

discussion of figures bounded by planes is treated in sufficient detail. A short discussion of the perspective of the circle is added, and a still shorter discussion of shades and shadows. The book has a table of contents, an index, a list of books for further reading, and is almost entirely free from typographical errors. It is well fitted for its purpose of providing a knowledge of the essentials of perspective in a small popular volume.

VIRGIL SNYDER.

*A Treatise on Statics.* By GEORGE M. MINCHIN. Vol. II. Fifth Edition. Revised by H. T. GERRANS. Oxford, The Clarendon Press, 1915.

"IN December, 1913, when the preparations for a new edition became necessary, it was suggested to the author (1) that certain portions should be omitted (in the hope that they might form the basis of a separate work); (2) that some account of the author's recent researches in spherical harmonics should be given; (3) that a substantial number of examples should be added." The author determined which chapters and articles should be left out, but his death occurred before the task of revision was begun.

In this latest edition 467 examples have been added in an appendix, also a very few in the text, while the original numbering of the articles in the fourth edition has been retained. Three entire chapters (of the fourth edition) have been omitted, Chapter XVIII, Analysis of Strains and Stresses, Chapter XIX, Electrostatics, also the chapter on Astatic Equilibrium, viz., Chapter XIV, in which the subject was treated with the aid of quaternions.

Other omissions are arts. 221-226, 228-234, on reciprocal screws, etc., arts. 280, 281, on general properties of static energy and stable configuration, arts. 288-296 on elastic wires, inextensible surfaces and liquid surfaces, arts. 307-314 on tortuous curves and kinetic analogues. Note *A*, on the equation of capillarity, has disappeared, as well as the index to Volume II.

Otherwise this edition is a verbatim reproduction of the fourth edition, with occasional obvious omissions of subscripts. In art. 235 the correct reading is  $\phi = qAR$  and  $K = pR$ . In the last equation in art. 241, the  $-$  sign should be  $+$ , and in equation (2) of problem 9 at the end of the same article  $\alpha/\mu$  should be  $a/\mu$ .

Certain errata found in the fourth edition, all but one of which were noted by Professor Hoover of Ohio University, have been corrected, except that a superfluous 1 still remains in the answer to problem 12, art. 325. Other errors uncorrected in both editions are  $W/2$  in place of  $W$  as the answer to problem 5, art. 205; and in art. 227 the variables should be connected by *three* equations if the body has three degrees of freedom.

It is evident that this edition is essentially a reprint, and that the reviser felt a commendable reluctance in changing in any way, except as sanctioned by the author, a text which holds such a high reputation among scholars.

F. H. SAFFORD.

#### NOTES.

AT the meeting of the Edinburgh mathematical society on November 10 the following papers were read: By E. T. WHITTAKER: "Some theorems on determinants"; by H. DATTA: "On the theory of continued fractions."

THE National academy of sciences held its autumn meeting at the Massachusetts Institute of Technology on November 13-15. The programme included the following mathematical papers: By F. R. MOULTON: "On analytic functions of infinitely many variables"; by H. S. WHITE, F. N. COLE, and LOUISE D. CUMMINGS: "Enumeration of all triad systems on fifteen elements"; by W. E. STORY: "Some variable three-term scales of relation." The list of scientific exhibits included graphic representations of triad systems, by H. S. WHITE.

THE Association of mathematics teachers of New Jersey held its fifth regular meeting at Newark on November 25th. The programme included the final report of the committee on trigonometry courses and papers by: A. W. BELCHER: "The first year high school course in mathematics"; W. D. REES: "Newton's analytical triangle"; C. R. MACINNES: "Some theorems on regular polygons described on the sides of a triangle"; WILLIAM STRADER: "Teaching first year algebra."