reference to Witwatersrand practice, many of the chapters have been provided with introductory matter to treat each subject in a connected manner. It is difficult to combine the amount of detail desirable for a handbook of reference with the breadth of treatment needed for a textbook. From the point of view of a textbook, the chapters on underground methods of working could have been improved by a broader review of the methods described. T. P.

Merchant Venturers in Bronze. By H. Peake and H. J. Fleure. (The Corridors of Time, 7.) Pp. viii + 168. (Oxford : Clarendon Press ; London : Oxford University Press, 1931.) 5*s.* net.

IN "Merchant Venturers in Bronze" the authors of "The Corridors of Time" have now come to the early and middle bronze age. At the beginning of this period, somewhere about 1900 B.C., the fall of Hissarlik, as they interpret the evidence, caused a dislocation of the trading activities radiating from the Troad, but by no means interrupted the spread of a knowledge of bronze. The argument for the localised development of culture already put forward, in the case of outlying areas visited for the supply of metal, is here carried further in its application to western Europe.

The period covered, which extends over the greater part of the second millennium, is one of special interest, as it comprises not only the extension of the use of bronze in central Europe—of which the account given here may, perhaps, appear to make light of difficulties, though with some success—but it also embraces the great racial movements of the Aryans into India, the Kassites into Mesopotamia, and the Hyksos into Egypt. It has also to deal with the foundation of the Mycenæan civilisation and with the numerous problems to which the origin and early development of that civilisation gives rise, such as, for example, the chronological and cultural relation of the tholos tomb and the shaft-graves of Mycenæ, a problem for which an ingenious solution is suggested. The period is a maze of difficulties ; and if the size of the volume precludes very detailed treatment, it does at least serve as a guide along the darker stages of the way.

Engineering Mechanics. By Prof. F. L. Brown. Pp. xi + 477. (New York : John Wiley and Sons, Inc. ; London : Chapman and Hall, Ltd., 1931.) 20*s.* net.

THE book is written from the point of view of the engineering student, and the applications of the principles of mechanics are treated conformably with engineering practice. Thus the examples are drawn from roof trusses, bridge girders, journal bearings, pump impellers, automobile engines, and the like. Applications in other directions are ignored as inappropriate. The subject matter is clearly expounded, with many well-executed diagrams which should render the text easy to assimilate. The usual ground is covered in two parts, the first dealing with statics and the second with kinematics and kinetics. The author makes a point of omitting any reference to the term 'mass' in the development of the last-named subject until after he has restated and explained Newton's Laws of Motion independently of it. Indeed, he avoids the use of the word throughout, urging that it is not essential to the elucidation of problems which particularly concern the engineer. Appended to each section of explanatory text is a selection of illustrative examples, with solutions or answers. With its modern instances, the book is thoroughly up to date, and should prove useful to the engineering student. B. C.

A Practical Manual of Lac Cultivation. By P. M. Glover. Pp. iv + 81 + 16 plates. (Nankum, Ranchi : The Indian Lac Association for Research, 1931.) n.p.

IN view of the importance of the lac industry to the Indian Empire, it is obviously desirable that the best practical information should be readily accessible to all who seek it. Mr. P. M. Glover, entomologist to the Indian Lac Research Institute at Ranchi, has produced an up-to-date guide to the subject, embodying the results of recent investigation carried out under the auspices of the Lac Research Institute, which will doubtlessly be welcomed by all the more progressive growers. The yield of the lac crop responds enormously to judicious inoculation and skilful cultivation, coupled with proper pruning of the host trees. Unfortunately, the lac insect itself has numerous enemies, and some of the most destructive are other insects of several kinds. The counteraction of the activities of such enemies is one of the most urgent problems that have to be faced, since they are responsible for the destruction of about sixty per cent of the crop produced in each year. These and other aspects of lac cultivation are discussed by Mr. Glover in his very practical guide to the subject.

Check-List of Birds of the World. By James Lee Peters. Vol. 1. Pp. xviii + 345. (Cambridge, Mass. : Harvard University Press ; London : Oxford University Press, 1931.) 17*s.* 6*d.* net.

A SINGLE work giving a complete list of the birds of the world had not been published for more than thirty years, during which time very many new forms had been described and much revision had been made in classification and nomenclature. The list which Mr. Peters, of the Harvard Museum of Comparative Zoology, is compiling, and of which this is the first of ten volumes, will therefore be an invaluable work of reference for ornithologists if the remainder of the task can be accomplished without too great delay. The information given is restricted to the names of the genera, species, and sub-species, the authorities for these, abbreviated synonymies, and summaries of the distribution of each form. On many controversial points of nomenclature and validity the author has necessarily had to follow his own judgment, but apart from differences of opinion in this regard, there is likely to be little criticism of the way in which he has begun his great labour. The arrangement and the typography are admirably clear.