of things are mathematically quantifiable relationships between moving bodies. This is a thesis that Baldin defends deftly and convincingly.

Mersenne's role in the diffusion of Galileo's doctrines was pivotal (p. xxii ff.). In the first chapter ("Hobbes and Mersenne"), Baldin argues that Hobbes's encounter with Galileo's mathematizing method was conditioned by a wide-ranging confrontation with Mersenne's theory of science. According to Mersenne's *La verité des sciences* and the later *Harmonie universelle*, knowledge supplied by mathematics and geometry is certain insofar as it is constructive, purely deductive, and conventional (p. 9). Physics, relying on experience, is but hypothetical knowledge (p. 16). Hobbes, at least since the *Tractatus opticus II*, follows an analogous distinction; this eventually (in *De corpore*) leads him to a kind of phenomenalism that is very close to Mersenne's skeptical constructivism (p. 30). Yet this is not the whole story, because a Galilean and mathematizing conception of optics allows Hobbes to bridge the gap between physics and geometry (pp. 33 ff., 43 ff.)—that is, between the subjective phantasms of sensation grounding our hypothetical explanations and the objective mathematical properties of bodies in motion. In the second chapter ("Hobbes: Principles of Galilean Philos-

ophy") Baldin contends that Hobbes's essentially *physical* conception of geometry is in deep consonance with Galileo's mathematical objectivism and that such a conception is at the basis of Hobbes's materialistic and mechanistic worldview. Just as Galileo does in *Il saggiatore*, Hobbes identifies extension and figure as *essential* accidents (or *qualities*) of bodies (p. 67 ff.), since extension and figure individualize corporeality and make motion subject to the principle of causality (p. 75): external causality, expressed by the mathematical laws of motion, then becomes a universal model of explanation that also extends to sensations and passions (p. 95). This conclusion leads Baldin to investigate the difficult and changing relationship between experience and reason in Hobbes's theory of science: even if *Leviathan* insists on a strictly aprioristic and conventional model of science, *De corpore* offers a less rigid distinction between geometry and physics (p. 122), since geometry becomes—in a Galilean fashion—the science of motion and hence of the essential physical properties of bodies (p. 125). In Chapters 3 and 4 ("Galileo's *Momento* and Hobbes's *Conatus*" and "The Paradoxes of Matter") Baldin expands his general thesis with a series of detailed analyses. First he shows how the concept of *conatus*, conceived by Hobbes not as a Cartesian inclination to motion but as an actual "infinitesimal" motion (p. 140), is inspired by the notions of *momentus* and *impetus* that Galileo employs in his examination of gravity. Then he claims that in spite of the many differences regarding the principles of cohesion, fluidity, and transmutation of matter—starting from Hobbes's refusal of indivisibility and vacuum (p. 191)—Galileo and Hobbes share a "Democritean" conception of matter as an eternal substrate of motion (p. 201 ff.).

Without denying the many tensions and evolutions within Hobbes's natural philosophy, Baldin claims that Galileo's mathematization of nature had a crucial influence on Hobbes, whose mechanistic image of the world cannot thus be reduced to aprioristic conventionalism or to hypothetical constructivism. One may object perhaps that "mathematization" is a somewhat nonspecific concept in early modernity, since Hobbes and Galileo had diverging ideas of mathematical laws and their application to motion. Still, for its deep exegetical familiarity with Galileo, Hobbes, and the historical context of their reflections, *Hobbes e Galileo: Metodo, materia e scienza del moto* deserves to become a highly valuable benchmark for both Hobbesian and early modern science scholarship.

Guido Frilli

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Amber Brian. *Alva Ixtlilxochitl's Native Archive and the Circulation of Knowledge in Colonial Mexico*. x + 196 pp., figs., bibl., index. Nashville, Tenn.: Vanderbilt University Press, 2016. $55 (cloth).

Fernando de Alva was a Creole who realized in the 1610s that he was an Indian too. In the wake of the reshuffling that followed the conquest, some descendants of the Texcocan ruling elites managed to secure an estate in the faraway town of Teotihuacan—one that Alva's mother, herself the mestiza daughter of a Spaniard and an Indian, inherited. The legitimacy of the mestiza-cacique rule in Teotihuacan came under challenge from a competing indigenous lineage with allegedly greater claims. Land and authority rested on the ability to demonstrate clear descent from the Aztec lords of Texcoco. Alva was one of dozens of individuals with fluid identities who had assembled collections of indigenous histories in Central Mexico. To be sure, each surviving city-state had its own peculiar version of origins, migrations, and legitimate ruling elites held in archives with codices in ancient pictographic and logographic scripts. Alva tapped into these collections to ascertain the rights of his mother to the lands and labor of the Indians of Teotihuacan. In the 1640s a new legal challenge emerged, this time within Alva's family over which of the sons and grandsons of the dead caciqua had primogeniture rights. Again, Alva's archive helped settle the conflict in court. In a world in which