

Book Reviews

A History of Chemistry, by JAMES RIDDICK PARTINGTON, Vol. I, part 1: Theoretical Background, London, Macmillan, 1970, pp. xlv, 370, £10·00.

It took only three years (1961–1964) to bring out volumes II–IV of Partington's monumental *History of Chemistry* (reviewed in *Medical History*, 1962, 6, 189–91; 1963, 7, 282–83; 1965, 9, 95–6). These contained the story from the Renaissance to the present day—an account fuller in detail, documentation, new views and finds than anything that had gone before. They were published during the author's lifetime and enjoyed the meticulous care which he was wont to apply to proof-reading and correcting of errata. Five years have elapsed since his death in October 1965 and we are happy and grateful to have in the book under notice a further though much less weighty and only introductory part to Volume I which should cover the highly complicated and in parts uncharted chemistry of Antiquity and the Middle Ages, East and West. With its more than 3000 references and detailed and critical chapters treating of Greek Philosophy from ancient Orphic cosmology to Gnosticism, magic papyri, astrology, Mithraism, Mandaicism, Zoroastrianism, the Harranians (Sabians) and Kabbala we are offered a reference work and study-matter of the first order and of acute interest for scholars in many fields outside chemistry and notably for the medical historian. Perhaps its most distinguished feature is the registration and development of scientific detail against the background of the ancient philosophies and beliefs. In this the presentation of Aristotle and his chemical and physical knowledge and ideas is outstanding, and Medicine from Hippocrates to the Byzantine era has received careful attention. The work is fittingly introduced by the obituary notice from *The Times*, 11 October 1965, followed by Partington's presidential address to the British Society of the History of Science in 1951 on: 'Chemistry as Rationalised Alchemy'. It is in the latter that we find highly important and salutary lessons for the historian of science and the human intellect as a whole. Here is chemistry, the prototype of a genuine science, as Kant called it, and yet its development followed lines quite different from those which led other branches, notably the physical sciences, to their modern glories. For if it has been said that 'science is measurement' it must be borne in mind that 'Chemistry is a science and not at all measurement'. Indeed, Partington shows that chemistry had no field in which to look for possible progress other than alchemy, for it had been the alchemists alone who had been productive of basic facts rather than abstract postulates and laws derived from quite different fields in which no progress and scientific build-up could have been expected. Alchemy today is often dismissed as something 'irrational', unworthy of the attention of the historian of science and medicine. However, as for astrology and indeed all proto- and pseudo-science of old, it can be shown that there is a perfect case for alchemy as a consequent rational system albeit based on or mixed with extra-scientific or extra-rational premises. Moreover, what may impress us as 'irrational' today may have been 'rational' to the ancients and vice versa. Still more important, there is no place for the whole labelling, rational or irrational, in historical research. To apply it is a classical instance of trespassing into a different field, a *metabasis eis allo genos* of the first order. All that concerns the historian is the search for what things of the past 'really were'. And what 'really was' and prepared the

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science in chemistry was that highly interesting and complex 'manure' of philosophy, mysticism and religion that combined with and mutually stimulated shrewd empirical observation and experimental probing, the very Hellenistic syncretism into which the author of the invaluable book under notice introduces us. We mentioned Aristotle whose influence is incalculable for the idea of chemical transmutation ('alchemy') as it is in so many other proto-scientific fields and is well shown in the fifty pages devoted to him. Other chapters are less elaborate and discursive and more in the nature of notebook pages generously made accessible; they require sometimes recourse to original contexts—a task made easy enough through the copious notes. These are properly placed at the foot of the page and thus protect the reader against the Tantalian (or rather Promethean) liver-damage inflicted by thumbing exercises in the hunt for notes which may or may not be detectable elsewhere 'at the end'. There is much to be thankful for and little to criticise in the book—there are not a few, but mostly harmless printers' errors and occasionally a false claim which must have crept into one of the notebooks, as for example that Nemesius, Bishop of Emesa, A.D. 400, 'almost anticipated the circulation of the blood' (p. 200). It is, of course, the well-known mis-statement found in Fell's commentary to Nemesius (Oxford 1671) and kept alive in such a doubtful 'source' as Almeloveen's *Inventa novantiqua* (Amstelod. 1684, p. 233). Nor is it true that Galen had any 'idea' of the 'smaller circulation'—Partington later judiciously points out that, according to Galen, no blood but air or a product thereof enters the left heart from the lung (p. 199) and thus implicitly corrects this. *Finis*—and in the present case at the same time *Inceptus—coronat opus*: the introductory volume under notice in common with the eminently high standard of the previous volumes justifies high expectations for the concluding volume of the great work to come.

WALTER PAGEL

La Cultura Medica ed i Suoi Esponenti nella Firenze del Primo Ottocento, by G. GUARNIERI and M. A. MANNELLI (N. 1 in *Monografie di Episteme*), Milan, Episteme, 1968, pp. 70, £2.50 (*Italian*).

This interesting small work contains a critical appraisal of the School of Medicine at Florence in the years at the beginning of the nineteenth century. The authors have considered the record of its practitioners, taking into account the extravagant medical philosophy prevailing in Italy at that time, based on the theory of the Scot, John Brown (1735–88), with the Italian variants of Rasori, Guani and Tommasini. Brown's thesis maintained that life was a sort of 'excitement' maintained by external 'stimuli'. Too much gave rise to 'sthenic' diseases and too little, to 'asthenic' diseases. Therapy was very simple and directed toward correcting the excess or the deficiency of the 'stimuli'. It followed that when life ceased the evidence of the cause of the disease disappeared, making autopsy an absurd way of attempting to show the cause of death.

The physicians of the Florentine medical school of the Hospital of Santa Maria Nuova, being creatures of their time, seem to have made no outstanding contribution to medical science. The authors claim that in a scientifically depressed period at least the teaching 'was no worse than that of the other major Italian universities'