The *longue durée* of ideas shows us other things more clearly too. Albertson frames this narrative as "a road not taken" in the relation of theology and science; the seventeenth-century disenchantment of the world was not a necessary consequence of mathematization. For historians of premodern sciences, however, perhaps this book's most interesting insight is how creative the Boethian tradition could be. Mathematics as a universal science was not just sleeping until Proclus became available in the sixteenth century. To see this creativity requires our continued attention to theology, since to account for Thierry and Cusanus we need both "procedures" *and* "metaphysics," *pace* Edward Strong—and the history of practices.

Richard J. Oosterhoff

Ulrich Alertz; Frank Haster; Thomas Kreft; Dietrich Lohrmann. *Electronic Commented Edition of Leonardo da Vinci,* Codex Madrid I, *Madrid Biblioteca Nacional,* MS 8937. www.codex-madrid.rwth-aachen.de. Project of the Historisches Institut des RWTH Aachen. Supported by the Deutsche Forschungsgemeinschaft.

Leonardo's *Codex Madrid I* is a text divided into two sections. In the first section, innumerable textual notes and images—mostly connected to each other—concerning mechanical engineering and military technology are collected. The second section holds Leonardo's notes on his theoretical investigations of mechanics. In recent decades, a number of studies have been completed that focus mainly on specific aspects of the *Codex*. However, a comprehensive and wide-ranging study that is able to pinpoint the relevance of this *Codex* in the frame of the early modern history of science and technology remains a desideratum.

This new electronic edition represents an important step in the direction of such a study because it facilitates access to this fundamental historical source, which has hitherto been largely ignored owing to an inherent lack of narrative consistency. Contrary to what was assumed before this edition was undertaken, the *Codex Madrid* was not compiled only during the last years of the fifteenth century. The folios of the *Codex* show that Leonardo constantly revisited his notes and commented on them. The authors of this edition were able to show that these additional notes, often found on the margins of the folios, were added later, in the sixteenth century.

The electronic edition is divided into three sections: the first two sections mirror Leonardo's own subdivision of the text, whereas the third section is an ongoing edition of the marginalia. Thanks to permission granted by the Biblioteca Nacional in Madrid, the electronic edition features a high-resolution facsimile of the work. Each image is structured with graphic tags that help determine which notes belong to which subject. This is one of the most important achievements of the edition, as Leonardo's notes often appear scattered throughout the *Codex* and are not thematically grouped.

The edition presents the 1974 Italian translation by Ladislao Reti, together with an updated and sometimes corrected version of the 1974 German translation by Friedrich Klemm. For each of the subjects found on a single folio there is a textual page with a transcription, translation, and commentary, which helps to explain the notes and relate them to the pertinent passages of other works by Leonardo. This feature clearly represents a fundamental scholarly achievement that will serve to launch and support further historical studies on Leonardo's work.

The edition is enlarged with an interesting section that contains 3D electronic static models of Leonardo's machines. The models are precise and testify to the accurate analysis of late medieval and early modern technology. The edition is further complemented by three additional sections. One is a rich technical glossary that lists all single machine components and integrates their original denominations with both the German and English translations as well as with the original drawings and their electronic reconstructions. To better support studies in the history of technology, the components are taxonomically divided into groups such as "Gearings," Clockwork," and "Crafts."

The next section presents a collection of five introductory essays, while seven forthcoming essays are announced. A section comprising an extensive bibliography concludes the edition. The bibliography is

divided into primary and secondary literature and is further enriched with an extremely useful presentation of all the links to electronic repositories that make Leonardo's works available via the Internet. The navigation and some of the introductory remarks and the glossary are also provided in English. The decision to use the German language for the translation and commentaries was made with the aim of creating a new tool through which German scholars could reenter the field of Leonardo studies. However, future inclusion of the English language is certainly desirable. This electronic edition, like similar initiatives, is not conceived as ever reaching a conclusion. Additions are explicitly planned, and further ideas are expected to develop as the initiative progresses. Here lies the strength of such enterprises and the reason why they are so highly valued.

One of the future plans for this project concerns the eventual migration of the platform to another, more central, Internet hub, which could lead to greater connectivity and therefore greater visibility, an aim that would certainly do justice to this work. It would also be worthwhile to use the occasion of the platform migration to improve the technology running in the background. It does not appear to meet standards of readability and searchability and therefore limits the potential impulse that this electronic edition could give to research on the early modern period.

The platform, and thus the edition of Leonardo's *Codex Madrid I*, is freely available worldwide and therefore constitutes an important contribution to the open access of extremely high-quality research and results. This initiative is a paradigmatic example that shows how quality-oriented research and public institutions like the Deutsche Forschungsgemeinschaft that support the open-access model are able not only to have a deep influence on the field of early modern history of science and technology but can also contribute to addressing the displacement of knowledge that involves all of the humanities.

Matteo Valleriani

Early Modern (Seventeenth and Eighteenth Centuries)

Eric Jorink; Bart Ramakers (Editors). *Art and Science in the Early Modern Netherlands.* (Netherlands Yearbook for History and Art, 61.) 367 pp., illus., bibls. Zwolle: WBOOKS, 2011. €107 (cloth).

The relationship between early modern art and science has become something of a bandwagon among historians of European culture of the era, especially among historians of matters Netherlandish. Many products of this relatively new crossover terrain would be inconceivable without the publication, thirty years ago, of Svetlana Alpers's *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago, 1984). Barbed, contentious, and ultimately dedicated to an interpretation of Dutch art rather than scientific images, *The Art of Describing* nonetheless merits recognition for having introduced its readers to the possibility that the primacy of visual experience in scientific inquiry bore significant relations to Dutch artistic practices. For some years following the publication of *The Art of Describing*, the terrain Alpers had stirred up lay more or less fallow. However, over the course of the last decade the intersections between art and science in early modern Europe have become a mainstream topic, with books, articles, research institutions, and funded research projects devoted to it.

The eleven wide-ranging essays in the amply illustrated *Art and Science in the Early Modern Netherlands*, coedited by the historian of science Eric Jorink and the historian of literature Bart Ramakers and published under the auspices of the *Nederlands Kunsthistorisch Jaarboek*, make a vivid contribution to the lively subfield of early modern art and science. Written by historians of science, historians of art, and cultural historians alike, the essays range widely in topic, from practice to theory, and in media from paintings to books and prints to drawings. The initial essay, by Sven Dupré, is a subtle investigation of the effect of the historiographical separation, largely owed to Erwin Panofsky, of perspective from optics;