

INDEX.

- AMES, L. D. On the Theorem of Analysis Situs Relating to the Division of the Plane or of Space by a Closed Curve or Surface, 301.
- BLISS, G. A. The Exterior and Interior of a Plane Curve, 398.
- BOLZA, OSKAR. The Determination of the Constants in the Problem of the Brachistochrone, 185.
- COLE, F. N. Reports of Meetings of the American Mathematical Society: Tenth Summer Meeting, 53; Boston Colloquium, 119; October Meeting, 171; Tenth Annual Meeting, 221; February Meeting, 373; April Meeting, 485.
— On the Factoring of Large Numbers, 134, 362.
- DICKSON, L. E. Fields whose Elements are Linear Differential Expressions, 30.
— Two Systems of Subgroups of the Quaternary Abelian Group in a General Galois Field, 178, 362.
— On the Subgroups of Order a Power of p in the Linear Homogeneous and Fractional Groups in the $GF[p^n]$, 385.
- EMCH, ARNOLD. Note on the p -Discriminant of Ordinary Linear Differential Equations, 137.
- EPSTEEN, SAUL. On Linear Differential Congruences, 23.
— On Linear Homogeneous Difference Equations and Continuous Groups, 499.
- FITE, W. B. On Some Properties of Groups whose Orders are Powers of a Prime, 346.
- GALE, A. S. On Three Types of Surfaces of the Third Order Regarded as Double Surfaces of Translation, 188.
- HOLGATE, T. F. Reports of Meetings of the Chicago Section of the American Mathematical Society: Winter Meeting, 329; April Meeting, 429.
- KASNER, Edward. The Riccati Differential Equations which Represent Isothermal Systems, 341, 405.
- KELLOGG, O. D. Note on Cauchy's Integral, 255.
- MILLER, G. A. Reports of Meetings of the San Francisco Section of the American Mathematical Society: December Meeting, 281; April Meeting, 494.
- MOORE, E. H. On Doubly Infinite Systems of Directly Similar Convex Arches with Common Base Line, 337.
- NEWSON, H. B. On the Generation of Finite from Infinitesimal Transformations—a Correction, 191.
- OSGOOD, W. F. On a Gap in the Ordinary Presentation of Weierstrass's Theory of Functions, 294.
- SEGRE, CORRADO. On Some Tendencies in Geometric Investigations (translated by J. W. Young), 442.
- SISAM, C. H. On Directrix Curves of Quintic Scrolls, 32.
— On Self-Dual Scrolls, 440.
- SMITH, P. F. Josiah Willard Gibbs, Ph.D., LL.D. A Short Sketch and Appreciation of His Work in Pure Mathematics, 34.

- SWIFT, ELIJAH. On the Condition that a Point Transformation of the Plane be a Projective Transformation, 247, 361.
- VEBLEN, OSWALD. The Heine-Borel Theorem, 436.
- WELD, L. G. The Fifty-Third Annual Meeting of the American Association for the Advancement of Science, 287.
- WESTLUND, JACOB. On the Congruence $x \phi(P) \equiv 1 \pmod{P^n}$, 78.
- WHITE, H. S. Linear Systems of Curves Upon Algebraic Surfaces, 120.
- WHITTAKER, E. T. An Expression of Certain Known Functions as Generalized Hypergeometric Functions, 125.
- WILSON, R. E. The Cassel Meeting of the Deutsche Mathematiker-Vereinigung, 230, 362.
- YOUNG, W. H. On a Test for Non-Uniform Convergence, 239.
- Report of the Committee of the American Mathematical Society on Definitions of College Entrance Requirements in Mathematics, 74.
- Report on the Requirements for the Master's Degree, by the Committee of the Chicago Section of the American Mathematical Society, 380.

REVIEWS.

- Alexandroff, I., Aufgaben aus der niederen Geometrie, A. S. GALE, 514.
- Annuaire pour l'An 1904, publié par le Bureau des Longitudes, E. W. BROWN, 360.
- Appell, P., et Chappuis, J., Leçons de Mécanique Élémentaire, A. S. GALE, 359.
- Bauer, G., Vorlesungen über Algebra, L. E. DICKSON, 257, 362.
- Bjerknes, V., Vorlesungen über hydrodynamische Fernkräfte nach C. A. Bjerknes's Theorie, E. B. WILSON, 139.
- Carl Anton Bjerknes: Gedächtnisrede, E. B. WILSON, 516.
- Bowden, J., Elements of the Theory of Integers, D. N. LEHMER, 412.
- Braunmühl, A. von, Vorlesungen über Geschichte der Trigonometrie, F. CAJORI, 153.
- Bucherer, A. H., Elemente der Vektor-Analyse, E. B. WILSON, 263.
- Burkhardt, H., Funktionentheoretische Vorlesungen (Second Edition, 1903), L. E. DICKSON, 317.
- Carnot, S. Réflexions sur la Puissance Motrice du Feu et sur les Machines propres à Développer cette Puissance (Réimpression, 1903), E. B. WILSON, 157.
- Clerke, A. M., Problems in Astrophysics, E. W. BROWN, 205.
- Dickson, L. E., Introduction to the Theory of Algebraic Equations, G. A. MILLER, 411.
- Doehlemann, K., Geometrische Transformationen, I Theil: Die projektiven Transformationen, A. S. GALE, 512.
- Enriques, F., Vorlesungen über projective Geometrie, deutsche Ausgabe von H. Fleischer, V. SNYDER, 355.
- Ferraris, G., Wissenschaftliche Grundlagen der Electrotechnik, deutsch herausgegeben von Leo Finzi, E. B. WILSON, 266.
- Forsyth, A. R., Theory of Differential Equations: Part II., Ordinary Equations, not Linear, Volumes 2 and 3; Part III., Ordinary Linear Equations, Volume 4, E. J. WILCZYNKI, 86.
- Green, G., Mathematical Papers of the late George Green, edited by N. M. Ferrers (facsimile reprint, 1903), E. W. BROWN, 204.

- Hadamard, J., *Leçons sur la Propagation des Ondes et les Equations de l'Hydrodynamique*, E. B. WILSON, 305.
- Haentschel, E., *Das Erdspähröid und seine Abbildung*, V. SNYDER, 408.
- Hilbert, D., *Die Grundlagen der Geometrie*, H. POINCARÉ (translated by E. V. HUNTINGTON), 1.
- Ludwig, W., *Die Horopterkurve*, V. SNYDER, 409.
- Mach, E., *The Science of Mechanics*, translated from the German by T. J. McCormack (Second Edition), E. B. WILSON, 80.
- Maupin G., *Opinions et Curiosités touchant la Mathématique (Deuxième Série)*, F. CAJORI, 206.
- Mendizábal y Tamborrel, *Tablas de Multiplicar*, E. W. BROWN, 516.
- Müller, C. H., and Pressler, O., *Leitfaden der Projections-Lehre*, V. SNYDER, 207.
- Ricart, L. C., *Conceptos fundamentales de Analysis matematica*, A. MACFARLANE, 515.
- Schilling, M., *Catalog mathematischer Modelle für den höheren mathematischen Unterricht*, V. SNYDER, 209.
- Smith, P. F., *Elementary Calculus*, C. M. MASON, 511.
- Study, E., *Geometrie der Dynamen*, V. SNYDER, 193, 470; Reply by Professor STUDY, 468.
- Stuyvaert, M., *Etude de quelques Surfaces Algébriques Engendrées par des Courbes du Second et du Troisième Ordre*, C. L. E. MOORE, 406.
- Warren, A. T., *Experimental and Theoretical Course of Geometry*, R. E. MORITZ, 504.
- Weber, H., and Wellstein, J., *Encyklopädie der Elementar-Mathematik*, D. E. SMITH, 200.
- Whittaker, E. T., *A Course of Modern Analysis*, M. BÖCHER, 351.
- Wölffing, E., *Mathematischer Bücherschatz*, D. E. SMITH, 261.
- New Publications, 43, 105, 164, 215, 271, 324, 367, 424, 479, 524.
- Notes, 39, 93, 158, 210, 267, 321, 362, 413, 471, 518.

NOTES AND OTHER ITEMS.

Academies, Associations, Congresses, and Societies:

American Mathematical Society: Annual Register, 93; Chicago Section, 158, 321; Colloquium Lectures, 161, 222, 472; Election of Officers, 222; Eleventh Summer Meeting, 518; Library, 222; New Members Admitted, 54, 171, 221, 373, 485; Recommendations for College Entrance Requirements, 54, 74, 211; San Francisco Section, 210, 267, 322, 362; Transactions, 158, 210, 222, 267, 362, 374.

Accademia dei Lincei, 162; Belgian Academy, 95; Danish Academy, 41; French Mathematical Society, 472; German Mathematical Society, 94, 230, 269, 414, 472; Jablonowski Society, 95, 162, 421; Lombardy Royal Institute, 323; London Mathematical Society, 40, 212, 268, 322, 363, 413, 472, 519; Madrid Academy, 422; Naples Academy, 213; National Academy, 212, 471; Paris Academy, 270, 323; Venice Royal Institute, 213; Vienna Mathematical Society, 414.

Associations for the Advancement of Science: American, 208, 287; Australasian, 40; British, 94, 162, 472; French, 363; South African, 42.

- Associations of Teachers of Mathematics: Central, 211; Chicago Conference, 211; Kansas, 322; Middle States and Maryland, 159, 211, 414; National Educational Association, Mathematical Conference, 39, 519; New England, 158; Ohio, 414.
- International Congresses: Geneva, 363, 414; Heidelberg, 94, 268; St. Louis, 159, 213, 471, 518.
- Annuaire Internationale des Sociétés Savantes*, 161.
- Bibliography, Committee on Mathematical, 269.
- Books, Advance Notices of New, 161, 323, 363, 365, 415, 472, 473, 519.
- Carnegie Institution, 95.
- Catalogues of Books and Models, 104, 163, 215, 323, 423, 478.
- College Entrance Requirements, 54, 74, 211.
- Courses in Advanced Mathematics at American Universities, Attendance, 159.
- Decennial Publications of the University of Chicago, 161, 472.
- Doctorates in Mathematics, 93, 365.
- Errata, 362.
- Journals:
- American Journal of Mathematics, 93, 211, 413, 518; American Mathematical Monthly, 267, 271; Annals of Mathematics, 158, 362, 413; Fortschritte der Mathematik, 268; L'Enseignement Mathématique, 366, 415; Mathematisch-Naturwissenschaftliche Blätter, 415; Monatshefte der Mathematik und Physik 415; Proceedings of the London Mathematical Society, 40; School Mathematics, 267; Transactions of the American Mathematical Society, 158, 210, 222, 267, 362, 374.
 - Master's Degree, Requirements for, 329, 380.
 - Metric System, 213.
- Papers and Communications Presented to the Society, Authors:
- | | |
|--|--|
| Allardice, R. E., 281, 494. | Ford, W. B., 223. |
| Allen, R. B., 486. | Gale, A. S., 172. |
| Ames, L. D., 223. | Goursat, E., 172. |
| Birkhoff, G. D., 374. | Haskell, M. W., 281, 282, 494, 494, 495. |
| Blake, E. M., 281. | Haskins, C. N., 56. |
| Blichfeldt, H. F., 281, 494, 494. | Hawkes, H. E., 374. |
| Bliss, G. A., 55, 330, 429, 429. | Hedrick, E. R., 55, 329, 330. |
| Böcher, M., 486. | Hun, J. G., 223. |
| Bowden, J., 374. | Huntington, E. V., 56, 223, 223, 223, 486. |
| Bromwich, T. J. I'A., 54. | Hutchinson, J. I., 55, 223. |
| Brown, E. W., 374. | Jordan, H. E., 330, 330. |
| Cajori, F., 55. | Kasner, E., 55, 55, 172, 223, 374, 374, 486. |
| Chessin, A. S., 56. | Kellogg, O. D., 223, 486. |
| Cole, F. N., 172, 374. | Keyser, C. J., 486. |
| Collins, J. V., 330. | Lehmer, D. N., 282, 282, 494. |
| Curtiss, D. R., 54. | Leonard, H. B., 429. |
| Davis, E. W., 329. | Loewy, A., 55. |
| Dickson, L. E., 55, 55, 55, 55, 56, 56, 330, 330, 374, 430, 430. | Lovett, E. O., 56, 56, 486, 486. |
| Dodd, E. L., 486. | Lunn, A. C., 429, 429. |
| Eddy, H. T., 55. | Manning, W. A., 282. |
| Eiesland, J., 54. | Mason, C. M., 56, 374. |
| Eisenhart, L. P., 172, 374. | Merrill, H. A., 55. |
| Emch, A., 55. | Miller, G. A., 172, 281, 329, 494. |
| Epsteen, S., 55, 330, 429, 430. | Moore, C. L. E., 223. |
| Escott, E. B., 429, 429. | |
| Findlay, W., 374. | |
| Fite, W. B., 223. | |

- Moreno, H. C., 494.
 Morley, F., 56, 56, 223.
 Osgood, W. F., 223.
 Peirce, B. O., 55.
 Peirce, J. M., 486.
 Pierpont, J., 486.
 Quinn, J. J., 330.
 Rietz, H. L., 330.
 Running, T. R., 330.
 Rusk, W. J., 430.
 Schmiedel, O., 329.
 Schottenfels, I. M., 172, 172, 374.
 Schwatt, I. J., 54.
 Shaw, J. B., 330, 429, 429.
 Sisam, C. H., 223, 486.
 Slocum, S. E., 56, 430.
 Smith, B., 172.
 Smith, P. F., 223.
- Snyder, V., 223, 486.
 Stecker, H. F., 486.
 Stringham, I., 281, 494.
 Swift, E., 172.
 Taber, H., 374.
 Van der Vries, J. N., 55.
 Van Vleck, E. B., 119, 374.
 Westlund, J., 55, 330.
 White, H. S., 119, 330.
 Whitney, A. W., 494.
 Whittaker, E. T., 55.
 Wilczynski, E. J., 223, 281, 281, 486.
 Wilson, E. B., 56, 223.
 Woods, F. S., 119.
 Woodward, R. S., 56, 56.
 Young, A. E., 429.
 Young, W. H., 55.

Papers read before the Society and Subsequently Published, Thirteenth Annual List, 530.

Personal Notes:

- Akers, O. P., 478; Aley, R. J., 271; Allardice, R. E., 267, 423; Anderson, M., 523; Andoyer, H., 213.
 Baker, H. F., 213, 413; Baker, M., 215; Baker, R. P., 473; Beal, W. O. 215; Bliss, G. A., 271, 329, 478; Blumenthal, O., 522; Bôcher, M., 471, 478; Boltzmann, L., 213, 270, 471; Bolza, O., 161, 472; Bouton, C. L., 423; Boys, C. V., 94; Bragg, W. H., 40; Bricard, R., 472; Brister, J. W., 215; Brown, B. G., 104; Burger, C. R., 163; Burnside, W., 413.
 Cajori, F., 363; Camp, B. H., 214; Cartan, E., 214; Carvallo, E., 472; Clairin, J., 214; Coble, A. B., 523; Cole, F. N., 163; Collet, M., 523; Cossa, A., 323; Cremona, L., 42, 323; Cunningham, E., 422; Curtiss, D. R., 423.
 Dale, J. B., 270; Darboux, G., 213, 269, 471, 522; Darwin, G. H., 423, 472; Delassus, E., 324; De Mott, H. C., 214; Dickson, L. E., 366; Dingeldey, F., 103; Doppler, C., 365; Downey, J. F., 163; Drach, J., 214; Duporcq, E., 42; Dyck, W. von, 103.
 Edminster, F. C., 163; Elliott, E. B., 413; Engel, F., 423; Epsteen, S., 271; Escherich, G. von, 103, 414, 415; Esty, T. C., 163; Eve, A. S., 523; Ewing, J. A., 214.
 Field, P., 42; Fine, H. B., 42, 211; Fischer, E., 478; Flynn, J. D., 104; Froelich, E. E., 214.
 Garnett, C. M., 422; Gavett, G. I., 423; Gilman, C., 163; Glover, J. W., 42; Gmeiner, J. A., 422; Gordan, P., 522; Greenhill, A. G., 269; Grévy, A., 472; Guichard, C., 477; Gutzmer, A., 268, 269, 472.
 Hadamard, J., 270; Hahn, P. D., 42; Haight, S. C., 423; Hall, A. G., 103; Halsted, G. B., 214, 473; Hancock, H., 415; Hanawalt, F. W., 270; Haskins, C. N., 104, 366, 478; Hatzidakis, N., 523; Hawkes, H. E., 163; Hedrick, E. R., 42, 363; Hess, E., 324; Hessenberg, G., 522; Hettner, G., 103; Hilbert, D., 162, 270; Hill, G. W., 214; Hobson, E. W., 213, 413; Holgate, T. F., 329; Hopkinson, B., 214; Horsburgh, E. M., 324; Howe, C. G., 414; Howe, C. S., 42, 478; Hudson, W. H. H., 213; Hun, J. G., 104.
 Jacobi, C. G., 94; James, J. N., 42.
 Karpinski, L. C., 478; Kasner, E., 471; Kelvin, Lord, 214, 477; Kiepert, L., 103, 365; Klein, F., 94, 472; Kneser, A., 522; Knowles,

- F. E., 215; Koenigsberger, L., 268; Korn, A., 162; Krazer, A., 94, 414, 472; Kreutzberg, F., 366; Kriigar-Menzel, O., 162.
 Lacour, E., 214; Ladue, P., 324; Laisant, C. A., 363, 415; Lamb, H., 413, 472; Lampe, A., 414; Lampe, E., 268, 422; Landsberg, G., 522; Larmor, J., 162, 213, 413; Lemoine, E., 270; Le Vavasseur, R., 214; Lévy, M., 423; Lewis, C. T., 479; Lipschitz, R., 103, 163, 365; Love, A. E. H., 413; Luther, F. S., 42; Lytle, E. B., 523.
 Macdonald, W. E., 214; Mackenzie, M. A., 215; McMahon, J., 523; Manchester, J. E., 478; Manning, W. A., 423; Markley, J. L., 478; Maschke, H., 471; Mason, C. M., 42, 423; McKinney, T. E., 414; Miller, E. A., 478; Miller, G. A., 267; Minear, A. C., 163; Mittag-Leffler, G., 422; Moore, C. L. E., 523; Moore, E. H., 374; Moreno, H. C., 423; Morrison, C. E., 423; Morrison, H. A., 478; Muir, T., 473; Myers, G. W., 267.
 Naetsch, E., 103; Neumann, C., 365; Neumann, E., 162; Newcomb, S., 159, 162, 471, 522; Newson, H. B., 322; Noether, M., 42.
 Osgood, W. F., 364, 472.
 Painlevé, P., 213; Pearson, K., 323; Petr, K., 214; Picard, E., 162, 471; Pierce, A. B., 103; Pierpont, J., 471; Poincaré, H., 42, 213, 214, 471.
 Ransom, W. R., 214; Rietz, H. L., 104, 523; Risby, W. J., 271; Rockwell, C. H., 324; Rosanes, J., 103; Rost, G., 103; Röthig, O., 104; Royce, C., 324; Rudel, D., 365; Running, T. R., 103.
 Salmon, G., 271, 324; Schell, W., 366; Schiaparelli, G., 214; Schultze, A., 163, 211; Schwarz, H. A., 365; Segre, C., 269, 423; Shaw, J. B., 104; Shepard, E. I., 104; Simon, M., 214; Sintzoff, O., 162; Sisam, C. H., 478; Slaught, H. E., 211; Slocum, S. E., 329, 423; Smith, D. E., 39, 211, 363, 366; Sobotka, J., 477; Stäckel, P., 414, 423; Stahl, H., 422; Stecker, H. F., 104; Steinitz, E., 103; Sternbeck, R. D. von, 366; Stetson, O. S., 215; Stocker, J. E., 104; Störmer, C., 270; Study, E., 365; Swenson, J. A., 104.
 Tanner, J. H., 523; Thue, A., 103; Touton, F. C., 523; Travis, J. F., 366.
 Van Vleck, J. M., 523; Vecchi, S., 104; Volterra, V., 477.
 Waldo, C. A., 478; Walker, L. C., 103; Webb, H. A., 422; Weber, E. von, 103; Weber, H., 270, 414, 472; Weld, L. G., 268; Weyr, E., 104; White, S. A. F., 270; Wilson, E. B., 267; Wirtinger, W., 162, 269, 415; Wood, P. W., 422.
 Zindler, K., 422; Ziwié, A., 268, 366, 478.

Prizes:

- Belgian Academy, 95; Danish Academy, 41; Jablonowski Society, 95, 162, 421; Accademia die Lincei, 162; Lombardy Royal Institute, 323; Madrid Academy, 422; Munich Technical High School, 363; Naples Academy, 213; Paris Academy, 270, 323; Venice Royal Institute, 213.

Universities and Technical Schools:

- | | |
|-----------------------|---------------------------|
| Aix-la-Chapelle, 101. | Cambridge, 160, 213, 422. |
| Basel, 95, 420. | Carlsruhe, 102. |
| Berlin, 95, 101, 417. | Chicago, 415, 474. |
| Bern, 96, 421. | Clark, 474. |
| Bonn, 96, 418. | College of France, 364. |
| Breslau, 96, 418. | Colorado, 520. |
| Brown, 473. | Columbia, 474. |
| Brünn, 102. | Cornell, 364, 475. |
| Brunswick, 102. | Erlangen, 96, 418. |
| Bryn Mawr, 474. | Freiburg, 97, 418. |
| California, 474. | Geneva, 97, 421. |

- Giessen, 97, 418.
Göttingen, 41, 269, 519.
Graz, 97.
Greifswald, 97, 418.
Halle, 98, 364.
Hanover, 102.
Harvard, 416.
Heidelberg, 98, 419.
Illinois, 521.
Indiana, 521.
Innsbruck, 98, 269.
Iowa, 521, 523.
Jena, 41, 364.
Johns Hopkins, 522.
Kiel, 98, 419.
Koenigsberg, 98, 270, 419.
Lausanne, 99.
Leipzig, 99, 419.
Marburg, 99, 420.
Minnesota, 475.
Missouri, 522.
Munich, 99, 103, 322, 363.
Münster, 99, 420.
- Nebraska, 475.
Neuchâtel, 100.
Northwestern, 475.
Oxford, 40, 417.
Paris, 212, 365, 213, 520.
— Ecole Normale, 212.
Pennsylvania, 364, 476.
Prague, 100.
Princeton, 476.
Rostock, 100, 365.
Stanford, 476.
Strassburg, 100, 420.
Stuttgart, 103.
Syracuse, 476.
Tübingen, 100, 420.
Turin, 323.
Vienna, 100.
Virginia, 477.
Wisconsin, 477.
Würzburg, 101, 270.
Yale, 416.
Zurich, 101, 421.