known that which we see in the known, when other circumstances are identical.

Feb. 2.—Prof. Geo. B. Wood communicated further results of his experiments with salts of potassa on vegetation, and especially on grain and fruits. He stated that in a field of grain devoted to the experiment, in which the soil had been previously exhausted by bad culture, one half was enriched by farm-yard manure, the other with the same with wood ashes added. The effects of the latter were especially marked, and much greater than with the former. The most striking results were attained by the use of the ashes of the poke, *Phytolacca decandra*.—Prof. Cope read a paper on the "Families of Fossil Fishes of the Cretaceous Strata of Kansas." The greater part of these were shown to be *Physostomous Actinopteri*, of three families, viz., the *Saurodontidæ*, the *Pachyrhizodontidæ*, and the *Stratodontidæ*. Of the first, four genera and ten species were described, some of them (*Portheus* sp.) among the most formidable of marine fishes. The peculiarities of the succession of teeth in *Portheus* and *Saurocephalus* respectively were pointed out. Of *Pachyrizodontidæ*, one genus and four species were described; and of *Stratodontidæ*, three genera and seven species. *Stratodus* was a form provided with multitudes of minute shovel-headed teeth.

PARIS

Academy of Sciences, Sept. 9.—M. Faye, President.—The first paper was by M. P. Duchartre, on the bulb of *Lilium Thomsonianum*, &c. The author finds that this Indian plant seldom flowers in Europe, and traces this to the facility with which it propagates itself by means of off-shoots from the bulb. If it is prevented from doing this it flowers well.—A letter from P. Secchi followed on "Observations on the Variation of the Solar Diameter; Observations of the Protuberances and of the Chromosphere; Observations on the Shooting Stars and of the Aurora Borealis observed at Rome on the 10th of August." Father Secchi finds variations of the solar diameter equal to 3.4, and even 5 seconds of arc (error of observation less than 0.″5 arc). There were minimum epochs in July, the beginning of September, the middle of November, and the beginning of March and April, when the mean diameter was 32′ 1″ 5‴; and maxima in the middle of August, the middle of September, and during the whole of October and December, and the beginning of February when the mean diameter was 32′ 4″ 5‴. The maxima of diameter correspond to the minima of spots and protuberances. The next memoir was by M. Max Marie "On the Elementary Theory of double integrals and their periods" (continuation). A note from M. A. Potier "On the causes of Elliptical Polarisation by reflexion on transparent bodies."—A note from M. Th. Gaffield "On the results produced by insulation on various kinds of glass," was then presented by M. Cheyreul.—"On the lines of Summit and of Thalweg" an answer to the observations of M. Boussinesq by M. C. Jordan.—A note was then read on the induction currents developed in the machine of M. Gramme, by M. J. M. Gaugain.—"On Lithurate of Magnesium, a new species of urinary concretion from the ox," was an extract from a note from M. G. Roster.—The empirical formula for the body in question is $C_{30}\ H_{36}\ N_2\ Mg\ O_{17}$, it is soluble in boiling water, from which it crystallises on cooling.—A note on the Nutoscope, by M. Ch. V. Zenger, was presented by M. Yvon Villarceau. This was a description of an instrument for illustrating the nature of nutation.—Next followed a note from M. Tarry on the Constitution of the stream of August meteorites.—M. Dumas then communicated some observations on the *Phylloxera vastatrix*.

Sept. 16.—M. Faye, President.—The President read a note relative to a communication from M. Hirn on the conditions of equilibrium in, and the probable nature of the Saturnian rings.—General Morin then read a note on Major General Mayevski's "Treatise on Projectiles." M. Morin states that M. Mayevski, in his eleventh chapter, devoted to the consideration of the penetration of solid bodies and armour plates by projectiles, arrives at the same conclusions as were obtained by the Metz Commission, and by Capt. Noble, R.A., in England.—"Observations on the nature of the various parts of flowers," by M. A. Trécul, followed.—A letter from P. Secchi on the appearance of a meteor in the neighbourhood of Rome, and on stellar spectra, was then read. The latter portion of the letter was an explanation of the Rev. Father's views on stellar types, which he explained were not the same as those of Mr. Rutherfurd, as had been supposed by Messrs. Lockyer and Schellen.—M. le Dr. Netter then read a paper on the treatment of cholera by the administration of enormous quantities of aqueous drinks in successive doses.—Then followed the concluding portion of M. Marie's paper on the "Theory of double integrals and their periods."—Notes were received from M. Pigeon, on cholera; M. Charles, on aërial navigation; M. Bouvard, on the Postulatum of Euclid; M. Hervier, on *Phylloxera;* M. Quattari, requesting the Academy to examine his aërial telegraphic apparatus; and M. Le Comte L. Hugo presented the Academy with an engraving entitled, "The sphere is an equidomoid, or a demonstration of the pre-eminence of polygonal figures," which was submitted to the examination of M. Ossian Bonnet.—M. Yvon Villarceau presented a note by M. Prosper Henry, describing the discovery of a new planetoid 125 at the Paris Observatory. Observations on the above by MM. Ludinard, Tisserand, Paul Henry, and Prosper Henry followed.—An extract from a Report by Dr. Oudemans on the total eclipse of 12th December, 1871, observed in the Dutch East Indies, was also read.—A paper, by M. Ch. V. Zenger, "On the rapidity of transmission of light in simple bodies, and on their crystalline form," followed.—"On the changes of phase produced by metallic reflexion," note by M. A. Potier, was next read; and then an extract from a paper by M. Plateau on the measurement of physical sensations, and on the law which connects the intensity of these sensations to the intensity of the exciting cause, was followed by a posthumous note of M. H. Magnan's, *à propos* of two notes by M. Cayron on the cretaceous formation of La Calape and Corbières.—M. Louis Faucon sent some observations on *Phylloxera*, made by himself and M. Gaston Bazille; and another note on the same subject and on vine disease was received from M. F. E. Guérin-Méneville, who believes that every observation tends to prove that the *Phylloxera vastatrix* is only a secondary agent in producing the vine disease now so destructive.—M. Yvon Villarceau then presented a note from M. Fron on the atmospheric movements which accompanied the auroræ of September 2 and 6, 1872.—M. Georges sent a note relative to the employment of calcic disulphite to the cure of vines tainted with oidium, which was sent to the Phylloxera Commission.

BOOKS RECEIVED.

ENGLISH.—Cardiff Naturalists' Society Report and Transactions. Vol. III., 1870-71, part 1.—Cholera and Efforts towards Framing an Equilibrium Theory of Health and Disease (Thacker and Co., Calcutta).

FOREIGN.—Tableau de l'Astronomie: Ed. Mailly (T. Hayez, Brussels).—De l'Astronomie dans l'Académie Royale de Belgique: E. Mailly (T. Hayez).—(Through Williams and Norgate.)—Lehrbruch der Zoologie: Dr. Otto W. Thomé.—Der Mensch und die Seele: E. Reich.—Etudes sur les Appendiculaires du detroit de Messine: H. Fol.

CONTENTS

	PAGE
BOTANICAL MUSEUMS. By W. CARRUTHERS, F.R.S.	449
FRESENIUS'S QUALITATIVE ANALYSIS.	452
OUR BOOK SHELF	453
LETTERS TO THE EDITOR:—	
Oceanic Circulation.—JAMES CROLL, F.G.S.	453
The Aurora of Feb. 4.—Hon. RAWSON RAWSON.	454
The Solar Spectrum.—Capt. J. HERSCHEL, F.R.A.S.	454
Botanical Terminology.—Prof. W. T. THISELTON DYER, F.L.S.	455
The *Hassler* Expedition.—Colonel GEORGE GREENWOOD	455
An Entomological Query.—W. W. SPICER	456
Cats' Teeth.—W. G. RANGER	456
PHOSPHORESCENCE IN FISH. By JOHN JAMES HALL.	456
ON THE RETENTION AND COLOURING OF EGGS, AND THE PROTECTIVE MIMICRY OF SOUNDS. By THOMAS H. POTTS	457
THE SUN'S RADIANT HEAT (*With Illustration*). By Capt. J. ERICSSON	458
NOTES	460
THE BIRTH OF CHEMISTRY. I. By G. F. RODWELL, F.C.S.	463
THE AMERICAN EXPLORING EXPEDITIONS	465
ITALIAN SPECTROSCOPY	465
SCIENTIFIC SERIALS	466
SOCIETIES AND ACADEMIES	466

NOTICE

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