

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; J. LE CONTE, Geology; W. M. DAVIS, Physiography; O. C. MARSH, Paleontology; W. K. BROOKS, C. HART MERRIAM, Zoology; S. H. SCUDDER, Entomology; C. E. BESSEY, N. L. BRITTON, Botany; HENRY F. OSBORN, General Biology; C. S. MINOT, Embryology, Histology; H. P. BOWDITCH, Physiology; J. S. BILLINGS, Hygiene; J. MCKEEN CATTELL, Psychology; DANIEL G. BRINTON, J. W. POWELL, Anthropology.

FRIDAY, AUGUST 19, 1898.

CONTENTS:

<i>Doctorates Conferred by American Universities for Scientific Research</i>	197
<i>The Beginnings of Laboratory Teaching in America:</i> PROFESSOR FRANK P. WHITMAN	201
<i>Hydraulic Illustration of the Wheatstone Bridge:</i> PROFESSOR WILLIAM HALLOCK	206
<i>The Echelon Spectroscope:</i> DR. C. RIBORG MANN	208
<i>The Relation of Science Education in the Secondary Schools to that in the College and the University:</i> PROFESSOR PAUL C. FREER	210
<i>Lacoe Collection in the National Museum</i>	213
<i>A New Name for the Georgia Old Field Mouse:</i> OUTRAM BANGS	214
<i>Botanical Notes:—</i>	
<i>Seeds and Very Low Temperatures; The Scientific Work in the Department of Agriculture; Botanical Papers in the Nebraska Academy of Sciences; The Ovary of Opuntia:</i> PROFESSOR CHARLES E. BESSEY	215
<i>Current Notes on Anthropology:—</i>	
<i>On Pygmy Races; Unsolved Problems of Anthropology; About the Hittites:</i> PROFESSOR D. G. BRINTON	217
<i>Scientific Notes and News</i>	218
<i>University and Educational News</i>	223
<i>Discussion and Correspondence:—</i>	
<i>Observations on Blue Jays:</i> DR. HIRAM M. STANLEY	223
<i>Scientific Literature:—</i>	
<i>Milhaud's La certitude logique and Le rational: PROFESSOR J. H. HYSLOP. Duss on the Flore phanérogamique des Antilles Françaises</i>	224
<i>Scientific Journals</i>	225
<i>Societies and Academies:—</i>	
<i>The American Association for the Advancement of Science</i>	226

DOCTORATES CONFERRED BY AMERICAN UNIVERSITIES FOR SCIENTIFIC RESEARCH.

THE development of the American university during the past twenty-five years may perhaps be regarded as the great achievement of the nation. The foundations laid at Harvard and at Johns Hopkins within the life-time of those students now profiting from them have been built upon, until we have now a score of universities, as places for research, equal to Oxford, and half a dozen rivalling those of Germany. The American college, though founded upon the English system, was of native growth, and the university based upon this college, though influenced by German methods, is distinctly national, while, at the same time, our different institutions show a marked individuality. The American university is definitely a place for research, where both teachers and students are engaged in research or in learning the methods of research. The results of the work of the students is in large measure summarized by the theses for the doctorate, and it is interesting to know what is the outcome of the past year's research.

It appears, from a somewhat careful enquiry, that eighteen leading universities conferred the Ph. D. degree on 234 candidates. The degree was not given last year by Indiana, Illinois, Kansas, Texas, Colorado, Missouri, Tulane or the Catholic University