

water in New South Wales (preliminary notes), by Prof. T. W. E. David.—The Medical Section held four meetings. The following papers were read:—A brief account of the histology and development of tubercle, by Prof. Anderson Stuart.—Remarks upon the nature and treatment of diphtheria, by Dr. W. Camac Wilkinson.—Glimpses of the past: a series of sketches with pen and pencil of the medical history of Sydney, by Dr. Honison.—The Microscopical Section held five meetings. The following paper was read:—Notes on slicing rocks for microscopical study, by the Rev. J. Milne Curran.—The Civil and Mechanical Engineering Section held eight meetings. The following papers were read:—Recent researches on the strength, elasticity, and endurance of materials of construction with especial reference to iron and steel, by Prof. Warren.—The bridge over Lane Cove River at the head of navigation, by H. H. Dare.—On the calculation of stresses by means of graphic analysis, by J. I. Haycroft.—On the tachometer and its application to engineering surveys, by W. Poole, Jun.—On the sewerage of country towns: the separate system, by Dr. Ashburton Thompson.—The Clarke Medal for 1892 had been awarded to Prof. W. T. Thielson Dyer, F.R.S. The Council had issued the following list of subjects with the offer of the Society's bronze medal, and a prize of £25 for each of the best researches if of sufficient merit:—(To be sent in not later than May 1, 1893) Upon the weapons, utensils, and manufactures of the aborigines of Australia and Tasmania; on the effect of the Australian climate upon the physical development of the Australian-born population; on the injuries occasioned by insect pests upon introduced trees. (To be sent in not later than May 1, 1894) On the timbers of New South Wales, with special reference to their fitness for use in construction, manufactures, and other similar purposes; on the raised sea-beaches and kitchen middens on the coast of New South Wales; on the aboriginal rock-carvings and paintings in New South Wales.—The Chairman read the Presidential address, and the Officers and Council were elected for the ensuing year, Prof. Warren being President.

PARIS.

Academy of Sciences, June 13.—M. d'Abbadie in the chair.—A new contribution to the history of the truffle, *Tirmania Cambonii*, "Terfàs" of Southern Algeria, by M. A. Chatin.—On subcutaneous or intra-venous injections of liquid extracts from several organs as a therapeutic method, by MM. Brown-Séguard and d'Arsonval.—In the place of the late Dom Pedro d'Alcantara, M. von Helmholtz was elected Foreign Associate.—Researches on the solar atmosphere, by Mr. George E. Hale, of the Kenwood Astrophysical Observatory, Chicago. A photograph of a metallic protuberance, obtained with an aperture of 12 inches and a large grating spectroscopy, shows all the lines previously announced in the ultra-violet, and the following additional ones: 3961·7 (manganese?), 3900·7 (calcium), 3886·4 (hydrogen), and 3860·4 (iron?). The writer has succeeded in photographing faculæ in the centre of the disk.—On the general problem of the deformation of surfaces, by M. L. Raffy.—On the theory of the fuchsian functions, by M. Ludwig Schlesinger.—On transformations in mechanics, by M. P. Painlevé.—On considerations of homogeneity in physics, by M. A. Vaschy.—On the non-realization of the spheroidal state in steam boilers: reclamation of priority, by M. de Swarte.—On the co-existence of dielectric power and electrolytic conductivity, by M. E. Bouty. A rigid condenser is formed of iron disks separated by small wedges of mica, and joined by iron screws isolated by mica and placed opposite the wedges. This condenser is plunged into a fused mixture of equal parts of the nitrates of sodium and potassium. Air bubbles are carefully removed with plates of mica, and the condenser is withdrawn at the moment when the salt commences to solidify. The liquid, retained by capillarity, forms between the disks an adherent regular solid layer. The apparatus while yet hot is plunged into melted paraffin, which surrounds it with an isolating layer devoid of hygroscopic power. The experiments give a value for k approaching 4, and nearly constant within the limits of temperature in which the specific resistance in ohms may vary from $3\cdot6 \times 10^{11}$ to $2\cdot6 \times 10^9$, *i.e.* in the ratio of about 138 to 1. Here the conductivity and the dielectric capacity belong to molecules of the same kind. It is probable that if the experiments could be extended to ordinary electrolytes, they would give results of the same kind—that is, finite values of the dielectric constant k . The distinction between dielectrics and electrolytes would thus solely

reside in the amount of their conductivity. Dielectric polarization, established in a very short time in comparison with the ten-thousandth of a second, would correspond, in Grotthuss's scheme, to the initial orientation of the compound molecules, their conductivity to their progressive rupture.—On the retardation in the perception of the different rays of the spectrum, by M. Aug. Charpentier. On suddenly illuminating the slit of a spectroscopy by white light, the red portion of the spectrum is seen first, and the light seems to shoot across from the red to the violet. This was confirmed by rotating an inverted sector of a circle, 1 cm. broad at the base, and 8 to 10 cm. long once in two or three seconds. The extreme point seemed drawn out into a kind of spectrum extending from the red to the green. The maximum duration of excitation compatible with the isolation of the colours does not exceed about four or five thousandths of a second.—On the anhydrous crystallized fluorides of nickel and cobalt, by M. C. Poulenç.—Action of nitric oxide upon the metals, and upon the metallic oxides, by MM. Paul Sabatier and J. B. Senderens.—Thermochemical study of guanidine, of its salts and of nitroguanidine, by M. C. Matignon.—Researches on the disodic derivatives of the three isomeric diphenols, by M. de Forcrand.—On normal pyrotartaric or glutaric acid, by M. G. Massol.—Study of the decomposition of the diazo compounds, by MM. J. Hausser and P. Th. Muller.—The folds in the Secondary formations in the neighbourhood of Poitiers, by M. Jules Welsch.—On the genesis of the ophiolitic rocks, by M. L. Mazzuoli.—Three cases of increase in the velocity of transmission of sense-impressions, under the influence of injections of the testicular liquid, by M. Grigorescu.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Books.—Country Thoughts for Town Readers: K. B. B. de la Bere (Simpkin).—The Etiology and Pathology of Grouse Disease: Dr. E. Klein (Macmillan).—Marine Shells of South Africa: G. B. Sowerby (Sowerby).—Atlas of Clinical Medicine. vol. i.: Dr. B. Bramwell (Edinburgh, Constable).—The Standard Course of Elementary Chemistry, Parts 1-5: E. J. Cox (Arnold).—English Botany, Supplement to the Third Edition, Part 2: N. E. Brown (Bell).—Volcanoes, Past and Present: Dr. E. Hull (Scott).—Den Norske Nordhavs-Expedition, 1876-78, xxi. Zoologi, Crinoida: D. C. Danielssen (Christiania, Grondahl).—Coal Gas as a Fuel, fourth edition: T. Fletcher (Liverpool, Tinsling).

PAMPHLETS.—Twenty-second Annual Report of the Wellington College Natural Science Society, 1891 (Wellington College).—Johns Hopkins University of Baltimore Register for 1891-92 (Baltimore).—British Universities (Manchester, Cornish).

SERIALS.—Astronomy and Astro-Physics, June (Northfield, Minnesota).—L'Anthropologie, tome iii. No. 2 (Paris, Masson).—Journal of the Royal Microscopical Society, June (Williams and Norgate).—Contributions from the U.S. National Herbarium, vol. ii., No. 2 (Washington).—Bulletin of the New York Mathematical Society, vol. i. No. 9 (New York).

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