the tissues by means of the X-rays, by MM. A. Buguet and A. Gascard.—Experiments relating to the action of the X-rays on *Phycomyces nitens*, by M. L. Errera. This *Phycomyces* was not sensitive to these radiations.—On the Röntgen rays, by M. C. Henry. General considerations as to the nature of the rays, and a *résumé* of their properties.—Reply to some observations of M. Henri Becquerel relating to a note "On the principle of an accumulator of light," by M. C. Henry.—Remarks on the preceding, by M. Henri Becquerel.—Safrol and isosafrol. Synthesis of isosafrol, by M. C. Moureu.—On citronnellal and its isomerism with rhodinal, by MM. P. Barbier and L. Bouveault.—On the macroblasts of the oyster; their origin and localisation, by M. J. Chatin.—On the relations between *Lepismina myrmecophila* and ants, by M. C. Janet.—On the tertiary basin of the lower valley of the Tafna, by M. L. Gentil.

AMSTERDAM.

Royal Academy of Sciences, January 25.—Prof. Van de Sande Bakhuyzen in the chair.—Prof. Lorentz showed a number of photographs prepared by means of X-rays by Prof. Röntgen, of Würzburg.—Prof. MacGillavry presented the dissertation of Dr. D. MacGillavry on the actiology and the pathogenesis of congenital defects of the heart.—Mr. Jan de Vries gave applications of the introduction of a third radius vector into the bipolar system, so that the three poles lie in a straight line.—Prof. Schoute treated Steiner's quartic surface $y^2z^2 + z^2x^2 + x^2y^2 = 2kxyz$.—Prof. Engelmann communicated the result of an investigation made by Dr. H. J. Hamburger into the importance of respiration and peristaltics to the resorption in the intestine. The resorption of liquids in the alimentary canal increases with the intra-intestinal pressure, and disappears altogether when this pressure is artificially lowered to 0 or a negative value.—Prof. Kamerlingh Onnes made, on behalf of Mr. D. van Gulik, a communication concerning an investigation made, under the direction of Prof. Haga, at Groningen, into the cause of the variation of resistance in microphonic contacts brought about by electric vibrations. In investigating the cause of the diminution of resistance through electric vibrations generated in bad microphonic contacts, it has been ascertained that the ends of a current-chain, when brought very close together, attract each other if the wires are exposed to Hertz's waves. The arrangements being made with proper care, the movable ends were seen under a microscope to touch each other as soon as electric vibrations were generated near them. The original air-gap must not be larger than four microns, and a contact arisen in this way offered a resistance of $\frac{1}{4}$ Ω to the current. The removal of the element from the chain had no influence upon the phenomenon. When the air-gap was a few microns too large, then small sparks resulted on the wires being acted upon by the above-mentioned waves. Prof. Kamerlingh Onnes, starting from his theorem that Van der Waals's corresponding states are dynamically similar, inferred that the cooling of the gas in Thomson and Joule's porous plug will, according to their experiments with hydrogen (1862), become zero and turn into heating, with all gases, at sufficiently high temperatures. The author extended the theorem to thermo-dynamical similarity, and thus supplied the means to find the dimensions of an apparatus to liquefy hydrogen, if there is given one liquefying oxygen in a satisfactory manner. Linde's and Dewar's methods were considered from this point of view. The author also commented on his endeavours to get a small self-cooling motor, liquefying oxygen, to be used as a model for apparatus to liquefy hydrogen by doing work adiabatically after the manner of Solvay, and intended to form part of a series of theoretically perfect cooling apparatus. Finally the author pointed out the superiority of Dewar's vacuum-jackets, and their great importance for low temperature work.

February 29.—Prof. van de Sande Bakhuyzen in the chair.—Prof. Suringar described, in connection with previous communications, some *Melocacti*, lately received from the island of St. Martin, and belonging to the tribe of *Melocacti communes*. They most nearly approach to the one described by Link and Otto as *M. communis*, var. *macrocephalus*. They represent two types, which speaker has called *M.* (*communis*) *Linkii* and *M.* (*communis*) *croceus*, the name *communis* between parentheses indicating the affinity. From a comparison of the specimens discussed with those the author formerly brought away from St. Eustace, and with the description and drawing by Hooker of specimens from the island of St. Kitts, it appears that in these islands, situated very near each other, distinctly different, constant varieties of the common type have developed themselves. This had induced the author to collect and to critically examine all the older accounts, and especially the drawings by Lobelius (1576) down to Miquel's monograph (1840). In anticipation of the Iconography, which he is preparing, he presented a treatise on the subject, as a fourth contribution to the *Transactions* of the Academy. It treats partly of crook-thorned Melocacti, to which those of Lobelius and Besler belong, and of which the author has found a variety of species in Aruba; partly and especially of *Melocacti* of the *Melocacti communes* tribe, peculiar to the Northern Antilles, and which treatise will be illustrated by two plates.—Mr. Jan de Vries made a communication concerning Cartesian confocal ovals in connection with a hyperboloid of one surface.—Prof. Rauwenhoff communicated the results of investigations, made by Dr. H. F. Jonkman at Utrecht, into the embryogeny of Angiopteris and Marattia.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—The Island of Dr. Moreau: H. G. Wells (Heinemann).—A Manual of Forestry: Prof. W. Schlich, Vol. 1, 2nd edition (Bradbury).—Die Vegetation der Erde. I. Grundzüge der Pflanzenverbreitung auf der Iberischen Halbinsel: M. Willkomm (Leipzig, Engelmann).—Monographie der Gattung Euphrasia: Dr. R. v. Wettstein (Leipzig, Engelmann).—A Handbook to the Birds of Great Britain: Dr. R. B. Sharpe, Vol. 3 (Allen).—Röntgen Photographs: Profs. Reid and Kuenen (Dundee, Valentine).—Leçons de Géographie Physique: Prof. A. de Lapparent (Paris, Masson).

PAMPHLETS.—Summary Report of the Geological Survey Department for the Year 1895 (Ottawa).—A Laboratory Note-Book of Elementary Practical Physics: L. R. Wilberforce and T. C. Fitzpatrick. I. Mechanics and Hydrostatics (Cambridge University Press).—Kepler's Lehre von der Gravitation; Dr. E. Goldbeck (Halle a/s., Niemeyer).—Flora of West Virginia: C. F. Millspaugh and L. W. Nuttall (Chicago).—The Classification of the Chemical Elements: Prof. O. Masson (Melville).—The Jack Rabbits of the U.S.: Dr. T. S. Palmer (Washington).

SERIALS.—Fortnightly Review, April (Chapman).—Scribner's Magazine, April (Low).—Geological Magazine, April (Dulau).—Imperial University College of Agriculture, Bulletin Vol. ii. No. 5 (Tōkyō).—Reliquary and Illustrated Archæologist, April (Bemrose).—Journal of the Royal Agricultural Society of England, third series, Vol. vii. Part 1 (Murray).—Geographical Journal, April (Stanford).—Phonographic Quarterly Review, April (Pitman).—Zeitschrift für Physikalische Chemie, xix. Band, 3 Heft (Leipzig, Engelmann).—Annals of Scottish Natural History, April (Edinburgh, Douglas).

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