iodide, and the effect of different amounts of iodide at different ilutions.—Mineralogical structure and chemical composition of he Trap of Rocky Hill, N.J., by A. H. Phillips. The Rocky Hill trap, from its holocrystalline nature, would be classed as a dolerite. From the character of the decomposition of the olivine, and the solution cavities in the diallage crystals, the intrusive nature of this dike is evident, as it must have been formed at a considerable depth below the surface and under very heavy pressure.—Some analyses of Italian volcanic rocks, by H. S. Washington. This paper deals with the composition of trachytes of the Phlegrean Fields and of Ischia. There are three parallel volcanic lines in the Italian district. The latest, along the peninsula, is characterised chiefly by high K_2O, by high CaO, and the presence of leucite. The next, that of the islands along the west coast, is high in alkalis, but with Na_2O rather higher than K_2O, and without leucite. The third, which lies far out in the Mediterranean, and which is possibly the oldest, is much higher in soda, and seems to be characterised by the presence of peculiar soda minerals such as enigmatite and æginine, nepheline also occurring in places.—Thermo-electricity in certain metals, by L. Holborn and A. L. Day. This is an English version of the author's Reichsanstalt paper on the gas thermometer.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, October 9.—M. van Tieghem in the chair.—On the elastic equilibrium of a rectangular plate, by M. Maurice Lévy.—Some remarks on double integrals of the second species in the theory of algebraic surfaces, by M. Émile Picard.—On a modification of Bessel's method for calculating occultations, by M. L. Cruls. In the modification suggested use is made of the time of apparent conjunction of the two stars. The advantage resulting from this method is twofold: it gives by a single calculation a precision generally only obtainable by a second approximation, and lends itself easily to a graphical construction and a simple geometrical interpretation of the different elements upon which the conditions of the phenomenon depend.—Observations of the Giacobini Comet (1889 *e*) made at the Observatory of Besançon, by M. P. Chofardet. The observations were made on the nights of October 3 and 4. The comet had the appearance of a nebulous sphere, 1′ in diameter, and having a slight nucleus of about the 13th magnitude.—On fundamental functions and on the development of a holomorphic function at the interior of a contour in a series of fundamental functions, by M. Renaux.—On the stereochemistry of nitrogen, by M. J. A. Le Bel. The author replies to various criticisms by van 't Hoff, Markwald and others on his work published in 1891 on the preparation of active compounds from methyl- ethyl- propyl-isobutylammonium chloride, and lays down the exact experimental conditions necessary to repeat his results. The conclusion is drawn that there can now be no doubt as to the optical isomerism existing in the derivatives of ammonium chloride containing four different radicles, and containing at least ten atoms of carbon. It is also established that with derivatives less rich in carbon the stability of these optical isomerides is diminished.—On the reversible liquefaction of albuminoids, by M. Tsvett. It is known that the solution of albuminoids is favoured by certain acids, alkalis, and salts. The author has found that certain organic substances, such as resorcinol, pyrocatechol, phenol, chloral hydrate, &c., possess this liquefying property to a very marked extent. Thus a solution of gelatine treated with an eighty per cent. aqueous solution of resorcinol, forms two liquid layers, the upper a solution of gelatine in aqueous resorcinol, the lower a solution of aqueous resorcinol in gelatine, the coefficients of reciprocal solubility varying with the concentration of the resorcinol and the temperature. The phenomenon appears to be truly reversible.—On the volumetric estimation of quinones derived from benzene, by M. Amand Valeur. The quinones are reduced by a mixture of potassium iodide and hydrochloric acid, and the liberated iodine titrated with sodium thiosulphate. Experiments were carried ou with quinone, dichloroquinone, toluquinone, and thymoquinone; the results are quite satisfactory, and are very rapidly obtained.—On the structure of the nucleus in the myelocytes of Gasteropods and Annelids, by M. Joannes Chatin. The myelocytes of these invertebrates, contrary to the usual statements, may show a very clear, nuclear membrane.—On the alternation of generations in *Cutleria*, by M. C. Sauvageau.—On a gutta-percha plant capable of being cultivated in a temperate climate, by MM. Dybowski and G. Fron. The authors have extracted gutta-percha from the fresh leaves of *Eucomia ulmoides*. This plant can be grown in temperate climates, and experiments were carried out as to the best mode of multiplication of the plant. It is easy to obtain good seeds in large quantity, but their germination is difficult and capricious. Propagation through cuttings, however, offers no difficulties, the slips taking root easily and developing vigorously.—Action of anæsthetic vapours upon the vitality of dry and moist seeds, by M. Henri Coupin. The vitality of dry seeds is unaffected even by saturated ether and chloroform vapours; but with moist seeds the case is quite different, the presence of only 3·7 c.c. of ether in 10 litres of air being sufficient to kill the seed.

DIARY OF SOCIETIES.

THURSDAY, OCTOBER 19.

CAMERA CLUB, at 8.15.—Clouds and Photographic Landscapes: J. Cadett.

TUESDAY, OCTOBER 24.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Wellington Film: Harry Wade.

FRIDAY, OCTOBER 27.

PHYSICAL SOCIETY, at 5.—The Magnetic Properties of the Alloys of Iron and Aluminium: Dr. S. W. Richardson.—Exhibition of a Model illustrating a Number of the Actions in the Flow of an Electric Current: G. L. Addenbrooke.—Repetition of some Experiments with the Wehnelt Interrupter devised by Prof. Lecher: W. Watson

INSTITUTION OF MECHANICAL ENGINEERS, at 7.30.—The Incrustation of Pipes at Torquay Water Works: William Ingham.—A Continuous Mean-Pressure Indicator for Steam Engines: Prof. William Ripper.

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