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BOOK REVIEW

Melissa Lo, *Skepticism's Pictures: Figuring Descartes's Natural Philosophy*

University Park, PA: Pennsylvania State University Press, 2023. Pp. 230. ISBN 978-0-271-09482-3. $104.95 (hardcover).

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The relationship between text and image in early modern treatises of natural philosophy is notoriously complicated. What role are pictures in such books supposed to play? Should we assume that words bear the primary burden of exposition and argumentation and that pictures are there only to illustrate and clarify things? Or do they perform a more substantive epistemic function, contributing to the plausibility of the thesis or the strength of the argument?

Claude Clerselier, Descartes's friend and, after the philosopher's death in 1650, literary executor, had much to say about the illustrations he commissioned for the edition of Descartes's *Traité de l'homme*, prepared in the early 1660s and published in 1664. Having secured images from the Dutch anatomist Gérard van Gutschoven and the French physician Louis de La Forge, Clerselier explained in his preface that the pictures should 'make ... the text comprehensible' and 'make for an easier understanding of it'. The figures function as aids for the reader to visualize the bodily elements and processes that Descartes is describing and understand how everything is supposed to work. The point of the figures, he writes, is 'to help one understand what is Monsieur Descartes's thought in it' and 'simply to explain ... what Monsieur Descartes is proposing in his book, in which he very often discusses only things that never fall under the senses, which he had to make sensible in order for them to become more intelligible'. The illustrations must allow even the non-specialist reader to 'divine his [Descartes's] thought'. Clerselier even suggests that, at times, the illustrations do a better explanatory job than Descartes, especially when the text is too short on words ('*fort concis*').

In her fascinating new book, Melissa Lo argues that there is more going on in the pictures – her preferred term over 'illustrations' or 'images' – than just making things more intelligible, at least when it comes to Descartes's original figures (if not the new ones commissioned by Clerselier). The woodcuts, etchings and engravings that accompany the texts in Descartes's scientific writings are, she insists, essential to the works' arguments. A new way of looking at the world demanded 'a new graphic language' (p. 1), new ways of imaging those ideas and, just as important, of persuading readers of their truth. In her view, for Descartes, making the right kind of pictures was indispensable to that project.

The Cartesian transformation in the role of pictures (the focus of Chapter 1) takes place against the background of the new philosophy's rejection of the Scholastic view that sense experience reveals the true natures of things, the essences that account for the composition, appearances and behaviours of bodies in the world. Lo argues that Descartes's

pictures were deeply subversive of the old view of nature. Instead of spare, abstract diagrams that seem to bear only the most tenuous relation to reality, Descartes and his mathematician/illustrator colleague Frans van Schooten, Jr, blended descriptive renderings of nature through fine draughtsmanship with mathematical (geometric) forms. Or, as Lo puts it, Descartes and Van Schooten 'import engineering's visual language into the rarefied world of natural philosophy' (p. 20). Instead of mere lines and points, there are human figures, buildings, trees and mountains standing in geometric relationships made perspicuous through overlaid lines and angles: well-dressed men hitting tennis balls or looking at rainbows (to illustrate refraction and reflection of light), a vat of grapes (as an analogy for the motion of light particles), and a blind man holding two sticks to 'perceive' depth. This was no mere artificial imposition of trigonometric figuration upon natural forms, insofar as Cartesian material bodies, being nothing more than parcels of extension or spatiality, just were geometry made real.

A corollary to all this, Lo suggests, is a re-formation of the way we read Descartes. To the extent that the pictures are essential to his epistemic strategy, the old understanding of the Cartesian method's strictly intellectual ideas and 'a total retreat from the world' (p. 36) requires serious revision. Although that revision has been taking place for a while – scholars have long recognized the role of imagination and the importance of experimentation in Descartes's scientific method – Lo's insinuation that pictures can contribute to the all-important goal of clarity and distinctness of ideas is an intriguing one. (I should say, in light of this, that I find the book's title a little odd: what is being pictured in the material she discusses is not scepticism at all, but *scientia*.)

A centrepiece of Lo's discussion is the famous image from *Principia Philosophiae* (1644) of the heavenly vortices (Chapter 2). Rather than considering the metaphysical, physical and theological aspects of the theory that informs that picture, as others have done, Lo examines the woodcut itself, not just its visual language and idioms – its dots, dotted lines and other shapes – but also its materiality (as woodcut). Lo explains how the picture achieves its effect of depicting swirling and swelling vortices by breaking it down into its spare constituent elements, primarily dots and the density of their placement within the frame.

The final chapters consider contemporary reactions to Descartes's pictures, especially in response to critical philosophical and theological pressure. Jacques Rohault, for example, an important mid-century Cartesian famous for his Wednesday academy, offered modifications in Descartes's 'visual program' to help the new philosophy better address concerns about its ability to accommodate Catholic dogma around the Eucharist (Chapter 3). And it is refreshing to see the *Voyage du monde de Descartes* by Gabriel Daniel, a Jesuit critic of Cartesianism, and its satirical take on the woodcuts receive its due attention (Chapter 5).

Lo may overstate the way in which Clerselier, assembling later editions, reductively departs from the richer pictures in Descartes's original texts (Chapter 3). It is true that Clerselier accords the figures a more modest role than Descartes does, at least in Lo's reading of the latter. But Clerselier did not give his illustrators (Van Gutschoven and La Forge) any directions on how to go about their task. Moreover, one of Van Gutschoven's figures (of the human eye) is just a faithful copy of the picture that Van Schooten provided for *La Dioptrique* in 1637. The differences that do exist are better explained not by Clerselier's 'impatience' (p. 89) with Descartes's approach but by his considered opinion on the function of illustrations in such a text. As for Rohault, Lo never clarifies just how his revised visual strategy is supposed to serve precisely as a defence of Cartesianism against theological critiques. It was, in part, on that issue of transubstantiation that Descartes's works were placed on the Catholic Church's Index of Prohibited Books in 1663, 'until corrected'.

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Such minor criticisms aside, this is a splendid book that will be of great interest to historians of philosophy and science, as well as to art historians and scholars of visual culture.

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