Portugal, and France, where there are many occurrences of greater importance than some that receive mention in this book. T. C.

A Text-book on Machine Drawing for Electrical Engineers. By E. Blythe. (The Cambridge Technical Series.) Pp. vii+81. (Cambridge: At the University Press, 1920.) Price 20*s.* net.

ALL teachers of electrical engineering are aware of the need for a text-book on the drawing and construction of electrical apparatus. This attempt, however, to supply the need is disappointing. Apparently the author intends the book to serve for a complete course of machine drawing for electrical students, for he commences with the laws of projection and gives several very simple examples in illustration of them. He proceeds then to fastenings, cable sockets, junction-boxes, switches, and dynamos. The subject-matter is confined entirely to such apparatus as is found in small continuous-current power stations (but instruments are not included); consequently the alternator, induction motor, oil-switch, and other important pieces of electrical apparatus are notably absent. Several complete plates are devoted to non-dimensioned sketches showing types of apparatus, *e.g.* one on brush-holders; a few such examples are undoubtedly useful for practice in sketching, but here too much space is occupied in this way. The drawings are clear and very well arranged, but the descriptive matter is unnecessarily prolix. The examples given do not always represent good practice; for instance, in several places a single-piece armature disc is shown with a dove-tailed key, while a bearing is shown on p. 73 which would be destroyed by a little end-thrust. The book is well got up and has been prepared carefully; but the ground covered is insufficient—at the price.

Mathematics for Engineers. Part ii. By W. N. Rose. (The Directly Useful Technical Series.) Pp. xiv+419. (London: Chapman and Hall, Ltd., 1920.) Price 13*s.* 6*d.* net.

PART ii. of this book is devoted principally to the differential and integral calculus, and includes chapters on spherical trigonometry and mathematical probability. The book is intended for engineers, most of whom are not called upon in their profession to show capacity for high mathematical flights, but are expected to comprehend clearly such fundamental principles as enter into their work, and to be ready successfully to apply them to practical problems. Examining the book from this point of view, we believe that it will find favour with most engineers and students of engineering. If we include also the matter comprised in Part i. the volumes contain practically everything in the way of mathematical principles which the engineer is likely to require. The treatment is clear and of a kind which appeals to engineers, and a very large number of practical applications are given. Many of these are fully worked out to the arithmetical result, and there are very few which can be said to be of an academical nature only. These examples cover a wide field, having been drawn from all branches of engineeering, and represent a large amount of labour for which engineers will be grateful. We can heartily recommend this volume, as well as its predecessor, to all students of engineering.

The Manufacture of Intermediate Products for Dyes. By Dr. J. C. Cain. Second edition. Pp. xi+273. (London: Macmillan and Co., Ltd., 1919.) Price 10*s.* net.

PROBABLY no one in this country is more competent to write on intermediate products than Dr. Cain, and the fact that a new edition of this book has been called for within a year is the best testimony to its success. The opportunity has been taken to improve certain sections and to incorporate new work, most of which, it is of interest to note, originates now in America. It is gradually being realised that intermediates are the crux of the dye situation, and the wisdom of the policy adopted in this direction by British Dyes, Ltd., in building their new factory at Huddersfield is becoming apparent. Given the intermediates, the manufacture of the several dyes is usually a fairly straightforward problem, but there is still much leeway to make up in connection with intermediates, which will require the most ample resources, alike in capital, plant, and technical experience. This will take considerable time to fructify, and some form of closer co-operation with the heavy chemical trade would appear most desirable.

The British colour industry is receiving some adverse criticism from the users of the rarer colours for which the demand, at the most, is but small, but it has a more important task at the moment than to fritter away its energies in making these colours. The colour industry is based on intermediates; it is the manufacture of these by the best methods, with the largest yields, and of satisfactory purity which must be studied in the laboratory and in the works. This is being done, and Dr. Cain, through his book, in which the available information is clearly presented, is helping to do it.

Solutions of the Examples in a Treatise on Differential Equations. By Prof. A. R. Forsyth. Pp. 249. (London: Macmillan and Co., Ltd., 1918.) Price 10*s.* net.

EVEN from the point of view of an undergraduate, the subject of differential equations is very different from what it was fifty years ago. But in a large and miscellaneous collection of examples like this there are a number of survivals which remind us of De Morgan's application of the proverb: "Those that hide know where to find." Teachers and solitary students (if such there be nowadays) will be grateful to Prof. Forsyth for providing them with a key. It is one more example of the author's untiring industry and, so far as we have tested it, of his accuracy in details of analysis. M.