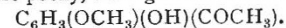


leads to the conclusion that North Brittany, north of a line drawn from Quimper to Rennes, and West Normandy, north of a line drawn from Pontorson to Domfront and Falaise, are mainly constituted by the vertical clay-slates of Saint-Lô, overlain by the purple conglomerates, schists, and nearly horizontal red sandstones. This is confirmed the general conclusion announced by Dufrenoy in 1835.—On the presence of microscopic mineral crystals of the feldspar group in certain Jurassic limestones of the Alps, by M. Ch. Lory. The crystals here described yield on analysis about 47 per cent. of potassic and sodic feldspar mixed with a little albite; 45 of quartz in bipyramidal crystals and pulverised; 8 of argile, analogous in its composition to that of the carbonates of lime of the same horizon.—On the operations prosecuted in Tunisia by Commander Landas since the death of Col. Roudaire, by M. de Lesseps. The creation of an inland sea, the original object of these works, has been definitively abandoned, and attention is now devoted to the Wed Melah basin, which, by the sinking of Artesian wells, promises soon to recover its former productiveness.—Note on M. Marcel Deprez's experiments relating to the transmission of force between Creil and Paris, by M. Maurice Lévy. In this note is embodied the report of the sub-committee appointed to verify the results already obtained by M. Deprez during the course of the experiments carried out by him at Creil since November 1885. The main object of these experiments was to show the possibility of transmitting electrically to the Paris terminus, a distance of 56 kilometres, a force of 200 horse-power generated at Creil on the Great Northern line, with an effective yield of 50 per cent. The preliminary operations, concluded on May 24, show that the force consumed at Creil varied from 67 to 116 horse-power, that received at Paris from 27 to 52 horse-power, the yield being from about 41 to 45 per cent., and increasing with the transmitted force. The experiments, conducted at the expense of MM. Rothschild, show conclusively that with a single generator and a single receiver force may be profitably transmitted to a distance of over thirty miles with a loss of not more than 55 per cent. on 52 horse-power, without exceeding a current of 10 amperes, an angular velocity of 216 revolutions per minute, or a peripheric velocity of 7.50 m. per second. With improved appliances the loss, mainly due to absorption by the machines themselves, will probably be reduced to 50 per cent., and to still less in operations conducted on a larger scale.—Measurement of the intensity of sound by means of the manometric flames, by M. E. Doumer. It is shown that this apparatus, hitherto used mainly as a method of demonstration and summary study of the *timbre* of vocal sounds, is susceptible of far more varied applications, and especially may rival the graphic method in determining the height or intensity of sound.—On the separation of arsenic, antimony, and tin, by M. Ad. Carnot. By employing oxalic acid and the hyposulphite of soda or ammonia, sulphurous acid and sulphuretted hydrogen, the author has succeeded in effecting these separations rapidly and accurately, as he had already effected the separation of copper, cadmium, zinc, and nickel. His new methods enable him greatly to simplify the analysis of the complex alloys, of which these metals are constituents.—Heat of formation of the crystallised seleniures and of the amorphous seleniures, by M. Charles Fabre. Here are treated the seleniures of iron, manganese, cobalt, nickel, zinc, cadmium, copper, thallium, lead, mercury, and silver. In general the heat of formation of the seleniures prepared at high temperatures is shown to be equal or slightly inferior to that of the corresponding precipitated sulphides.—On the combinations of chloral and of resorcine, by M. H. Causse.—On the composition of the element in the grease of sheep's wool which is soluble in water, by M. E. Maumené.—On the indirect innervation of the skin, by M. C. Vanlair.—Note on the arterial system of the scorpion, by M. F. Houssay.—Fresh researches on the production of monstrosities in the hen's egg by a modification of the germ before incubation, by M. Dareste.—Observations on the pollinisation of orchids indigenous in France, by M. Paul Maury.—A first survey of the vegetation in the French territory of the Congo, by M. Ed. Bureau. The botanical collections formed by the Mission of West Africa, which have already reached Paris, comprise two herbariums, one collected by MM. Thollon and Schwébis, the other by MM. J. de Brazza and Pecile. There are altogether 599 species, chiefly from the districts of Franceville, Brazzaville, Ossika, Diélé, Lékéti, and Nganshu, on the Ogoway, Alima, and Lower Congo.

## BERLIN

**Chemical Society, May 24.**—Dr. W. Will reported on the utilisation of myristic acid for lauric acid. According to the investigations of C. Reimer and W. Will there was, in the nuts of *Myristica surinamensis*, an excellent material for obtaining large quantities of myristic acid. Herr Lutz, student, had obtained from it myristinamid, and in accordance with the method of Hofmann, had transferred that into myristintriethylurea, triethylamin, triethyl nitrite, triethylamid, and the corresponding combinations of the twelfth series, inclusive of lauric acid.—Herr O. N. Witt reported on experiments for the local determination of the sulfo group in the naphthalic acids, which led him to the same results as those obtained by Clève.—Prof. C. Liebermann referred to a work undertaken but not yet completed, with a view to the elucidation of the constitution of opianic acid. He showed that there were reasons to support the assumption of an aldehyde group in this compound, as also for the opposite assumption, a fact which led to a discussion on the so-called atom migrations, in which Herren Hofmann, Klason, Liebermann, Krämer, Pinner, and Will took part. Prof. Hofmann then called attention to the fact that such molecular shiftings of place had been particularly in quite recent times observed by him whilst studying the ether of cyanuric acid. He described the formation of a 2/3 isother and 1/3 ortho-ethyl ether of cyanuric acid which he had obtained from cyanurate of silver by means of ethyliodide. This ether transformed itself, even at the ordinary temperature, into isother-ethyl-cyanurate.—In conclusion Prof. Tiemann communicated a work by N. Nagai, on an aromatic ketone isolated from the root of a Japanese peony, having the constitution—



## BOOKS AND PAMPHLETS RECEIVED

"Madagascar," by Prof. R. Hartman (Freitag, Leipzig).—"Elements of the Comparative Anatomy of Vertebrates," by K. Wiedersheim; translated by W. N. Parker (Macmillan).—"Bulletin de la Société Impériale des Naturalistes de Moscou," No. 1, 1886 (Moscou).—"Publications of the Leander McCormick Observatory, Virginia," vol. i. part 2.—"Algebra," part 1, by G. Chrystal (Black, Edinburgh).—"The Gold Fields of Victoria: Reports of the Mining Registrars for the Quarter ended March 31, 1886" (Ferres, Melbourne).—"Science and Art Directory," revised to July 1886.

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