

Mordechai Feingold. *The Newtonian Moment: Isaac Newton and the Making of Modern Culture*. Oxford and New York: Oxford University Press, 2004. xv + 215 pp. \$22.50. Review by IRVING A. KELTER, UNIVERSITY OF ST. THOMAS, HOUSTON.

Sir Isaac Newton was a towering figure in seventeenth-century English science and culture and, indeed, in the development of all of modern Western culture. The book under review by Dr. Mordechai Feingold, the well-known historian of early modern English mathematics and science, was a companion volume to the wonderful exhibition on Isaac Newton and his influence which ran at the New York Public Library from October 8, 2004 until February 5, 2005. This reviewer was lucky enough to view this splendid exhibition at the New York Public Library.

The first chapter, "The Apprenticeship of Genius," takes the reader through Newton's early years, his education, his relations with teachers and fellow scientists such as Isaac Barrow and Robert Hooke, and ends with the publication of the *Principia* in 1687. Chapter Two, "The Lion's Claws," begins the discussion of the reception of Newton's work with reactions of supporters such as Halley and Locke and critics such as Huygens and Leibniz. This chapter also details the appearance of Newton's *Opticks* (1704) and the beginnings of the fierce priority dispute between Newton and Leibniz over the invention of calculus.

Chapters Three and Four, "Trial By Fire" and "The Voltaire Effect," cover the reception of Newton's *Principia* and *Opticks* on the continent and the struggle against rival views, especially Cartesianism. Chapter Four analyzes the great role Voltaire, the literary giant, played in the success of Newtonianism and how Voltaire came to view it as, in Feingold's words, "a secular religion" (104).

Continuing the theme of reception, we come to the most intriguing chapter of the book. Chapter Five, entitled "Newtonian Women," begins with the assertion that "one of the most interesting manifestations of the struggle for hegemony between the Cartesians, Newtonians, and Leibnizians was the campaign for the allegiance of women, who by the late seventeenth century had become consumers of all things scientific" (119). Feingold cites numerous cases to

confirm his thesis. Among those cited by Feingold are the amazing cases of the child prodigies Laura Bassi—who received a doctorate in philosophy from the University of Bologna in 1732, was appointed to a professorship at that university, and gave private lectures on experimental physics at her home—and Maria Agnesi, who published a list of theses in physics, metaphysics and logic (1738) she had defended over a number of years in her father's salon. Agnesi applied various Newtonian theses from the *Principia* and the *Opticks* to an overall Cartesian framework. Of course, as Feingold makes clear, there was still male opposition to or suspicion of such scientific women and a number of them, including Bassi and Agnesi, needed help from men such as patrons, fathers and husbands.

The final two chapters, “All Was Light” and “Apotheosis,” deal with the representation of Newton and of Newtonianism in the various areas of modern culture. Feingold narrates the appropriation of Newton and of his ideas and “method” in the fine and literary arts and in social sciences such as economics, as well as in the areas of natural theology and the physical sciences. Some attention is also paid to critics of Newton and Newtonianism.

Of particular interest are the images of Newton that began to appear. One such image was the engraving with the significant title of “The Apotheosis of Sir Isaac Newton” (1732) by George Bickham. Another was the portrait of Benjamin Franklin done in London by David Martin in 1766 where Franklin is depicted at a desk on which stands a large bust of Newton. It would appear that Franklin wished to appropriate the mantle of Newton for himself.

All of the above chapters are lavishly illustrated, with any number of these illustrations in glorious color. The illustrations alone are worth the price of the volume. Although there is no real treatment of Newton's heretical theology, biblical investigations or alchemy in this volume, perhaps because these were not important in “the making of modern culture,” there is no better introduction to Newton and his influence on modern culture than this book.