

results and are less convenient than the use of logarithms. In division closer approximations might be obtained, if desired, by the use of Col. W. H. Oakes' table of reciprocals (to seven figures) published by C. & E. Layton, London.

The text of the author is preceded by very favorable reports made by members of the French Academy of Sciences, and the French Institute of Actuaries. It does not, however, seem likely that a table of triangular numbers will be much used (as M. Arnaudeau intends) by persons who are not familiar with logarithms, or that it will, to any serious extent, be adopted as a substitute for logarithms. Tables of quarter squares or of triangular numbers may, however, be of great service in the comparatively rare cases where it is necessary to have more than seven correct figures in the product. Without the use of these tables such multiplications are probably most readily performed by using Crelle's Tables, or the arithometer. M. Arnaudeau's work should be gladly welcomed as a valuable and interesting addition to the tables now in existence for facilitating multiplication and as a great advance over any previously published table of triangular numbers. The author's perseverance in computing so extensive a table should be highly commended, and it is to be hoped that he will have no difficulty in obtaining, from learned societies and others, the pecuniary assistance needed for the publication of the tables.

EDWARD L. STABLER.

NEW YORK, *June*, 1897.

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#### NOTES.

THE Committee of Arrangements of the International Congress of Mathematicians at Zürich has announced the following preliminary programme:—Monday, August 9: Opening of the Congress; Address by H. POINCARÉ, “*Sur les rapports de l'analyse pure et de la physique mathématique* ;” Report of the committee on the functions and organization of international mathematical congresses; Address by A. HURWITZ, “*Modern development of the general theory of analytical functions.*” Tuesday, August 10: Sectional Meetings. The following sectional divisions are contemplated: Arithmetic and Algebra, Analysis and Theory of Functions, Geometry, Mechanics and Mathematical Physics, Astronomy and Geodesy, History and Bibli-

ography. The following papers are announced for the sectional meetings: FR. BRIOSCHI, "Sur une classe d'équations du cinquième degré résoluble algébriquement et la transformation du onzième ordre des fonctions elliptiques;" C. ENESTRÖM, "Ueber die neuesten mathematischen bibliographischen Unternehmungen;" G. LORIA (subject not yet announced); FR. MEYER, Die neuere Entwicklung der Algebra und Zahlentheorie; E. PICARD, "Sur les fonctions de plusieurs variables et en particulier les fonctions algébriques;" C. RENSCHLE, "Neue principelle und genetische Methode zur Invariantentheorie;" TH. REYE, "Neue Eigenschaften des Strahlencomplexes zweiten Grades;" F. RUDIO (subject not yet announced); A. STODOLA, "Die Beziehungen der Technik zur Mathematik;" H. WEBER, "Ueber die Genera in algebraischen Zahlkörpern." Wednesday, August 11: General Meeting; Discussion and definitive action as to the functions and organization of future international mathematical congresses; Determination of the time and place for holding the next congress; Address by F. KLEIN, "On the question of the teaching of higher mathematics;" Address by G. PEANO, "Logica Mathematica." Various excursions and banquets have also been arranged in connection with the meeting.

WE regret to record the death of DE VOLSON WOOD, professor of mechanical engineering at the Stevens Institute of Technology, Hoboken, N. J., on June 27, at the age of sixty-five years.

WE learn from *Science* of the death of the Rev. ALEXANDER FREEMAN, of Cambridge, England, on June 12, at the age of fifty-eight years.

MISS MARY F. WINSTON, Ph. D., has been appointed professor of mathematics at the Kansas State Agricultural College, Manhattan, Kansas.

DR. LORRAIN S. HULBURT has been appointed collegiate professor of mathematics at the Johns Hopkins University.

MR. GUSTAVE LEGRAS has been promoted to an assistant professorship of mathematics at the College of the City of New York.

DR. ARTHUR SCHULTZE has received an appointment as teacher of mathematics in one of the high schools just established in New York.