

# 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, AUGUST 28, 1908

## CONTENTS

### *The Teaching of Mathematics to Students of Engineering:—*

*From the Standpoint of the Professor of Engineering:* PROFESSOR GEORGE F. SWAIN

*From the Standpoint of the Professor of Mathematics in the Engineering College:*

PROFESSOR CHAS. S. SLICHTER, PROFESSOR FREDERICK S. WOODS, PRESIDENT FRED W.

MCNAIR ..... 257

*The British Museum of Natural History* ... 268

*Lectures in Connection with the International Congress of Tuberculosis* ..... 269

*The International Fisheries Congress* ..... 270

*Scientific Notes and News* ..... 270

*University and Educational News* ..... 273

*The Harvard Business School* ..... 273

### *Discussion and Correspondence:—*

*Concerning Two Defectives:* PROFESSOR W. W. CAMPBELL. *Sores on Colts:* L. S.

FRIERSON ..... 274

### *Scientific Books:—*

*Washburn on "The Animal Mind":* PROFESSOR JOHN B. WATSON. *Butler's Handbook of Minerals:* PROFESSOR A. J. MOSES.

*Holley and Ladd's Analysis of Mixed Paints, Color Pigments and Varnishes:*

PROFESSOR A. H. GILL ..... 275

### *Special Articles:—*

*Some Conditions affecting Volcanic Eruptions:* A. PERRET. *The Location of Embryo-forming Regions in the Egg:* PROFESSOR T.

H. MORGAN ..... 277

MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y., or during the present summer to Wood's Hole, Mass.

## THE TEACHING OF MATHEMATICS TO STUDENTS OF ENGINEERING<sup>1</sup>

FROM THE STANDPOINT OF THE PROFESSOR OF ENGINEERING

I feel that in this discussion we engineers occupy rather an unfortunate position, on account of the fact that we are compelled to assume the position of critics. The student comes to us from the teachers of mathematics, presumably equipped with a knowledge of that subject, and it becomes our duty to teach him subjects in which he makes use of this preparation, and to find out whether he has learned to use mathematics as a tool. However, I believe that only by friendly criticism can progress be made, and that every one ought to be willing to accept such criticism when given in the proper spirit. I had much rather be criticized than criticize others, and we teachers of engineering hope that we are always ready to receive suggestions, not only from other teachers, but from practising engineers.

I must first insist that for the engineer mathematics is to be regarded as a tool—not as something which is studied simply for the development of some mental powers, but for the ability which it ought to give a man to *do* something—to use the results and methods which he has been taught in solving the problems of his profession.

There has been a good deal of discussion in the past as to the value of mathematics simply as a means of mental training, without reference to its use, and perhaps most of us remember the paper by Sir William

<sup>1</sup> Continued from the issue of August 7.