

NUMBER XXXVI.

	Page
ART. XLIV.—On Diffraction Spectrum Photography; by HENRY DRAPER,	401
XLV.—Notes on the West Virginia Asphaltum Deposit; by WM. M. FONTAINE,	409
XLVI.—On the Magnetic permeability and the Maximum of Magnetism of Iron, Steel and Nickel; by H. A. ROWLAND,	416
XLVII.—On the Geology of Western Wyoming; by THEO. B. COMSTOCK,	426
XLVIII.—The Number of Classes of Vertebrates and their Mutual Relations; by THEODORE GILL,	432
XLIX.—Brief Contributions to Zoölogy, from the Museum of Yale College. No. XXV. Results of Recent Dredging Expeditions on the Coast of New England. No. 3; by A. E. VERRILL,	435
L.—Age of the Rocky Mountain Coal or Lignitic Formation,	441

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics.—On the Velocity of Sound in Gases as a means of determining their Molecular Weights, BENDER, 450.—On the existence of Sulphurous Chloride, 451.—On Sulphur Oxytetrachloride, MICHAELIS and SCHIFFERDECKER, 452.—On the Isomerism of the Lactic acids, WISLICENUS, 453.—On the Synthesis of a new Propionic acid, BERTHELOT, 454.—On a new constituent of Urine, BAUMSTARK: On the Passage of gases through Colloid membranes of vegetable origin, BARTHÉLEMY, 455.—Relation between the atomic weight, the specific gravity and the hardness of the metallic elements, BOTTONI: On a periodicity of Cyclones and Rainfall in connection with the Sunspot periodicity, C. MELDRUM, 457.—Secondary Currents and their Applications. GASTON PLANTE, 458.—Sound and Music: A non-mathematical Treatise on the Physical Constitution of Musical Sounds and Harmony, including the chief acoustical discoveries of Professor Helmholtz; by SEDLEY TAYLOR, 459.—Objections to the views of Mr. Moon; by R. J. ADCOCK, 460.—Chemistry; by C. L. BLOXHAM, 461.

Geology and Natural History.—Contributions from the Laboratory of the University of Pennsylvania. No. 1. Corundum. its alterations and associated minerals; by F. A. GENTH, 461.—Geological Survey of Illinois, A. H. Worthen, Director, Vol. V: Report of the Geological Survey of Ohio. Part II of Vol. I. 462.—United States Geological Survey of the Territories. F. V. HAYDEN, Geologist in charge, 463.—Synopsis of New Vertebrata from the Tertiary of Colorado, obtained during the summer of 1873; by E. D. COPE: Precious opal from a new Mexican locality, 466.—Movements of the Glands of *Drosera*; by A. W. BENNETT: Fly-catching in *Sarracenia*, 467.—Engelmann; Notes on the Genus *Yucca*, 468.—On some remarkable forms of animal life from the Norwegian Coast, partly from posthumous manuscripts of the late Professor Sars, 470.—Bidrag til Kundskaben om Norges Hydroider, 471.

Miscellaneous Scientific Intelligence.—On the Earthquake of October, 1871, and on a swarm of Locusts at Cordoba, 471.—Remarks on the chemical analyses of samples of soil from Bermuda, by J. H. LEFROY: Report of the Director of the New York Meteorological Observatory, for 1872: Gift of Mr. Ario Pardee to Science: Rocky Mountain Observatory, JAMES LICK, 473.—Palladium: Sulphur Product of the World, 474.—Obituary.—August Breithaupt: G. C. Schaeffer, 474.

ERRATA.

- Page 11, first note, after 1839, insert 1840, 1842.
 Page 26, in title, for H. A. CHASE, read A. W. CHASE.
 Page 48, line seven from top, for *Alys* read *Alps*.
 Page 147, top line, for Dabken, read Deetken.
 Page 170, 23d line from foot, for to LeConte, read one to LeConte and one to Hunt.
 Page 172, top line, for LeConte, read Hunt.
 Page 265, 9th line from foot, for eastern, read western.
 Vol. v, p. 435, 9th line from foot, for ten, read twenty.