the text-book designed to meet the wants of a definite class of students. The authors have set themselves the problem of covering the syllabus of the Intermediate Examination at Calcutta University, and furnish an exposition of elementary statics and dynamics, with several illustrations happily chosen with reference to Indian daily life.

The explanatory matter is abundant, and so are the worked-out examples, but unfortunately many of the statements are extremely loose. For instance, at page 47 we read, "Forces P and Q pounds acting in opposite directions on a mass of m pounds produce an acceleration $\frac{P-Q}{m}g$ feet per second per second," a mode of statement which will unite the advocates of the pound, poundal, and slug, until the question of dimensions is raised. And again, at p. 291 :—"We conclude therefore that whenever a body moves in any curve it is acted upon by a force along the normal and outwards from the centre." Alas!

A large number of misprints, usually trivial, have escaped the eye of the proof reader, *e.g.* at pp. 78, 80, 117, 119, 120, 169, 211, 225, 231, 232, 258, 261, 262, 263, 264, 283, 294, 299, 313. S. K.

A First Book of Practical Mathematics. By T. S. Usherwood and C. J. A. Trimble. Pp. 183. 1s. 6d. 1913. (Macmillan & Co.)

The book deals in ten chapters with the simple operations of arithmetic and algebra, the use of squared paper, and practical applications of elementary mathematics to simple problems in elementary mensuration and physics. Attempts are made with varying success to justify the mathematical operations involved, but it will be seen from the following quotations that the emphasis is on the *practical* rather than on the *mathematical* side : "The sign $-$ denotes the inverse of the sign $+$." "Division is the inverse operation to multiplication. Thus $a\times\frac{1}{b}$ is the same as $\frac{a}{b}$." "If any numbers whatever be substituted for a, b and x, it will be found that $a(b+x)=ab+ax$." "Drawings will show that equiangular triangles are of the same shape."

The book is well printed, and there is abundance of good examples, many of them taken from examination papers.

Practical Geometry and Graphics for Advanced Students. By Joseph Harrison and G. A. Baxandall. Pp. 677+xiv. 6s. 1913. (Macmillan & Co.)

This book is an enlarged edition of the original work first published in 1899 and subsequently reprinted six times. It covers the syllabus of the Higher Examination of the Board of Education in Practical Geometry and Graphics. The new matter includes (i) a chapter illustrating the application of geometry to the work of the builder, mason, joiner, and metal plate worker, (ii) an extended treatment of graphics, including graphic integration and differentiation, graphic statics in two and three dimensions, and graphic dynamics, (iii) a collection of questions selected from the Board of Education examination papers, grouped and arranged, with answers.

The subject-matter is sub-divided into three sections dealing respectively with Plane Geometry (175 pages), Descriptive Geometry (344 pages), and Graphics (88 pages). Then we have 43 pages of examination questions, 6 pages of mathematical tables, an Appendix enumerating the definitions and theorems of Pure Solid Geometry, and a very full Index.

The book has been carefully and concisely written, the explanations are clear, and the numerous diagrams are well drawn and conveniently arranged. Contrary to the usual practice, the decimal point is invariably placed at the bottom.

The last chapter of Section I. is entitled Plotting on Squared Paper, and is chiefly devoted to the Straight Line. The determination of the equation of a straight line already drawn is based on the calculation of the constants of the equation from the observed coordinates of two points selected near its ends. Would it not be worth while to explain how the gradient can be read off directly from the drawing?