

bia University in 1901–1902, as announced in the last number of the BULLETIN, there is to be added a course on “The history of mathematics,” three hours weekly, by Professor D. E. SMITH.

A BUST of GAUSS has been placed in one of the halls of the University of Berlin.

PROFESSOR E. H. MOORE is one of the five new members elected to the National academy of sciences at its annual meeting April 16th–18th.

DR. J. A. GMEINER has been made professor extraordinarius of mathematics at the German University of Prague.

PROFESSOR GINO FANO, now at Messina, has been made assistant professor of projective and descriptive geometry at the University of Turin. Professor U. DINI of the University of Pisa has been elected a member of the superior council of instruction of Italy.

AT Yale University Professor J. E. CLARK, James E. English professor of mathematics in the Sheffield Scientific School since 1873, has resigned because of poor health. He has been made professor emeritus, and Professor P. F. SMITH has received the title of James E. English professor. Dr. E. R. HEDRICK has been appointed instructor in mathematics in the Sheffield Scientific School.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BALL (W. W. R.). A short account of the history of mathematics. 3d edition. London and New York, Macmillan, 1901. 12mo. 552 pp. Cloth. 10s.
- BEMAN (W. W.). See DEDEKIND (R.).
- BLICHFELDT (H.). On a certain class of groups of transformations in space of three dimensions. (Diss.) Leipzig, 1900. 8vo. 61 pp.
- BONNEL (J.). Note sur les systèmes de géométrie et l'atome. Paris, Gauthier-Villars, 1900. 8vo. 15 pp. Fr. 1.00
- CADENAT (A.). See RUSSELL (B. A. W.).
- CARNOY (J.). Cours d'algèbre supérieure: principes de la théorie des déterminants; théorie des équations; introduction à la théorie des formes algébriques. 2^e édition. Paris, Gauthier-Villars, 1900. 8vo. Fr. 11.00
- COUTURAT (L.). See RUSSELL (B. A. W.).
- CRIVETZ (T.). Essai sur l'équidistante. Bucarest, Göbl, 1900. 8vo. 50 pp.
- DARREYE (A.). Polare Felder und Kegelschnitte mit gemeinsamem Poldreieck. (Diss.) Strassburg, 1900. 8vo. 41 pp., 2 plates.

- DAVISSON (S. C.). Ueber die geodätische Linie der Manigfaltigkeit $ds^2 = dx^2 + \sin^2 x dy + dz^2$. (Diss.) Tübingen, 1900. 8vo. 22 pp.
- DEDEKIND (R.). Essays on the theory of numbers: (1) Continuity and irrational numbers; (2) The nature and meaning of numbers. Authorized translation by W. W. Beman. Chicago, Open Court Publishing Company, 1901. 12mo. 4 + 115 pp. Cloth. \$0.75
- DÜRLI (W.). Die Probleme des logarithmischen Potentials für eine von zwei Kreisbogen begrenzte ebene Fläche. (Diss.) Leipzig [1900]. 8vo. 134 pp., 2 plates.
- ERMAKOF (V. P.). Lectures on analytic geometry delivered in the University and in the Polytechnic Institute. Part II: Solid geometry. Kief, 1900. 8vo. 208 pp. (Russian.) M. 7.00
- . Lectures on the integral calculus. Parts I and II. Kief, 1900. 8vo. 350 pp. (Russian.) M. 9.00
- GUTZMER (A.), HENSEL (K.), HEUN (K.). See JAHRESBERICHT.
- HILBERT (D.). Les principes fondamentaux de la géométrie. Traduit par L. Laugel. Paris, Gauthier-Villars, 1900. 4to. 114 pp. Fr. 5.00
- JACOBSTHAL (W.). Ueber die asymptotische Darstellung der Integrale einer gewissen linearen Differentialgleichung zweiter Ordnung. (Diss.) Strassburg, 1899. 8vo. 40 pp.
- JAHRESBERICHT der deutschen Mathematiker-Vereinigung. Vol. 9: enthaltend die Chronik der Vereinigung für das Jahr 1900, die auf der Versammlung in Aachen gehaltenen Vorträge, sowie: Die kinetischen Probleme der wissenschaftlichen Technik, Bericht von K. Heun. Herausgegeben im Auftrage des Vorstandes von K. Hensel und A. Gutzmer. Leipzig, Teubner, 1901. 8vo. 4 + 140 + 6 + 123 pp. M. 8.00
- JUNKER (F.). Höhere Analysis. Teil I: Differentialrechnung. 2te Auflage. Leipzig, Göschen, 1901. 12mo. 231 pp. Cloth. (Sammlung Göschen, No. 87.) M. 0.80
- KARSTENS (H.). Ueber gewisse asymptotische Lösungen der Differentialgleichungen der analytischen Mechanik. (Diss.) Berlin, Mayer & Müller, 1901. 8vo. 37 pp. M. 1.20
- KILLING (W.). Lehrbuch der analytischen Geometrie in homogenen Koordinaten. Teil 2: Die Geometrie des Raumes. Paderborn, Schöningh, 1901. 8vo. 8 + 361 pp. M. 5.60
- LAUGEL (L.). See HILBERT (D.).
- MARC (L.). Conforme Abbildung eines von irregulären Hyperbeln n ter Ordnung begrenzten Flächenstückes auf dem Einheitskreise. (Diss.) München, 1899. 8vo. 27 pp.
- MARKOF (A. A.). Calculus of probabilities. St. Petersburg, 1900. 8vo. 279 pp. (Russian.)
- MEYER (P.). Ueber die Siebenteilung der Lemniskate. (Diss.) Strassburg, 1900. 8vo. 23 pp.
- MEYER (F.). Rapporto sui progressi della teoria proiettiva degli invarianti nell'ultimo quarto di secolo. Traduzione dal tedesco di G. Vivanti con aggiunte e modificazioni dell'autore. Napoli, Pellerano, 1900. 8vo. 237 pp.

- PAROMENSKY (A.). Differential and integral calculus with applications to analysis and geometry. 2d edition, revised. St. Petersburg, 1901. 8vo. 431 pp. (Russian.) M. 12.00
- PINCHERLE (S.). Introduzione al corso di algebra complementare e di geometria analitica; appunti redatti per uso degli studenti. Bologna, Zanichelli, 1901. 8vo. 66 pp. Fr. 2.00
- RÉPERTOIRE bibliographique des sciences mathématiques. Se série : fiches 701 à 800. 9e série : fiches 801 à 900. Paris, Gauthier-Villars, 1900. 18mo. 200 pp. Fr. 4.00.
- RUSSELL (B. A. W.). Essai sur les fondements de la géométrie. Traduction par A. Cadenat, revue et annotée par l'auteur et par L. Couturat. Paris, Gauthier-Villars, 1901. 8vo. 10 + 274 pp.
- SCHIFF (V.). Collection of exercises and problems in the differential and integral calculus. Parts I and II. 2d edition. St. Petersburg, 1900. 8vo. 405 + 599 pp. (Russian.) M. 15.00
- SOLOMON (G.). Plane analytic geometry. 2d edition. Moscow, 1900. 8vo. 418 pp. (Russian.) M. 9.00
- . Solid analytic geometry. 2d edition. Moscow, 1900. 8vo. 297 pp. (Russian.) M. 6.50
- SPORER (B.). *Niedere Analysis*. 2te Auflage. Leipzig, Göschen, 1901. 12mo. 176 pp. Cloth. (Sammlung Göschen, No. 53.) M. 0.80
- VIVANTI (G.). See MEYER (F.).

II. ELEMENTARY MATHEMATICS.

- AMANZIO (D.). Sette lezioni di algebra ad uso degli alunni d'istituto tecnico. Napoli, 1901. 8vo. Fr. 3.00
- BAGNOLI (E.). Geometria rettilinea e curvilinea trattata con metodo preeuclidico e cronogniometria. Roma, Loescher, 1901. 8vo. With atlas.
- BARDEY (E.). *Arithmetische Aufgaben nebst Lehrbuch der Arithmetik*, vorzugsweise für Realschulen, Progymnasien und Realprogymnasien. In alter und neuer Ausgabe. Neue Ausgabe, nach der 10ten Auflage bearbeitet von F. Pietzker und O. Fresler. Leipzig, Teubner, 1901. 8vo. 7 + 314 pp. Cloth. M. 2.60
- BENDT (F.). *Katechismus der Trigonometrie*. 3te Auflage. Leipzig, Weber, 1901. 12mo. 8 + 135 pp. Cloth. (Weber's illustrierte Katechismen, No. 114.) M. 2.00
- EGOROF (F.). See MALININ (A.).
- FRANCHIS (M. DE). *Elementi di geometria ad uso delle scuole tecniche*. Milano, Sanchon, 1901. 12mo. 4 + 227 pp.
- GHERSI (J.). *Metodi facili per risolvere i problemi di geometria elementare*. Milano, Hoepli, 1900. 12mo. 190 pp. Fr. 1.50
- GIKA (D.) and MUROMTSEF (A.). *Geometrical exercises*. Part I. 6th edition. Moscow, 1900. 8vo. 188 pp. (Russian.) M. 3.00
- GIKA (D.). *Elements of geometry*. 3d edition. Moscow, 1900. 8vo. 277 pp. (Russian.) M. 3.50
- GRAHAM (J. E.). *Elementary treatise on the calculus for engineering students*. Second revised enlarged edition. New York, Spon & Chamberlain, 1901. 12mo. 12 + 276 pp. Cloth. \$2.00

- KÖNIGBAUER (J.). Geometrische Aufgaben für Mittelschulen und Lehrerbildungsanstalten. 5te Auflage. Regensburg, Habel, 1901. 8vo. 133 pp. Cloth. M. 1.00
- KORDGIEN (H.). Das mathematische Pensum für das Einjährig-Freiwilligen-Examen. Theorie und Praxis. Aufgaben mit ausführlichen Lösungen und Erläuterungen. Teil 2: Planimetrie; Einleitung in die Stereometrie; Elemente der ebenen Trigonometrie. Berlin, Grote, 1901. 8vo. 6 + 213 pp. M. 2.70
- LONCHAMPT (A.). Recueil de problèmes tirés des compositions données à la Sorbonne, de 1853 à 1875-76, pour les baccalauréats ès sciences, suivis des compositions de mathématiques élémentaires, de physique, de chimie et de sciences naturelles données aux concours généraux de 1846 à 1875-76, et de types d'examens du baccalauréat ès lettres et des baccalauréats ès sciences. IIe partie: Géométrie. 1876-1900. 2e édition. Paris, Gauthier-Villars, 1900. 4to. Fr. 4.40
- MALININ (A.) and EGOROF (F.). Geometry, with a collection of geometrical problems. 5th edition. Moscow, 1900. 8vo. 272 pp. (Russian.) M. 3.50
- MICHEL (F.). Recueil de problèmes de géométrie analytique à l'usage des classes de mathématiques spéciales; solutions des problèmes donnés aux concours d'admission à l'Ecole Polytechnique, de 1860 à 1900. Paris, Gauthier-Villars, 1900. 8vo. 240 pp. Fr. 6.00
- MUROMTSEF (A.). See GIKA (D.).
- PIETZKER (F.). See BARDEY (E.).
- PRESLER (O.). See BARDEY (E.).
- SHMULEVITCH (P.). Collection of problems in trigonometry, to be used in preparing for the examinations at mining, technical, and other institutions. St. Petersburg, 1900. 8vo. 292 pp., 2 plates. (Russian.) M. 4.50
- SIMASHKO (F.). Trigonometry. 5th edition. St. Petersburg, 1900. 8vo. 98 pp. (Russian.) M. 3.00
- SCOTTI (G.). Elementi di aritmetica ragionata ad uso del ginnasio superiore, secondo gli ultimi programmi governativi. Torino, libreria Salesiana, 1901. 8vo. 160 pp. Fr. 1.50
- SOCCI (A.) e TOLOMEI (G.). Elementi di geometria secondo il metodo di Euclide; libro di testo per i ginnasi ed i licei conforme agli ultimi programmi. Vol. I: per la IV. classe ginnasiale. 2a impressione. Firenze, Le Monnier, 1901. 8vo. 21 + 93 pp. Fr. 1.00
- . Vol. II: per la V. classe ginnasiale. Firenze, le Monnier, 1901. 8vo. Pp. 95-173. Fr. 0.75
- TOBEL (E. VON). Geometrie für Sekundarschulen. Auflösungen zu den Aufgaben. Zürich, Füssli, 1901. 8vo. 6 + 80 pp. Boards. M. 1.80
- TOLOMEI (G.). See SOCCI (A.).
- VOINOF (A.). Collection of problems in geometry, algebra and trigonometry. 2d edition. Moscow, 1899. 8vo. 148 pp. (Russian.) M. 3.00
- WELLS (W.). Plane and spherical trigonometry. With four-place tables. Boston, Heath, 1901. 12mo. 148 pp. Half-leather. \$1.08

- WINTER (W.). Trigonometrie; Lehrbuch und Aufgabensammlung für Schulen. 3te Auflage. München, Ackermann, 1900. 8vo. 4 + 80 pp. Boards. M. 1.15
- ZINNA (A.). L'analisi diofantea esposta con nuovi metodi ed illustrata con esempi. Trapani, Messina e Co., 1900. 16mo. 68 pp.

III. APPLIED MATHEMATICS.

- BAKHUIS-ROOZEBOOM (H. W.). See LAAR (J. J. VAN).
- DOMOGAROF (A.). Elements of mechanics. Part III: Statics. St. Petersburg, 1900. 8vo. 168 pp. (Russian.)
- EHEMANN (G. A.). Hydraulische Motoren. Allgemeine und theoretische Darstellung der Wasserräder und Turbinen und die Theorie der Turbinen. Leipzig, Schäfer, 1901. 8vo. 76 pp., 9 plates. M. 9.00
- LAAR (J. J. VAN). Lehrbuch der mathematischen Chemie. Mit einer Einleitung von H. W. Bakhuis-Roozeboom. Leipzig, Barth, 1901. 8vo. 19 + 224 pp. Cloth. M. 8.00
- LA GOUBNERIE (J. DE). Traité de géométrie descriptive. 3e édition. Troisième partie. Paris, Gauthier-Villars, 1901. 4to. 20 + 230 pp., 46 plates. Fr. 10.00
- LANGER (H.). Ueber die mechanischen Prinzipien der modernen Elektrizitätslehre. Teil II. Linz, 1900. 8vo. 44 pp.
- LEHRBUCH DER NAVIGATION, herausgegeben vom Reichs-Marine-Amt. Vol. I: Terrestrische Navigation, 354 pp. Vol. II: Astronomische Navigation, 439 pp. Vol. III: Anleitung zu Küstenvermessungen. 112 pp., 7 charts. Berlin, 1901. 8vo. M. 16.00
- LÉVY (M.). Leçons sur la théorie des marées, professées au Collège de France. (En 2 volumes.) Vol. I: Théories élémentaires: formules pratiques de la prévision des marées. Paris, Gauthier-Villars, 1898. 4to. Fr. 14.00
- MAYR (R.). Ueber Körper von kinetischer Symmetrie. (Diss.) München, 1900. 8vo. 54 pp.
- OETTINGEN (A. VON). Elemente des geometrisch-perspektivischen Zeichnens. Leipzig, Engelmann, 1901. 8vo. 7 + 177 pp. Cloth. M. 9.00
- SCHRÖDER (J.). Darstellende Geometrie. Teil 1. Leipzig, Göschen, 1901. 8vo. 8 + 282 pp. Cloth. (Sammlung Schubert, No. XII.) M. 5.00
- STEELE (W. J.) and TAIT (P. G.). A treatise on dynamics of a particle with numerous examples. 7th edition, carefully revised. London, Macmillan, 1901. 12mo. Cloth. 12s. 6d.
- TAIT (P. G.). See STEELE (W. J.).
- THIEME (G.). Analytical mechanics. Part 3. St. Petersburg, 1900. 8vo. 124 pp. (Russian.) M. 4.50
- WARBURG (E.). Ueber die kinetische Theorie der Gase. Berlin, 1901. 8vo. 32 pp. M. 0.80