

# 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.

EDITORIAL COMMITTEE: S. NEWCOMB, Mathematics; R. S. WOODWARD, Mechanics; E. C. PICKERING, Astronomy; T. C. MENDENHALL, Physics; R. H. THURSTON, Engineering; IRA REMSEN, Chemistry; CHARLES D. WALCOTT, Geology; W. M. DAVIS, Physiography; HENRY F. OSBORN, Paleontology; W. K. BROOKS, C. HART MERRIAM, Zoology; S. H. SCUDDER, Entomology; C. E. BESSEY, N. L. BRITTON, Botany; C. S. MINOT, Embryology, Histology; H. P. BOWDITCH, Physiology; J. S. BILLINGS, Hygiene; WILLIAM H. WELCH, Pathology; J. MCKEEN CATTELL, Psychology; J. W. POWELL, Anthropology.

FRIDAY, MARCH 7, 1902.

## CONTENTS:

<i>The American Society of Bacteriologists:</i> PROFESSOR H. W. CONN.....	361
<i>The New Vapor Engines:</i> PROFESSOR R. H. THURSTON .....	379
<i>What are the Requirements of a Course to Train Men in Technical Chemistry?</i> PROFESSOR WILLIAM A. NOYES.....	382
<i>Scientific Books:—</i>	
<i>Schultze and Sevenoak's Plane and Solid Geometry:</i> PROFESSOR M. F. O'REILLY.	
<i>Shipley and MacBride's Zoology:</i> PROFESSOR HENRY F. NACHTRIEB. <i>Gustav Theodor Fechner:</i> PROFESSOR EWALD FLÜGEL.....	384
<i>Scientific Journals and Articles.....</i>	387
<i>Societies and Academies:—</i>	
<i>The Iowa Academy of Sciences:</i> A. G. LEONARD. <i>The Geological Society of Washington:</i> ALFRED H. BROOKS. <i>The Biological Society of Washington:</i> F. A. LUCAS. <i>The Philosophical Society of Washington:</i> CHARLES K. WEAD. <i>The Anthropological Society of Washington:</i> DR. WALTER HOUGH. <i>The New York Academy of Sciences:</i> RICHARD E. DODGE.....	388
<i>Discussion and Correspondence:—</i>	
<i>The Union and Riversdale Formations in Nova Scotia:</i> DR. H. M. AMI. <i>High Water in the Lakes of Nicaragua:</i> J. CRAWFORDS. <i>Unio Condoni in the John Day Beds:</i> ROBERT E. C. STEARNS.....	392
<i>Notes on Inorganic Chemistry:—</i>	
<i>The New Sulfuric Acid Manufacture:</i> J. L. H.....	393
<i>Relief Ship for the British Antarctic Expedition .....</i>	394
<i>The U. S. Geological Survey.....</i>	395
<i>Scientific Notes and News.....</i>	396
<i>University and Educational News.....</i>	400

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

## AMERICAN SOCIETY OF BACTERIOLOGISTS.

THE third annual meeting of the Society was held at Chicago University on December 31, 1901, and January 1, 1902. The President of the Society was Professor W. H. Welch, of Johns Hopkins University. The following are abstracts of the papers presented at the three sessions of the Society:

*Conditions affecting the Thermal Death-point of Bacteria in Milk:* H. L. RUSSELL and E. G. HASTINGS, State University, Madison, Wis.

The authors have tested the resistance of bacteria in the surface pellicle ('scalded layer') that forms on milk when it is heated to temperatures of 60°C. and above. They confirmed under commercial conditions the fact demonstrated by Theobald Smith under laboratory conditions that the resistance of the tubercle organism is materially increased when milk is heated in contact with the air. In order to demonstrate this increased resistance more clearly they further experimented with a peculiarly resistant coccus that they had found in milk, which had, in a vegetative stage, a thermal death-point of 75°C. when exposed for ten minutes in sealed tubes. In open tubes the organism retained its vitality as high as 82°C. When surface membranes were removed and plated on agar, colonies developed from them, but not from samples