

obtained, fluorid of aluminum being insoluble.

IN another number of the *Comptes Rendus*, M. Lebeau describes fully the fluorid of glucinum. It is exceedingly soluble in water and even alcohol, and is deliquescent. It fuses at a fairly high temperature in an inert atmosphere, but heated in the air it forms an oxyfluorid $5\text{GlF}_2, 2\text{GlO}$, also soluble in water.

ACCORDING to Wm. A. Bone and John Wilson, in the latest *Proceedings* of the Chemical Society (London), acetylene when exposed in closed glass tubes to the sunlight is gradually decomposed. In June a faint brownish deposit is observable at the end of two or three days. No deposit is found on any part of the tube not exposed to the sunlight. The nature of the black deposit has not yet been fully determined, but it seems to be a very dense hydrocarbon; no benzene nor naphthalene could be found. This decomposition is what might be expected from the endothermic character of acetylene, and it may possibly come to play a part in the industrial manufacture.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE CHICAGO ACADEMY OF SCIENCES.

WE have received the 14th annual report of the Chicago Academy of Sciences, covering the year 1897. From the report of the Secretary and Curator, Mr. F. C. Baker, it appears that the number of visitors to the Museum during the year was over 245,000, including the formal visitation of 133 classes from the Chicago schools, attended by their teachers. Thirteen popular lectures were given, with an average attendance of 300. The accessories to the Museum numbered 15,457, twenty-eight collections having been presented. The President of the Academy, Professor T. C. Chamberlin, in his report states that the survey of the natural phenomena of Chicago and its environment, which has been in progress

since 1892 under the auspices of the Academy, has made progress during the year. Its work has been so connected, by an informal understanding, with that of the United States Geological Survey as to avoid needless duplication and to render the work of each serviceable to the other. As the fruit of this and by the generous assent of the Director of the United States Geological Survey, a bulletin on the Pleistocene formations of the Chicago area and of the outlying territory, prepared by Mr. Frank Leverett, of the National Survey, has been published by the Academy, and has already proved itself helpful to citizens of Chicago and especially to students of the geology and geography. An elaborate and amply illustrated bulletin on the mollusks of the Chicago area by Mr. Baker is now in press. Three additional manuscript reports are essentially completed, and it is anticipated that bulletins on well-borings, on birds and on the Phenogamous and Cryptogamous Plants of the region will be issued during the coming year. The National Survey has during the year completed the field work upon four of its standard atlas sheets, embracing the greater part of Chicago and its environment, based upon contour maps previously prepared. While these are wholly the work of the United States Geological Survey, and will be published by it, they contribute effectively to the ends sought by the Survey of the Academy, in the presentation to the people of Chicago and to the schools, of ample and trustworthy data relative to the natural phenomena of the city and its environment.

GENERAL.

PROFESSOR RUDOLF VIRCHOW has been made an Associate of the Paris Academy of Sciences. He was for many years a corresponding member.

PROFESSOR ROBERTS-AUSTEN has been elected president of the British Iron and Steel Institute.

MR. HERBERT BOLTON, who for the last eight years has held the post of assistant keeper in the geological department of the Manchester Museum, has been appointed to the curatorship of the Bristol Museum. The Manchester Museum advertises for a successor to Mr. Bolton. It offers a salary of \$400 a year!

DR. KRIECHBAUMER has been made a curator of the State zoological collections at Munich.

SIR GEORGE STOKES gave the presidential address before the Victoria Institute, London, on July 18th, his subject being 'The Perception of Color.'

THE ROYAL SOCIETY has appointed a committee which it is expected will cooperate with a committee appointed by the British Colonial Office in investigating the causes of malaria, more especially the relation of the mosquito to the malarial parasite. It is expected that grants of money will be made by the Royal Society and the Colonial Office for the purpose of sending a commission to India and Africa.

THE directors of the Ben Nevis Observatories announce that the high- and the low-level observatories at Ben Nevis will cease to exist in October owing to want of funds. The directors state that by the establishment of these observatories a great experiment has been carried out with signal success. A series of hourly observations has been obtained by night and by day without a break over a period of 15 years.

THE Berlin Academy of Sciences held on June 30th a public meeting to celebrate the birthday of Leibnitz. Professor Waldeyer, who presided, spoke on the scientific work of the Academy, and the newly elected members, Professor Engelmann and Kekulé von Stradonitz, made inaugural addresses.

PLANS are being made for the foundation of a French *Association des Anatomistes* to include those interested not only in human and comparative anatomy, but also students of histology, embryology and anthropology. The Association will meet annually in some university center, Paris having been chosen for the place of the first meeting, to be held next year.

THE Archæological and Historical Society of Belgium held its annual meeting at Enghien from the 7th to the 10th of the present month.

THE sulphate of ammonia committee, concerning the functions of which we are not informed, advertises a prize of 500 guineas for the best essay on the utility of sulphate of ammonia in agriculture; the essays must be received not

later than November 15th, by W. G. Blagden, Esq., 4 Fenchurch Ave., London, E. C.

THE *British Medical Journal* reports that a department for the treatment of hydrophobia by Pasteur's method and for scientific research on the subject of hydrophobia has just been opened in the Berlin Institute for Infectious Diseases (Koch Institute). This establishment is the first of its kind in Germany. Apparently rabies is becoming more frequent in Germany. In spite of the stringent legislation on muzzling, five persons died of hydrophobia in Prussia during the year 1897.

THE British House of Commons devoted its session of July 25th to a somewhat desultory discussion of the Vaccination bill. A clause has been inserted to the effect that no parent or other person should be liable to any penalty under Section 29 or Section 31 of the Vaccination Act of 1867, if within four months from the birth of the child he satisfied two Justices in petty sessions that he conscientiously believed that vaccination would be prejudicial to the health of the child, and within seven days thereafter delivered to the vaccination officer for the district a certificate of such conscientious objection.

Nature states that Professor Max Weber, of the University of Amsterdam, will leave Europe in October next, for Sourabaya, Java, to take command of a scientific expedition, projected by the Society for the Biological Investigation of the Netherlands Colonies, for the zoological, botanical and oceanographical exploration of the seas of the Indian Archipelago. The course of the expedition, which will last about a year, is divided into two sections. The first, starting from Sourabaya, will pass through the Timor and Tenimber groups of islands to the Aroos and Ké Islands and thence to Banda or Amboina, a total distance by the route selected of about 2,500 English miles. The second section, starting from Banda or Amboina, will pass between Halmaheira and Celebes through the chain of islands leading up to the Philippines, and return to Java by the channel between Celebes and Borneo, making a traject of some 3,000 miles.

A DISPATCH from Vancouver, B. C., says that

Dr. Terwange, who has been for some time making preparations, left for Skaguay on Friday to look for Herr Andrée and his balloon. At Skaguay he will be met by eight other members of the party and M. Varich, head of the expedition. It was intended to make the search for Andrée first in a balloon capable of carrying 9,000 pounds. It was decided to take a smaller and speedier air-vessel, however, and one which will carry 5,000 pounds was built in Vancouver, B. C. Supplies have been sent around by St. Michael's, and will be cached at different points along the river. The expedition is under the auspices of the Geographical Society of France.

WE learn from *Natural Science* that the government of New South Wales has fitted out a deep-sea trawling expedition for experimental fishing off the coasts of the colony. Mr. E. R. Waite, of the Australian Museum, is attached as naturalist, and much valuable material, including many new species, is finding its way to the Museum.

THE botanical expedition to the La Plata Mountains of southwestern Colorado, organized by Professor C. T. Baker, and accompanied by Professors S. M. Tracy and F. S. Earle, has returned after being five weeks in the field. It was originally intended to extend the work over a much longer period, but the illness of one of the members of the party prevented. The work will be continued another year, which is amply justified by this season's results. Collections of the greatest value have been made, the number of specimens taken in the five weeks exceeding twenty-five thousand. Many novelties (a new *Lupinus*, a new *Gilia* and other new things) and many rarities (as, for instance, *Ranunculus Macauleyi* in flower and fruit, *Ligusticum eastwoodiæ*, *Trifolium brandegei*, *Astragalus heydenianus*, *A. lonchocarpus*, *A. scopulorum*, *A. wingatensis*, etc.) were collected in quantity and will be issued in the sets which have been subscribed for by most of the greater herbaria of this country and Europe.

THREE Italian investigators, R. Nasini, F. Anderlin and R. Salvadori, who have been engaged in the study of gases emanating from the earth, write to *Nature* that in the spectrum of

the gases "of the Solfatara di Pozzuoli, which contain argon, we have found a sufficiently bright line with the wave-length 531.5, corresponding to that of corona 1474 K, attributed to coronium, an element not yet discovered, and which should be lighter than hydrogen. This line has never before been observed in earthly products. Besides we have noted the following lines: 653.5, 595.5, 536.2. In the spectrum of the gases gathered from the Fumarole of Vesuvius we have observed the lines: 769.5, 631.8, 572.5, 636.5, 441.5, and again 595.5. All these lines do not belong to the spectrum of argon or helium; they show a coincidence or proximity only with some unimportant lines of various elements, such as iron, potassium, titanium. Considering the conditions of our experiments, the presence of these elements in the gases we have studied is not probable. The line 572.5 is near to one of nitrogen, but being the only visible line of the spectrum of this gas it cannot be attributed to it. Besides coronium we have thus probably other new elements in these gases."

DR. J. N. ROSE, of the National Museum, contributes to the ninth report of the Missouri Botanical Garden a paper of several pages, illustrated by three plates, on several Agaves which have bloomed in the Botanical Garden at Washington. One of these, the original home of which is not known, is described as new, under the name *A. Washingtonensis* Baker & Rose. Some years since, Professor Williams described and figured, for the first time, fruiting specimens of the rather common lichen *Parmelia molliuscula*. In a brief note of a recent publication in the same report of the Missouri Garden, Mr. Henry Willey calls attention to the existence in his collection of another specimen in fruit.

A DISPATCH to the daily papers from Vienna says that Dr. Leo Lillienfeld, of that city, has demonstrated to the Chemical Congress, in session there, the discovery of a method of producing artificial albumen, identical with natural albumen, which hitherto, it has been believed, could only be produced by organic means.

WE called attention recently to the prize of \$10,000 offered by the Belgian government to

the inventor of a match containing no yellow phosphorus. Mr. Cunningham has called attention to the fact that if the head of an ordinary 'safety' be dipped in the paste which is put upon the sides of the match box, and which contains red phosphorus and sulphide of antimony, the match will be found capable of igniting upon any surface. Meanwhile it is said that in France the State engineers have succeeded in giving a formula for making lucifer matches which does not include either white phosphorus or any substance injurious to the health of the hands or that of the public. Machinery has also been invented which will contribute to the health and safety of the hands. The machinery has been tested; after a few improvements have been made in it, it will be generally adopted in the government lucifer match factories.

THE Governor of Madagascar, the native government of which has recently been supplanted by that of civilized France, has issued an order forbidding any except Frenchmen to collect fossils in the island. *Natural Science*, which takes this information from the *Geographical Journal*, which finds it in the *Politique Coloniale* for May 25th, properly asks whether the naturalists of France, official and otherwise, have been consulted on this subject, or whether it is merely the order of a politician ignorant of the methods of scientific men.

DR. GEORG WALTERMATH, of Hamburg, is insatiable of moons. He has sent us, under the date of July 20th, an announcement of a third moon for the earth. This moon is said to be 427,250 kg. distant and is 746 km. in diameter. It is nearer than Dr. Waltemath's other moon, and is a 'wahrhafter Wetter-und Magnet-Mond.' Perhaps it is also the moon presiding over lunacy.

UNDER the editorship of Professor Joseph S. Ames, of Johns Hopkins University, the Harpers announce a series of scientific reprints similar in plan to Oswald's *Klassiker der exacten Wissenschaften*. The first volume of the series will include the papers by Gay-Lussac and Julien Thomson on the free expansion of gases, and the second, Fraunhofer's papers on prismatic and diffraction spectra.

THE Berlin correspondent of the London *Times* telegraphs that an appeal has just been made to patriots, thinkers, writers, and to the world of thought and culture in Germany at large, to unite together in the foundation of a Kaiser Wilhelm Library for Posen, similar to that subscribed for and presented to the city of Strassburg after the war of 1870-71. The library is to be presented to Posen for the purpose of furthering German culture and influence among the Slavonic population and for combating the ever-increasing antagonism of the Poles. The importance of Germanizing the Poles has been recognized as a growing necessity, and for that purpose a provincial library in Thorn and a technical high school in Danzig are to be established. The ultimate foundation of a German university in the province of Posen is considered as a future possibility. In the meantime donations and offerings of books are earnestly solicited, and by spreading German knowledge it is hoped to diffuse a strong feeling for German ideas among the peasantry of East Prussia.

UNIVERSITY AND EDUCATIONAL NEWS.

PROFESSOR SIMON NEWCOMB will next year resume the active superintendency of the work in mathematics and astronomy in Johns Hopkins University. He expects to give a course of lectures on the Encyclopædia of the Mathematical Sciences, and will especially direct students pursuing advanced work in celestial mechanics.

THE chair of physics in McGill University has been filled by the election of Mr. Ernest Rutherford, and the chair of organic chemistry by the election of Dr. J. W. Walker. Professor Rutherford comes from New Zealand, but has recently been in residence at Trinity College, Cambridge, holding the Couttes-Trotter Studentship. Professor Walker has been since 1896 lecturer in organic chemistry in University College, London.

THE assistant professorship of civil engineering in McGill University is vacant. Candidates should apply by letter to the principal, whose present address is 81 Ilffley Road, Oxford.

BUILDINGS of the Niagara University, a Cath-