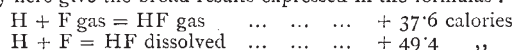


bon of the cyclic nucleus. By making selenium tetrachloride act on benzine, M. Chabrie has obtained compounds corresponding to the sulphides and thiophenols prepared by Friedel and Crafts from sulphur and the chloride of sulphur.—On the oxidizing action of nitroso-camphor under the influence of light, by M. P. Cazeneuve. This substance, recently obtained by the author (*Comptes rendus*, cviii. p. 857), yields Liebermann's blue reaction with phenol and sulphuric acid, and also presents the curious phenomenon of becoming decomposed under the influence of light. The conditions seem somewhat analogous to those attending the formation of chlorophyll and of the colouring-matter in flowers.—On the isocamphols, by M. A. Haller. The paper deals more particularly with the influence of solvents on the rotatory power of the isocamphols.—Respiratory combustion by the nervous system in its relation to the size of the animal, by M. Charles Richet. A large number of experiments on dogs confirm, for animals of the same species, the law established by Regnault and Reiset for animals of different species—namely, that the respiratory combustions, by kilogramme of living weight, increase in inverse ratio to the size of the animal.—On the products of microbes favourable to the development of infections, by M. G. H. Roger. Amongst the substances secreted by Bacteria, some are known to produce intoxicating phenomena, while others possess vaccinating properties. M. Roger's researches lead to the inference that there are others that tend to stimulate the development of certain pathogenic agencies, at least in the case of symptomatic charbon.—On a new Mediterranean species of the genus *Phoronis*, by M. Louis Roule. This specimen was found in the Zoological Station at Cete, and has been named *Ph. sabatieri*, from the founder of that station. The characteristics of the species are here described by contrast with *Ph. hippocrepis*, Str. W.—On the growth of the oceanic sardine, by M. Georges Pouchet. Observers have failed to determine the region where the sardine is hatched and passes the first phases of its development. Those reaching the fishing-grounds are already several months old, and the observations made at several points present so many discrepancies that no general law can be laid down regarding their growth during the fishing season. The difficulty of determining this point is increased by the fact that the shoals themselves appear to be continually renewed by fresh arrivals throughout the whole season.

August 5.—M. Des Cloizeaux, President, in the chair.—Heat of combination of fluor with hydrogen, by MM. Berthelot and Moissan. After many failures, the authors have at last succeeded in measuring the heat of combination of these bodies. Reserving for a future communication the details of their experiments, they here give the broad results expressed in the formulas:—



—On the relations of atmospheric nitrogen with vegetable soil, by M. Th. Schloesing. Continuing his researches on this subject with fresh samples of earth taken from various districts and under varying conditions, the author has still failed to discover any soil which being destitute of vegetable germs fixes gaseous nitrogen. Hence he concludes that if any exist they must be regarded as quite exceptional, and not to be depended on by agriculturists.—Observations of Davidson's comet (July 23) made at the Observatory of Algiers, by MM. Trépiéd, Sy and Renaux. The observations cover the period from July 26 to July 30, when the nucleus of the comet was comparable to a star of the eighth magnitude.—A study of the electric phenomena produced by solar radiations, by M. Albert Nodon. Numerous observations made at the laboratories of the Sorbonne and the Collège de France show that on meeting an insulated metallic or carbon conductor the solar rays communicate to it a positive electric charge; that the amplitude of this charge increases with the intensity of the rays, and decreases with the hygrometric state of the air, the phenomenon attaining its maximum value in Paris about 1 p.m. in summer, when the atmosphere is pure and dry; lastly, that the effects cease during the transit of clouds across the face of the sun. If these results can be extended to non-metallic bodies, then solar radiation may be regarded as one of the causes of the electrization of the clouds.—Researches on the sulphites (continued), by M. P. J. Hartog. Here are studied the double normal sulphites of potassium and ammonium, and the bisulphite sulphite of sodium and potassium.—On the heat of combustion of some organic compounds, by M. J. Ossipoff. The bisubstituted succinic acids, presenting certain analogies with the fumaric and malic acids, are here studied thermochemically with

a view to determining their heat of combustion.—A chemical and thermic study of the phenolsulphuric acids (continued), by M. S. Allain Le Canu. In the present paper the author confines his researches to orthophenolsulphuric acid, the preparation and properties of which are fully described.—On the distribution of Nemertes on some points of the French seaboard, by M. L. Joubin. A systematic exploration of the Roscoff and Banyuls districts has resulted in the discovery of nearly sixty species of Nemertes in those two localities alone. About ten of these have not yet been described, and will form the subject of a future memoir.—On the mechanism of the photodermatic and photogenic functions in the siphon of *Pholas dactylus*, by M. Raphael Dubois. Although these mollusks possess no eyes, they display extreme sensibility to light, the least change of its intensity sufficing to excite a more or less sudden contraction of the siphon. M. Dubois's already described graphic process has enabled him to verify the existence of two distinct functions, one receptive, the other emissive, thus showing that the mechanism of sight belongs to the category of tactile phenomena in the higher animals gradually differentiated and localized in a special organ. It also appears that the photodermatic (receptive) function is stimulated by luminous vibrations from without, while the photogenic (emissive) has for its final outcome the emission of luminous rays through the circumambient medium.—On some habits of the sea trout, by M. A. Giard. The author's observations in the Wimereux estuary and neighbouring waters, tend to show that many smelts and grilses, and even a number of adults (bull-trout?), pass a much longer time in the sea than is generally supposed by ichthyologists.—On the colouring matter of the spermoiderms in the Angiosperms, by M. Louis Claudel. The results are here given of a series of studies on the pigments of grains made in the botanical laboratory, Marseilles. It appears generally that the solid pigments of grains are scarcely ever presented under the form of leucite, and that they derive directly from the protoplasm. In this respect they differ from the pigments of flowers and pericarps which, according to Flahault and others, derive from pre-existing leucites.—On the recent eruption of the island of Vulcano (Lipari Group), by M. O. Silvestri. The volcanic phenomena presented by the eruption, which began on August 2, 1888, are characteristic of a special phase, which has already been observed by M. Silvestri at Etna, and to which he proposes to give the name of *Vulcanian phase*.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Practical Photometry: W. J. Dibdin (King).—Picture-Making by Photography, 2nd edition: H. P. Robinson (Hazzell).—Shut out from Love: J. Nickal (Hughes).—Éléments d'Économie Politique Pure, deuxième édition: L. Walras (Lausanne, Rouge).—Lehrbuch der Vergleichenden Anatomie, Zweite Abtheilung: Dr. A. Lang (Jena, Fischer).—Cours de Minéralogie, deuxième édition: A. de Lapparent (Paris, Savvy).—Chemical and Physical Studies in the Metamorphism of Rocks: A. Irving (Longmans).

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