

Miscellaneous Scientific Intelligence and Bibliography.—Patent regenerative Gas-furnaces of C. W. & F. SIEMENS, 232.—National Academy of Sciences, 234.—Lawrence Scientific School, 235.—*Obituary*—Capt. James M. Gilliss, U. S. N. : George P. Bond, 235.—Dr. Hugh Falconer, 236.—*Bibliography.*—The Differential Calculus, by JOHN SPARE, M.D. : History of Delaware County, Pennsylvania, with a notice of its Geology, Minerals, Plants, Quadrupeds and Birds, by GEORGE SMITH, M.D., 236.

NUMBER CXVII.

	Page.
ART. XXVII. On Molecular Physics ; by Prof. W. A. NORTON,	237
XXVIII. On the combination which takes place when Light of different tints is presented to the right and left eye ; by Prof. O. N. ROOD, - - - - -	254
XXIX. On an experiment with the Gyroscope ; by Prof. O. N. ROOD, - - - - -	259
XXX. Description of a simple apparatus for producing lustre without the use of Lustrous surfaces or of the Stereoscope ; by Prof. OGDEN N. ROOD, - - - - -	260
XXXI. Remarks on the Beatriceæ, a new Division of Mollusca ; by ALPHEUS HYATT, Jr., - - - - -	261
XXXII. The Albert Coal, or Albertite, of New Brunswick ; by CHARLES H. HITCHCOCK, - - - - -	267
XXXIII. Detection of the adulteration of Essential Oils with Oil of Turpentine by the Saccharimeter ; by Dr. JULIUS MAIER,	273
XXXIV. Introduction to the Mathematical Principles of the Neb- ular Theory, or Planetology ; by Prof. GUSTAVUS HINRICHS,	276
XXXV. The determination of the height of Auroral Arches from observations at one place ; by H. A. NEWTON, - - -	286
XXXVI. On the Iron Ores of Marquette, Michigan ; by J. P. KIMBALL, Ph.D., - - - - -	290
XXXVII. Astronomical Photography ; by LEWIS M. RUTHERFURD,	304
XXXVIII. Notes on Coal and Iron Ore in the State of Guerrero, Mexico ; by the late N. S. MANROSS, . - - -	309
XXXIX. Numerical Relations of Gravity and Magnetism ; by PLINY EARLE CHASE, M.A., - - - - -	312
XL. On the Origin and Formation of Prairies ; by LEO LES- QUEUREUX, - - - - -	317

- XLI. On a Process of Fractional Condensation ; applicable to the Separation of Bodies having small differences between their Boiling-points ; by C. M. WARREN, - - - - 327
- XLII. Examination of Petroleum from California ; by B. SILLIMAN, 341

SCIENTIFIC INTELLIGENCE.

- Physics and Chemistry.*—On the determination of lime, FRITZSCHE : On the sulphur compounds of uranium, REMELÉ : Note on the regenerative gas-furnaces of the brothers Siemens, 344.—On some aluminum compounds, BUCKTON and ODLING, 345.—On the density of the vapor of sal ammoniac, H. St. CLAIRE DEVILLE, 346.—On the dispersion of light produced by the rotation of the plane of polarization in quartz, STEFAN : On combustion by invisible rays, 347.—On the Electrical properties of Pyroxiline-paper and Gun-cotton, by Prof. J. JOHNSTON, 348.
- Mineralogy and Geology.*—On Tin Ore at Durango in Mexico, by Prof. C. F. CHANDLER, 349.—Note by F. B. MEEK and A. H. WORTHEN in relation to a genus of Crinoids from Illinois and Nebraska : On the Oil Formation in Michigan and elsewhere, by Prof. A. WINCHELL, 350.—Account of some new or little known species of fossils from rocks of the age of the Niagara Group, by Prof. JAMES HALL, 353.—Observations on the Geology of Southern New Brunswick, by Prof. L. W. BAILEY, and Messrs. G. F. MATTHEW & C. F. HARTT, 356.—On Devonian Insects from New Brunswick, by S. H. SCUDDER, 357.—Note on the Azoic age and metamorphic origin of the Iron Ore of Mexico, by J. D. DANA : Report on the Geology of Illinois, by A. H. WORTHEN : Check List of the Miocene Invertebrate Fossils of North America, by F. B. MEEK : Ichthyosaurian Skin : Murchison on the Drift, 358.—Annual Report of the Geological Survey of New Jersey, by Prof. GEO. H. COOK, 359.
- Botany and Zoology.*—DeCandolle : Prodomus Syst. Nat. Regni Vegetabilis : J. D. HOOKER : Handbook of the New Zealand Flora, 359—Martius : Flora Brasiliensis : The Journal of the Linnæan Society, 360.—Further remarks on larve budding, by Dr. W. C. MINOR, 362.—On the Hymenoptera of Cuba, by E. T. CRESSON : Synopsis of the Bombycidæ of the United States, by A. S. PACKARD, Jr., 363.
- Astronomy and Meteorology.*—Correction of D. Trowbridge's article on the Nebular Hypothesis, 363.—Cambridge Observatory in 1864 : Extracts from the Address of W. DE LA RUE on awarding the medal of the Astronomical Society of London to Mr. G. P. BOND, 364.—Comet V, 1864 : Duration of the flight of shooting stars, 370.—Heights of Auroral Arches, 371.
- Miscellaneous Scientific Intelligence.*—The Agassiz Expedition to South America, 371.—Temperature of the climate near large bodies of water : Carinthian Lake-habitations : A new meteorite from Arkansas : Cancerine : Large mass of Amber from India : Earthquake at Buffalo, N. Y. : M. Louis Saemann, 372.—Dr. A. Krantz, 373.—Obituary.—Thomas B. Wilson : George H. Emerson, 373.—William J. Walker, 374.
- Miscellaneous Bibliography.*—Naturalists' Directory, F. W. PUTNAM, Editor : The Social Science Review ; a Quarterly Journal of Political Economy and Statistics, edited by ALEXANDER DELMAR and SIMON STERN : The Preparation and Mounting of Microscopic Objects, by THOMAS DAVIES, 374.—Trübner's American and Oriental Record : American Journal of Conchology, edited by G. W. TRYON, Jr. : Woodward's Country Homes, by G. E. & F. W. WOODWARD : On the Oil-property of the Philadelphia and California Petroleum Company, by B. SILLIMAN, 375.
- Index, 376.