Science and Technology

The History of the Barometer. W. E. Knowles Middleton. Johns Hopkins Press, Baltimore, Md., 1964. xx + 489 pp. Illus. $10.95.

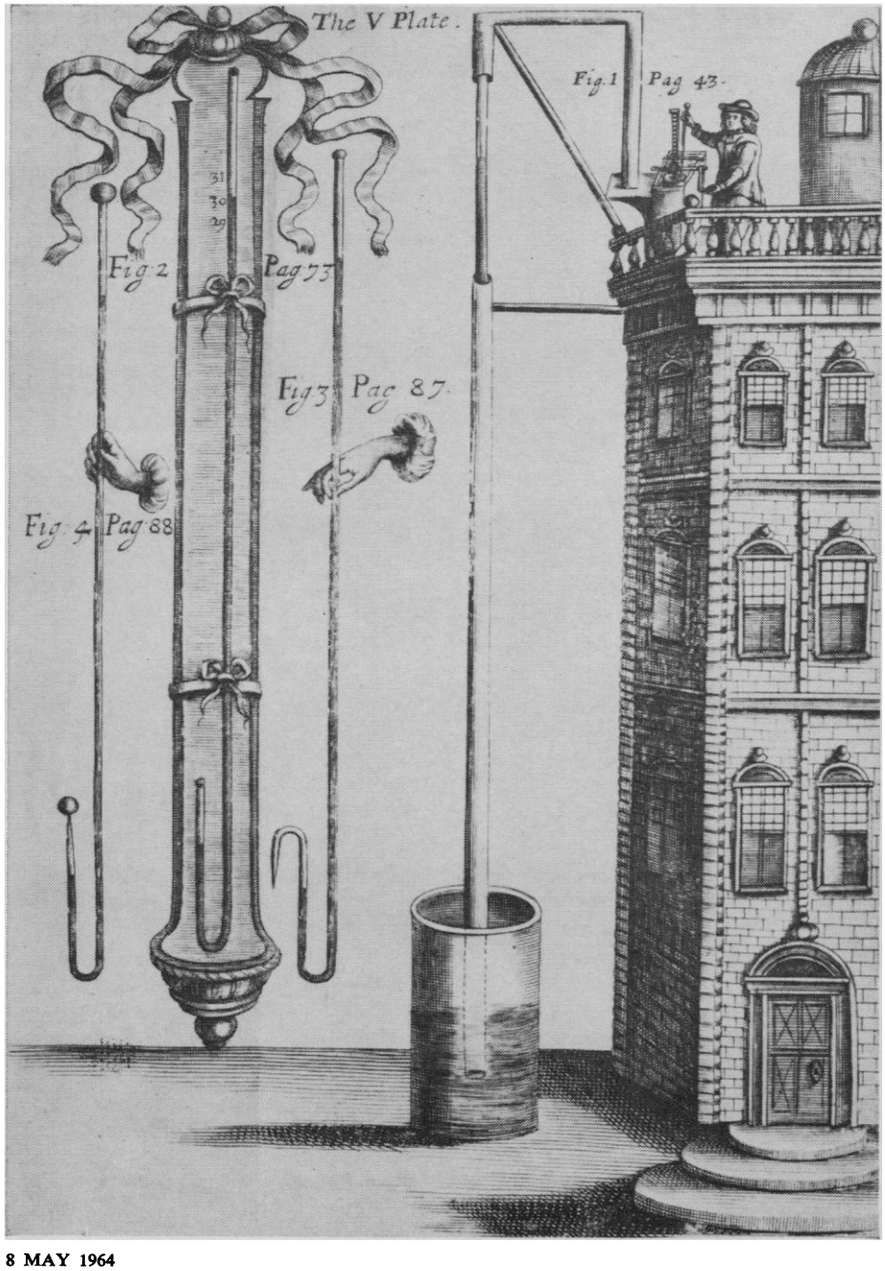
Although the barometer was one of the six instruments that immeasurably accelerated the development of science in the 17th century, the instrument's history is comprehensively presented for the first time in this excellent volume.

In *The History of the Barometer* the historical and technical evolution of the barometer during the three centuries since its invention is systematically and thoroughly documented. After a summary of the scientific background, the author provides a careful account of Gaspare Berti's experiment and of the prehistory of the instrument before Torricelli's investigations, which until now have been popularly accepted as the origin of the instrument. For the first time the major scientific figures of the 17th century are placed in proper relationship and a fair appraisal made of the contributions of each to the development of this instrument.

The author notes that he has not attempted to include comprehensive biographical information about the instrument makers who played a role in the barometer's development, inasmuch as his primary concern was the evolution of the instrument itself, but he has nonetheless furnished extremely valuable new data about many of the makers. For this reason, it is somewhat surprising that he does not mention Matteo Campani's *Nova Experimenta Physico-Mechanica* (Rome, 1666) or his correspondence with Viviani which preceded the book's publication, although the oversight is perhaps not an important one.

Extensive coverage is given to every phase and manifestation of the barometer's evolution to 1960; the chapters on the expansion of the scale and the search for portability are particularly interesting. The more significant of the surviving barometric instruments are listed and described in a 20-page appendix, an extremely useful addition to a most impressive and valuable reference work for the historian of science and of technology alike. The book is clearly written and beautifully presented. It is thoroughly indexed and well illustrated throughout with a wealth of original drawings and photographs, which were carefully selected to clarify the text but which decorate the book as well. Typical of these is the drawing of Robert Boyle's siphon barometer and water barometer (reproduced here), which illustrates the first completely portable barometer that could be considered an instrument rather than an experiment.

SILVIO A. BEDINI
Division of Mechanical and Civil Engineering, U.S. National Museum, Smithsonian Institution



History of Technology

A Hundred Years of Metallurgy. W. H. Dennis. Aldine, Chicago, Ill., 1964. x + 342 pp. Illus. $8.95.

Dennis has compressed a hundred years of metallurgy into this short volume with considerable success. He covers the history of ore dressing and pyrometallurgy in the introductory chapters and then discusses in detail the developments in iron and steel metallurgy. Although much space is devoted to modern practices, he does not provide a clear picture of the rapid changes that are taking place in the industry as a result of basic oxygen furnaces, vacuum degassing, continuous casting, and high-speed hot strip and cold tandem mills.