

attempt to inoculate papilionaceous plants with the root-nodule organisms belonging to non-papilionaceous Leguminosæ and to plants of quite different families, those of *Acacia* (Mimosæ) and of *Elaëagnus* and *Alnus* being chosen. In another paper Prof. Bottomley showed that the long-known effect of sprinkling urine on the floors of green-houses in order to cause a more luxuriant growth of orchids is due to the presence of both nitrite and nitrate bacteria in the cells of the velamen, which are thus able to utilise the ammonia arising by decomposition of the urine and absorbed along with the water vapour normally condensed by the velamen.

Miss C. B. Sanders, of Oxford, described some experiments carried out in Prof. Gotch's laboratory on the local production of heat connected with the disappearance of starch in the spadices of various *Araceæ*. Remarks on this paper were made by Dr. F. F. Blackman.

Dr. Ellis, of Glasgow, described experiments to show that ciliation cannot be used as a taxonomic character among bacteria—as has recently been done by Migula—because under appropriate conditions all the members of such groups as *Coccaceæ*, *Bacteriaceæ*, and *Spirillaceæ*, in which this character has been used, can be made to acquire cilia.

The semi-popular lecture was delivered by Prof. Yapp, who took his hearers for a most pleasant excursion through some of the principal regions of South Africa, introducing them to the various types of vegetation met with by means of a series of beautiful lantern-slides from his own photographs.

The section met on Thursday afternoon, August 2, and for a short time on Monday afternoon, August 6. The other afternoons were left free for excursions, of which several were arranged by the local secretary, Dr. Burt, of the British Botanical Association, and by other local botanists. Those to Askham Bog and to Skipwith Common may be specially mentioned as of great botanical interest.

THE ARCHÆOLOGICAL CONGRESS AT VANNES.

THE second congress of the Prehistoric Society of France was held from August 21–26 in the capital of the department of Morbihan, the classic land of Megalithic monuments, at any rate so far as France is concerned. The attendance exceeded that of the very successful first congress held at Périgueux last year.

The inaugural meeting at 10 a.m. on Tuesday, August 21, was graced by the presence of prominent citizens. Speeches were made by the Mayor of Vannes, Senator Riou, Prof. Adrien de Mortillet, president of the congress, and by Dr. Marcel Baudouin, the secretary, who insisted on the need of providing a special building to house the rich collections of the Société polymathique, and on the desirability of creating a national Megalithic park comparable to the Yellowstone National Park of the United States.

The president of the local committee, M. Morio, welcomed the congress in the name of the Société polymathique, the museum of which was much admired by the parties which visited it in the afternoon. It includes collections from the principal tumuli of the neighbourhood, excavated by the society during its many years of existence; there are, for example, the splendid necklaces of callais beads, a fine series of fibrolite axes, curious stone discs, scarcely found outside this area, and huge polished celts. In the evening M. Riou gave a reception at the Mairie, and various toasts were proposed.

The numerous papers and the lively discussions attest the success of the congress. M. Rutot, the curator of the Royal Museum of Brussels, led off with a consideration of the question of the Palæolithic bed of Havre; he maintained that there was no question of displacement; what had taken place was a falling in of the superincumbent earth and erosion of the cliff. Dr. Jousset then described a new prehistoric bed discovered at La Longère, near Nogent-le-Notrou (Eure-et-Loire), where objects of varying appearance and discutible age have been found, assigned by the author to the Flénusien age of Rutot. M. Hue brought forward a new method of measuring the skulls of *Canidæ*, which M. Baudouin urged all archæologists to

apply to the measurement of other animals. Dr. Guébard appealed to the archæologists of the world to bring into existence a map of prehistoric monuments, the preliminary steps towards which have been made by the Société pré-historique de Paris.

Two long sittings were held on the morning and evening of the second day. The first subject was the Palæolithic age of Brittany, introduced by M. Sageret, of Carnac, who was followed by MM. de Mortillet, Rutot, and Baudouin, who showed why beds of this epoch are rare: the Neolithic period has attracted more attention in Brittany (Mortillet); Brittany is only the central area of Quaternary Brittany, which was united to the British Isles until the Magdalenian period (Rutot), and to a south-western continent which survives in Belle-Ile, Quiberon, Houat, &c. (Baudouin). Some stones of this period were exhibited by M. Landren, of St. Nazaire, under the name of eoliths; the Rennes flints of M. Pavot were not regarded as of prehistoric character. Dordogne, the scene of the last congress, next claimed the attention of the meeting. M. l'Abbé Chastaing offered some remarks on the hammers for use with bones discovered in the cave of Le Moustier, and M. de Ricard directed attention to the new Magdalenian station of Rocheval, Drôme Valley. Finally, M. de Mortillet brought into prominence the Placard cave (Charente), and the various industries there practised; in this connection there arose a discussion on the pre-Solutrian age of M. l'Abbé Breuil, for which M. Rutot and M. l'Abbé Chastaing took up the cudgels.

M. Rutot spoke on the question of the Micoque beds, on the Vézère, after dealing with the Strépyien of France. He showed that the Chelles-Moustérien of Micoque was in reality Strépyien, and that this stage fell between the Chelléen and the Mesvinien, and not between the Chelléen and the Moustérien. M. Feuvrier (of Dôle) directed attention to a Magdalenian cave in the Jura, and M. J. Dharvent exhibited a sculptured flint of the Moustérien age.

On Wednesday evening Neolithic problems were approached; among the papers were those of Dr. Martin, on the false tumulus of La Motte Beudron (Deux-Sèvres); M. Goby, on the tumuli of the districts of St. Vallier de Thiay, St. Cézaire, and Grasse (Alpes Maritimes); and M. Roerich, of St. Petersburg, on sculptured Neolithic flints. M. Rutot then turned to the Flénusien, or lower Neolithic, in France, and showed that traces could be found from one end of France to the other. Dr. Montelius then gave a summary exposition of the Stockholm collections from the Robenhausen and other periods.

On the morning of Thursday the pottery of the dolmens came up for discussion; M. Fourdrignier, of Paris, showed that the study of finger-prints might be of value, but it was pointed out that the information could throw little light on questions of race. Other papers were those of M. Goby, on the dolmen pottery of the Grasse district, and the micaceous pottery of Camp du Bois-du-Rouret (Alpes Maritimes).

After a remarkable paper by Dr. Stjerna on the Scandinavian origin of the Burgundians came papers on Megalithic monuments, among them those of Dr. Jousset, on the Carnacean age of Perche; Dr. Coutil, on Megalithic monuments in Normandy; M. José Fortès, on Megalithic sculptures in Portugal; M. Tavarès de Proença, on the classification of Portuguese dolmens; M. Coutil, on his exploration and restoration of the tumulus of Fontenay-le-Marmion (Calvados) in 1904 and 1906. Important communications were read by Dr. Waldemar Schmidt, on Megalithic monuments in Denmark; by Dr. Montelius, on the same in Sweden; by Dr. Baudouin, on five years' excavations and restorations of the megaliths of Vendée. A popular evening lecture on the dolmens of Brittany, illustrated by lantern-slides, had already been given in the theatre on the previous evening.

On Thursday evening the subject of prehistoric gold in Brittany and Vendée was treated by Count Costa de Beauregard and Dr. Baudouin, and much was said on the significance of menhirs and of the alignments. For M. de Paniagua they are evidence of a phallic cult, for M. Rutot they are sign-posts, for M. Montelius and for Dr. Baudouin tombstones, and the last view finds support in the results of the excavations of Dr. Baudouin

and M. Hue. The views on the alignments were varied; they were *ex-votos*, and they were connected with the Trojan war; but the majority hesitated to express an opinion. M. le Rouzic, Dr. Baudouin and others, subject to more extensive researches in Brittany and elsewhere, were disposed to connect them with a solar cult. Among other papers, Dr. Atgier discussed the Megalithic enclosures, and M. de Clérabant galgals, or cairns, in Indre-et-Loire.

M. de Villemereuil proposed a motion on the State protection of megaliths. Speaking generally, it may be said that both the discussions and the numerous papers were of much interest, and the meetings were attended by more than a hundred members.

The following three days were taken up with excellently organised excursions; weather, vehicles, meals, and speeches, all were of the best, and more than a hundred took part in each excursion. The first day was consecrated to the Gulf of Morbihan, and among the objects visited were the cromlechs of Kergonan, the tumulus of Gavr'inis, and the magnificent dolmens of Locmariaquer, including the largest known menhir. On the second day visits were paid to the little-known alignments of St. Pierre, in Quiberon, and of Erdeven, and to the dolmens of Roch-en-Aud, Crocuno, Rondosse, &c.

The third day was reserved for Carnac and its marvellous alignments Menec, Kermario, and Kerlescant.

Worthy of special mention were the visits to the tumulus of Moustoir-Carnac, and to the Miln Museum, where the secretary of the congress paid a well-deserved tribute to the brilliant efforts of the regretted founder and his enthusiastic and devoted pupil, M. le Rouzic. Finally, a visit was rendered to the splendid tumulus of St. Michel-Carnac, so well cared for by M. d'Ault du Mesnil, president of the Megalithic Monuments Commission, who himself acted as guide.

In the course of the three days numerous speeches were made by foreign members, who were roused to enthusiasm alike by the monuments and by the organisation of the gathering. Mention must be made of the utterances of M. Rutot, on the Gulf of Morbihan; of Dr. Baudouin, on submerged megaliths in Brittany and Vendée, and on the technique of restorations; and of the erudition of M. de Mortillet, as well as of the demonstrations of MM. d'Ault du Mesnil and le Rouzic; the latter also spoke in the Miln Museum on the alignments of Carnac, and on his researches on the spot.

As the scene of the next congress in 1907 Abbeville was suggested by more than one speaker. Before the congress separated, the healths of M. de Mortillet, Dr. Baudouin, and M. Giroux were proposed in eulogistic terms. As M. Rutot said, a society that has been able to accomplish so much in its infancy will do much more in its maturer years, and this was equally the opinion of the foreign savants who attended the meeting.

A NEW SPECIMEN OF THE OKAPI.

IN a letter from the Congo Free State, published in the *Times* of September 26, Major P. H. G. Powell-Cotton states that he has succeeded in obtaining the skeleton and skin of a fine male okapi. This animal was killed at Makala, in the Ituri forest, by the native hunter Agukki, who shot the two specimens taken to Europe by Dr. David. After careful inquiry, Major Powell-Cotton is unable to satisfy himself that any European has hitherto killed an okapi. A Swiss official named Jeannet, in the employ of the Congo Government, was, however, in 1905 shown one of these animals by a native as it stood in thick covert, where it was shot by the latter. This the writer believes to be the first living okapi (or "kangi," as it is called by the Makala natives) seen by a European.

According to information furnished by the Mambutti (pigmy), the okapi is generally a solitary animal, the two members of a pair invariably feeding apart, although, together with their single calf, they may frequent the same section of the forest. The calf, which is born in May, is left hidden in covert by the female, who returns to it at intervals for feeding purposes. Hearing and smell are very acute in the okapi, so that the sound of an axe or the faintest scent of man drives it from its feeding grounds

into the depths of the forest. Even when feeding it is restless, and it seldom reposes long in the same lair. In the Ituri forest these animals avoid swampy ground, and always drink from clear running streams. During rain they seek shelter in the densest thickets or even under an abandoned roof, and it is at such times that they are most usually seen by the natives.

In the Ituri forest the okapi does not eat the giant leaves of *Sarcophrynium arnoldianum*, which Major Powell-Cotton believes to be the plant alluded to by Captain Boyd-Alexander in his account of the animal in the Welle district. Specimens of four different kinds of leaves which form the food of the Ituri forest okapi are being brought home for identification.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

THE honorary degree of LL.D. has been conferred upon Sir Thomas Barlow and Prof. C. S. Sherrington, F.R.S., by Harvard University.

At a Convocation of the University of Durham, held on September 29, the honorary degree of D.Sc. was conferred upon Sir William White, K.C.B., and Prof. Lebour.

PROF. WIEN, who occupies the chair of physics at Würzburg, informs us that he has declined the invitation to succeed the late Prof. Drude as professor of physics in the University of Berlin, because the Prussian Government is unable to undertake the erection of a modern physical laboratory there.

PROF. E. A. MINCHIN, F.R.S., the recently appointed professor of protozoology in the University of London, will deliver his inaugural lecture on "The Scope and Problems of Protozoology" on November 15. The University library, in which is included the Goldsmiths' Company's library of economic literature, will be opened by the Chancellor on the afternoon of Friday, October 26.

THE new calendar of University College, London, contains an interesting outline of the history of the college by Dr. G. Carey Foster, F.R.S. The contribution deals with the growth and development of the University of London as a teaching university, and the part played by University College in that development. Particulars are given of the post-graduate courses offered this session in all faculties, and of the original work produced in the college during last session. The number of research and post-graduate students last year was 134, as against 119 in the previous session.

THE first volume of the report for 1904 of the Commissioner of the United States Bureau of Education has at last been issued. A gratifying feature noted in the reports of the agricultural and mechanical colleges is the largely increased aid granted them by the several States and Territories. This aid amounted for the year to about 1,131,000., an increase of more than 200,000. over the amount for the preceding year. A chapter of more than a hundred pages is devoted to the regulations relating to pensions and insurance in all German universities. The data were collected by Prof. Julius Hatscheck, of Heidelberg, for Dr. Theodore Marburg, trustee of Johns Hopkins University, and by the latter presented to the U.S. Commissioner of Education. It appears that in Germany membership in any teaching body means, *nolens volens*, the payment of regular contributions to the pension fund of that body, except in elementary schools, where the State assumes the entire burden of pension payment. Dr. John W. Hoyt contributes a detailed account of the University of Paris during the Middle Ages. Among other chapters of interest in the report, which runs to 1176 pages, may be mentioned two on education at the St. Louis Exposition and one on higher education in England as affected by the Act of 1902, in which prominence is given to Prof. Sadler's reports to various county councils.

At the University of Leeds on Monday, the inaugural address of the new session was delivered by Sir James Crichton-Browne upon the subject of "Universities and Medical Education." In the course of his remarks, he