modification, one of the effects of which is the deviation of the equipotential lines. It also occurred to him that this modification of structure should produce on a calorific flux the same alterations as on an electric current, and the experiments here described have fully confirmed these anticipations.—Application of the electrometer to the study of chemical reactions, by M. E. Bouty. In the author's last communication the problem was resolved in principle regarding the application of the electrometer to the study of chemical reactions. Here the subject is illustrated by the example of sulphuric acid and the sulphate of potassa.—On a new regulator of electric light, by M. Létang. The object of this apparatus is to obtain a distinct regulating control by means of a simple contrivance independent of any complicated machinery. The means employed to arrive at this result are based on the employment of a mechanism analogous to that of an ordinary system of electric chimes.—On the manganites of potassa, by M. G. Rousseau. The formation has already been described of a manganite of potassa by calcination of the permanganate at 240° C. But this method is useless for studying the variations of the molecular state of manganous acid combined with potassa under the action of a progressively increasing temperature. Hence the author has had recourse to the dissociation of the manganate of potassa in presence of an alkaline dissolvent.

BERLIN.

Physical Society, June 10.—Prof. Du Bois-Reymond, President, in the chair.—In connexion with his previous communications on the determination of the wave-length of light by the weight of a cube of quartz, Dr. Sommer spoke on the methods of determining the specific weight of bodies, with special reference to the method by weighing them in water. After having discussed the earlier methods and experiments of Marck and Lépiney, he gave an account of the methods he had himself employed in order to do away with the influence which the capillary forces at the surface of the water exert on the wire by which the solid is suspended. He surrounds the wire at the point where it enters the water with a glass tube 5 mm. in width, in which is placed one drop of a mixture of equal parts of olive-oil and benzene. From the lower end of the wire in the distilled water he hangs a tiny tray on which two cubes of quartz are placed. Using a wire 0·1 mm. in diameter, which he finds gives a result as accurate as weighing in air, he determines the weight of these quartz cubes in water, then pushes one of the cubes off the tray by means of a platinum wire which had been previously submerged, and weighs again. He then pushes the second cube off the tray and weighs a third time. These three weighings, taken in conjunction with the weight of the tray and cubes in air, yield an exactitude which up to the present time has either not been attained at all by hydrostatic methods or only by a laborious and roundabout process. The exactness of this method of determining the specific weight of quartz cubes surpasses that obtained by the use of a piknometer.—The President gave an account of a communication which had been made by Siemens at the last meeting of the Akademie der Wissenschaft. A steel tube 10 cm. long, with perfectly smooth external and internal surfaces and extremely uniform bore, and whose walls are apparently of perfectly equal thickness at all points, was prepared by the following method, patented by Männermann in Bemscheid. Two rollers, slightly conical towards their lower ends, are made to rotate in the same direction near each other; a red-hot cylinder of steel is then brought between these cylinders and is at once seized by the rotating cones and is driven upwards. But the mass of steel does not emerge at the top as a solid, but in the form of the hollow steel tube which Siemens laid before the meeting. Prof. Neesen gave the following explanation of this striking result: owing to the properties of the glowing steel, the rotating rollers seize upon only the outer layer of the steel cylinder and force this upwards, while at the same time the central parts of the cylinder remain behind. The result is thus exactly the same as is observed in the process of making glass tubes out of glass rods.

STOCKHOLM.

Royal Academy of Sciences, June 8.—Monograph of the Amphipoda Hyperiidea, part 2, by Dr. C. Bovallius.—Freshwater Algæ, collected by Dr. S. Berggren in New Zealand, and described by Dr. O. Nordstedt.—On a manuscript map of Scandinavia from the middle of the fifteenth century, found in the library of Comte Zamoisky, in Warsaw, by Prof. A. E. Nordenskiöld.—On the sequence of the Glacial beds, and on the temperature during the various stages of the Ice epoch, by Prof. O. Torell.—On the anatomy of *Hyperoodon diodon*, by Miss A. Carlsson.—Some reptiles and fishes showing the so-called third eye, exhibited and demonstrated by Prof. F. A. Smitt.—Desmidiaceæ from Greenland, described by Herr R. Boldt.—On the distribution of Desmidiaceæ in the northern regions, by the same.—Contribution to the knowledge of the anatomical structure of the Dioscoreæ, by Herr J. P. Jungner.—Studies on the spectra of absorption of the rare elements, by Prof. L. F. Nilsson and Dr. G. Krüss.—An attempt to calculate the dissociation in the water of solution, by Dr. S. Arrhenius.—Contributions to the theory of undulations in a gaseous body, by Prof. A. V. Bäcklund.—On the changes in volume and density of fluids through absorption of gases, by Dr. K. Ångström.—On the form of the crystals and twin-crystals of scolecite from Iceland, by Herr G. Flink.—Mineralogical notes, by the same.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

The British Moss Flora, Part x.: R. Braithwaite.—An Introduction to the Study of Embryology: A. C. Haddon (Griffin).—Pola seine Vergangenheit, Gegenwart und Zukunft; eine Studie (Wien).—Mount Taylor and the Zuñi Plateau: Capt. C. E. Dutton (Washington).—Bulletin of the U.S. Geological Survey, No. 38 (Washington).—Annalen der Physik und Chemie, 1887, No. 7 (Barth, Leipzig).

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