

non-specialist reader would be much increased by the incorporation of a few simple diagrams. Next comes a description of the physics and chemistry of bone, followed by a discussion of the role of enzymes in ossification. At this point, the medical reader at least would have been interested to hear modern views on the causation and biochemistry of ectopic calcifications. Finally, there follow chapters on the calcium metabolism of teeth, the excretion and extra-skeletal functions of calcium. In future editions it might be possible to include a brief discussion of the part played by chelate compounds in its mobilization and transport. If, as has been suggested, certain of the cells of bone secrete chelating agents, our ideas about the part played by them will need revision.

This is a most useful review of the subject. The scope is wide, the style is clear and vigorous, and the work as a whole is illuminated by Prof. Irving's wide experience in the field.

N. M. HANCOX

EPIDEMIOLOGY

Principles of Epidemiology

By Ian Taylor and John Knowelden. Pp. vii + 300. (London: J. and A. Churchill, Ltd., 1957.) 30s. net.

Uses of Epidemiology

By J. N. Morris. Pp. viii + 135. (Edinburgh and London: E. and S. Livingstone, Ltd., 1957.) 17s. 6d. net.

THIS is the first English text-book of epidemiology, and many first text-books tend to look rather solid and conservative soon after their production. They bring together the important investigations of the immediate past and attempt to confine them within general rules. This book is no exception. Epidemiology, being more a method of investigation than a separate discipline, appears to stand rather shakily on its own feet within these boundaries, and although one can understand its past successes, this book gives no clue as to its future development.

These criticisms, which could be directed at most text-books about an expanding but undefined subject, are not directed at the way this volume has been produced. It is a well-written account of the epidemiology of infectious disease with a large number of examples, and it includes a clear description of the statistical basis of the calculations leading up to the solutions. The assumptions made are those accepted by a graduate in medicine, and to a postgraduate student or to a teaching department this book could be the framework of an adequate and interesting course in epidemiology.

It is a fortunate coincidence that "Uses of Epidemiology" was published at about the same time as "Principles of Epidemiology". Although written for different reasons the two books are ideally complementary. Dr. Morris has felt free to speculate upon the wider applications of the epidemiological methods worked out by the classical school of investigators into infectious disease. The fields considered range from the evaluation of services to specific clinical problems. The flexibility demonstrated appears to be a function both of the possibilities which are present in the use of epidemiological techniques and the author's original outlook towards disease and treatment.

"Uses of Epidemiology" is a short book which can be read pleasantly in an evening. Many of the

problems considered are under intensive study at the moment and it is probable that for this reason the book is easy to read now but will very quickly become dated. Some parts appear to be unnecessarily condensed and there is some difficulty in discovering the tables or figures referred to in the text. These disadvantages are minor ones and this series of ideas could be exciting reading to the epidemiologist or any medical graduate, and a gold mine to the post-graduate research worker looking for a subject or a cause.

KENNETH NEWELL

VOLUMETRIC ANALYSIS

Volumetric Analysis

By Prof. I. M. Kolthoff and R. Belcher, with the co-operation of V. A. Stenger and G. Matsuyama. Vol. 3: Titration Methods: Oxidation-Reduction Reactions. Pp. ix + 714. (New York: Interscience Publishers, Inc.; London: Interscience Publishers, Ltd., 1957.) 15 dollars.

AS Prof. Kolthoff says in his preface this third and last volume of "Volumetric Analysis" is long overdue. Volumes 1 and 2 of this series were published in 1942 and 1947, and are by Kolthoff and Stenger alone. Volume 3 is a much larger book than either of the preceding volumes and Prof. Kolthoff's account of the necessary changes of authorship reveals the magnitude of the effort needed for its completion.

It treats with commendable thoroughness and detail the practical aspect of one of the largest and most important sections of analytical chemistry. The reputation of the authors will be for most analysts a sufficient assurance of the worth of this book. Its detail is supplemented by a wealth of references, some of them as late as 1956. There are chapters on reactions, indicators and general techniques, permanganate, ceric salts, dichromate, iodometry, Karl Fischer reagent, iodate, periodate, hypohalites, ferrous and titanium salts and miscellaneous titrants. Electrical methods are not generally discussed, but an exception to this is made in dealing with the Karl Fischer method.

The treatment of each reagent includes sections on its preparation, stability and uses. Tests for purity of the reagents and of substances used in their standardization are given. It is interesting to notice that equivalent weights are given in the rational system of School as well as the international system. Methods of standardization are critically discussed. The collection of carefully selected methods for the determination of various inorganic and organic substances makes the bulk of the book. The scope of the work is evidently confined as in Volume 2 to these useful and reliable procedures, and as in that volume no attempt has been made to cover exhaustively all applications of the methods to specialized subjects in technical analysis. Many such applications are, however, given. Thus Lea's procedure for organic peroxides is included, but details of the bromometric titration of magnesium oxinate as applied to metallurgical analysis are said not to be within the province of the book. A detailed account is given of many applications of the Malaprade reaction.

This book is likely to remain for a considerable time the best and most complete account in the English language of this branch of analytical chemistry.

E. I. JOHNSON