

SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

ON THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE OF THE ROYAL SOCIETY.*

THE Royal Society of London has already demonstrated its great interest in bibliography and literature by the publication of the 'Catalogue of Scientific Papers.' It proposes to continue its efforts. In the 'Inter-

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national Catalogue of Scientific Literature,' which it has now planned, the Society intends to correct the chief defect of the first undertaking, the absence of a subject index. As is well known, it convened an international conference, which held meetings in London from the 14th to the 17th of July, 1896. The Conference voted to request the Royal Society to appoint a committee to consider all the unsettled questions laid before it by the Conference. The report of the committee, signed by its chairman, Professor H. E. Armstrong, was issued late in March, 1898. As compared with the 'Catalogue of Scientific Papers,' the new work is (1) to be more complete, since it is to include all the literature within the fields under consideration—not alone that 'contained in certain periodicals,' and 'books of definite categories;' (2) to present the works in two methods of arrangement, (a) according to the name of the author, and (b) according to the contents of the catalogued article or book—and in the two forms, card-catalogue and book-catalogue. But it is to be (3) just as restricted as its predecessor, the 'Catalogue of Scientific Papers,' since it is to take into account only the natural sciences, together with mathematics and astronomy, as well as psychology and anthropology. Finally (4) it is to be very much more voluminous, since the title is to be repeated on cross-reference cards under catch-words taken from the contents.

order, a most interesting historical notice of the first attempts to accurately estimate the visual power, the invention of the ophthalmoscope and the apparatus required for testing vision opens the volume. This is followed by a comprehensive description of presbyopia, myopia and hypermetropia.

Astigmatism in its various forms is taken up next, under which heading an extended account of ophthalmometry to its minutest detail is given. Asthenopia, particularly that which is found in association with binocular vision, is described in a graphic manner, while a number of useful general remarks as to lenses, spectacles and eye-glasses finish the volume.

A careful perusal of the contents of the work is recommended to any one who may be interested in the subject.

C. A. O.

BOOKS RECEIVED.

German Higher Schools; The History, Organization and Methods of Secondary Education in Germany. JAMES E. RUSSELL. New York, London and Bombay, Longmans, Green & Co. 1899. Pp. xii + 455.

Year-book of the United States Department of Agriculture, 1899. Washington, Government Printing Office. 1899. Pp. 768.

Imperial Democracy. DAVID STARR JORDAN. New York, D. Appleton & Co. 1899. Pp. viii + 293. \$1.50.

Eighteenth Annual Report of the United States Geological Survey, 1896-97. CHARLES D. WALCOTT, Director. Part II., Papers Chiefly of a Theoretical Nature. Part IV., Hydrography. Washington, Government Printing Office. 1899.

SOCIETIES AND ACADEMIES.

THE BIOLOGICAL SOCIETY OF WASHINGTON.

THE 306th regular meeting was held April 8th. The first paper entitled 'The Ferns of Hemlock Bluff' by Mr. Wm. Palmer included a preliminary sketch of the geology of Hemlock Bluff, a point on the Virginia shore of the Potomac between Georgetown and Great Falls. The locality is particularly rich in cryptogamic plants, over twenty species of ferns being enumerated.

A recent noteworthy addition to this list is that of *Asplenium pinnatifidum* hitherto unknown from the District of Columbia or the

adjacent parts, and supposed to be confined to limestone rocks in mountain regions. The rocks at Hemlock Bluff are, however, gneissic. Mr. Palmer stated that this interesting and beautiful station is threatened with destruction, and expressed the hope that Congressional action would be taken in time to protect the banks of the Potomac from further devastation.

'Notes on the Habits of African Termites' was the subject of the second paper, read by O. F. Cook. On the basis of observations made in Liberia several points in the domestic economy of termites have been established. Among these may be mentioned the fact that some termites regularly collect rotting wood, which they put through a process of curing and then comminute into the pulp used in building the irregularly honeycombed fungus gardens which produce the food of at least the young animals of the colony. The soldiers of these species (*Termes bellicosus* and allies), which sally out from the nest in response to attacks by men or animals, do not return to the nest, but wander about and soon perish from exposure to the outside air. Other soldiers, the so-called *nasuti*, of which the head is produced above into a long beak, eject from this process, which is hollow, a transparent, acrid, malodorous and corrosive fluid, which forms a most effective means of defence against ants and other insect enemies, and renders them distasteful to birds. A third type of soldier can neither shoot nor bite, but the large, unequal mandibles are especially adapted to produce a loud clicking sound which furnishes protection at least against other species of termites. It was also found that the perfect insects associate in pairs when flying over water and that, after dropping their wings, such pairs are able to burrow into the ground, thus suggesting the possible origin of termite communities.

Under the head of 'Biological Characteristics as a means of Species Differentiation' Dr. Erwin F. Smith described in detail the very numerous culture-methods, reactions and other tests now in use in bacteriology. To accomplish all these investigations a species is sometimes carried in the laboratory for two years or longer. The insufficiency of the older and, indeed, of many of the more recent descriptions