

**Surveying for Young Engineers**

By S. Wright Perrott. Pp. viii + 232. (London: Chapman and Hall, Ltd., 1946.) 10s. 6d. net.

**T**HIS book is a revised and greatly enlarged edition of the author's "Surveying for Schools", originally published in 1930. It is designed to give practical assistance to the young and inexperienced surveyor. The author has thus wisely widened the scope of his earlier volume in order to provide a more complete exposition of the subject, while still concentrating upon the practical point of view in dealing with the field and office work. The text consists of twenty-eight chapters devoted to the practical methods employed in making surveys, an explanation of the necessary instruments, and the preparation of relevant plans. Some good advice is given on the important work of checking, and the book is excellently illustrated by drawings, maps and plates depicting some of the instruments to be used. No instrument, however, is described until its practical use has been fully explained. A useful index is included; but no exercises are provided since the course is intended mainly for practical field work. Formal mathematical treatment has also been avoided—the only form of calculation needed being simple arithmetic.

As the author points out, most of the text-books on the subject are academic productions, planned with a view to examination requirements; but the field is the right place in which to lay the foundation of surveying. Hence, the emphasis on practical outdoor work.

The book is well printed and got up, and should be of much use to those beginning the study of surveying.

**Elements of Mechanism**

By Peter Schwamb, Allyne L. Merrill and Walter H. James. Sixth edition, revised by Prof. Venton Levy Doughtie. Pp. xi + 428. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1947.) 4 dollars.

**T**HIS somewhat unusual type of text-book originated in 1885 from printed notes used by Prof. Peter Schwamb at the Massachusetts Institute of Technology. In its present form, the book is in thirteen chapters dealing with motion, vectors, velocity, acceleration, linkages, transmission of motion by direct contact, cams, rolling contact, gears, trains of wheels, belts, ropes, chains, pulley blocks, screws, screw threads, pawls, escapements, etc. The whole course thus provides an authoritative book on the fundamental principles of kinematics applied to mechanical movements. In this edition, not only have recent data on the subject been added, but also laboratory problems emphasizing practical applications of theory are included for the first time.

As Prof. James points out in the preface to the fifth edition, "A study of the elements of mechanisms . . . is intended primarily to give the student familiarity with, and practice in thinking about, the application of the fundamental principles of kinematics in a specific field, namely, the field of mechanical movements".

The text is, in relevant sections, treated mathematically, frequent use being made of the simpler methods of the calculus, and is profusely illustrated both by clearly drawn diagrams and blocks lent by manufacturers. An index is provided; but no answers to the problems are given as solutions are expected

to be done graphically. The whole course has been skilfully mapped out in an interesting manner and should be of much use to technical students.

F. G. W. BROWN

**Hydraulic Measurements**

A Manual for Engineers. By Prof. Herbert Addison. Second edition, revised and enlarged. Pp. xii + 327. (London: Chapman and Hall, Ltd., 1946.) 21s. net.

**T**HE need for a second edition of this admirable manual within a relatively short time amply justifies the encomiums which were paid to the first edition on its publication in 1940. It was, in fact, an appropriate and even a necessary adjunct to the same author's "Text Book of Applied Hydraulics", and clearly it has been found helpful by a number of engineers and students engaged on problems connected with liquid flow. The opportunity has been taken to amplify the original text by adding some new paragraphs to improve the balance of the work, and at the same time to bring it up to date. These additions have been introduced in such a way as not to disturb the arrangement of the original material, which remains unaltered. Hydraulics is largely an empirical science, and the application of reliable standards of measurement is necessary to its satisfactory development. New methods, some of them indirect, as in the case of the Allen salt-velocity principle, are continually being evolved, and, among other recent improvements, the author notes the adoption of standardized forms of pipe inlet in the Annis suction pipe meter now being used in that type of differential head meter. The manual will be found enhanced in usefulness by its revision and extension.

B. C.

**The Yale Collections**

By Wilmarth S. Lewis. (Published on the Foundation established in Memory of Curtis Seaman Read of the Class of 1918 Yale College.) Pp. xv + 54 + 13 plates. (New Haven: Yale University Press; London: Oxford University Press, 1946.) 11s. 6d. net.

**Y**ALE was founded on a collection of books. This short survey of the collections of books, manuscripts, objects of art, natural history and anthropology which have come to Yale during the past two and a half centuries has been written to indicate their extent and variety, which are not generally known even in New Haven. If the library is the heart of a university, the other collections are the basic food of research. It is therefore sad to see that the author finds it necessary to justify the existence of "what many consider a frill". The survey briefly describes the history and contents of the library and its specialized collections, the art gallery, the Peabody Museum and the Anthropology Museum. It has space to mention only by name many other valuable collections and the splendid researches which have resulted from their study. The illustrations include an interesting photograph of a restoration of the first Yale College library as it was in 1742, with the actual books presented by Newton, Halley, Bishop Berkeley and others on the shelves.

The printing, paper and make-up of the volume are worthy of their subject, but the text contains a number of colloquialisms that jar on British ears.

L. HARRISON MATTHEWS