

Entwicklungsbiologie und Ganzheit:

ein Beitrag zur Neugestaltung des Weltbildes. Von Prof. Dr. B. Dürken. Pp. vi+207. (Leipzig und Berlin: B. G. Teubner, 1936.) 6.80 gold marks.

THIS book is addressed not so much to the professional biologist as to the intelligent public and the philosopher. Its aim is to discuss anew what sort of mental picture we shall form of living organisms, and thus what kind of problems we shall formulate about them and what kind of answers we shall consider satisfactory. The question is discussed primarily with reference to the data of experimental embryology, which have so often led to similar disquisitions in the past. The fundamentals of our knowledge in this field, including the more important recent advances, are very clearly summarized in the middle section of the book, and this forms a valuable introduction to the subject, illustrated with admirable diagrams.

The philosophical point of view of the author is that of *Ganzheitsbiologie*, which corresponds more or less to what is known as organicism in Great Britain. This involves a rejection of both vitalism and mechanism, which, it is claimed, are characteristic products of the last century, with its over-emphasis on elementary particles. Biology, and the whole outlook of the present day, require a totally different method of approach, which is formulated thus: "The whole is not determined by the specific characters of its parts, but conversely the specific character of the parts depends on the primary whole".

There is probably, in spite of Viennese philosophers, a certain meaning and even truth in this statement. But what is required at the present juncture is an exact definition of what is meant by the 'primary whole'. Until this is provided, the statement is so vague that almost any conclusion can be drawn from it at will. In this book there creeps in at the end the deduction, which most scientific workers will have learnt to regard with some suspicion, that "Gemeinnutz geht vor Eigennutz". But in general the book is free from obvious politics.

An Introduction to Projective Geometry

By C. W. O'Hara and D. R. Ward. Pp. ix+298. (Oxford: Clarendon Press; London: Oxford University Press, 1937.) 12s. 6d. net.

THIS text-book should evoke in the student a realization of the infinite possibilities opened up by the many geometries included in the general scheme in which the classical geometry of his curriculum occupies a very subsidiary place. Starting with the initial propositions of incidence of lines and points, the synthetic method is developed up to the interpretation of the more complex properties of the conic. Then, co-ordinate systems are introduced projectively, to lead to the definition in projective terms of distance and angle. The various metrical geometries, both Euclidean and non-Euclidean, are discussed, and Euclidean geometry is shown to be a special case of the general projective metrical geometry.

The authors maintain that in two-dimensional projective geometry most of the fundamental ideas

pervading the whole subject are developed, and that an introduction to these ideas in the simplified fields of points and lines is better than in the more complicated fields of the higher dimensions. In the last chapters, possible developments are indicated and the application of the subject to physical geometry is shown. Furthermore, the part played by the special theory of relativity in the theory of physical geometry is shown to be an application of the principles which have been developed in the book.

The book is intended for scholarship candidates and first-year university students. A. v. Z.

Einführung in die chemische Physiologie

Von Prof. Dr. E. Lehnartz. Pp. viii+420. (Berlin: Julius Springer, 1937.) 19.60 gold marks.

AN enormous amount of information has been packed into this attractively produced volume. The first hundred pages give the chemical structure of all the more important substances found in living tissues. Forty pages are devoted to physical chemistry. Vitamins, hormones and enzymes are then discussed in separate sections, and the last 130 pages are devoted to metabolism. Generally speaking, the book is very complete and up-to-date (1937) and is clearly based on a wide knowledge of the German literature, but the work of Rowntree on the thymus, for example, is omitted, presumably because the results were published in America. The author is to be congratulated on the tables he gives showing the distribution of vitamins in different foods. A few years ago such tables were vague and qualitative, but so much progress has been made recently, that it is now possible to give the actual concentrations of vitamins A, B₁, B₂, C and D in terms of the weight of vitamin in 100 gm. of material.

The main users of this book, in Great Britain at any rate, will probably not be biochemists, but those others whose research work sometimes brings them in contact with biochemical problems. Information is easy to find and references are given, not to original papers, but to more complete monographs.

Schwingende Kristalle:

und ihre Anwendung in der Hochfrequenz- und Ultraschalltechnik. Von Prof. Dr. Ludwig Bergmann. (Mathematisch-Physikalische Bibliothek, Reihe 1, Band 93.) Pp. 47. (Leipzig und Berlin: B. G. Teubner, 1937.) 1.20 gold marks.

THIS is a remarkable *tour de force*. In five brief but lucid chapters on piezo-electric phenomena, piezo-electric crystals in high-frequency fields, the application of oscillating crystals in high-frequency technique and electro-acoustics, the applications in ultra-sonic technique and the significance of ultrasound in science and technics, the author presents a simple and amazingly complete picture of the applications of oscillating crystals. The book has a wealth of illustrations (more than one per page of text), of which neither half-tones nor line diagrams suffer any loss in value from the smallness of size which is imposed by the attractively compact form of this popular monograph.