

proportional to its square, and a factor such as e^{-hE} is required to keep down very high values. The generalisations by Boltzmann and Maxwell to internal degrees of freedom would lead us too far, the aim here proposed being merely concrete illustration of the very general but purely analytical argument that is fully set forth in the treatises of Watson, Burbury and Boltzmann.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Mr. H. Herbert Smith has been appointed Gilbey lecturer in agriculture for the next three years. Prof. Macalister and Dr. Habershon have been appointed additional examiners for medical degrees.

The Walsingham Gold Medal in biology has been awarded to Mr. H. Dale of Trinity College, and the Bronze Medal to Mr. R. C. Punnett of Caius College.

The University of New Brunswick has been affiliated to the University of Cambridge.

The researches submitted to the Board for physics by Mr. J. B. B. Burke, Mr. W. C. Henderson and Mr. A. H. Peake, advanced students, have been approved as qualifying for the B.A. degree.

Dr. Anningson, Dr. Collingridge, Prof. Sims Woodhead and Dr. Tatham have been appointed examiners in sanitary science.

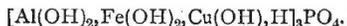
The proposal for enabling the examiners to award a first class to candidates for the Natural Sciences Tripos, Part II., who show a sufficient knowledge of two subjects, but do not quite attain the first class standard in either, has been rejected by the Senate.

THE Childhood Society offers prizes of two guineas and one guinea for the two best essays on some prescribed subjects referring to the mental and physical characteristics of children. Information can be obtained from the Hon. Secretary of the Society, 72 St. Margaret Street, London, W.

GLANCING through the Calendar of the University College at Nottingham, we notice the announcement that the Board of Education is prepared to pay three-fourths of the laboratory fees at the College of Government teachers engaged in science teaching who wish to become familiar with practical methods. This rule applies to other University Colleges.

SCIENTIFIC SERIALS.

American Journal of Science, November.—Elaboration of the fossil cycads in the Yale Museum, by L. F. Ward. The collection contains twenty-nine different species of cycads from the Black Hills, represented by nearly eight hundred specimens. A number of new species are described, and termed respectively *Cycadeoidea superba*, *rhombica*, *heliochorea*, *utopiensis*, *reticulata*, *minima*, and *protea*.—Chemical composition of turquoise, by S. L. Penfield. Turquoise is so uniform in its chemical constitution that it can hardly be considered an accidental mixture of an aluminium phosphate and a copper phosphate. Copper and iron must be regarded as constituents rather than impurities. The author derives it from ortho-phosphoric acid, in accordance with the formula



—Quartz-muscovite rock from Belmont, Nevada, by J. E. Spurr. The rock described occurs in a large dyke just east of Belmont. It occurs in large masses, changing gradually and irregularly into alaskite or muscovite-biotite granite. It is identical with the "beresite" occurring in the Urals in association with veins of auriferous quartz.—Volumetric estimation of copper as the oxalate, with separation from cadmium, arsenic, tin and zinc, by C. A. Peters. The precipitation of copper oxalate from solutions containing at least 0.0128 grammes of the oxide and saturated with oxalic acid is practically complete. Moderate amounts of copper may be determined quantitatively as the oxalate by precipitation with oxalic acid and titration of the precipitate by potassium permanganate. Copper may also be separated from other metals in the presence of nitric acid by the addition of considerable amounts of oxalic acid.—Synopsis of the collections of invertebrate fossils made by the Princeton expedition to Southern Patagonia, by A. E. Ortmann. Thirty-six new species are described, mostly gastropoda.—The kathode

stream and X-light, by W. Rollins. The author advances two arguments against the supposition that the kathode stream particles are always of the same size, move with the same speed, and carry the same charge. Mercury particles appear too heavy to generate X-rays, and the loss of material from kathodes of different metals is not the same.

Bollettino della Società Sismologica Italiana, vol. vi., 1900-1901, No. 4.—The great earthquake of June 12, 1897, by R. D. Oldham. A summary of the author's report on the great Indian earthquake, and of his memoir on the propagation of earthquake motion to great distances (*Phil. Trans.*, 1900A, pp. 135-174).—A new protographic seismic pendulum, by G. Costanzi. A description of an apparatus for recording only the first part of the earthquake-motion, the surface on which the record is made being withdrawn from the moving pendulum.—Principal eruptive phenomena in Sicily and the adjacent islands during the year 1899, by S. Arcidiacono.—Notices of earthquakes recorded in Italy (June 5 to August 4, 1899), by A. Cancani, the most important being the Tuscan earthquake of June 27, the Latian earthquake of July 19, and distant earthquakes on June 5, 14, 17, July 7, 11, 12 and 14.

SOCIETIES AND ACADEMIES.

LONDON.

Linnean Society, November 15.—Mr. C. B. Clarke, Vice-President, in the chair.—Mr. W. B. Hemsley, F.R.S., F.L.S., exhibited a number of specimens and drawings of *Fitchia* (Hook. f. in *Lond. Journ. Bot.* iv. p. 640, pls. 23, 24), including a new species from the island of Raratonga in the Cook Archipelago, discovered by Mr. T. F. Cheeseman. The genus was described from specimens thought to have been procured on Elizabeth Island, a remote coral island in the Eastern Pacific; but Mr. Hemsley gave reasons for believing that the locality of the plant described by Sir Joseph Hooker was Tubnai Island in the same latitude, but 20° further to the west: an island of volcanic origin and mountainous, and, therefore, more likely than a coral island to be the habitat of such a plant, especially as it was originally discovered by Banks and Solander in Tahiti. Only three or four species are known: they are small resiniferous shrubs of tree-like habit, with rather thick branches, opposite simple leaves borne on slender stalks, and terminal, usually solitary flower-heads. Mr. Hemsley next exhibited an abnormal cluster of fruits of the edible chestnut found by Mr. Charles Read of Sway in the New Forest, and forwarded to Kew by the Rev. J. E. Kelsall. Usually there are two or three, rarely four in a cluster; but in the specimen exhibited there were at least fifteen, the largest nuts measuring about an inch in their greatest diameter. He also exhibited a curious flask-shaped bird's nest, which had been sent to Kew by Mr. J. H. Hart, Director of the Botanic Garden, Trinidad, but without any information concerning the bird which built it. It was constructed almost entirely of the soft plumose seeds of a species of *Tillandsia* (Bromeliaceæ). It measured a foot in length and between four and five inches in its greatest diameter, and had the entrance at the base, the receptacle for the eggs being near the top of the inside. Mr. J. E. Harting, in reply to a question from the chairman, said that without seeing a specimen of the bird which had built the nest in question, it was not easy to name the species with certainty; but that it was doubtless the nest of an *Icterus*, and probably of *Icterus leucopteryx*, commonly known in the West Indies as the Banana-bird.—Mr. James Groves, on behalf of Mr. Cecil R. P. Andrews, exhibited specimens of a Sea Lavender new to the Channel Islands, *Statice lychnidifolia*, Girard, discovered by Mr. Andrews in August of the present year growing sparingly on low rocks by the sea in Alderney in company with *S. occidentalis*, the most nearly allied British species. Mr. Groves pointed out that the interest of the record consisted, not so much in the fact of the plant occurring in Alderney (being a native of the adjacent French coast, and the Channel Islands being geographically more French than British), as in the fact that a species should be added to the flora of one of our possessions so near home.—Mr. W. C. Worsdell read a paper entitled "Further Observations on the Cycadaceæ," intended to throw additional light on the problem as to the phylogenetic origin and relationships of this group of plants.—On behalf of Miss Alice L. Embleton a paper was read by Prof. G. B. Howes on