

two subgroups,' Dr. G. A. Miller, Cornell University.

'A proof that there are no simple groups of order 1440, 1512, 1680 or 1800,' Dr. G. H. Ling, Wesleyan University.

'On a relation between the totality of the elliptic functions and a line complex,' Dr. H. F. Stecker, Northwestern University.

'Geometric construction of the elliptic integral of the second kind, and of the Weierstrass sigma-function,' Dr. Virgil Snyder, Cornell University.

'Some applications of elliptic functions,' Professor Alexander Pell, University of South Dakota.

'On Fresnel's wave surface,' Dr. L. T. More, University of Nebraska.

THOMAS F. HOLGATE,
Acting Secretary.

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THE WORK OF FOREIGN MUSEUMS.

THE annual reports of several foreign Museums have been received during the summer months, and from them one may obtain a fair idea of the work they are doing, the support they receive and the disadvantages, mainly of lack of money and space, under which they labor. These reports comprise those of the Australian Museum (1897), Colombo Museum (1898), Museum Association of the Kingdom of Bohemia (1898), West Prussian Provincial Museum (1898), Castle Museum, Norwich (1898), Edinburgh Museum of Science and Art (1897), Corporation Museums and Art Galleries, Glasgow (1898), and Manchester Museum (1898-99). The first two institutions are government museums, the last four fall in the category of local museums, although that of Manchester, from its relations with Owens College, is on a somewhat different basis from the others. The Museum of Prag, and we believe the West Prussian Provincial Museums are, like various other European institutions, under the control of an association, although re-

ceiving a subvention from the state, to which they are responsible.

The Australian Museum leads the others in the matter of expenditures, although these only reach the sum of \$35,000, and is doing much good work for the public in judiciously planned and well labeled exhibition pieces, and for science by constantly adding to its study series and publishing the results obtained therefrom. The usual complaint is made of lack of room and lack of force, but the completion of a new series of well-built and well-equipped workrooms is announced forming the basement of what will later on form a new wing to the Museum building. The most important publication was the memoir on the zoology of the Funafuti Expedition of 1896; but two parts of the 'Records' were also issued. The MS. for the two parts 'Accipitres and Striges' of the new edition of Dr. E. P. Ramsay's catalogue of birds is also ready. The number of accessions was 11,000, mostly gifts, and the number of visitors 122,894.

The Colombo Museum is practically prohibited from doing any work by the smallness of its appropriation, 24,000 rupees (about \$8,000), as this does not suffice to fairly meet the running expenses, since we are told that the wood work is suffering for the lack of paint. This is to be deplored, for the Museum is well located for original work, is the official Museum of Ceylon, and is well attended by the public as is shown by the record of 111,000 visitors.

The activity of the Museum at Prag is shown by the numerous meetings of the various sections of the association by which it is controlled, while its collections have been extensively studied. The Director, Dr. Fric, gives some of the results of his studies in connection with his *Fauna der Gaskohle* and announces the completion of ten plates for that work. The expenses of the Museum amount to \$24,000, a sum that

seems small in comparison with those of our own large museums; there is a special fund, *Matice Česká*, for the publication of scientific works in the Bohemian language, and another for the continuation of Barande's great memoirs on the Silurian of Bohemia. There were 91,000 visitors and it is stated that of the Museum Guide Book, 555 copies in German were sold and 1,008 in Bohemian.

The report of the West Prussian Provincial Museum which, as its name indicates, is actively concerned with the history of that region including archeology, ethnology, and natural history, is mainly devoted to detailed accounts of the numerous accessions received by the different departments. These notices contain much information regarding the various objects, for example, noting the past and present range of the bear and wild boar, and describing and figuring various archeological specimens and the conditions under which they were found.

The Glasgow, Edinburgh and Norwich Castle Museums all include art galleries, and the report of the former relates to four distinct institutions. In all of these, science is necessarily more or less subordinated, playing the most important part perhaps in the Norwich Museum, and all are exhibition museums, none of them issuing any publications save guides to the collections. That of Norwich is particularly good and contains much information, especially in regard to the valuable local collection of birds. The attendance for these institutions was respectively 1,210,648; 770,807 of this being at 'The People's Palace,' 338,287 and 128,969.

The Manchester Museum is, if Mr. Hoyle will pardon the phrase, a very live Museum, and the report opens with a brief notice of the installation of the electric light. This was described at some length in the Report of the Museums Association of Great Britain,

and comprises 162 incandescent and 44 arc lights, the latter of the inverted type and with the light reflected not downwards, but by means of a conical reflector upwards to the white ceiling. The most important acquisition has been the Dresser collection of birds, noticed in *SCIENCE*, and the most important publication, Mr. C. D. Sherborne's 'Index to the *Systema Naturæ* of Linnæus,' showing the place of every species name in the tenth and twelfth editions both as to genus and page. Mr. Sherborne is a believer in the 'law of priority' as applied to nomenclature and indicates his preference for making the tenth edition its starting point.

The number of gifts to these various museums, governmental or local, is noteworthy, since this is largely a test of the interest taken by the community in the welfare of the institution, but it is to be remarked that ethnological material is less freely given than any other. Finally three of the museums present us with figures bearing on the question of Sunday opening, and in each case the number of visitors on Sunday is much in excess of that on other days; thus in the Australian Museum, the average week day attendance was 341, that of Sunday 634, while in the Norwich Museum, the figures were respectively 396 and 706. At the Manchester Museum the attendance on week days ranged from 30 to 372 and on Sunday from 146 to 550.

F. A. L.

ROBERT WILHELM BUNSEN.

WITH the death of Bunsen there has passed away the last of those great German chemists of the middle of the present century, chemists who bore the greatest part of the work of laying the foundations of the modern science, and through whose efforts their fatherland has taken the first place in chemistry among the nations of the earth. The century began with Wöhler and Liebig; in the next decade came first Bunsen