

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, AUGUST 9, 1901.

CONTENTS:

<i>The Origin of the Mammals</i> : PROFESSOR J. S. KINGSLEY	193
<i>The Relation of Physical Geography to other Science Subjects</i> : PROFESSOR WILLIAM HARMON NORTON	205
<i>Professor Fraas on the Aqueous vs. Æolian Deposition of the White River Oligocene of S. Dakota</i>	210
<i>Charles Anthony Schott</i> : ISAAC WINSTON.....	212
<i>George K. Lawton</i> : DR. T. J. J. SEE.....	215
<i>Scientific Books</i> :—	
<i>Astronomische Jahresbericht</i> : PROFESSOR GEO. C. COMSTOCK. <i>Thomas on Les plantes tinctoriales</i> : PROFESSOR MARSTON TAYLOR BOGERT. <i>Howard on Mosquitoes</i> : PROFESSOR A. S. PACKARD	216
<i>Societies and Academies</i> :—	
<i>The American Chemical Society</i>	219
<i>Discussion and Correspondence</i> :—	
<i>Pseudoscopic Vision</i> : PROFESSOR W. LE CONTE STEVENS.....	220
<i>Shorter Articles</i> :—	
<i>Adaptation in Vision</i> : PROFESSOR EDWARD L. THORNDIKE. <i>The Injury of Fungicides in Peach Foliage</i> : SAMUEL L. BAIN.....	221
<i>Current Notes on Physiography</i> :—	
<i>The Northern Adirondacks; Slate Mountains of the Middle Rhine; Physiography of Acadia; Pre-glacial Drainage of Ohio; Schleswig-Holstein</i> : PROFESSOR W. M. DAVIS.....	222
<i>Jesse William Lazear Memorial</i>	225
<i>The American Library Association</i>	225
<i>Mr. Chamberlain on the Functions of a University</i> ..	226
<i>Professor Starr's Recent Work in Mexico</i>	227
<i>Scientific Notes and News</i>	227
<i>University and Educational News</i>	232

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 ORIGIN OF THE MAMMALS.

SPECULATIONS as to the origin of the various existing groups of animals and plants are always dangerous, and yet they have for many a certain fascination. They partake, somewhat, of the nature of an algebraic problem in that there are unknown quantities to be discovered, but they differ from any such soluble problem in that we have not equations enough to allow us accurately to ascertain the values of x , y , z and the like. Here is a chance for the play of the imagination and a chance for close guessing at the values of some of the unknown elements. Different students have assigned different values to them, and hence the varying character of the answers we have had given to us. Recall the different forms which we have been asked to consider as ancestral to the vertebrates—coelenterates, nemertines, annelids, *Phoronis*, crustacea, arachnids, tunicates, *Balanoglossus*! Certainly there has been some error in the assignment of values to the unknown to produce such discordant results as these.

Yet these speculations have a certain value; they call attention to problems, they suggest lines of research, they are exercises of the logical powers. One of these genealogical problems is that which deals with the origin of the mammals. It has been twice 'settled,' and yet there is some new evidence, and there are new points of view.