

is followed by a resumé of the economic interests of each mammalian order and, in the case of the more important orders, of their families. It is only fair to add that the authors have almost entirely ignored literature published beyond America, but the field is enormous, and they have done their part well.

J. R.

*Life in the Making.* By A. F. Guttmacher. Pp. 288. (London: Jarrolds Publishers (London) Ltd., 1934.) 10s. 6d. net.

MR. GUTTMACHER gives a statement in non-technical language of the present state of knowledge of the physiology and genetics of reproduction, with special reference to man. The origin of the life of the individual in the fusion of the sperm and the egg, the rôle of sex hormones, the determination of sex, factors affecting fertility and the cause and characteristics of like and unlike twins are treated in a scientific setting, but with an absence of technical terms unknown to the ordinary educated reader. In each section of the subject, the growth of knowledge is traced from the earliest known myths and superstitions to the present day. The book is eminently suitable for the reader who wishes to get a general scientific knowledge of reproductive phenomena in man.

## Chemistry

*Organic Chemistry: or Chemistry of the Carbon Compounds.* By Victor von Richter. Edited by Prof. Richard Anschutz and Dr. Fritz Reindel. Vol. 1: *Chemistry of the Aliphatic Series.* Newly translated and revised from the 12th German edition (after the translation of the 2nd English edition by Dr. Percy E. Spielmann) by Eric Newmarch Allott. Pp. xiv+790. (London: Kegan Paul and Co., Ltd.; Philadelphia: P. Blakiston's Son and Co., 1934.) 35s. net.

RICHTER'S manual has been available in English over a long period of years, and the need for successive editions is a sufficient indication of the esteem in which it is held by students and teachers. A valuable feature of the latest edition is the replacement of references to the *Centralblatt* by those to the originals from 1910 onwards, some additional references being included. The character of the book is too well known to require explanation. It is essentially a descriptive account of compounds, the theory being kept to a minimum. The brief statements of preparations and properties, with numerical data, make it a valuable work of reference, but the large amount of ground covered makes it hard reading for students.

The printing is excellent, the structural formulæ being very clearly set out, and as an account of the general chemistry of aliphatic compounds in a reasonable space the book is without rival. It should be found in every chemical library; and everyone interested in organic chemistry, even incidentally, will find it useful. The literature appears to have been well covered up to quite recent papers, and the amount of information given is impressive.

*The Fundamentals of Chemical Thermodynamics.* By Dr. J. A. V. Butler. Part 2: *Thermodynamical Functions and their Applications.* Pp. x+271. (London: Macmillan and Co., Ltd., 1934.) 8s. 6d.

DR. BUTLER'S second volume gives a simple and readable account of the more modern aspects of thermodynamics on the lines of the activity concept. Experimental data are given, with clearly drawn curves, to illustrate the applications of the methods, and there are some problems and exercises. In some parts, the treatment seems too restricted and liable to create a false impression; for example, only a few lines are given to the extensions of the theory of Debye and Hückel by La Mer, Gronwall and Sandved, whilst it is well known that the simple theory fails in nearly all cases which have been adequately examined; Fig. 12, whilst showing "excellent agreement", as the author says, is superseded by more modern work which is not mentioned. Although the book cannot be said to provide an adequate critical discussion of the modern aspects of experimental thermodynamics, it deals in an able manner with the theory, and may be recommended to students as an introduction to more detailed treatises.

*Physico-Chemical Practical Exercises.* By Prof. William Norman Rae and Prof. Joseph Reilly. Pp. xiv+276. (London: Methuen and Co., Ltd., 1934.) 7s. 6d. net.

THE authors, whose massive treatise on physico-chemical methods is, or should be, part of the furniture of every well-equipped laboratory, have now provided a handy and inexpensive volume in which is described, succinctly and clearly, a series of standard exercises ranging from density determinations to measurements of ionic mobilities, electrolytic conductivities and hydrogen ion concentrations.

They give useful advice on methods of calculation and standardisation; something is said concerning nomograms, and we are glad to see that the long story of the calibration of a mercury-in-glass thermometer is omitted in favour of the more practical process of direct comparison with a thermometer possessing an N.P.L. certificate.

A. F.

## Geology

*On the Mineralogy of Sedimentary Rocks: a Series of Essays and a Bibliography.* By Prof. P. G. H. Boswell. Pp. ix+393. (London: Thomas Murby and Co., 1933.) 21s. net.

PROF. BOSWELL is well known as a leading authority on sedimentary petrology, a subject which has developed vigorously during the last two decades, largely as a result of his own researches. In this book, he summarises the literature and presents his own mature views on various aspects of sediments and their minerals, thereby making readily available to everyone interested in this branch of geology an authoritative and stimulating account of the present status of the subject and its significance.

More than half the book consists of a bibliography of 1,025 items, each accompanied by a brief but adequate abstract. The essays deal with such topics