

X-Ray the City!

The Density Diagram: Basis for Urban Planning. By Dr. Ernest Fooks. Pp. 108. (Melbourne: Ruskin Press, 1946.) 12s.

IN this essay on the general principles of town-planning, Dr. Fooks, emphasizing that population density should form the starting point for urban planning, reviews the methods already suggested for measuring the density of population in urban areas and then suggests a new method which would enable a comparable analysis of different cities to be made, free from the confusion of arbitrary administrative boundaries which constitute the major defect in density figures in relation to a whole urban or metropolitan area when considered as a basis for urban development or rehabilitation. To overcome this defect, Dr. Fooks proposes to introduce clearly defined notions for expressing the environmental factor of urban living conditions and for measuring population distribution, and to illustrate the distribution of the population within urban areas by means of the diagram of population density in its various forms, based on the distance grid. He would then replace the vague overall density figures by distance-density figures and distance-density factors; and superimposing on a city plan a circular distance grid, and calculating the densities for individual segments of each concentric ring, he obtains a rational area density diagram which can be used effectively, if not universally, to implement the sociological approach to planning of which Lewis Mumford, F. J. Osborn, T. Sharp and Ebenezer Howard have been such eloquent exponents.

The various functions and facilities of a town can also be analysed on this grid basis, and quite apart from the international adoption of the method for which Dr. Fooks pleads, its interest and bearing on the various proposals for new and satellite towns in Great Britain need scarcely be stressed further.

The book is well produced and illustrated, and an excellent bibliography also enhances its general appeal, apart from its value as a scientific tool.

R. BRIGHTMAN

Alternating Current Electrical Engineering

By Philip Kemp. Seventh edition. Pp. ix+660. (London: Macmillan and Co., Ltd., 1947.) 25s. net.

THIS is essentially a students' text-book. It has already served, in six editions, many generations of students and should in the new edition continue to enjoy a well-merited popularity. A good deal of new material has been introduced and considerable sections of the text have been re-written.

In its scope and treatment this book is particularly suitable for use in connexion with National and Higher National Certificate courses, and it should also serve as an introductory text-book for engineering degree courses.

The difficult task of selecting the subject-matter has, in general, been well done; the exclusion, for example, of electronic phenomena and apparatus except in relation to mercury arc rectifiers. It is, however, questionable whether, having regard to present practice, the twenty-five pages devoted to rotary converters are justified.

In a book covering so wide a range of material the treatment of many topics is necessarily somewhat superficial, but in general the essentials are emphasized and a satisfactory picture presented. There are, however, occasional cases of lack of clarity of

expression, as, for example, where it is stated on page 281 that "The advantages of hydrogen as a cooling medium are reduced windage and ventilation losses, due to the density of the gas". The treatment of fundamental matters is in the main thorough and satisfactory, but it is regrettable that such an important question as the sign convention which determines the 120° phase displacement of three-phase currents or voltages receives rather scant attention.

J. G.

Die hormonalen Aspekte des Fortpflanzungsprozesses

Von Dr. Jules Samuels. Pp. v+152. (Amsterdam: Holdert und Co., N.V., 1946.) n.p.

Die Hormonversorgung des Fötus

Von Dr. Jules Samuels. Pp. vii+320. (Leiden: E. J. Brill, 1947.) n.p.

DR. SAMUELS is a gynæcologist and clinical endocrinologist of Amsterdam, and believes that the development of the fertilized ovum is under the direct control of the gonadotrophic hormones of the pituitary and chorion. He also believes that the thyrotrophic factor of the pituitary is identical with the luteinizing factor, and that both the sperm and the ovum contain a store of gonadotrophic substances. These views are a series of speculative and somewhat obscure conclusions derived from a general review of the literature. They are at variance with the more usually accepted conclusion, derived from experimental study, that the gonadotrophic substances exert an influence only on the pre-fertilization phases of development of the gametes. The burden of proof of Dr. Samuels' theses rests upon his shoulders, and until he can provide experimental support for his views they are scarcely likely to command more than occasional interest.

The Gemmologists' Compendium

By Robert Webster. Second edition. Pp. 241+20 plates. (London: N.A.G., Ltd., 1947.) 15s.

IT is ten years since this Compendium first appeared. Much additional matter has been incorporated in the new edition. The extensive glossary which constitutes Part 1 includes not only definitions of precious and semi-precious stones, and the trade names by which they are sometimes known, but also explanations of the various technical names used in connexion with the scientific study of gem stones. It has been enlarged, and now occupies one half of the book. Part 2 also has been extended, and deals very thoroughly with the optical, physical and chemical properties and characteristics of precious stones, and the technical methods by which these properties can be determined. Numerous tables of optical and physical constants are included, and there is also a section on artificial gem stones and the methods by which they can be recognized. Among the illustrations are twenty excellent plates, nine of which are coloured. Irrelevant matter of the type often found in books on gem stones, relating to their history and aesthetic value, has been completely omitted; but the book contains a vast amount of accurate and useful technical information arranged in a compact and convenient form. It is primarily intended as a *vade mecum* for jewellers and traders in precious stones, to whom it should prove invaluable; but it also forms a very useful ready-reference work for all in any way interested in gem stones, whether in a professional or amateur capacity.