

large and the white ones were reduced to mere threads. The scale of the photograph showed that the effect was not due to the operation of the first diffraction spectrum, and it was still more curious to note that in the case of another positive taken from the same negative and upon the same scale this optical illusion was not observed.

Anthropological Institute, January 24.—Anniversary Meeting.—Prof. Flower, C.B., F.R.S., Vice-President, in the chair.—The following were elected Officers and Council for the ensuing year:—President: Francis Galton, F.R.S. Vice-Presidents: J. G. Garson, Prof. A. H. Keane, F. G. H. Price. Secretary: F. W. Rudler. Treasurer: A. L. Lewis. Council: G. M. Atkinson, E. W. Brabrook, C. H. E. Carmichael, Hyde Clarke, A. W. Franks, F.R.S., Lt.-Col. H. H. Godwin-Austen, F.R.S., T. V. Holmes, H. H. Howorth, M.P., Prof. A. Macalister, F.R.S., R. Biddulph Martin, M.P., Prof. Meldola, F.R.S., Rt. Hon. the Earl of Northesk, C. Peek, Charles H. Read, Lord Arthur Russell, M.P., Prof. A. H. Sayce, H. Seebohm, Oldfield Thomas, M. J. Walhouse, Lieut.-Gen. Sir C. P. Beauchamp Walker, K.C.B.

PARIS.

Academy of Sciences, January 30.—M. Janssen in the chair.—Note on the first volume of the *Annales de l'Institut Pasteur*, presented to the Academy, by M. L. Pasteur. This volume contains the first twelve numbers of a monthly serial established and directed by Prof. Duclaux, of the Sorbonne, and entirely devoted to the progress of the new branch of pathological physiology to which M. Pasteur gives the name of "Microby" or "Microbiology." His remarks were mainly confined to the important memoir by MM. Roux and Chamberland, entitled "Immunité contre la septicémie, conférée par des substances solubles." In this memoir is contained the rigorous demonstration of the far-reaching fact that the septic vibron, a living ferment analogous to the butyric vibron, develops soluble chemical products, which gradually act as an antiseptic on the organism itself. These products, introduced in sufficient quantities into the body of the guinea-pig, confer absolute immunity from the deadly attacks of the virus, to which that animal is specially susceptible.—Note on the total lunar eclipse of January 28, by M. J. Janssen. The observations taken at the Observatory of Meudon were mainly directed towards determining a point of telluric spectroscopy connected with the absorption bands of oxygen. They were necessarily of a somewhat preliminary character, and will be continued during future total eclipses of the moon.—Researches on ruthenium, by MM. H. Debray and A. Joly. The paper deals more especially with hyperruthenic acid, its purification, physical properties, behaviour in the presence of water, and under varying temperatures.—An apparatus adapted for experiments at high temperatures in the presence of gases under high pressure, by M. L. Cailletet. For this apparatus, which the inventor has had in use for some years, it is claimed that it enables experimenters to raise substances to temperatures near the fusion of platinum while keeping them in a gaseous atmosphere, the nature and pressure of which may be varied at pleasure.—On double dielectric refraction; simultaneity of electric and optical phenomena, by M. R. Blondlot. These experiments have been undertaken in order to determine whether the double dielectric refraction of a condenser is produced and ceases simultaneously with the charge, or whether there exists an appreciable interval of time either between the production of the electric phenomenon and that of the luminous phenomenon, or between periods of cessation of both phenomena. The conclusion seems to be that, if there is any difference in point of time between these several manifestations, it cannot exceed 1/40000 of a second.—On the laws of chemical equilibrium, by M. H. La Chatelier. It is shown that the numerical laws of chemical equilibrium, such as they are deduced from the two principles of thermodynamics, may be expressed in a very simple way by means of M. Massieu's characteristic function H', which may be regarded as the true measure of chemical force.—On cinchonine, by MM. E. Jungfleisch and E. Léger. The authors describe the process of preparation, the chemical properties, and the salts of this substance, whose composition is expressed by the formula C₂₈H₂₂N₂O₂.—Persistence of the virus of rabies in dead bodies, by M. V. Galtier. These researches show that the virus retains all its virulence in the bodies of dogs that have been dead seven-teen and buried fifteen days. Inoculation from the bulb produces

rabies in ten and kills in fifteen days after trepanation.—On the antiseptic properties of naphthol- α , by M. J. Maximovitch. The experiments here described show that, owing to its feebler toxic and stronger anti-septic properties, this substance is in every way superior as an antiseptic to M. Bouchard's naphthol- β .—On the presence of primordial fauna (Paradoxidian) in the neighbourhood of Ferrals-les-Montagnes (southern slope of the Montagne Noire), Hérault: (1) stratigraphic study by M. Jules Bergeron; (2) palæontological study, by MM. Munier-Chalmas and J. Bergeron. Considerable interest attaches to the recent discovery of these organism; by M. Bergeron, for the first time in any part of France. They belong to the earliest forms of the Silurian group, forms which were not known to exist when that group was first established by Murchison in 1835. These first French Trilobites of the primordial fauna, as it was named by Barrande, include some exceptionally fine specimens of the genera *Conocephalites* and *Paradoxides*, the latter closely allied to the *P. rugulosus* of Bohemia, and the *P. Pradoanus* common in the Cambrian of Spain.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Astronomical Observations and Researches made at Dunsink, sixth part (Hodges, Dublin).—A Student's Manual of Psychology, adapted from Kirchner by E. D. Draught (Sonnenschein).—The Cardinal Numbers: M. Hopkins (Low).—Civilization and Progress; new edition: J. B. Crozier (Longmans).—Lessons on Prescriptions and the Art of Prescribing; new edition: W. H. Griffiths (Macmillan).—Lehrbuch der Entwicklungsgeschichte des Menschen und der Wirbelthiere, Zweite Abthg.: Dr. O. Hertwig (Jena).—Practical Forestry: C. E. Curtis.—South African Butterflies; two vols: R. Trimen, assisted by J. H. Bowker (Triebner).—Journal of the Society of Telegraph-Engineers and Electricians, No. 69, vol. xvi. (Spou).—Journal of the Royal Statistical Society, December (Stanford).—Annalen der Physik und Chemie, 1888, No. 2 (Leipzig).—Beiblätter der Physik und Chemie, 1888, No. 1 (Leipzig).—Brain, parts 39 and 40 (Macmillan).

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