

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; WILLIAM H. WELCH, Pathology; J. MCKEEN CATTELL, Psychology.

FRIDAY, FEBRUARY 6, 1903.

CONTENTS:

<i>The Rise and Progress of Ecology:</i> PROFESSOR V. M. SPALDING.....	201
<i>The American Association for the Advancement of Science:—</i>	
<i>Section D, Mechanical Science and Engineering:</i> ELWOOD MEAD.....	210
<i>Section E, Geology and Geography:</i> EDMUND OTIS HOVEY	217
<i>Opening Exercises of the Washington Post-graduate Medical School.....</i>	229
<i>Scientific Books:—</i>	
<i>Postelsia: The Year Book of the Minnesota Seaside Station, 1901:</i> PROFESSOR CHARLES E. BESSEY.....	230
<i>Societies and Academies:—</i>	
<i>The Biological Society of Washington:</i> F. A. LUCAS. <i>The San Francisco Section of the American Mathematical Society:</i> DR. G. A. MILLER. <i>The Cornell Section of the American Chemical Society:</i> W. C. GEER. <i>The Elisha Mitchell Scientific Society:</i> CHAS. BASKERVILLE. <i>Columbia University Geological Journal Club:</i> H. W. SHIMER..	231
<i>Discussion and Correspondence:—</i>	
<i>The Use of the Word Geest in Geology:</i> PROFESSOR CHARLES R. DRYER. <i>Atavio Mutation:</i> JOHN MURDOCH.....	234
<i>Notes on Inorganic Chemistry:</i> J. L. H.....	235
<i>Current Notes on Meteorology:—</i>	
<i>Report of the Chief of the Weather Bureau; Similar Barometric Variations over Large Areas; Winter Aridity Indoors; Notes:</i> PROFESSOR R. DeC. WARD.....	235
<i>Electrically Utilized Power at Niagara Falls:</i> R. H. T.....	236
<i>Scientific Notes and News.....</i>	237
<i>University and Educational News.....</i>	239

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.

THE RISE AND PROGRESS OF ECOLOGY.*

THE extraordinary development of botanical science during the last decade, in which so much hitherto unknown has passed so rapidly into history, fully justifies the usual review of progress at our great annual gatherings. In following this time-honored custom I have ventured to extend the retrospect far enough to contrast some of the aspects of present-day botany with an earlier condition of the science, familiar to a few of us, though known to most of you only by tradition. The outlook, which has also come to be expected, will be limited to a single branch of the science, which has shown remarkable vigor, but the future of which is regarded by some as problematical. The reminiscences will naturally come first.

Twenty-five years ago, in one of our northern universities, a young instructor with a single assistant was engaged in the rather comprehensive task of teaching botany and 'biology.' The botany consisted in part in the analysis of flowering plants by means of Gray's 'Manual,' and in studying the minute anatomy of leaves, stems and other parts of plants, which the literary students pursued under the name of structural botany, while, with a strong

* Presidential address delivered at the Washington meeting of the Society for Plant Morphology and Physiology, December 30, 1902.