It is now some years since I carried out, in the case of Iceland spar, the method of examination of the law of refraction which I described in my report on Double Refraction, published in the Report of the British Association for the year 1862. A prism, approximately right-angled isosceles, was cut in such a direction as to admit of scrutiny, across the two acute angles, in directions comprising respectively inclinations of 90° and 45° to the axis. The directions of the cut faces were referred by reflection to the cleavage planes, and thereby to the axis. The light observed was the bright D of a soda-flame.

The result obtained was that Huyghens's construction gives the true law of double refraction within the limits of errors of observation. The error, if any, could hardly exceed a unit in the *fourth* place of decimals of the index, or reciprocal of the wave-velocity, the velocity in air being taken as unity. This result is sufficient *absolutely to disprove* the law resulting from the theory which makes double refraction depend on a difference of inertia in different directions.

I intend to present to the Royal Society a detailed account of the observations; but, in the meantime, the publication of this preliminary notice of the result obtained may possibly be useful to those engaged in the theory of double refraction.

PARIS

Academy of Sciences, July 8.—M. Becquerel presented a memoir on the influence of pressure upon the phenomena of endosmose and exosmose.—M. E. Becquerel presented a report upon the recent memoir by MM. F. Lucas and A. Cazin on the duration of the electric spark.—M. Wurtz communicated a note by M. G. Salet on the primary spectrum of iodine.—M. H. Sainte-Claire Deville presented a note by M. L. Cailletet on the compressibility of liquids under high pressures, giving the coefficients of compressibility of various fluids at certain temperatures and pressures, and describing the apparatus by means of which these results were obtained.—M. Flammarion presented some remarks on a part of a recent note by M. de Fonvielle on some observations made during the ascents of the balloon Lea, relating especially to the halo observed round the shadow of the balloon, and accepting the explanation of M. Tissandier.—M. Becquerel presented a memoir on some effects of slow actions produced during a certain number of years. In this paper the author described certain products, having their analogues in nature, formed by slow action in a vessel hermetically closed for twenty years. They include crystals of arragonite and of rhombohedric carbonate of lime, crystals of arseniate of lime, glauberite—with potash instead of soda, crystals of carbonate of lead, and malachite.—M. T. Schlœsing presented a second note on the solution of carbonate of lime by carbonic acid, and M. Wurtz a note by M. C. Lauth in reply to a recent note by MM. Girard and De Laire on the manufacture of aniline colours.—M. Bardy also forwarded a note on the last-mentioned subject.—Analyses of a new variety of amblygonite from Montebras, of amblygonite from Hebron in Maine, and of wavellite from Montebras, by M. F. Pisani, were communicated by M. H. Sainte-Claire Deville.—M. Wurtz communicated a note by MM. C. Friedel and R. D. Silva on a third bichlorinated propylene.—M. E. J. Maumené presented a memoir on two new acids produced by the oxidation of sugar, in illustration and support of his general theory of chemical action.—M. Balard communicated a note by M. J. Riban on the aldanes, or aldehydes condensed with elimination of water, the agents employed by him for the removal of the water being sodium or zinc. For these bodies he proposes the name of aldanes.—A third part of MM. Berthelot and Longuemine's thermochemical researches upon bodies formed by double decomposition was read. The substances experimented on were protochloride, perchloride, oxychloride, and protobromide of phosphorus; and the results obtained by treating these bodies with water and with potash are here stated.—M. C. Bernard described the evolution of glycogene in the eggs of birds, in continuation of his previous communications on glycogenesis in animals.—An extract from a letter of the Abbé David to M. Milne-Edwards containing some zoological observations made in the province of Tché-Kiang, was read. The author notices a new species of *Ibis* (*I. sinensis*), a new Falcon (*F. sacroides*) a new *Elanus* (*E. sinensis*), and a new Salamander of the genus *Cynops* (*C. orientalis*). He also mentions the occurrence of some other birds, and of a great freshwater tortoise attaining a weight of 200 to 300 pounds, supposed to be *Chiria indica*.—MM. Jamin and De Laurès presented a note on the alterations of weight undergone by the human body in baths, in which they confirm the results of M. Durrien, according to which the weight of the body is maintained or increased by absorption so long as the temperature is low or moderate, but diminished by immersion in warm water.—M. Bernard presented a fifth note by M. Paul Bert on the influence exerted by changes in barometric pressure upon the phenomena of life.—MM. P. van Tieghem and G. Le Monnier presented a joint note describing the zygospores of *Mucor phycomyces*; and M. Duchartre a paper by M. Duval-Jouve on a new species of the genus *Athenia* (*A. Barrandonii*) from the south of France.—M. Milne-Edwards communicated a note by M. H. Filhol on the carnivora and chiroptera, of which the fossil remains are found in the deposits of phosphate of lime at Caylux, Fregols, and Concots. The author describes the jaw of a cat, which he names *Pseudelurus Edwardsii*; a jaw serving as a link between the cats and mustelidæ, upon which he founds a new genus, and which he names *Ælurogale intermedia*; and two jaws of dogs, described as *Canis caylucensis* and *C. Gaudryi*. At Fregols there is a breccia composed entirely of the bones of bats, which the author refers to *Rhinolophus*, under the name of *R. antiquus*.

PAMPHLETS RECEIVED

ENGLISH.—Proceedings of a Joint Meeting of the Malvern, Bath, and Woolhope Field Clubs.—Discussion of the Anemometrical Results furnished by the Anemometer at Sandwick Manse, Orkney, 1863-68.—On the Law which regulates the frequency of the pulse: A. H. Garrod.—Report of the Winchester and Hampshire Scientific and Literary Society, 1870-71.—Journal of Mental Science, July.—Memoirs of the Geological Survey of England and Wales.—Man in the Crag.—Scottish Naturalist, July.—Quarterly Journal of Microscopical Science, July.—Naval Science, No. 2.—Quarterly Journal of Science, July.—The Glacial Geology of Lancashire and Cheshire: T. M. Reade.—Vaccination and the Vaccination Laws: Rev. W. H. Rothery.—Journal of the Society of Telegraph Engineers, No. 1.—On the Change of Climate during the Glacial Epoch: Jas. Geikie.—Introductory Lecture delivered at the University of Glasgow: A. Dickson.—Route for Steamers from Aden to the Straits of Sunda.—On the Winds of the North Atlantic.—Strictures on Darwinism: H. H. Howorth. Part I.—Extracts from the Opening Address of the President of the Botanical Society of Edinburgh: Sir W. Elliot.—Annual Address to the Victoria Institute: Rev. J. Kirk.—Explosive Agents applied to Industrial Purposes: F. A. Abel.—Remarks to accompany the Monthly Charts of Meteorological Observations.—Grevillea, No. 1: M. C. Cooke.

AMERICAN AND COLONIAL.—Die neue entdeckte Geyser-gebiete am Oberen Yellowstone u. Madison Rivers: F. V. Hayden.—Illustrated Catalogue of the Museum of Comparative Zoology at Harvard College, No. 6; T. Lyman—Annual Report of the Trustees of the Museum of Comparative Zoology at Harvard.—The Eozoon Limestone of Easteren Massachusetts: J. B. Perry.—Fifth Annual Report to the Trustees of the Peabody Institute, Baltimore.—On the Structure of the Skull of Mosasauroid Reptiles: Prof. O. C. Marsh.—Preliminary description of *Hesperornis regalis*: Prof. O. C. Marsh.—Statement relating to the Home and Foreign Trade of Canada: W. J. Patterson.—Monthly Record of Results of Observation in Meteorology and Terrestrial Magnetism at Melbourne, March 1872.—Supplement to Fifth Annual Report of the U.S. Geological Survey of the Territories: F. V. Hayden.—Popular Science Monthly, Nos. 1-3.—Mineral Statistics of Victoria, 1871.

FOREIGN.—Sulla determinazione dei pesi molecolari delle sostanze saline: Dr. E. Paterno.—Osservazione dell' eclisse totale del 12 Dec., 1871, a Poodacottah nell' Indostan: Prof. L. Respighi.—Zeitschrift für Ethnologie, 1872. No. 3.—Journal d'Anthropologie, 1872. No. 3.—Cronica Scientifica: P. Tacchini.

CONTENTS

ERRATA.—Vol. vi., p. 221, col. 2, line 34 from bottom, for "Chladin," read "Chladni;" and p. 222, line 22 from top, and also in Contents, for "Allen," read "Alexander."