

the modern exhibits, trumpery as many of them would undoubtedly appear to us, do not attract more attention than the productions of ancient Japanese art industry. We have even heard it suggested that, by placing these various articles under one roof, the Government desired to check in their people an unreasoning admiration of everything foreign, by showing them what Japanese themselves have done in the olden time.

It would be impossible here to describe in detail even the most striking museums of the capital. The Government of the great northern island, Yeso, have established one containing specimens of the flora, fauna, and other productions of that territory near the sacred grounds of Shiba. In the great park at Uyeno, a northern suburb of the city, the Education Department exhibits all the educational appliances of most of the civilised countries of the globe; while in the same neighbourhood is a smaller museum containing a collection of ancient art treasures, to which the Emperor himself has contributed. In all the chief towns throughout the country also—notably in Osaka, Kioto, and Nagoya—museums have been established by the local authorities. Sometimes these contain only specimens of the productions, natural and artificial, of the province in which they are situated; but generally objects of more universal interest are to be seen. These, as we have before remarked, are thronged on holidays by crowds of eager sightseers, and it would be difficult, more especially for a foreign observer, to estimate accurately their beneficial effect on the nation at large, in humanising the people and stimulating healthy competition and production.

The temporary exhibitions have been not less successes than the permanent museums. An annual exhibition of domestic products is held at Kioto, in the old palace grounds, and lasts for 100 days; and a triennial one on a large scale takes place in Tokio. This also is reserved for domestic productions. The second of these has just been closed, an Imperial prince representing the Emperor at the closing ceremonial. His Majesty, having attended at the inauguration and at the distribution of prizes, was able to say (we quote from the report of the *Japan Gazette* newspaper) that there were over 800,000 visitors in 122 days. Each of the speakers on this occasion bore witness to the value of these exhibitions, and noticed the marked improvement in the exhibits now over those of three years ago.

The prospectus of a domestic exhibition of trees and shrubs has just been issued. It is to take place in February next year, and besides specimens of the forests and plantations under Government, private individuals are invited to send exhibits of timber. The exhibition will be under the control of the Department of Commerce and Agriculture, and the result will doubtless be an interchange of knowledge which will be of the utmost value in a country where wood is one of the most universal necessities of life.

Two years since a most interesting exhibition took place at Nara, the site of an ancient capital of Japan. It was confined wholly to Japanese antiquities, and was under the direct patronage of the Emperor, who contributed many of the most valuable articles. We have referred in a previous paper to the success of an exhibition of the various instruments which have from time to time been employed to test the direction and intensity of earthquake shocks, which was held under the auspices of the Seismological Society of Tokio.

As cognate to the subject of this article we may refer to the public libraries of Japan. Lending libraries have existed in the country from very early times; but it is only recently that the Government have provided large collections of native and foreign works for students. One free library in Tokio, which was founded in 1873, contained a year ago 63,840 volumes of Chinese and Japanese works, 5162 English books, 6547 Dutch, and about 2000 volumes

in other European languages. It possesses a large reading-room, provided with many leading foreign journals; admission is wholly free, and permission to borrow books for a certain period is easily obtained. The number of readers is about three thousand a month. Another, containing about 143,000 volumes, including many ancient books and manuscripts, is practically free, an entrance fee of less than a halfpenny being charged. In addition to these many of the leading towns throughout the country are provided with free libraries, which are much used and appreciated by students. The cost of foreign books renders these institutions peculiarly valuable to natives, who, as a rule, cannot afford to pay our heavy prices.

It will thus be seen that the introduction of museums and similar establishments was a happy move on the part of the Japanese Government; they are heartily appreciated by the people, and their educating influence is immense. With the exception of the newspaper press no Western institution has been so rapidly or so successfully acclimatised in Japan.

THE INTERNATIONAL EXHIBITION AND CONGRESS OF ELECTRICITY AT PARIS¹

III.

THE Congress held its concluding sitting on Wednesday, the 5th inst., and was formally dissolved. Three international Commissions are to be appointed in accordance with the recommendations of the Congress, viz. :—

1. A Commission to determine what length of mercury at zero Centigrade, with a section of a square millimetre, has a resistance equal to the theoretical Ohm, that is, to 10⁹ C.G.S. units.

2. A Commission for the following distinct purposes:—To arrange for a general system of observations of atmospheric electricity; to arrange for a general system of observations on earth-currents; to determine the best system of lightning-conductors; to investigate the practicability of a general system of automatic transmission by telegraphic wires of the indications of meteorological instruments. The idea of this last investigation is taken from the apparatus of M. van Rysselbergh, which we described in a previous notice. In fact it is understood that the Committee will report on the advisability of extending to Europe generally the system which already exists in Belgium.

3. An International Commission for fixing upon a standard of luminous intensity, to be used in measurements of electric lights, and for deciding upon the best methods of making such measurements.

The following recommendations have also been made by the Congress:—That the diameters of wires employed in telegraphy be stated in millimetres; that the cultivation of the gutta-percha tree be guarded by suitable regulations, to prevent this important product from becoming scarce; that the Governments of the different countries be requested to legislate on the subject of submarine cables, the present state of the law being insufficient to guarantee the rights of property in such cables.

In illustration of the present state of things Dr. C. W. Siemens mentioned a case where a cable which his firm had laid was wilfully cut by a captain who had caught it with his anchor in deep water, and the law afforded no remedy. It is also understood that regulations are to be made as to the repair of cables which are crossed by other cables belonging to a different company.

A further recommendation, that all countries should adopt for ships engaged in laying cables the same code of signals which is already in use in English ships was withdrawn upon the presentation of indubitable evidence that the code in question was adopted months ago in a note signed by the representatives of all the nations concerned.

¹ Continued from p. 533.

All the proceedings of the Congress have been conducted in French, and it was a novel sensation to most of us to see our English friends mount the tribune and deliver their sentiments in French; a still more novel sensation to those who for the first time ventured upon such an undertaking themselves. You first rise in your place and say, *Je demande la parole*, at the same time holding up your hand to catch the eye of the president. On his replying, *Vous avez la parole*, you walk from your place to the tribune, which is a raised platform in front of the audience, and there, with the eyes of the assembled savans of Europe fixed upon you, you must carry out your rash undertaking, with all your imperfections on your head. It is like the sensation of diving for the first time into deep water, where you must swim or drown.

In these international gatherings very wide deviations from the correct standards of grammar and pronunciation are indulgently tolerated, and the English have certainly not appeared to disadvantage as compared with the Germans; though it has been by no means a rare occurrence to see a speaker of either of these nations in sore straits for want of a word. There is one great advantage in conducting a Congress in a foreign tongue, and that is that the difficulty of the situation puts a wholesome check upon any tendency to verbiage on the part of a speaker; he is glad to express his meaning in the simplest manner that he can, and to desist as soon as his laborious task is accomplished; but this advantage is to some extent lost where, as on the present occasion, the language is the native tongue of half the members of the Congress. Some of the later sittings were decidedly dull and unprofitable, being mainly occupied with prolix dissertations of no general interest. The *Salle des Séances*, with its draped walls and high canvas roof, is very stifling to the voice, and much of what was said was insufficiently heard by the bulk of the audience.

The official reports of the proceedings were taken not by shorthand writers, but by young men skilled in science, who wrote abstracts of the speeches in longhand during their delivery; and it must be acknowledged that they did their work exceedingly well. The report thus taken of each meeting was printed and laid before the members at the next meeting, to be adopted before proceeding to any other business. It is called the *procès verbal*, and is treated like the minutes of an English meeting, but it is much fuller than our minutes usually are.

So much of these reports as relates to the discussions on units has been reprinted in the *Revue Scientifique*, No. 13. We have not observed reprints of any other discussions of the Congress.

The jury are now hard at work. They have divided themselves into six groups, which are subdivided into fourteen classes according to the first fourteen classes of the catalogue; and some of the more important of these classes have been still further subdivided; the total number of jurors being about 150, one-half of whom are French. By the help of this division of labour the official inspections of the exhibits have been, we believe, completed; but some days will be devoted to carrying out a series of experimental tests, which have already been commenced; and it is probable that some valuable data relative to electric lights and the machines which furnish their electricity will remain as one definite result of the present Exhibition.

In connection with these experiments a good story is told respecting resistance-coils. An eminent firm sent off several patterns of resistance-boxes to the Exhibition, but being out of one of their favourite types, they supplied its place by an empty box having exactly the outward appearance of the genuine article. As ill-luck would have it, the jury selected this particular box as being precisely what they wanted to assist them in their experiments, and asked for the loan of it. The representative on the spot, being ignorant of the sham, and

appreciating the compliment paid to his house, lent the box with the utmost alacrity. The result can be better imagined than described. Application was then made to another eminent firm for a box which occupied a conspicuous position in their case of exhibits; and this also turned out to be a dummy, but the joke was not carried so far this time, as the representative in charge at once declared the fact.

(To be continued.)

NOTES

THE subscriptions received for the Rolleston Memorial Fund up to the present date amount to about 530/. It is hoped that this sum may shortly be considerably augmented, especially by subscriptions expected to be received from Oxford at the beginning of the present term. All promoters of the movement are requested to make its existence known to others likely to interest themselves in the matter. The treasurer is Mr. E. Chapman, of Frewen Hall, Oxford. A general meeting will shortly be held to determine finally the form which the memorial shall take.

SOON after the death of the late Prof. Rolleston, F.R.S., the delegates of the University Museum at Oxford, acting with the advice of Prof. W. H. Flower, F.R.S., requested Mr. Robertson and Mr. Hatchett Jackson of the Anatomical Department to set in order the collection of Crania in the Museum illustrating the various races of mankind. The compilation of the Catalogue has just been completed by Mr. Hatchett Jackson, and the specimens arranged in the cases by him and Mr. Robertson. The collation of the Catalogue and the numbering of the specimens will shortly be carried out by the latter gentleman. The method of arrangement is that adopted by Prof. Flower in the recently-issued Part I. of the Osteological Catalogue of Vertebrated Animals in the Museum of the Royal College of Surgeons. Students will consequently be enabled to compare with ease the Oxford collection with the collection in the Hunterian Museum. The numbers at Oxford range from 1 to 1053 approximately—a rather larger total than the corresponding section in Prof. Flower's Catalogue. The Oxford collection is peculiarly rich in English specimens of a date prior to the Conquest. There is a unique series of Crania from various Long Barrows; and from the Round Barrows of the Yorkshire Wolds, obtained by Canon Greenwell in his excavations and presented by him to the University, together with other specimens chiefly from cist burials of the late Bronze period. The Roman and Roman-British number 180; the Anglo-Saxon 96. The races of Ancient Egypt, of India with Ceylon, of New Zealand, the American Continent, and the various regions of Australia are well represented. There are five Tasmanian, seven Andamanese crania, and fine specimens of Zulus and Bushmen. There are besides large stores with which at present it has been found impossible to deal. And in the Catalogue as it stands are not included various skeletons and two sets of life-like casts—one set, replicas of those obtained in the voyage of the *Astrolabe* and presented many years ago to Dr. Acland, then Lee's Reader of Anatomy at Christ Church, by Prof. Milne-Edwards the elder; the other set, purchased in 1869, and representing various aboriginal tribes of Australia. It may be added that during the present Long Vacation, Miss Cracroft, niece of the late Lady Franklin, has presented to the Anatomical Department fourteen portraits of Tasmanian aborigines, authenticated with the names of the individuals, their ages, and the districts whence they came, and admirably executed in water colour by Boeh.

AT a public meeting of the University College (London) Chemical and Physical Society, to be held on Friday, October 21, at 7 p.m., Prof. Alex. W. Williamson, Ph.D., LL.D., F.R.S., will deliver an address on "An Error in the Commonly-accepted Theory of Chemistry."