

spiculæ around the margin, but the margin was not so broad, nor so deep a red, as that seen by the same observers around Nova Persei in 1901. The image was, however, quite distinct in appearance from those of two other coloured stars, α Ceti and Aldebaran, when the same optical means were employed.

THE INTERNATIONAL EROS CAMPAIGN.—After suffering numerous delays, Circular No. 12 of the International Astrographic Conference of July, 1900, has just been published by the French Academy of Sciences. It contains the results of some thousands of visual and photographic observations of the position of Eros during the favourable opposition of 1900-1 at eleven different observatories. The plates taken at the Upsala Observatory, and part of those taken at Minneapolis, have been reduced at the Paris Observatory, and, in order not to delay the publication of the collected results any longer, the work of the Algiers Observatory is omitted from the present Circular, to be published when ready by the Algiers authorities themselves. A collection of all the important documents relating to the orbit of Eros is included in the present publication.

MARS.—At the coming opposition, which will take place on July 6, the planet's southern hemisphere will be presented, and the apparent diameter will be $22''.8$, but, owing to the large southerly declination, the altitude of the planet as seen from Greenwich will be only 10° , therefore the observing conditions will be very poor.

CATALOGUE OF VARIABLE STARS.—The second Harvard catalogue of variable stars, compiled by Miss Cannon, appears as vol. lv., part i., of the Annals of the Astronomical Observatory of Harvard College. It contains all the known particulars of 1957 variable stars, and includes those found in globular clusters, but not those discovered in the Magellanic clouds. The latter number 1791, so that altogether there are now 3748 known variable stars, 2909 of which have been discovered at Harvard.

In addition to the tabulated data for each star, the present catalogue contains a valuable set of notes giving further particulars of numerous individual stars and a brief review of all previous catalogues which have appeared since Argelander published the first, including eighteen variables, in 1844.

ABBREVIATIONS FOR THE NAMES OF STAR CATALOGUES.—No. 4176 (May 14) of the *Astronomische Nachrichten* contains a useful list of abbreviations for star catalogues. The names of the numerous catalogues, to which frequent references are essential, are often lengthy, and different writers use different abbreviations. To obviate the consequent confusion, Dr. A. Auwers has compiled the present list, which includes all the important catalogues from Bailly's Flamsteed catalogue (abbreviated to B.Fl.) of 1690 up to the Greenwich second nine-year catalogue (9y₂) of 1900.

THE NATAL OBSERVATORY.—The report of the Government astronomer of Natal, for the year 1906, is chiefly devoted to the publication of the meteorological results secured at various stations, as in previous years. Observations of the magnetic elements and the distribution of time signals were carried on as usual, and a number of observations of comet 1905c were made with the large equatorial telescope by Mr. Rendell, who, early this year, resigned the position of chief assistant to which he was appointed in March, 1903.

ANNIVERSARY MEETING OF THE LINNEAN SOCIETY.

THE Linnean Society of London, which may be said to have a preeminent position amongst the Linnean societies of the world as the faithful custodian of Linnæus's own library, manuscripts, herbarium, and other collections, along with many personal relics, holds annually its business meeting for the election of officers and the reception of the president's address on May 24, the reputed birthday of Linnæus.

In his presidential address at the meeting on Friday last, Prof. W. A. Herdman dealt with the special circum-

stances of this year, when the celebration of the 200th birthday of the illustrious Swede has been made the occasion of congratulatory meetings in Sweden and elsewhere throughout the civilised world wherever natural science is cultivated and the debt of the naturalist to Linnæus is gratefully acknowledged.

The Linnean Society has sent to Upsala and Stockholm as its representative on the occasion Mr. William Carruthers, F.R.S., a past-president who has made a special study of the work and the personal history and relics of Linnæus.

Mr. Carruthers, accompanied by the general secretary of the society, is now in Sweden, bearing to the ancient University of Upsala the society's Linnean gold medal, specially struck for the occasion, and conveying both to the University and to the Royal Academy of Sciences at Stockholm congratulatory documents, signed by the president and secretaries, and bearing the seal of the society.

At the conclusion of the section of his address dealing with the Linnean celebrations, the president moved that a telegram in the following terms be sent to the Rector Magnificus of the University of Upsala:—"Linnean Society of London assembled at anniversary meeting congratulates University of Upsala on historic Linnean celebration." The proposal was received with acclamation, and the telegram was dispatched forthwith from the meeting.

In further celebration of the occasion the Linnean Society proposes to hold a social gathering of the fellows and their friends, at the society's rooms in Burlington House, on the evening of June 7, when the society's Linnean relics will be on exhibition, and several short addresses on interesting recent discoveries in natural history will be given by fellows of the society.

THE JUBILEE OF THE SOCIÉTÉ CHIMIQUE DE FRANCE.

A NUMBER of scientific men from all parts of Europe met in Paris on May 16 and the two following days to celebrate the fiftieth anniversary of the Société chimique de France. Founded by a few students for mutual instruction, the society is better known as the Société chimique de Paris, the change in name having taken place a short time ago. British chemists were well represented; Sir W. Ramsay and Dr. H. Brown came on behalf of the Chemical Society; Drs. Markel and Lewkowitsch and Mr. Walter F. Reid for the Society of Chemical Industry. Sir W. Perkin, Prof. Armstrong, and Mr. C. E. Groves were also present.

The proceedings commenced on May 16 in the amphitheatre of the École supérieure de Pharmacie in the Avenue de l'Observatoire. The chair was occupied by M. Bouveault, president of the Société chimique de France, who was supported by M. Reynal, representing the French Government. The president welcomed the guests in a short speech, after which Dr. Graebe, who, with Dr. Liebermann and Dr. von Martius, represented the Deutsche Chemische Gesellschaft, read a somewhat lengthy address in German, and made a short speech in French which was well received. A second German address was presented by Dr. von Martius on behalf of the Verein Deutscher Chemiker, after which Prof. Piutti, of Naples, made a sympathetic speech in Italian which was much applauded. Senator Paternó, also a polished orator, was to have represented Italian chemists, but was detained in Russia on a tariff mission. Sir William Ramsay next read and presented the address of the Chemical Society, saying at the same time a few appropriate words in French. Mr. Walter F. Reid then made a short French speech, and presented the congratulatory address of the Society of Chemical Industry. Other speakers followed representing Russia, Norway, Switzerland, and other countries, after which M. Reynal, representing the French Government, welcomed the foreign delegates and referred to the numerous services rendered to the State by chemists, especially in connection with hygiene, agriculture, and the detection of adulteration and of crime generally.

In the afternoon a special boat conveyed the delegates and many members of the French society to Sèvres, where

the porcelain works were visited under the guidance of several chiefs of departments. While not inferior to any other porcelain factory in its perfection of technical handling of the material and artistic treatment of form and colour, Sèvres undoubtedly surpasses all its rivals in the wide range of pigments which it possesses. Many of these are due to the scientific researches of the eminent chemists who have directed the operations of the factory, and research work is still continuously carried on, especially with the rarer elements which modern chemical progress has rendered available. A yellow titanium glaze was much admired, and a new method of decoration produced by the crystallisation of zinc oxalate in combination with various pigments promises to become a valuable adjunct to the decoration of vases and other decorative objects of porcelain. The dazzling white of the Sèvres material is said to be due, not only to the purity of the ingredients used, but also to the kind of wood used as fuel, namely, birch. No doubt there is some reason for this belief, because the heat in the furnaces is so intense that the greater part of the ash of the fuel is volatilised, and, although the ware is carefully packed in saggars and protected as much as possible from the furnace gases, the volatilised ash must to some extent permeate the whole mass. The waste during burning has been reduced of late years by the adoption of an electric pyrometer which enables those in charge of the firing operations to regulate the temperature within a few degrees. An interesting hour was spent in the museum, which contains a unique collection of porcelain from all parts of the world. Of special interest are the specimens of different pigments and glazes, and the ladies of the party regarded with curiosity the artificial rubies and sapphires made by Ebelmen. These were small, and cannot be compared with the beautiful specimens prepared by Hautefeuille which are preserved in the Museum d'Histoire naturelle; but they were the first of their kind, and the precursors of the gems now made in considerable quantities by Moissan's process. It may be remarked that even artificial emeralds are now being produced having the same chemical composition as the natural stones, from which they can only be distinguished by optical tests.

In the evening a banquet was given at the Palais d'Orsay which was attended by the foreign delegates and a number of French scientific men. Among the former were Sir W. Ramsay, Dr. H. Brown, Mr. C. E. Groves, Dr. Lewkowitzsch, Dr. Markel, and Mr. W. F. Reid. From Germany came Graebe, Liebermann, and Dr. von Martius; from Italy, Prof. Piutti; from Switzerland, Werner, Guye, and Willstaetter; from Russia, Antonow and Jacovlew. Many distinguished French men of science had assembled to welcome their colleagues from other lands. M. Bouveault, president of the Société chimique de France, presided, ably seconded by M. A. Béhal, secretary of the society, well known for his researches in organic chemistry; M. Lindet, secretary of two international congresses of applied chemistry; MM. Poirrier and Lauth, representatives of the dye-stuffs and pigment industries; Prof. G. Bertrand, discoverer of oxydases; Le Bel, in whose fertile brain the idea of stereochemistry originated; Prof. Cazeneuve, whose researches on the derivatives of camphor are well known; M. Tanret, to whom we owe much of our knowledge of sugars; Le Chatelier, who is still investigating hydraulic cements; M. Haller, member of the institute; M. Armand Gautier, late president of the society; and a number of others not less distinguished.

M. Pichon, Minister of Foreign Affairs, represented the Government, and made an eloquent speech pointing out the advantage to the whole civilised world of such amicable meetings of scientific men of all nations, united in the common wish to promote science and thus advance the well-being of the human race. The British delegates present could not help thinking how unfavourably the action of our own Government contrasted with that of France. The latter had offered decorations of the Legion of Honour to three of the delegates, Sir W. Perkin, Sir W. Ramsay, and Mr. W. F. Reid, but the British Government raised objections, and at the time of the jubilee celebration these had not been withdrawn. The current explanation was that some mediæval rule exists that foreign orders are

only to be received by British subjects connected with the Army or Navy. But the Legion of Honour is not a military order, and was specially founded for men of such eminence as Sir W. Ramsay and Sir W. Perkin, and Mr. W. F. Reid, who originated the modern industry of smokeless powder, may certainly claim to be placed on as high a level as Mr. Thomas Atkins, who uses it. It is high time that our Government paid more attention, if not to the claims of scientific men, at any rate to those of international courtesy. Their action in this matter has not given satisfaction in the French capital, and contrasts very unfavourably with that of Germany, which accepted gratefully what was, of course, intended as a graceful international compliment.

On Friday, May 17, proceedings commenced at the early hour of 8.30 a.m. with an exhibition of products and apparatus of the members of the Société chimique de France. Among many important exhibits, two especially aroused the interest of the visitors. Abbé J. B. Senderens showed a number of products obtained by a new method of catalysis. Amorphous phosphorus prepared at a low temperature is placed in a tube and heated to about 300° C. in a current of hydrogen gas. The vapour of the substance to be decomposed is then passed through, with the result that water is formed and condensed in the receiver with the product of the reaction. M. G. Bertrand exhibited about forty samples of products obtained by the action of a bacterium which he has isolated from sorbose. These contained a number of substances of extreme interest to the chemist, including several artificial sugars. At 10 o'clock a general meeting took place, at which M. Armand Gautier, a former president of the society, read an account of the work done by members of the society since its formation. Few societies can show such a record of discoveries of the first magnitude.

A distribution of prizes to the successful students of the École supérieure de Pharmacie then took place. At 1 p.m. a special train started for Chantilly, where the priceless art treasures presented to the nation by the Duc d'Aumale were inspected. In the evening a meeting of the Société chimique de France was held, at which country members only were entitled to read papers. Some communications of importance were read, and will be published in the Bulletin.

On Saturday a reception was held in the Hotel de Ville by the municipality. The president of the municipal council, Dr. Lefèvre, is himself a biological chemist, and made some humorous allusions to the important part played by chemists in modern municipal work. The beautiful paintings with which the building is decorated were shown and explained to the visitors, who also witnessed some of the preparations that were being made for the reception of the delegates of the University of London in the ensuing week.

During the evening a theatrical soirée was given at the Palais d'Orsay, which terminated the proceedings officially. There were, however, numerous private offers of hospitality extending into the following week, and the British delegates were loth to part from their hospitable colleagues of the Société chimique de France.

STUDIES FROM A NORTHERN UNIVERSITY.

THE two contributions to science referred to below¹ form part of the publications issued by the University of Aberdeen when the quatercentenary of its foundation was celebrated in September of last year. When men move northwards to occupy chairs in the most outlying university of the kingdom, it has been said that the isolation and absence of external incentives are apt to cause a premature cooling of their zeal for science. However that may be, these two volumes contain convincing evidence that in recent years Aberdeen University has been

¹ "Studies in Pathology." Written by Alumni to celebrate the Quatercentenary of the University of Aberdeen and the Quatercentenary of the Chair of Pathology therein. Edited by William Bulloch, M.D. Pp. xxx+412. (Aberdeen, 1906.) Price 15s.

² "Proceedings of the Anatomical and Anthropological Society of the University of Aberdeen, 1904-1906." Pp. viii+241; illustrated. (Aberdeen University Press, 1906.)