

concern of the writers of this book. They have written for a wide though a definite public—for parents, students of education, members of administrative staffs in schools, institutions and children's hospitals, and "those public-spirited citizens who may like to keep abreast of developments in this field". More especially, their purpose has been to meet the needs of teachers' colleges and university departments of education. No important aspect of child development has been omitted, not even the religious aspect. Some readers may in fact think that the scientific spirit is upheld to the point of quaintness when they read that "religious education can give human life dignity and worth through God-orientation".

As the title-page emphatically shows, the book is of highly composite authorship, there being no fewer than fourteen contributors. In this respect it differs from other recent and highly approved American books on the same subject, notably those of F. D. Brooks and Ruth Strang. The writers were carefully chosen for the specific contribution each was able to make. All of them have established connexions with leading institutions of higher education, and all of them are deemed to be qualified, by training and experience, to speak with authority. Equal care has been taken to prevent overlapping, and in an appendix the threads are pulled together by means of a full outline of the contents of the book. Extensive bibliographies enhance its value as a student's manual. By way of comparison with the well-known treatises of A. Gesell, J. Piaget and Susan Isaacs, it may be added that each of these is the work of one hand, and that each of them is in the main the result of original observation and experiment.

The range of topics covered by the book is so wide that it is only possible here to attempt a representative selection. On the vexed question of human instinct, for example, the authors are, on experimental grounds, led to a position which is neither that of the psychologist who made a list of fifteen hundred, nor that of the psychologist who found none at all. To maintain, says one of them, as McDougall does, that the human mind has a number of inherited tendencies that are the essential motivators of human striving has strong appeal to many even though others find the evidence unconvincing. It may be added that a general acceptance of McDougall's position seems to have led to fruitful results in the realm of applied psychology. On the subject of intelligence tests justifiably high claims are made for the brilliant work done by American psychologists, but with the equally justifiable warning that "unfounded generalizations, dogmatic assumptions, and unscientific attitudes have done much to destroy confidence in intelligence tests as they are now used and interpreted". The chapter on children's learning contains needed criticism of the half-truth that practice makes perfect: mere hammering away with no motive except to please parent or teacher yields little benefit, and we should never lose sight of the fact that learning often takes place with great suddenness—which is again a question of motive. There is an excellent chapter on the play life of children, but how odd it seems to anyone who has followed American studies in education produced during the past half-century to find that poor old Froebel is now not even mentioned! Odd, but no doubt inevitable, for though Froebel may have been in the main essentially sound, his writings cannot bear the test of scientific scrutiny.

This book on child study has been produced by a strong team of contributors, and it has features which differentiate it from other comparable books. It should take its place as a standard work on the subject. That it is addressed primarily by Americans to Americans is, at this time of day, a good reason why it should be well received on the other side of the Atlantic.

T. RAYMONT.

ENGINEERING DESIGN

Practical Design of Simple Steel Structures

Vol. 2 : Girders, Columns, Trusses, Bridges, etc. : a Text-Book suitable for Civil Engineers, Structural Engineers, Road and Railway Engineers, and Students at Universities and Technical Colleges. By Dr. David S. Stewart. Second edition. Pp. xiii+289+11 plates. (London: Constable and Co., Ltd., 1940.) 16s. net.

Machine Design Drawing Room Problems

By Prof. C. D. Albert. Third edition. Pp. xi+441. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1940.) 21s. net.

IN its second edition, Stewart's "Practical Design"—one of the series edited by Prof. Moncur and known as the "Glasgow Text-Books"—has been largely revised and rewritten to bring it into conformity with recent specifications. A substantial part consists of the detailed calculations necessary in the complete design of girders, columns, trusses, portals and bridges, and here an innovation has been introduced by arranging the figuring and the explanatory notes on opposite pages. This permits the calculations to be followed through consecutively and gives the young designer a guide to the proper method of setting out his own calculations in an orderly and logical sequence.

The book exhibits the dual purpose of developing the principles and applications of structural theory and of inculcating in the reader's mind the importance of the successive steps in the working up of a complete design. Against the risk of mere calculations being regarded too dogmatically, the author maintains a just proportion as between theory, practical knowledge and mathematical processes.

Prof. Albert's book treats of quite a distinct branch of engineering design, but it is evident that it too has been written from the point of view that practical knowledge is of the highest importance in design. It requires a sufficient knowledge of kinematics, mechanics and drawing, and offers, in conjunction with a parallel lecture course, the complete material for a practical course of instruction in machine design. The examples with which it deals include a number of unusual problems such as an arbor press, the frame of a punching machine, and a thruster brake and thus afford a welcome change. The designs of these and other examples are fully worked out from initial specifications set out in much the same terms as they would be received in the drawing office and so present the method by which each problem is reduced to its elements and then worked up into the complete design. The latter part of the book forms a store of valuable data essential to the designer of machines and, for this alone, many will find it an almost indispensable item of drawing office equipment.