

SOCIETIES AND ACADEMIES

VIENNA

Imperial Academy of Sciences, April 22.—Researches on the epithelium of the stomach, by W. Biedermann.—On the formation of meteorites, by G. Tschermak.—On some measurements of temperature made in the first half of April in the Gmunden and Atter lakes, by Prof. Simony.

April 29.—On the zoological results of the Austro-Hungarian Polar Expedition, by Prof. C. Heller.—Ichthyological researches, by Prof. F. Steindachner.—On the orbit of Planet (138) Tolosa, by Director von Littrow and Dr. L. Gruber.—On the fermentation gases from marsh and water plants, by Prof. J. Boehm.

May 13.—On the genetic classification of the flora of the Cape, by Dr. von Ettingshausen.—On the lichens of Spitzbergen and Novaja Semlja, by Dr. von Hochstetter.—On the orbit of Planet (118) Peitho, by Dr. J. Holetschek.—On the galvanic dilatation of metallic wires, by Prof. Exner.—On the respiration of water plants, and on a fermentation which includes an absorption of hydrogen, by Prof. J. Boehm.—On chalk ammonites, by Dr. Neumayer.

BERLIN

German Chemical Society, July 26.—P. Behrend described a method for preparing chloride of sulphuryl by heating Williamson's oxychloride $\text{SO}_2\text{OH Cl}$ in sealed tubes to 180° .—V. Meyer gave an account of an apparatus for determining the solubilities of salts at 100° .—J. Beckmann, by treating benzophenone $\text{C}_{13}\text{H}_{10}\text{O}$ with sulphuric acid, produced a neutral body $\text{C}_{13}\text{H}_5\text{SO}_3$, while sodic benzophenondisulphate, treated with PCl_5 , yielded two chlorides, $\text{C}_{13}\text{H}_5\text{O}_2\text{S}_2\text{Cl}_2$ and $\text{C}_{13}\text{H}_5\text{O}_2\text{S}_2\text{Cl}_4$.—F. Tiemann and Haarmann published a method for determining the quantity of vanilline in vanilla, by precipitating its solution in ether with bisulphite of soda. Mexican vanilla gave 1.6, best Bourbon vanilla 2.3, Tavanilla 2.6 p.c. of vanilline. Tavanilla is less esteemed, on account of other ingredients which affect its fragrance.

OH

—F. Tiemann has transformed vanilline, $\text{C}_6\text{H}_3\text{OCH}_3$ into the corresponding acid and alcohol, the latter by the action of hydrogen, produced by sodium-amalgam. This reagent yields also a body

$\left(\text{C}_6\text{H}_3\text{OCH}_3\right)_2$, hydrovanilloin. He has likewise introduced ethyl and methyl into the group OH.—C. Raab has treated cuminic aldehyde with hydrocyanic acid and hydrochloric acid, obtaining the corresponding amygdalic acid. By the action of hydrogen he obtained a higher hydrobenzoin.—C. Jackson has obtained tribromonitrobenzol and tribromodinitrobenzol.—The same chemist refuted a pretended reaction of acetanilide. This body does not yield a nitrile and water when heated, as published by Mr. Brackebusch.—A. Steiner has found that NH_3 dissolves fulminate of silver below 40° without alteration. He has also studied the action of sulphocyanide of ammonium on fulminates.—A. W. Hofmann has transformed methyl-xylidine by means of heat into a number of highly carbonated ammonias, chiefly into $\text{C}_6(\text{CH}_3)_5\text{NH}_2$.—A. Oppenheim and L. Jackson described two new derivatives of mercaptan, viz. $\text{C}_2\text{H}_5\text{SHgBr}$, a white amorphous powder and a combination of iodoform with two molecules of mercuric mercaptide, crystallising in yellow needles. No tribasic thioformate of ethyl could be produced from these compounds.—The following communications were sent by T. Wislicenus:—Under his guidance allyl-aceto-acetic ether has been transformed by F. Zeidler into allylacetic acid and allyl-acetone. L. Ehrlich produced dibenzil-acetic ether and benzyl-oxybutyric ether. H. Rohrbeck, by treating methylacetacetate ether with hydrogen, produced methyloxybutyric acid, which, when heated, yields methyl-crotonic acid. E. Waldschmidt has obtained the corresponding ethyl-compounds. M. Conrad, by treating aceto-acetic ether with chlorine, obtained substitution compounds and dichloracetone. F. Hermann has studied the action of sodium of succinic ether. The next meeting will take place on the 11th of October.

PARIS

Academy of Sciences, Aug. 9.—M. Fremy in the chair.—The following papers were read:—Application of the method of correspondence to questions of the magnitude of segments on tangents of curves, by M. Chasles.—Remarks on the note of M. Nicolaides read at the last meeting, by M. O. Bonnet.—A note

by M. Thenard, on some blue substance found in clay.—Three reports by M. Janssen concerning the expedition sent to Japan to observe the transit of Venus across the sun's disc.—Calorimetric researches on the silicurets of iron and manganese, by MM. Troost and T. Hautefeuille.—Researches on niobates and tantalates, by M. A. Joly.—Facts relating to the investigation of polyatomic alcohols, and their application to a new method for obtaining crystallised formic acid, by M. Lorin.—MM. G. Baker, Decoster de Wilder, Garcia de los Rios, Imbert, and Bordet then made some communications regarding Phylloxera.—M. Reech then presented a new edition of his memoir on surfaces which can be superposed on themselves, each in all its parts.—The Minister of Public Instruction sent the translation of an article, published by the Ministerial journal of Copenhagen, and treating of the volcanic phenomena which in the course of last winter have occurred in Iceland.—Discovery of Planet (148), made at Paris Observatory, by M. Prosper Henry, on the night of Aug. 7 last.—Observations of Planet (148) at the equatorial, by M. M. Henry.—Ephemerides of Planet (103), Hera, for the opposition of 1876, by M. Lereau.—Experiments with gas under high pressure, by M. Andrews.—On a property of an electrified surface of water, by M. G. Lippmann.—A note on sulphocarbonates, by M. A. Gélis.—On the preparation of crystallised monobromide of camphor, by M. Clin.—On some points in the physiological and therapeutic action of monobromide of camphor, by M. Bourneville.—On Marsh's apparatus and on its application for the determination of arsenic contained in organic matter, by M. Arn. Gautier.—On the larva forms of Bryozoa, by M. Barrois.—Observations by M. C. Dareste, on a recent communication of M. Joly.—On the temperature of the Mediterranean Sea along the coasts of Algeria, by MM. Ch. Grad and P. Hagenmüller.—On a waterspout observed at Morges on Aug. 4 last, by M. A. Foret.—On the identity in the mode of formation of the earth and the sun, by M. Gazan.

BOOKS AND PAMPHLETS RECEIVED

AMERICAN.—Report upon the Reconnaissance of the North-Western Wyoming and Yellowstone National Park: Wm. A. Jones (Washington).—The Geological Story briefly told: James D. Dana, LL.D. (Trübner and Co.).—Proceedings of the American Academy of Arts and Sciences, N.S. Vol. ii.—Third Report of the Zoological Society of Philadelphia.—Chronological Observations on Introduced Animals and Plants: Chas. Pickering, M.D. (Boston: Little, Brown and Co.).—Report of the U.S. Geological Survey of the Territories. Vol. vi.: F. V. Hayden (Washington).—How to use the Microscope: John Phin (Industrial Publishing Company, N.Y.).—Proceedings of the Academy of Natural Sciences of Philadelphia. Part I. COLONIAL.—Report of Neigherry Lorantheous Parasitical Plants destructive to Exotic Forest and Fruit Trees: George Bidie, M.B. (Government Press, Madras).

FOREIGN.—Bulletin de l'Académie Impériale des Sciences de St. Petersburg. Tome xix. Feuilles 22-37. Tome xx. Feuilles 1-21.—Der Ursprung der Wirbelthiere und das Princip des Functionswechsels: von Anton Dohrn (Leipzig, Engelmann).—Die Geologie und Ihre Anwendung auf die Kenntniss der Bodenbeschaffenheit der Oesterr.-Ungar. Monarchie: von Franz Ritter von Hauer (Wein, A. Holder).

CONTENTS

	PAGE
THE SCIENCE COMMISSION REPORT ON THE ADVANCEMENT OF SCIENCE	305
THE ENCYCLOPEDIA BRITANNICA	308
OUR BOOK SHELF:—	
"Annual Record of Science"	310
"Year-book of Science"	310
LETTERS TO THE EDITOR:—	
Systems of Consanguinity.—LEWIS H. MORGAN	311
Weather on the Atlantic.—CAPT. W. W. KIDDLE, R.N.	312
The Late W. J. Henwood, F.R.S.—M. Y.	312
Zoology of the "Erebus" and "Terror".—L. REEVE AND CO.	312
The Rocks at Ilfracombe.—WILLIAM S. TUKE	312
OUR ASTRONOMICAL COLUMN:—	
Binary Stars.—(1) Cassiopeæ	312
(2) Leonis	313
The Minor Planets	313
The August Meteors	313
THE SEPARATION OF THE ARAL AND THE CASPIAN. By Major HERBERT WOOD, R.E. (With Illustrations)	313
GUN-COTTON WATER SHELLS	314
NOTES FROM THE "CHALLENGER." By Prof. T. H. HUXLEY, F.R.S.	315
THE INTERNATIONAL CONGRESS AND EXHIBITION OF GEOGRAPHY. SCIENCE IN GERMANY	316
NOTES	318
ON THE ACTION OF URARI ON THE CENTRAL NERVOUS SYSTEM. By C. VULE	320
WEATHER AND EPIDEMICS OF SCARLET FEVER IN LONDON DURING THE PAST THIRTY-FIVE YEARS. By Dr. ARTHUR MITCHELL	321
PHYSICAL PROPERTIES OF MATTER IN THE LIQUID AND GASEOUS STATES, II. By Prof. ANDREWS, F.R.S.	321
SCIENTIFIC SERIALS	322
SOCIETIES AND ACADEMIES	324
BOOKS AND PAMPHLETS RECEIVED	324