

Murchison on Erratic Blocks

At a meeting of the Geological Society held on February 3, 1836, presided over by Lyell, Murchison read a memoir on the gravel and other ancient detritus of the eastern and southern counties of Wales and the border counties of England. The detritus of Herefordshire, the southern part of Shropshire and the Welsh counties, he said, was of local origin, the whole of its materials being referable to the formation of which the district consists. On the other hand, the detritus spread over a considerable portion of Lancashire, Cheshire and the north of Shropshire contained large blocks of granite, porphyry and greenstone, not referable to any rocks *in situ* in those counties, but which had been traced to the mountains of Cumberland. He entered into an examination of the condition of the surface at the time when the boulders were transported, the agents by which the transport was effected, and the means by which the blocks attained their relative altitudes.

A Character Sketch of Sir Humphry Davy

WHEN the "Memoirs of the Life of Sir Humphry Davy, Bart." by his brother John Davy appeared, a reviewer in the *Athenæum* of February 6, 1836, said: "We knew Sir Humphry Davy: he was one of the most various and accomplished men of his time. In science he stood nearly without a rival; he was an elegant and observing writer; a poet of some powers, and his manners were graceful and winning. . . . He differed from most of his scientific brethren in breadth of character, and also in the easy and courteous way of communicating the results of his experiments, and the fruits of his studies. He was indeed, in almost all things, the opposite of those scientific bores, who, proud of some trivial discovery, seem giants in their own esteem, and talk contemptuously of all other pursuits. It was even more pleasant to go astray in speculation with him, than to go right with some others of his brethren. . . . Poetry brightened his science, and enabled him to soften her severities, and render her acceptable to lovers of beauty as well as the followers of truth."

Societies and Academies

LONDON

Royal Society, January 23. H. CARMICHAEL: The nature of large cosmic-ray bursts. Cosmic-ray bursts have been investigated at sea-level with a large (175 litre) ionisation chamber. The results of 1,500 hours observation are given. A new sensitive quickly responding electrometer was used, and also a new method of recording, such that bursts of all sizes above the lower limit set by the normal fluctuations of the ionisation current were measurable. Experiments were made with different gases in the ionisation chamber and with several thicknesses of lead from 0 cm. to 8 cm. above the chamber. The result of the former experiments was used to complete the experimental evidence necessary to establish that the bursts are produced by thinly ionising particles such as are found in cosmic-ray showers in the Wilson chamber, and the result of the latter experiments shows that the large bursts of 160 to several thousand ionising rays are almost certainly complex examples of the

shower-phenomenon. H. LONDON: An experimental examination of the electrostatic behaviour of supra-conductors. The question, whether in a supra-conductor the lines of electric induction terminate discontinuously in surface charges or whether they penetrate a thin layer of the supra-conductor, was undecided. It has now been decided experimentally in favour of the surface charges by the measurement of the capacity of a supra-conducting condenser. Accordingly $E=0$ is valid in stationary conditions even in surface regions of the order of magnitude of 10^{-7} cm. The measurements were carried out with a very low measuring voltage in order to exclude disturbances due to a possible electric threshold value.

DUBLIN

Royal Irish Academy, November 30. H. G. LEASK and LIAM PRICE: The excavation and survey of a megalith at Labbacallee, Co. Cork. The excavation of a long wedge-shaped cist with two chambers is described. Skeleton remains and fragments of pottery of two types were found. The monument is unlike any other known in Ireland or Great Britain, but resembles in some points the long galleries found in France in the basin of the Seine and Oise.

December 9. A. W. CONWAY: Integrals of MacCullagh's equations. The equations of propagation of light through a biaxial crystal were given by MacCullagh in 1839 (*Trans. Roy. Irish Acad.*, 21.) The same equations were given by Maxwell in 1865. The integrals for plane waves were given by MacCullagh and no other particular integrals seem to have been found. In this paper, various special types of integrals are given.

PARIS

Academy of Sciences, December 23 (*C.R.*, 201, 1301-1444)*. JOSEPH MALETTE: The use of coloured reagents for the microscopical observation of carbon steels. The etching solution proposed contains nitric acid, ammonium molybdate (or vanadate or uranate) and alcohol. Each constituent of the steel, except carbon, takes on a distinctive colour. MME. PAULINE RAMBERT-LUCAS and JOSEPH HOCH: The structure and absorption of the benzo-cyclanone oximes. MME. ZINA SOUBAREW-CHÂTELAIN: Mannito-dimolybdic acid and the variations of pH determined in molybdic solutions by the addition of sugar. The formation of the mannito-dimolybdic acid, described by the author in an earlier communication, is shown to account for the changes in pH described by Pierre Thomas and Mlle. Kalman. JEAN DESMAROUX, ROBERT VANDONI and Mlle. THÉRÈSE PETITPAS: The absorption of cyclopentanone by nitrocellulose. CHARLES DUFRAISSE and LÉON VELLUZ: The dissociable organic oxides. The naphthacenic formula of the rubenes. Synthesis of 9.10.11.12-tetraphenylnaphthacene: its identity with tetraphenylrubene (formerly known as rubrene). HENRY GAULT: The flameless combustion of liquid combustibles with low vapour pressures. Description and diagram of an apparatus capable of burning completely heavy oils or tars. JOSEPH WIEMANN: A new methylhexite. Vinylpropenylglycol, oxidised with a solution of silver chlorate in the presence of osmic acid, gives a new methylhexite, the properties of which are given.

* Continued from p. 162.

PAUL WOOG and N. YANNAQUIS: The orientation of the molecules of beeswax. Results of an X-ray examination of beeswax. ANDRÉ VATAN: Spongolites and silicified gypsum in the upper Eocene of Berry. ERNEST CHAPUT: The Tertiary folds of Central Anatolia. GEORGES EMELIANOFF: The bauxites of Lika (Yugoslavia). LOUIS LONGCHAMBON: The bitumenous schists of Saulx-de-Vesoul. A map is given showing the position of the borings. The thickness varies from 2.5 to 33 metres, the yield of oil from 4.6 to 6.3 per cent with an average of 4.9 per cent. MLLÉ, BERTHE DELAPORTE: Researches on the cytology of the intestinal bacilli of the tadpole. ALBERT MAIGE: The amylogenic capacity and organic mass of plants. HENRI COLIN: Inulogenesis in the Compositæ. DENIS BACH and JEAN FOURNIER: The absorption of oxalic acid by *Aspergillus repens*. Oxalic acid, in spite of its high toxic power for fungi, can be absorbed in considerable quantities by *A. repens*, provided that the acid is in the ionic form. Oxalic acid in non-ionised form gave negative results. JOSEPH BOUGET: The potato reproducing itself spontaneously without cultivation. PIERRE JOLIBOIS, H. BURGEVIN, G. GUYON and ANDRÉ BOULLÉ: The fertilising value of the different forms of phosphoric acid. PIERRE CHEVEY: The presence of the genus *Anquilla* in French Indo-China. PIERRE DRACH: The phenomena of resorption in the endoskeleton of the short-tailed decapods in the course of the period preceding casting the skin. MME. LUCIE RANDOIN and FRED MILHAUD: The utilisation of sugars: the B vitamins and food equilibrium. The utilisation of certain sugars (glucose, saccharose, lévulose) depends on the presence of B vitamins in sufficient quantity in the food ration. ANTOINE MAGNAN and CLAUDE MAGNAN: Contribution to the study of the propulsion of fishes. J. ANDRÉ THOMAS: Biochemical attempts at the experimental transformation *in vitro* of cells into histiocytes. G. BARAC: The spectrometric determination of phenol (C₆H₅OH) added to urine. The ultra-violet spectrographic method, previously shown to be applicable to ordinary phenol in aqueous solution, in plasma and blood, is now shown to be capable of giving accurate results with urine. ANGEL H. ROFFO and A. E. ROFFO: The radiations emitted by cholesterol after irradiation by the sun or by ultra-violet rays. Irradiated cholesterol emits a radiation, a spectrogram of which is reproduced. A blank experiment with non-irradiated cholesterol gave no radiation. ALBERT GORIS and HENRI CANAL: On a 2'.6'-dioxo-4'-methoxy-3-phenyl-propiofenone extracted from the essence of *Populus balsamifera*. MAURICE LEMOIGNE, PIERRE MONGUILLON and ROBERT DESVEAUX: The presence of compounds of hydroxylamine in the fresh leaves of the higher plants. Evidence in favour of the existence of various compounds of hydroxylamine in green leaves. It is suggested that this substance takes part in the nitrogen metabolism of the higher plants. MAURICE DOLADLHE: Contribution to the study of the dispersing property of the blood serum in relation with its alexic power. MME. HÉLÈNE SPARROW: Attempts at immunisation with Tunis *virus murin* I, introduced by the nasal passage. JEAN CUILLE, PAUL LOUIS CHELLE and FRANCIS BERLUREAU: The identity of the French and Algerian bovine anaplasmosis. Cattle after recovery from French anaplasmosis are immune from the Algerian virus. The two parasites are identical, *Anaplasma marginale*.

AMSTERDAM

Royal Academy (*Proc.*, 38, No. 9, November 1935). W. H. KEESOM and B. G. DAMMERS: Construction of platinum thermometers and the determination of their basic points. (2) Comparison of some platinum thermometers with the helium thermometer between 0° and -183° C. Experiments to relate the international temperature scale to that of the helium thermometer. J. DE GIER and P. ZEEMAN: Isotopic constitution of iron. There are four isotopes, 54, 56, 57 and 58, with percentage abundance 6.5, 90.2, 2.8 and 0.5 respectively. D. COSTER and F. BRONS: Dissociation energy of CO. A value 8.41 volts is deduced for the dissociation energy of CO from an investigation of the rotational structure of the fourth positive group and the general energy level system. A. A. NIJLAND: Mean light curves of long-period variables. (25) V20=ST Cygni. The light of this star varies with a period of 334 days and an amplitude of 3.64 magnitudes. F. M. JAEGER and J. A. VAN DIJK: Some complex dipyrindyl salts of nickel and copper. Crystallographic data. E. COHEN and J. J. A. BLEKKINGH, jun.; The influence of the degree of dispersion on physico-chemical constants (5). The density of crystals of salicylic acid is the same within 1 in 5,000 whether they are 0.01 mm. or 1.0 mm. in diameter. F. A. H. SCHREINEMAKERS and J. P. WERRE: An osmotic complex with two stationary liquids. C. U. ARIËNS KAPPERS: The degree of the changes in the cephalic index correlated with age and environment. P. J. HARINGHUIZEN and D. A. WAS: Research on thin layers of tin and other metals (1). The influence of thin metal layers on the deterioration of technical insulating oils. V. HLAVATY: Conformal geometry. (3) Application to the theory of curves. J. BEINTEMA: Crystal structure of cerium tungstate. (2) Crystal structure and the composition of sodium dihydropyrostibiate. W. KLEIN: The degree of the developmental changes in the length-breadth index of the head of Dutch Askenasim Jews. G. STIASMY: The tornaria of the Snellius Expedition. Description of the finds of this expedition to the waters of the Dutch East Indies. N. POSTMA: Tonus phenomena in the foot of the snail (*Helix pomatia*). S. M. BERGGREN: Anatomical study of a case of unilateral section of the *Brachium conjunctivum cerebelli* in the dog, with remarks concerning the existence of cerebellopetal fibres in this brachium.

CRACOW

Polish Academy of Science and Letters, December 2. L. MALIS and W. JACYNA: The law of action and thermodynamic reaction. K. SMOLENSKI: The acid saponin of the beetroot. This saponin from the juice of the sugar beet on hydrolysis gives a glycuronic acid and the resin acid of beet, C₂₂H₃₆O₂. K. SMOLENSKI and W. ZERO: The solubility of lime in water and in sugar solutions. J. NOWAK and J. ZERNDT: The tectonic of the eastern portion of the Polish coal basin. T. DOMINIK: Contribution to the study of the microscopic fungi of western Poland. MLLÉ. O. SEIDL: (1) The prehistoric species of charcoals and fruits detected in the tumulus east of Radziejow, near Pinczow. The charcoal, probably from ritual fires, arose from oak, pine and birch; the fruits were from *Lithospermum officinalis*. (2) The different species of charcoal and of wood found in some prehistoric remains. Z. GRODZINSKI and J. MARCHLEWSKI: Mobility of the spermatozooids of the cock outside the organism. T. GARBOWSKI: Contributions to the ethnology and to the psychology of certain Hemiptera.