### BOOKS, ETC. RECEIVED.

A Treatise on Hydrostatics. By G. M. MINCHIN. Vol. I. Pp. 198. 4s. 6d. Vol. II. Pp. 180. 6s. 1912. (Clarendon Press.)

Sphinx-Oedipus. Edited by A. Gerardin to Nov. 1912. 13 fr. 50 per ann. (32 Quai Claude le Lorrain, Nancy.)

The Orthopole. By W. GALLATLY. Pp. 10. Privately printed. (5 Hampton Place, St. Marychurch, Torquay.)

Projektive Geometrie der Ebene unter Benutzung der Punktrechnung dargestellt. By H. Grassmann. Vol. II. Part I. Pp. xii+410. 1912. 18 m., cloth 19 m. (Teubner, Leipzig.)

Lehrbuch der Funktionentheorie. By W. F. Osgood. Vol. I. 2nd Edition. Pp. xii+766. 17 m., cloth 18 m. 1912. (Teubner, Leipzig.)

Mathematisch-naturwissenschaftliche Mitteilungen. Edited by Dr. Wölffing and others. May and Oct. 1912.

Les Carrés magiques du m<sup>ième</sup> Ordre. By E. Barbette. Pp. 244. 7 frcs. 50 c. 1912. (Pholien, Liège.)

Les Piles merveilleuses. By E. BARBETTE. Pp. 16. 1912. (Pholien, Liege.) On the Foundation and Technic of Arithmetic. By G. B. HALSTEAD. Pp. iv +133. 18. 1912. (Open Court Co., Chicago.)

Academia pro Interlingua Anno XXV. Discussiones. Vol. III. Nos. 6 and 7. 6-15 Oct., 7-15 Dec. 1912. Pp. 161-204. Edited by G. Peano. (Bocca, Turin.)

Intermédiaire des Mathématiciens. Edited by M. MAILLET and others. Jan. Dec. 1912. 8 fr. 50 per ann. (Gauthier-Villars.)

Periodico di Matematico and Supplement. Edited by G. LAZZERI. Jan.-Dec. 1912. 9 l. + 2 l. 50 per ann. (Giusti, Livorno.)

Proceedings of the Tôkyô Mathematico-Physical Society. 1912. (Tôkyô Imperial University.)

Revista de la Sociedad Matematica Española. 1912. 18 pes. per ann. (51 Sar Bernardo, Madrid.)

Deuxième Démonstration complète du grand Théorème de P. de Fermat. By A. F. de Bouffall. Pp. 8. 1912. (Imprimerie Scientifique, Varsovie.)

Bulletin of the American Mathematical Society. Edited by F. N. Cole and others. 1912. 5\$ per ann. (Am. Math. Soc., New York.)

Text Book of Mechanics. By L. A. Martin, Jun. Vol. IV. Applied Statics. Pp. xii+198. 6s. 6d. net. 1913. (Wiley, Chapman & Hall.)

An Introduction to Algebraical Geometry. By A. C. Jones. Pp. 548. 12s. 1912. (Clarendon Press.)

Gazeta Matematica. Edited by N. I. GEORGESCU and others. Jan. Dec. 1912. 7 lei 50 per ann. (Tipografia Cooperativa, Bucuresti.)

L'Enseignement Mathématique. Edited by MM. LAISANT and FEHR. Jan.-Dec. 1912. 15 frcs. per ann. (Gauthier-Villars.)

Nouvelles Annales de Mathématiques. Edited by MM. BOURLET and BRICARD. Jan. Nov. 1912. 17 frcs. per ann. (Gauthier-Villars.)

Mathesis. Edited by MM. Neuberg and Mansion. 1912. 9 frcs. per ann. (Gauthier-Villars.)

Annals of Mathematics. Edited by Ormond Stone and others. Second Ser. Vol. XIV. No. 2. Dec. 1912. (2\$ per ann.) (Editors, Princeton, N.J., U.S.A.)

Theo Theorems on Conics. S. Leschetz, A new Type of Solution of Loplace's Equations. H. Bate-Man. Involutoric Circular Transformations as a particular Case of the Steinerian Transformation and their Invariant Nets of Cubics. A. Ench. On Analytic Functions of constant Modulus on a given Contour. T. H. Gronwall. Necessary and sufficient Conditions for the Interchange of Limit and Summation in the Case of Sequences of Infinite Series of a certain Type. T. H. HILDEBRANDT. A simple Proof of a fundamental Theorem in the Theory of Integral Equations. M. Böcher. An Application of Modular Equations in Analysis Situs. O. Veblen.

Il Pitagora. Edited by G. FAZZARI. Jan.-Dec. 1912. 21. per ann. (De Luca, Palermo.)

Mathematics from the Points of View of the Mathematician and the Physicist. By E. W. Hobson, F.R.S. Pp. 24. 1s. 1912. (Cam. Univ. Press.)

# THE MATHEMATICAL ASSOCIATION.

(An Association of Teachers and Students of Elementary Mathematics.)

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and an ornament thereunto."—BACON.

#### Bresident :

Prof. E. W. Hobson, Sc.D., F.R.S.

# Dice-Presidents :

Prof. Sir Robert S. Ball, LL.D., F.R.S. Prof. G. H. BRYAN, Sc.D., F.R.S. Prof. A. R. FORSYTH, Sc.D., LL.D.,

F.R.S. Prof. W. H. H. Hudson, M.A., LL.M. R. LEVETT, M.A. A. LODGE, M.A.

G. B. MATHEWS, M.A., F.R.S. G. M. MINCHIN, F.R.S. Prof. H. H. TURNER, D.Sc., F.R.S.

Treasurer :

F. W. HILL, M.A., City of London School, London, E.C.

Editor of the Mathematical Gazette:

W. J. GREENSTREET, M.A., The Woodlands, Burghfield Common, Berks.

## Secretaries :

C. Pendlebury, M.A., 39 Brandenburgh Road, Gunnersbury, W. H. D. Ellis, M.A., 12 Gloucester Terrace, Hyde Park, London, W. Miss M. Punnett, B.A., London Day Training College, Southampton Row, W.C.

### Librarian :

C. E. WILLIAMS, M.A., 15 Ranelagh Avenue, Barnes, S.W.

# Other Members of the Council:

Р. Аввотт, В.А. C. V. DURELL, M.A.

Miss E. Greene. Miss E. R. Gwatkin, M.A. P. J. HARDING, M.A.

C. S. Jackson, M.A. F. S. MACAULAY, D.Sc. T. P. Nunn, M.A., D.Sc. A. W. Siddons, M.A.

F. J. W. WHIPPLE, M.A.

THE MATHEMATICAL ASSOCIATION, formerly known as the Association for the Improvement of Geometrical Teaching, is intended not only to promote the special object for which it was originally founded, but to bring within its purview all branches of elementary mathematics.

Its fundamental aim as now constituted is to make itself a strong combination of all masters and mistresses, who are interested in promoting good methods of mathematical teaching. Such an Association should become a recognized authority in its own department, and should exert an important influence on methods of examination.

General Meetings of the Association are held in London once a term, and in other places if desired. At these Meetings papers on elementary mathematics are read, and any member is at liberty to propose any motion, or introduce any topic of discussion, subject to the approval of the Council.

"The Mathematical Gazette" is the organ of the Association. It contains-

(1) ARTICLES, on subjects within the scope of elementary mathematics.

(2) Notes, generally with reference to shorter and more elegant methods than those in current text-books.

(3) Reviews, at present the most striking feature of the Gazette, and written by men of eminence in the subject of which they treat. They deal with the more important English and Foreign publications, and their aim, where possible, is to dwell rather on the general development of the subject, than upon the part played therein by the book under notice.

(4) PROBLEMS AND SOLUTIONS, generally selected to show the trend of investigation at the universities, so far as is shown in the most recent scholarship papers. Questions of special interest or novelty also find a place in this section.

(5) SHORT NOTICES, of books not specially dealt with in the REVIEWS.

Intending members are requested to communicate with one of the Secretaries. The subscription to the Association is 10s, per annum, and is due on Jan. 1st, It includes the subscription to "The Mathematical Gazette."