

motivations and contributions. He points out that Arago's observations of the polarization of light from celestial bodies (which allowed him to pronounce that the Sun is a gas rather than a solid or liquid) marked the first instance of the application of physics to the study of the physical nature of celestial bodies. Equally important for Arago's time at the Observatory was his work in geophysics and meteorology, although in this case his debt to (and indeed collaboration with) Humboldt was so significant that it seems very useful for Lequeux to have connected it to scholarship on Humboldt and Humboldtian science.

This book has great potential utility for the historian of astronomy and amply succeeds in its effort to reorient Arago's legacy around his central role as astronomer while showing the breadth that the role could entail. Although a more fully contextualized account would have better integrated the biographical and scientific (Arago's successful political career, which spanned decades and culminated in him leading the Provisional Government in France in 1848, is confined to eight pages in the second chapter), this book can be thought of as a corrective to a historical memory that has written astronomy out of Arago's legacy.

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## Astronomy in Early Modern Spain

*Disciplinas, Saberes y Prácticas: Filosofía natural, matemáticas y astronomía en la sociedad española de la época moderna.* Víctor Navarro Brotons (Publicacions de la Universitat de València, València, 2014). Pp. 496. €23. ISBN 9788437094465.

Víctor Navarro Brotons, a distinguished historian of science, disciple and collaborator of the late José María López Piñero, established himself as one of the most authoritative voices in the history of Spanish science in the early modern period. In addition to his research work, during his career of five decades, Víctor Navarro also played a key role in the Spanish academic world as a teacher, mentor, and supervisor of young scholars; a promoter of research institutions; and an academic administrator.

*Disciplinas, Saberes y Prácticas* is a collection of works by Víctor Navarro originally published between 1995 and 2012, all addressing history of the physico-mathematical sciences in early modern Spain. All texts are now presented in Castilian, even when the original versions were in other languages, and slight editorial updates have been made. In total, there are 19 texts, organized in three broad chronological periods: "Siglo XVI y comienzos del XVII: el Renacimiento científico" (*sixteenth and early seventeenth centuries: Scientific renaissance*); "Siglo XVII y comienzos del XVIII: La actividad científica en la época de la revolución científica" (*seventeenth and early eighteenth centuries: scientific activities at the period of the scientific revolution*); "Siglo XVIII (hasta 1767)" (*eighteenth century – until 1767*). A rich bibliography and an index of names close the book.

In books such as this, the reader is usually offered a narrow choice of subjects that reflect the author's specific contributions and academic pursuits. Interestingly – and

quite revealing of this author's wide spectrum of interests – here one can find chapters that address such diverse topics as natural philosophy, mathematical astronomy, astrology, cosmography, mechanics, theory of comets, aspects of institutional history, and circulation of scientific knowledge.

Like all collections of previously published materials, the main objective is to provide easy access to texts published in very specialized periodicals or in other academic imprints. But in this case, there is more ambition as the author explicitly declares (p. 11) that the book aims at complementing José María López Piñero's *Medicina e historia natural em la sociedad española de los siglos XVI y XVII* (2007). Actually, López Piñero himself had stated that the physico-mathematical sciences would be covered in a forthcoming work by Víctor Navarro; *Disciplinas, Saberes y Prácticas* realizes the promise. Obviously, there is an element of risk in attempting to overview a field as broad as the physical, mathematical, and astronomical sciences in Spain in the sixteenth to early eighteenth centuries by relying only on the collection of one's previous studies. But surprisingly, the book passes the test very well and is indeed – despite some minor and inevitable repetitions – the most up-to-date attempt at such an objective.

For those interested in the history of astronomy, there is much of value in this work since astronomy, and related sciences such as technical cosmography, is treated in many of the texts. Readers will find here Víctor Navarro's important and well-known study about Diego de Zúñiga, first published in *Isis* in 1995; an overview of the relations between cosmography and astronomy in sixteenth- and seventeenth-century Spain; a chapter about comets and “celestial novelties” with special attention to the work of Jerónimo Muñoz; and others on the circulation of astronomical knowledge between Spain and other regions in Europe, on Sigüenza y Góngora's discussion of the 1680 comet, and on scientific activities of the Jesuits, including astronomy, in Spain.

This book nicely introduces Víctor Navarro's important historical work to a wider public; it will also present many aspects of science in Spain in the sixteenth to eighteenth centuries of which specialists and professional historians of science should perhaps be more aware.

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## Imagination, Art and Science

*What Galileo Saw: Imagining the Scientific Revolution*. Lawrence Lipking (Cornell University Press, Ithaca, NY and London, 2014). Pp. xvii + 314. \$35. ISBN 9780801452970.

Any study of the role of imagination in the Scientific Revolution – one also claiming a genesis in conversations with the likes of Erwin Panofsky, Marjorie Nicolson, Thomas Kuhn, and John Wheeler – merits serious attention. Indeed, the sheer knowledge and sophistication on display in Lawrence Lipking's discussions of Galileo, Kepler, Francis