In our country of great distances such meetings seem especially important, not only on account of the inspiration resulting from the close contact with those of similar pursuits, but also on account of the opportunities to correct erroneous impressions in regard to the relative importance of the various lines of investigations. It is to be hoped that the future meetings of the Chicago Section will exert a still stronger influence on Western mathematics in both of these lines.

G. A. MILLER.

Ithaca, N. Y., January 5, 1898.

EDITORIALS.

Dr. Lovett's article on Lie's Transformation Groups came too late for publication in this issue.

Through the courtesy of T. J. McCormack, assistant editor of the Open Court, we were enabled to present in the January number, a portrait of Leonhard Euler. A portait and biography of Euler appeared in the November number of the Open Court.

We note with pleasure that our valued contributor Dr. G. A. Miller has been appointed instructor in mathematics at Cornell University. His work began the first of this year. The *Cornell Era* of Feb. 5th expresses high appreciation of the fact that Cornell has been fortunate enough to secure so valuable an addition to its Faculty of mathematical instructors. Dr. Miller is a young mathematician of great promise. In the summer of 1895 he went to Germany and spent one year almost entirely in working with Professor Lie, the following year he spent at Paris working with Professor Jordan. That Dr. Miller has done some very fine work in the subject of groups, is sufficiently attested by the fact that both Jordan and Picard have presented his communications to the Paris Academy of Science.

BOOKS AND PERIODICALS.

College Algebra. By Edward A. Bowser, LL. D., Professor of Mathematics and Engineering in Rutgers College, New Brunswick, N. J. 558 pages. Boston: D. C. Heath & Co.

This work has become so far established in favor that it needs no special commendation from us. In matters, arrangement, and manner of treatment this book has numerous good features. It has just been adopted as the text to be used in the new Cosmopolitan University correspondence course. J. M. C.

(1) *Elements of Calculus.* By James M. Taylor, A. M., Professor of Mathematics, Colgate University. 249 pages. Boston: Ginn & Company.

(2) *Elements of Determinants.* By Paul H. Hanus, Assistant Professor of

History and the Art of Teaching, Harvard University. 217 pages. Boston: Ginn & Company.

(1) Prof. Taylor's Calculus is a deservedly popular text-book. By reason of the many illustrations of the elementary processes of the Calculus, it is admirably adapted to the needs of those commencing the subject. Throughout the book many practical problems are given, which serve to exhibit the power and use of the science, and to arouse and keep alive the interest of the student. *Prof. Taylor's Calculus* has also been selected as the text in the Cosmopolitan University Course.

(2) This well-known work, while suited to the needs of the class-room, is especially adapted to self-instruction. The first presentation of the subject is made with great simplicity, but as the student advances less attention is given to details. While the treatise is not voluminous, yet enough is given to show something of the power and utility of determinants and the consequent importance of the study. J. M. C.

Exercises in Choice and Chance. By William Allen Whitworth, M. A., Late Fellow of St. John's College, Cambridge. Price, 6s. 1897. Cambridge: Deighton, Bell & Co.

Prof. Whitworth's book of 700 exercises includes hints for the solution of all the questions in his well-known work on "Choice and Chance," with introductory chapters on the Summation of Certain Series, and a Greshan Lecture on Applications of the Laws of Chance. There are interesting notes on many of the solutions, and the collection of exercises illustrates nearly all the principles and methods arising in questions in probability. Those of our readers who are acquainted with the author's charming little treatise on "Choice and Chance" will note the appearance of the book under review with great satisfaction. J. M. C.

Through Quadratico Equations. By Jos. V. Collins, Ph. D., Professor of of Mathematics, in State Normal School, Stevens Point, Wis. 8vo. Cloth. 85+41 pages. Chicago: Scotts, Foresman & Company.

In the publication of this Manual, the author has availed himself of the opportunity to present in an admirable way some suggestions for the study and teaching of Algebra. Dr. Collins Text-book of Algebra has been adopted in the State of Kansas and it was due to this fact that the publication of the Manual was made necessary. The Manual contains many historical notes of great interest in addition to much original matter. Dr. Collins is a strong advocate of the disuse of the cumbersome radical sign. See his article in MONTHLY, Vol. II, No. 4. B. F. F.

Analytic Functions. Suitable to Represent Substitutions. By Leonard E. Dickson, Ph. D. Quarto Pamphlet, 10 pages.

The above is a reprint from the American Journal of Mathematics and was written while Dr. Dickson was pursueing his coarse of mathematics in the University of Chicago.

The Analytic Representation of Substitutions on a Power of Prime Number of Letters with a discussion of the Linear Group. A dissertation presented to the faculty of Arts, Literature and Science, of the University of Chicago for the degree of Doctor of Philosophy. By Leonard Eugene Dickson.

This dissertation is on a subject in which Dr. Dickson is a recognized authority, both in America and Europe. In this thesis he has generalized the results in his article referred to above, and in this wholy original work Dr. Dickson has earned with great credit the honor that the University has conferred upon him, and that at an exceedingly early age, he being no older than twenty-two at the time he received his degree.

On Rational Quadratic Transformations. By H. W. Haskell, Ph. D., Associate Professor of Mathematics, University of California.

This paper is contained in the Proceedings of the California Academy of Sciences, February, 1898. The Quadratic Cremona Transformation. By L. E. Dickson, Ph. D., Instructor in Mathematics, University of California.

The American Monthly Review of Reviews. An International Illustrated Monthly Magazine. Edited by Dr. Albert Shaw. Price, $2.50 per year in advance. Single number, 25 cents. The Review of Reviews Co., 13 Astor Place, New York.

The March number of the *American Monthly Review of Reviews* is another achievement in monthly journalism. The topics treated in this magazine are such as occupy much space in the daily press, but the *Review* is able to treat them more deliberately and in a more carefully adjusted proportion. No other illustrated monthly appearing on the first day of March will have so much as a reference to the De Lome letter, the *Maine* disaster, or the Zola trial in Paris; but these great themes of the hour are fully discussed in the *Review's* pages. The *Review's* readers expect to have them discussed there, so accustomed have they become to the essential qualities of timeliness and comprehensiveness in the "busy man's magazine."

The Open Court. A Monthly Magazine. Devoted to Science of Religion, the Religion of Science, and the extension of the Religious Parlament Idea. Edited by Dr. Paul Carus; Assistant Editor, T. J. McCormack and Associate Editors E. C. Hegeler and Mary Carus. Price $1.00 per year in advance. Single copies, 10 cents.

The December number (1897) contains biography of Lagrange, by Assistant Editor T. J. McCormack. The Frontispiece of this number contains an excellent portrait of that master mathematician. The Jan. number contains a biography and portrait of Laplace. Mr. McCormack has gone to a great deal of trouble and expense in securing portraits of the great masters in mathematics, and it is probable that he can furnish, at a reasonable price, the portraits of most of these great men to any of our readers who may desire them. Other biographies and portraits will appear in future numbers of the *Open Court.*

SOME ERRATA IN JANUARY NUMBER.

Page 14, line 11, for "$(2m-)$" read $(2m-1)$.
Page 15, line 9, for "6/7" read 7/6.
Page 17, line 13, for "Hewlett" read Woodmere; line 15, for "forms" read form; line 21, for "0.04−" read 0.04+; line 22, for "+.13" read 8.13, and for "error+*" read error*; line 25, for "−2.0316+" read −3.0416+.
Page 22, line 20, supply .04 so as to read −3.04; line 22, for "−3.−04, +3.04.
Page 25, line 14, in numerator, for "$n^2[x(n^2-1)+1p]$" read $n^2[q(n^2-1)+2p]$; line 17, for "Then" read Take.
Page 27, line 21, for "horison" read horizon; in figure, join BM', for "S" at right read S'' and supply M in $M'MM''$.
Page 28, line 6, for "81° 36° 29″" read 81° 36′ 29″; the figure should be drawn so that ACB pass through M, and E should be on RFT.
Page 29, problem 68, line 1, x should stand in index position with respect to a, and in line 2, the small plus signs should be raised to intermediate position, and where "$k-1-1$" occurs, last −1 should be lowered to line of these signs; line 17, for "State University" read "University of Oregon."
Page 30, line 1 of No. 60, for "three" read six; line 2 of No. 60, for "five times" read five-half times, and for "three" read six.