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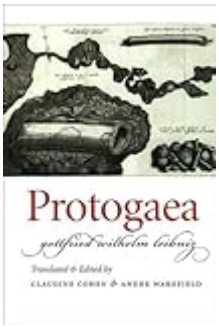
Gottfried Wilhelm Leibniz. *Protogaea.* Translated and edited by Claudine Cohen and Andre Wakefield. Chicago: University of Chicago Press, 2008. xlii + 173 pp. $55.00 (cloth), ISBN 978-0-226-11296-1.



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From the Mines of the Harz to the Origins of the World

The recent release of Claudine Cohen's and Andre Wakefield's English translation and edition of the *Protogaea* (1749) is extremely good news for anyone interested in early modern or Enlightenment cultural and intellectual history, German history, the history of science, and any number of other fields–including the history of historiography itself. Any scholar who has ever had anything to do with any of these topics has probably read something, at some point, about Gottfried Wilhelm Leibniz; perhaps a brief mention of him in a textbook, with the label "philosopher" attached. The word "polymath" may also have appeared, together with a brief list of the many different topics on which Leibniz wrote: mathematics, metaphysics, jurisprudence, theology, diplomacy, logic, history, and the invention of new technologies.

It is highly unlikely, however, that any textbook would have mentioned, let alone placed any stress on, the following fact: namely, that one of the very few books the illustrious philosopher ever wrote for publication was about the earth itself, about its many strange rock formations and the efforts he himself had made, touring caves with guides, to understand the origins of his local landscape, and in the process that of the entire planet. Leibniz wrote this book, which he titled *Protogaea*, at some point between 1691 and 1693; he intended it to be the first volume of the history he had been commissioned to write of and for his courtly employers, the house of Brunswick. Unfortunately, however, he never completed that monumental history. As a result the book was only published (posthumously) in 1749, long after his death in 1716. In the absence of an English translation, though, the interests of Leibniz–and many of his contemporaries–in conjectural earth history and in local natural history have long received short shrift. As a result, many important aspects of the context in which Leibniz–and many other early modern and Enlightenment *virtuosi*–lived and wrote have remained poorly understood.

An English edition of the *Protogaea* has thus long been overdue–and Cohen and Wakefield have thus, in their recently published translation and edition, produced in consultation with an international panel of ex-

perts, performed a sterling service for scholars of all stripes. The book contains all sorts of useful features, from an attractive cover and numerous well-captioned illustrations to detailed notes and a handy glossary–not to mention the inclusion, on pages facing the English translation, of the original Latin text, making it easy to check the original wording of particular passages. Especially commendable is the editors' (and press's) decision to include not only the book's original illustrations, but also the tiny sketches Leibniz made, for his own purposes, in the margins of his manuscript.[1] These help to illuminate some crucial aspects of his thinking, as well as strategies of visualization at the time. In all sorts of ways, then, the book presents an extremely important contribution to scholarship.

It is the introduction, though, which many historians will, I predict, find one of the most valuable aspects of the book. Cohen and Wakefield, both active scholars of the Enlightenment, set forth with admirable clarity the numerous late-seventeenth-century contexts within which Leibniz composed the *Protogaea*, and, more broadly, other *virtuosi* set their own pens to paper.[2] One important context was, obviously, the rise of the conjectural history of the earth as a genre; in the decades following RenÃ© Descartes' revelation of his own vortex-strewn theory of the origins of the universe, numerous other authors, as Cohen and Wakefield discuss, struggled with the problem of how to study the earth's history so as to produce their own rationalist accounts of its trajectory, while not neglecting the issue of compatibility with Holy Writ. Leibniz thus drew on the works of a pan-European network of writers, from Descartes himself in France, to Nicolaus Steno and Agostino Scilla in Italy, and, most immediately from his perspective, Thomas Burnet in England, all of who had begun to advance their own hypotheses about the earth's beginnings.

As Cohen and Wakefield make clear, though, in his effort to find proofs for his own origin story, Leibniz concerned himself not only with the universal, but also with the local. Much of the book is devoted to Leibniz's discussions of supporting evidence for his theory in the form of strange and unusual mineral phenomena in the Harz Mountains, where he had himself spent six years as inventor and mining engineer. Cohen and Wakefield maintain that this context itself is crucial to understanding the work, as well as Leibniz's theories of evidence, history, and nature more generally. Leibniz's approach to writing his conjectural history was far from the remote one of the pure theorist; rather, it was what we might term "hands-on," as Leibniz recounted his own journeys to particularly interesting sites, described the touch and feel of particular specimens, cited the works of numerous other German scholars, and drew on conversations with miners, artisans, and alchemists who had attempted to produce through their "art" what the earth had generated naturally. Rocks, Leibniz argued, could serve as excellent evidence for the historian, as could the experimental products of alchemists' alembics.

In their introduction, then, Cohen and Wakefield make a strong case for the relevance of Leibniz's *Protogaea*, as the work of a polymath, to historians of all kinds. The book really does have something for just about everyone. Intellectual historians and historians of historiography will, for example, find much of interest in the numerous passages where Leibniz deploys evidence and/or comments, whether approvingly or disparagingly, on locals' or other scholars' own stories about the origins of particular rock formations. Those more inclined to social history, on the other hand, will find many clues as to the lives of miners. Leibniz's discussions of changing landscapes should attract the interest of at least some environmental historians. Historians of cultural practices, meanwhile, will find all manner of passages worthy of note, from those discussing cabinets of curiosities to those where Leibniz remarks upon the senses, visual and other. (Historians of science, obviously, will have a field day with just about every sentence.)

Regarding the quality of the translation, an examination of ten paragraphs from various positions in the text suggests that it is lively yet accurate. There are, to be sure, numerous cases in which different translators might have made different choices; this is to be expected in just about any neo-Latin text, especially a scientific one, where the range of possible meanings of any given word can be enormous. Every translation is, furthermore, subject to the notoriously conflicting demands of literal word-for-word representation as opposed to readability in the target language. Here my sense is that Cohen and Wakefield have, on the whole, provided a judicious balance. On occasion, in my opinion, they have leaned too far towards readability, as for example in Leibniz's next-to-last sentence, which they translate as "For us, nature thus stands in place of history," and where the phrase "the nature of things" would be more literally accurate (pp. 140-141); this kind of example is, however, fortunately rare. Assorted quibbles could be made about other minor problems in the book–for example, that the use of a different word to translate "speciminibus" in the introduction and in the text itself, however it originated,

should perhaps have been caught; that the frequent lack of subtitles for books in the otherwise excellent bibliography makes it less easy to identify the actual topics of these works at a glance (and that the unfortunate omission, in several cases, of translators' names might be seen as especially ironic, given the circumstances); that the reference in the caption to figure 2 should have been to sections XLII and XLIII, not VIII; and that a few of the references in the otherwise excellent index are incomplete (for example, Leibniz refers to the crucial concept of "imagination" not only on p. 53 but also on p. 75). These errors are, however, very minor, and do not reflect the overall extremely high quality of the translation and edition as a whole.

In conclusion, Cohen's and Wakefield's edition of Leibniz's *Protogaea* not only offers scholars of a wide range of topics a welcome tool for further research, but also, through its introduction, provides an extremely worthwhile contribution to contemporary discussions of late-seventeenth-century thought in its own right. By recovering this important testament to early modern and Enlightenment scholars' engagement with facts "on the ground," as one might put it, Cohen and Wakefield draw our attention to the multifaceted interests of *virtuosi* at the time, and to the many ways in which natural philosophy intersected with natural history, and universal claims with local concerns. Leibniz's *Protogaea* gives us a much fuller picture of science and culture in the territories of the Holy Roman Empire at a crucial time in its history. Cohen and Wakefield are to be commended for their hard work in making it possible for the *Protogaea* to reach the audience it deserves.

Notes

[1]. Or rather, as Cohen and Wakefield note, the book's own *unoriginal* illustrations; Leibniz actually borrowed many of them from previous authors, through a complex process of citing and using materials from previous scholars which is of interest in its own right.

[2]. See Claudine Cohen, *The Fate of the Mammoth: Fossils, Myth, and History*, trans. William Rodarmor (Chicago: University of Chicago Press, 2002), and Claudine Cohen, *La GenÃ¨se de Telliamed: Science, libertinage et clandestinitÃ© Ã l'aube des LumiÃ¨res* (Paris: Presses Universitaires de France, forthcoming); and Andre Wakefield, *The Disordered Police State: German Cameralism as Science and Practice* (Chicago: University of Chicago Press, 2009).

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