

CARTESIAN EMPIRICISMS

Mihnea Dobre and Tammy Nyden (eds.), *Cartesian Empiricisms* (Dordrecht: Springer, 2013), ISBN 978-94-007-7690-6, xiii, 326 pp.

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Cartesian Empiricisms is a collection of twelve essays on seventeenth-century and early eighteenth-century authors – mostly natural philosophers – who were active in France, the Netherlands, Germany and England. The editors present them as “Cartesian thinkers heavily involved in the practice, pedagogy, and theory of experiment” (2). Except Antoine Le Grand, none of them was a strict follower of Descartes. However, they all endorsed some Cartesian doctrines – often not the same doctrines – while engaging with a wide set of issues, from the technique of blood transfusion to the denial of demonic action in the world. The volume labels these authors as empiricists not because they rejected innate ideas or substantive a priori knowledge (several of them accepted both), but because they gave “observation, experience, and/or experiment a key role for knowledge acquisition in their natural philosophy” (12). One may prefer to speak of key *roles* as these authors had varied attitudes toward experience and experiments. The connection between them is “not a shared set of core principles, but a family resemblance” (12-13).

In “Censorship, Condemnations, and the Spread of Cartesianism”, Roger Ariew links the condemnations suffered by Descartes and seventeenth-century French Cartesians to a shift toward more empirical forms of Cartesianism. Among the reasons for opposition to Descartes was his reliance on hyperbolic doubt as a way to certainty. Some thought that it must be rejected because it is impossible to rationally overcome it. Others saw it as dangerous for credulous people. The Cartesians who rejected hyperbolic doubt to avoid censorship ceased to distinguish “between the absolutely and the morally certain in the fashion of Descartes” (41). They “aggressively pursued a quasi-hypothetical-deductive method and thus became more empirical” (26).

Delphine Bellis’ interesting discussion of Henricus Regius’ views on perception and knowledge provides an example of this empirical, less epistemically demanding attitude. Regius denies that we have innate ideas or faculties. He replaces the pure intellect “with imagination and judgment” (159), both based on experience. He provides an account of depth perception that, unlike Descartes’, does not presuppose concept innatism. According to Regius, what warrants our belief in the similarity between perceptions and external objects are the acts that our mind performs on sensory stimuli. Yet, despite his empirical bent, Regius accepts “most of Descartes’ explanations in cosmology, meteorology, optics” (153).

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Another Cartesian who is often described as empirically minded is Jacques Rohault. According to Mihnea Dobre, Rohault's "empirically oriented natural philosophy" is "on a par with his contemporary so-called 'experimental philosophers'" (209). Rohault employs experiments as pedagogical aids and to confirm conjectures, which are mostly derived from Descartes' philosophy. Rohault regards physical truths as merely probable and refrains from claiming "that his physics is metaphysically grounded" (213). Yet, "he smuggles in some metaphysical presuppositions" (223) and he employs a priori arguments, sometimes combined with appeals to experience, to defend distinctive Cartesian views like the identification of matter with extension and the denial of the vacuum.

Sophie Roux's helpful chapter on 1660s France defends a different reading of Rohault. Roux argues that Rohault did not use experiments to discover or justify natural-philosophical principles or to make "quantitative predictions" that "could potentially invalidate a hypothesis" (56), but only to establish which "principles of Cartesian physics" are relevant to specific experiences. Accordingly, Rohault employed the experiments only at the end of his widely attended public lectures, to confirm and illustrate principles which he established from the armchair. Roux contrasts Rohault's lectures with the "radical experimentalism" pursued not only in the early Royal Society, but also in the *Académie Montmor* from 1661 onward and, from 1664, in the *Compagnie des sciences et des arts*.

The view that experience serves to illustrate Cartesian principles, rather than proving them or extending our knowledge, was also held by Burchard de Volder, who introduced the teaching of experimental physics in Leiden. Tammy Nyden argues that de Volder's philosophy of science "is best understood within the context of a long tradition" of eclectic philosophy and "teaching through observation at Leiden", characterised by the combination of "theory and practical experience" (239). De Volder "accepts the Cartesian reformulation of scholastic *scientia* as systematic knowledge deduced" from innate, "clear and distinct ideas, which are known a priori through pure reason" (240). Experience allows us to know with certainty which of the possible worlds that conform to Descartes' principles exists.

In his chapter on Cartesianism and early Newtonianism in the Netherlands, Wiep van Bunge portrays de Volder and "Descartes' Dutch admirers" (98) as preparing the ground for Newtonianism. Van Bunge argues that, in the Netherlands, Newtonianism was adopted as an antidote not to Cartesianism, but to Spinozism. As a consequence, the shift from Cartesianism to Newtonianism was less antagonistic than has sometimes been suggested.

Patricia Easton holds that for Robert Desgabets, like for de Volder, experience serves to single out the actual world among the many possible worlds that conform to Cartesian metaphysics. Easton surveys Desgabets' description of the procedure of blood transfusion, which he regards as "a specific application of Cartesian physics aimed at the betterment of human life" (194), but which he did not carry out.

Four essays are devoted to Cartesian influences and empirical leanings within medicine, chymistry, psychology and theology. They display a similar variety of positions as those on natural philosophy. Justin Smith's essay focuses on the conceptions of life of Johannes Clauberg and other Cartesian practitioners of

“medical philosophy” based in Duisburg. He argues that they constitute a significant background to Leibniz’s mature stance on the distinction between living and non-living beings and a point of transition between Descartes’ and Leibniz’s views.

Bernard Joly charts the attitudes of Rohault, Regius, Nicholas Lémery and Louis Lémery on chymical experiments, observations and explanations. He highlights the varying extent to which they acknowledged the peculiar position of chymistry between the observed, macroscopic world and the corpuscular world of Descartes’ mechanistic physics. Joly concludes that “it is by discarding their Cartesianism, by making it a background without any direct link with their practice, that Cartesian chemists made any improvement” (145).

Gary Hatfield’s discussion of Antoine Le Grand’s psychology highlights his attempt to identify a peculiar kind of certainty, that “lies between the metaphysical certainty of eternal truths and the moral certainty of daily exigency” (265). Le Grand pursues the Cartesian project of mechanizing the functions of the sensitive soul. He holds that they are carried out instinctively through the “local motion” of matter subjected to the laws of mechanics. Yet, Le Grand “is short on details of exactly how these mechanisms work” (271).

Finally, Koen Vermeir shows that the Dutch theologian Balthasar Bekker relied on Cartesian ideas to purify reformed theology from superstitious, pagan elements. Bekker provides demonstrative arguments from first principles, including Cartesian mind-body dualism, to argue “that there are no demons and that the existence of angels is uncertain” (285). He gives natural explanations of experiences of demonic possession. He relies on sketchy corpuscular natural-philosophical explanations in a “loosely Cartesian style” (303), with “eclectic and hybrid roots” (294) in the philosophy of Descartes and Digby.

In the introduction, Dobre and Nyden present these studies as highlighting the extent to which a wide range of often neglected Cartesians relied on experience, but also as challenging large-scale historiographical narratives of the history of philosophy and science. According to Dobre and Nyden, the very existence of Cartesian empiricists raises difficulties for narratives based on the empiricism/rationalism distinction (RED) and the experimental/speculative distinction. This depends on how one spells out the relevant distinctions. For instance, on some versions of the RED, most of the authors discussed in this volume qualify as rationalists as they hold that some substantive truths on the natural world can be known a priori. Some of them did not perform experiments or granted rather modest roles to them. On other versions of the RED, the authors discussed qualify as hybrid, intermediate figures. Yet, there have long been RED-based narratives that allow for the existence of “eclecticisms and synthesis” (7-8), besides clear-cut cases of empiricism and rationalism. At any rate, any plausible assessment of historiographical narratives should take into account more figures and topics than have usually been the object of scholars’ attention. In the light of this, the main motive of interest of this collection lies in its up-to-date discussions of a broad range of authors, some of whom have not been widely studied. This makes it a welcome addition to the literature.