# Book Reviews

## Reference Treatise

**A History of Chemistry**. vol. 2. J. R. Partington. St. Martin's Press, New York, 1962. 795 pp. Illus. $20.

Professor Partington is the dean of modern historians of chemistry. Over the past decades innumerable articles and books have flowed from his pen. He has distinguished himself as a master of both the highly technical monograph and the larger, more synoptic, general history. His *A Short History of Chemistry*, for example, is referred to constantly by teachers of the history of science. He is, of course, also well known as a writer of chemical textbooks of considerable popularity, thus reflecting the years he spent as professor of chemistry at the University of London.

Like those two other great pioneers in the history of science—George Sarton and Henry Sigerist—Partington has long felt the need for a detailed and scholarly multivolume treatise that would sum up his life's work. The result is his *A History of Chemistry*, to be published in four volumes, of which volume 2 is the first to appear. In this volume Partington treats the period from the Renaissance to the early 18th century, or from Leonardo da Vinci to Hermann Boerhaave. Because of the continuity of French chemical tradition, he has preferred to defer, until volume 3, his treatment of men such as Leméry, whose chemical contributions, strictly speaking, fall within the chronological limits of volume 2.

There can be no doubt that this is a work of scholarship of the highest order. Partington has read both deeply and exhaustively in the primary sources. From the very beginning it is perfectly clear that he can put his finger on every utterance about chemistry made by anyone even remotely connected with the field. The volume as a whole bristles with footnotes which permit the reader to verify every statement for himself and which also allow him to gain a view of the secondary literature. The original work of the dozens of chemists that Partington describes is clearly summarized. Because many of these originals are rare (and for the historian whose Latinity is not of the best, difficult), they are here made available for the first time. This, in itself, is a most valuable contribution.

These are the volume's eminent virtues. As a bibliographical guide to the history of chemistry for the period 1500 to 1700, it is indispensable. As a compilation and summary of two centuries of chemical science, it is invaluable.

The very virtues of Partington's approach to the history of chemistry also give rise to the most serious defects in the book. I, for one, find the bibliographical aspect sometimes both tedious and unnecessary. Although I am grateful for Partington's willingness to guide me through the literature, there are times when I wonder if he does not indulge his bibliographical tastes too much.

Throughout the work he feels it necessary to stop and recount what other historians of chemistry have said about the person being examined. Often this is simply worthless, and it is always intrusive. Where there are substantive differences of opinion between himself and other writers, the author must, of course, attempt to weigh these differences fairly and inform the reader of them. When no such problem exists, however, very little advantage is gained, and the reader rapidly finds this catalog of opinions irrelevant. One short example may illustrate this charge. Partington, in writing of the chemical works of Jerome Cardan, feels it necessary to state (page 9):

"Cardan had a profound knowledge of ancient science and a keen and penetrating mind, but was vain, credulous, and superstitious. He had visions from his youth and was 'illuminated' in 1529 and 1573–5. Morhof says his powerful genius and remarkable intuition were mingled with foolish knowledge, his periods of genius alternating with intervals of foolishness. Libri thought that if we did not possess his autobiography, we should never believe that a man of such science could show such folly. Hoefer says, 'il mêle les observations les plus exactes aux théories les plus insoutenable'."

What most readers will want to know is what Partington thinks, but his opinion is absent.

The emphasis on bibliographical detail also serves to interrupt the flow of the narrative. The reader whose major interest lies in the ideas held by some chemist must patiently endure the breaking off of this account and must wade through a list of the editions of various works. For some of the more obscure men, this practice may be justified, even applauded. But where there is easily available an extensive and scholarly bibliography such as Fulton's bibliography of Boyle, there seems to be no reason for this display of bibliographical virtuosity.

The attempt to summarize the contents of a man's life work also causes some stylistic embarrassment. Some of these summaries degenerate into an almost meaningless and unconnected series of declarative sentences that have no relationship to one another. The reader can gain some idea of what a particular chemist wrote, but he loses all insight into what importance these facts may have had.

The use of summaries, rather than analyses, of scientific works has another serious effect. When used to describe the philosophical background of the 17th century, it yields only a two-dimensional picture. Partington is to be praised for believing that chemistry and metaphysics have anything to do with one another, but his account of this relationship is unsatisfactory.

The volume is a handsome one, beautifully printed and illustrated, with an index that adds considerably to its utility. In spite of the above-mentioned defects, this is a work of importance, which, as a reference source, will be indispensable to any serious student of the history of chemistry.

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