

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. I. 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, JULY 25, 1902.

SOME RECENT APPLICATIONS OF FUNCTION THEORY TO PHYSICAL PROBLEMS.*

It has seemed appropriate that the address of the retiring chairman should draw attention to some of the most recent developments in those sciences which it is the object of this Section of the Association to promote, especially to some problems that seem to be making but slow headway, and to others that are at a standstill for want of appropriate modes of mathematical expression.

In selecting a particular group of problems I have been guided by the thought that there is one field of work which touches the domain of every member of this Section, whether his or her immediate interests lie in abstract mathematics, in physical mathematics or in astronomy. I mean the great field of the theory of functions of a complex variable.

The physicist or astronomer who wishes to understand the true nature of any function which he deals with must study its behavior on the complex plane, its zeros, its poles, its singularities and perhaps its Riemann surface. Moreover, in dealing with such important questions as stability

* Address by the retiring Vice-President and Chairman of Section A—Mathematics and Astronomy—of the American Association for the Advancement of Science, Pittsburgh meeting, June 28 to July 3, 1902.

CONTENTS:

<i>The American Association for the Advancement of Science:—</i>	
<i>Some Recent Applications of Function Theory to Physical Problems:</i> PROFESSOR JAMES McMAHON.....	121
<i>Section A, Mathematics and Astronomy:</i> PROFESSOR EDWIN S. CRAWLEY.....	131
<i>Section G, Botany:</i> HERMANN VON SCHRENK.....	136
<i>Assignments of Geologic and Paleontologic Parties</i>	141
<i>Scientific Books:—</i>	
<i>Korschelt and Heider's Lehrbuch der vergleichenden Entwicklungsgeschichte der wirbellosen Thiere:</i> J. P. McM. Job's <i>Among the Water-fowl:</i> F. A. L. Schmidt and <i>Weis on Bacteria:</i> PROFESSOR H. W. CONN. <i>Nelson's Analytical Key to some of the Common Flowering Plants of the Rocky Mountain Region:</i> PROFESSOR FRANCIS RAMALEY.....	144
<i>Scientific Journals and Articles.....</i>	147
<i>Societies and Academies:—</i>	
<i>The Anthropological Society of Washington:</i> DR. WALTER HOUGH.....	149
<i>Discussion and Correspondence:—</i>	
<i>Zoological Nomenclature:</i> DR. WM. H. DALL. <i>Range of the Fox Snake:</i> ARTHUR ERWIN BROWN.....	150
<i>Shorter Articles:—</i>	
<i>Preliminary Note on a New Organism producing Rot in Cauliflower and Allied Plants:</i> F. C. HARRISON.....	152
<i>Recent Museum Reports.....</i>	152
<i>Notes on Entomology:</i> NATHAN BANKS.....	154
<i>Botanical Notes:—</i>	
<i>Two Text-books of Botany; Further Studies of Cellulose; Studies of the Structure of Mosses; The Ignoring of Beginners and Amateurs:</i> PROFESSOR CHARLES E. BESSEY. 156	
<i>Scientific Notes and News.....</i>	157
<i>University and Educational News.....</i>	159

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.