Each of the three chapters covering this work presents a different set of basic methods for attacking addition problems, namely, density, number-theoretic and probability methods. Chapter 4 is an introductory study of sieve methods used in number theory, and in Chapter 5 there is a short collection of results related to the multiplicative structure of the integers.

Although the book is mainly for the expert in number theory, the many excellent descriptive paragraphs giving the history of results and the relations between results provide the well-trained non-specialist with a good picture of the present position in the subject. Many unsolved problems are described and there is a large reference list for each chapter. Whether the appendix on elementary number theory will encourage those with no knowledge of number theory to read the book is debatable. The book is delightfully printed. The authors should be given every encouragement to produce the second volume as soon as possible. J. HUNTER

Ultraviolet Radiation

By Lewis R. Koller. Second edition. (Wiley Series in Pure and Applied Optics.) Pp. vii+312. (New York and London: John Wiley and Sons, Inc., 1965.) 90*s*.

THIS book is aimed at providing an introductory background to the nature of ultra-violet radiation for the large number of workers who are not specialists in the field but who need to use ultra-violet radiation or to understand its effects. It deals with ultra-violet sources and detectors, solar radiation, the transmission and reflectivity of materials and applications of ultra-violet radiation. Ultra-violet spectroscopy is only dealt with to the extent that it is necessary to describe the variation of these properties with wavelength. Each chapter has a fairly extensive bibliography which is intended as a starting point for those who wish further information.

The additions which have been made in the second edition include data on xenon arcs and vacuum ultra-violet sources, new information on short wave solar radiation gained by rocket spectroscopy and transmission data on newly developed materials. W. C. PRICE

Transport Function of Plasma Proteins

Edited by P. Desgrez and P. M. de Traverse. (West European Symposia on Clinical Chemistry. Vol. 5.) Pp. vii+184. (Amsterdam, London and New York: Elsevier Publishing Company, 1966.) 70*s*.

THIS is the fifth West European Symposium on Clinical Chemistry. There is scant collected information about the subject and the publication of this symposium has been eagerly awaited. Sadly, the standard varies greatly and the editors have been too lenient in determining the content, so that the result is unbalanced. Certain topics are given too much emphasis, for example, vitamins are dealt with at length although most vitamin transport takes place within cells. On the other hand, clinical aspects receive very limited coverage. There is much to be learned from clinical syndromes such as betalipoproteinaemia, Tangier disease and Wilson's disease. There is very little about the transport of common cations, and this is doubly frustrating when one knows that Professor Jérome spoke on this subject at the symposium.

None the less, some excellent articles are included. That by Desgrez on transcortin is good, both as a general review and as an account of the methodology involved. Salvatore has written a comprehensive and lucid account of thyroxine transport, while Latner provides a vignette on the binding of circulating enzymes. Of greatest interest, perhaps, are Biserte's concluding remarks on the mechanism of binding and the functions of transport.

I would recommend the book for reference on certain topics rather than as a comprehensive account to be read in its entirety. K. G. M. M. ALBERTI

OBITUARIES

Dr. Arthur Patterson

ARTHUR LINDO PATTERSON was born on July 23, 1902, in Nelson, New Zealand, and died on November 6, 1966. He went to school in Montreal, Canada, and Tonbridge, England. His university education was mostly at McGill University, with postgraduate study at the Royal Institution in London between 1924 and 1926, and at the Kaiser Wilhelm Institut für Faserstoffchemie in Berlin during 1926–27, where he developed his interest in Fourier methods which led to his fundamental contributions to crystallography. After leaving the Kaiser Wilhelm Institut he spent short periods at McGill University, the University of Pennsylvania, the Massachusetts Institute of Technology, and developed an interest in biological applications while at the Rockefeller Institute for Medical Research in New York, and at the Johnson Foundation for Medical Physics in Philadelphia. His long-term posts were at Bryn Mawr, where he was professor of physics from 1936 to 1949, and at the Institute for Cancer Research in Philadelphia, where he was head of the physics department from 1949 until his death.

His best-known contribution to crystallography is the "Patterson" function. In the process of obtaining an X-ray diffraction pattern, information concerning the relative phases of the various diffraction maxima is lost, so that it is impossible to re-create directly an image of the crystal structure. The phase information has to be obtained by indirect methods, and Patterson showed that a Fourier synthesis made with the intensities of the observed diffraction maxima led to a determination of the inter-atomic vectors. In simple cases this vector map could be interpreted to give the atomic positions, but its great application to major structure determinations is that it will ordinarily show the atoms of high atomic weight, even though those of low atomic weight are not resolved. Phase determination can then begin when the position of these atoms only is known. The relative importance of the Patterson function in the analysis of structure is shown by the fact that it remains unchallenged twenty-eight years after its discovery, and it may become even more important with the development of structure-seeking methods by high speed computer. The pertinacity necessary for the development of the method is described in his own words in Patterson's contribution to *Fifty Years of X-ray Diffraction*, published in 1962 to commemorate the fiftieth anniversary of the discovery of X-ray diffraction.

Not so well known to structural crystallographers, but equally important in the field of diffraction by imperfect crystals, is his contribution to the theory that diffraction maxima broaden if the size of particles increases. His two papers of 1939 are required reading and probably the starting point for most workers in this field. In addition to these two fundamental theoretical contributions, he has been concerned with the determination of the structure of many crystals of biological importance. His systematic study of homometric sets (non-congruent arrangements of points with the same inter-point vectors) was a major contribution to the question of the uniqueness of crystal-structure determination.

In recent years Patterson has been heavily involved in work on national and international scientific committees, including two terms on the United States National Committee for Crystallography, and six years on the Executive Committee of the International Union of Crystallography. He was a trusted administrator and adviser and was held in the highest esteem by the crystallographic community in the United States and throughout the world. A. J. C. WILSON