

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

FRIDAY, FEBRUARY 26, 1904.

CONTENTS:

The American Association for the Advancement of Science:—

The Relation of Mathematics to Engineering: PROFESSOR C. A. WALDO..... 321

The American Physical Society: PROFESSOR ERNEST MERRITT..... 330

Scientific Books:—

Theobald on Mosquitoes: DR. L. O. HOWARD.
Mineralogy in the International Catalogue of Scientific Literature: DR. C. PALACHE.. 333

Scientific Journals and Articles..... 334
Societies and Academies:—

Section of Anthropology and Psychology of the New York Academy of Sciences: PROFESSOR JAMES E. LOUGH. *The Botanical Society of Washington:* DR. H. J. WEBBER.
Faculty Science Club of Wellesley College: GRACE LANGFORD. *The Science Club of the University of Wisconsin:* VICTOR LENHER.
The Northeastern Section of the American Chemical Society: ARTHUR M. COMEY..... 335

Discussion and Correspondence:—

Convocation Week: PROFESSOR ERNEST FOX NICHOLS, PROFESSOR E. H. S. BAILEY, PROFESSOR T. C. HOPKINS, PROFESSOR THOMAS H. MACBRIDE. *Reply to an Address on the Present Status of Soil Investigation:* FRANK K. CAMERON. *Woodcock Surgery:* PROFESSOR WILLIAM MORTON WHEELER..... 340

Special Articles:—

Rhythms of CO₂ Production during Cleavage: DR. E. P. LYON..... 350

Current Notes on Meteorology:—

Climatology of California; Sky Colors and Atmospheric Circulation; Weather Folklore: PROFESSOR R. DEC. WARD..... 353

Elizabeth Thompson Science Fund: PROFESSOR CHARLES S. MINOT..... 354

The Annual Report of the Director of the Geological Survey..... 354

Emil Alexander de Schweinitz..... 356

Scientific Notes and News..... 357

University and Educational News..... 360

MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

THE AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE.

THE RELATION OF MATHEMATICS TO
ENGINEERING.

A FEW years ago technical education as we now understand it was unknown in America. We have now in our midst more than 20,000 students preparing themselves distinctively for the engineering profession.

While the technical schools of the country have had a development which for rapidity, strength and importance is little short of marvelous, yet their rise and growth have been profoundly influencing the thought as well as the welfare of the nation. Especially in the domain of mathematics have they had a directing and vivifying influence which is little short of a revolution. To-day mathematics wishes no stronger reason for her existence and no stronger call to her cultivation than the fact that she is the unchallenged doorkeeper to the appreciation and mastery of the physical sciences, both in their theory and in their application by the engineer to things useful.

The time is past when mathematics is referred to by the thinkers of the day as being principally a discipline. It is of course true that, rightly pursued, mathematics is a discipline, but it is far more, it is a knowledge, a tool, a power, a civilizer. The day is gone when, on the one hand, the student, Chinese fashion, learns his geometry word for word from cover to cover or memorizes all the propositions of his

* Vice-presidential address before Section D, American Association for the Advancement of Science. St. Louis meeting, December, 1903.