scale employed for the purpose were placed upon the table for distribution amongst the Fellows.—Mr. Charles Stewart gave an interesting account of the results of an examination into the minute structure of *Bucephalus polymorphus*, and illustrated his observations by drawings.—Mr. Slack then at some length explained the use and management of Mr. Wenham's reflex illuminator, and pointed out the means of obviating the difficulties which were found to arise when it was used in connection with objectives of large angles.

Victoria (Philosophical) Institute, June 7.—The President in the chair. This was the ninth annual meeting, and the report showed that since last year the number of subscribing members had increased by 116, and now reached 601, two-thirds of whom were country and foreign members. Papers had been read during the session by Professors H. A. Nicholson, T. R. Birks, J. Challis, and others; and the outside demand for the publications had doubled each succeeding year since 1871. The report having been adopted, the annual address was then delivered by the Rev. Robert Main, Radcliffe Observer. The address was of three sections:—1. A sketch of most important discoveries in physics, chiefly astronomical, which have been made during the last few years. 2. A slight review of some of the assumptions in two recent publications, namely, Mill's "Essay on Theism," and Strauss's "Old and New Faith." 3. A consideration of the Atomic Philosophy in connection with Dr. Tyndall's Belfast address.

BERLIN

German Chemical Society, May 24.—W. Petrieff described the products of the decomposition by heat of dibromomalonic acid, namely an oil, C_2HBr_3, and dibromacetic acid.—W. Wisth and A. Landolt have transformed bromaniline into parabromobenzoic acid, by converting it into the corresponding mustard oil $C_6H_4Br - N = C = S$, and transforming this into the nitrale $C_6H_4Br - C \equiv N$.—A. Weber has studied mononitrodimethylaniline and monobromodimethylaniline.—M. Nencky has transformed indol into nitrosoindol-nitrate

$$C_{16}H_{13}(NO)N_2.NO_3H,$$

which sulphide ammonium converts into hydrazindol

$$(C_{16}H_{13}N - NH)_2$$

—H. Limpricht retracts his opinion of the existence of four isomeric monobromobenzenesulphonic acids, the fourth being identical with that obtained from sulphanilic acid.—F. Fittica, however, still insists upon the existence of four mononitrobenzoic acids, but makes it more improbable than ever by stating that the fourth isomeride is transformed by tin and hydrochloric acid into the body $C_{12}H_{12}N_2O$!—H. Hassenpflug has been able to convert nitrobenzene into paranitrobenzoic acid, by treating it with peroxide of manganese and sulphuric acid.—L. Klippert has studied the action of fluoride of silicium on ethylate of sodium. It results in the formation of sodium fluoride, silicium fluoride, and silicic ether.

VIENNA

Imperial Academy of Sciences, Jan. 7.—Prof. K. Puschl presented a memoir on the changes in the volume of caoutchouc by heat. The author gives as the results of his experiments, (1) that the density of caoutchouc reaches a minimum at a certain temperature; (2) that the temperature of this minimum changes according to the mechanical tension, and is the lower the greater the tension; (3) that with caoutchouc upon which no tension is applied, the temperature of the minimum of density is higher than the ordinary temperature; (4) that the reverse of this is the case with caoutchouc under strong tension.—Director von Littrow then made some communications regarding Borrelly's comet.—Prof. E. Suess presented a paper on the volcano Venda, near Padua.—Prof. Dr. Winckler then read a treatise on the integration of two linear differential equations.—Dr. Doelter gave a preliminary account of the geological nature of the Pontinic islands.—Dr. von Littrow communicated a paper on the relative capacity of different soils for conducting heat and the corresponding influence of water.—Dr. Lippmann presented a memoir on the action of iodine upon mercuric oxide. The author shows that whenever a hot solution of iodine acts upon mercuric oxide, an iodate always is formed besides the mercuric iodide, and that it is indifferent whether the solution be made in alcohol, benzine, chloride of carbon, butylic alcohol, acetone, or water.—Prof. Schlesinger then presented a memoir on a metallic barometer without mercury.

PARIS

Academy of Sciences, May 31.—M. Frémy in the chair.—The following papers were read:—Researches on sulphides, by M. A. Cahours.—A note by M. L. Saltel, on left curves.—On the alterations in the level of the Seine in the environs of Paris, from November 1874 to May 1875, by M. A. Gérardin.—On a new method of preparing highly concentrated formic acid, by means of anhydrous oxalic acid and a polyatomic alcohol, by M. Lorin.—A note by M. J. Riban, on the isomerism of the chlorohydrates $C_{10}H_{16}$. HCl.—Researches by M. E. Faivre, on the functions of the front ganglion of *Dytiscus marginalis*.—On the organisation and the natural classification of the Acarina of the Gamasea family, by M. Megnin.—Experimental researches on the toxical properties of putrefied blood, by M. V. Feltz.—On chronical aortite, by M. P. Jousset.—On a new method of treating rheumatism of the brain by chloral hydrate, by M. E. Bouchut.—On the improbability of an interior sea or lake having existed formerly on the Sahara desert, by M. Pomel.—On the influence of drought upon Cryptogamæ, by M. E. Robert.—On the origin of Phylloxera at Cognac, by M. Mouillefert.—A note by MM. Ph. Zoeller and A. Grete, on the use of xanthate of potash against Phylloxera.—A note by M. Julien, on the presence of Phylloxera in the Auvergne.—A letter from M. Villedieu, on the influence of moisture upon Phylloxera.—A letter from M. Reymonet, on the possibility of grafting vines on little trees the roots of which cannot serve as food for Phylloxera.—A letter from M. F. Moll, on the use of a mixture of soft soap and dead oil (as used for railway sleepers) against the larvæ of cockchafers and snails.—A number of communications of minor interest were then read; most of them were competition papers for the various prizes the Academy distributes annually.—Researches on the rate of magnetisation and demagnetisation of wrought-iron, steel and cast-iron, by M. M. Deprez.—A note by MM. V. de Luynes and A. Girard, on the rotatory power of crystallised sugar and on the polarimetric analysis of various sugars.—Researches on the emissive power of leaves, by M. Maquenne.—Remarks by M. A. Bechamp, concerning a note by M. Gayon, read at the meeting of April 19 last, on the spontaneous alterations in eggs.—A note by M. A. Gautier, on the production of blood fibrine.—A note by M. Grimaud de Caux, on a case of psoïtis.

BOOKS AND PAMPHLETS RECEIVED

AMERICAN.—Report of the Vertebrate Fossils discovered in New Mexico: Prof. E. D. Cope (Washington).—Eighth Annual Report of the Trustees of the Peabody Museum.—Astronomical and Meteorological Observations made during the Year 1872 at the United States Naval Observatory: Rear-Admiral B. F. Sands, U.S.N. (Washington).—Progress Report upon Geographical and Geological Explorations and Surveys West of the 100th Meridian in 1872, under the direction of Brigadier-General A. A. Humphreys, by First Lieut. George M. Wheeler; with Topographical Maps (Washington).—Religion and Science in their relation to Philosophy: Charles W. Shields, D.D. (New York: Scribner, Armstrong, and Co.).—Seventh Annual Report on the Noxious, Beneficial, and other Insects of the State of Missouri: Charles V. Riley.—Bulletin of the U.S. Geological and Geographical Survey of the Territories. No. 3, Second Series (Washington).—U.S. Geological and Geographical Survey of the Territory of Colorado: F. V. Hayden (Washington).—Third Annual Report of the Board of Managers of the Zoological Society of Philadelphia, U.S.—On the Devonian Trilobites and Molluscs of Ereré, Province of Pará, Brazil: Prof. Ch. Fred. Hartt and R. Rathbun.

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