

Book Reviews

The Origins of Chemistry, by ROBERT P. MULTHAUF, London, Oldbourne, 1967, pp. 412, illus., 70s.

Of all the fields in the history of science, chemistry is probably the most prolific, with papers appearing not only in general history of science journals, but also in the specialist publications *Ambix* and *Chymia*. It is especially relevant, therefore, to question whether Multhauf's book is needed. The answer is strongly in the affirmative for in dealing with the history of chemistry up to the mid-eighteenth century Multhauf surveys a field which has not been comprehensively covered since J. M. Stillman's *The Story of Early Chemistry*, 1924. (Owing to J. R. Partington's death in 1965 the first volume of his monumental *History of Chemistry* (vols. 2–4, 1961–64), dealing with early chemistry has not appeared.)

Multhauf necessarily uses many secondary sources but his keen, critical outlook has produced a valuable digest and bibliography, though one is surprised to find no reference to Debus's recent studies on Paracelsian chemistry which have such an important bearing on the history of medicine. However, the book is more than just a digest, for Multhauf has not only used abundant primary printed sources but he also lucidly interprets many aspects of his story. This is well exemplified in his discussions on medical chemistry. The link between medicine and chemistry is, of course, well known, but Multhauf, by devoting at least one whole chapter to it, emphasizes its importance for the first time in a comprehensive study on the history of chemistry. For instance, he underlines the close, two-way relationship between alchemy and medical chemistry; he argues that it was the pharmacopoeia 'rather than a literature of practical chemistry [that] provided the alchemist with his repertoire of substances to work on' while medical chemistry inherited much from alchemy such as distillation techniques. The subsequent evolution of medical chemistry came about largely through concern with improving the preparation of chemical remedies, particularly those based on antimony.

Multhauf's book is compelling because he successfully weaves together the many strands from which the science of chemistry was formed—chemical theory, natural philosophy, alchemy, technology and medical chemistry. The book should become an important stimulus not only for the increasing numbers of professional historians of chemistry and medicine, but also for the larger numbers of more general readers.

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Der Bonner Privatdozent Wenzel Krimer. Zur Frühgeschichte der naturwissenschaftlichen Medizin des 19. Jahrhunderts, by EGON SCHMITZ-CLIEVER, (*Academica Bonnensia*, Band 2), Bonn, L. Röhrscheid Verlag, 1966, pp. 71, illus., DM.12.

Wenzel Krimer lived from 1795 to 1834, the period of romanticism in literature, music and medicine. Born in Moravia, Krimer became an army surgeon's assistant at the tender age of fourteen and took part in the Napoleonic Wars. Later he studied medicine at Vienna University and afterwards lectured at Bonn University on toxicology and on the diseases of domestic animals. He was a fearless adventurer with an inexhaustible store of physical courage, always prepared to carry out dangerous experiments on himself, for instance with prussic acid or with antimony. Of these experiments and many others carried out on patients he left lively and meticulous

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reports in his diary and memoirs. These have been edited by F. Saager in 1913 who, however, rearranged, shortened and 'polished' them, while the original manuscript was destroyed at the beginning of the first World War. The present monograph uses besides the printed memoirs a great number of periodical articles (of which a full bibliography is given) for the accounts of some remarkable experiments told in Krimer's lively fashion and documented by a wealth of illustrations. Krimer punched a patient's heart with a long needle attached to a voltaic pile. In 1820, fifteen years before Schwann's experiments, he invented a 'myodynameter' for measuring muscle contraction. A child of the romantic age in his private life, gifted in painting and music, he helped in his professional capacity to initiate the strictly scientific methods common in medical research today.

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