

question of scientific opinion but had become also one of honour. And until the Council of the Royal Society take measures to refute or to atone for (!) the charges I then made, it is evident that courtesy and chivalrous conduct are at a discount in the scientific world, and it is not surprising that the deterioration of the tone of thought should be such as to have at length attracted the attention of the editor of the *Times*."

At p. 486 we have again the old question of the moon's non-rotation about its axis. This latest follower of Mr. Jellinger Symons gives a new and rather amusing argument in support of the heresy. For he says it would require us to suppose that a ship which sails round the world must have turned a complete somersault, while it is quite obvious that she has not done so!! Here we fear we must part company with our amusing instructor; and, though to many it may appear the blackest ingratitude, we must conclude with a hearty wish that Mr. Jordan's work had been published some twenty years sooner. Had it been then given to the world it would, like a fly in amber, have secured immortality in the pages of De Morgan's unique, because inimitable, *Budget of Paradoxes*.

It has many of the distinctive charms of the celebrated works of Mr. James Smith (of Liverpool), Mr. James Reddie, and Baron von Gumpach. All these great men, in their turn, tilted at Philosophers or Scientific Bodies, the Astronomer-Royal, the Royal Society, the British Association, &c., and complained, as Mr. Jordan now does, of the bigotry and malevolence in high places which depreciated the value of the gifts they were bestowing on the world. Some of them were hopelessly illogical and stupid, others merely ignorant. Mr. Jordan appears to belong to the second category. He is evidently untaught, though presumably not unteachable. But he should not attempt to teach.

P. G. T.

THE BRITISH MUSEUM CATALOGUE OF BATRACHIA

Catalogue of the Batrachia gradientia s. caudata, and B. apoda in the Collection of the British Museum. Second Edition. By G. A. Boulenger. (London: By Order of the Trustees, 1882.)

THIS volume completes the second edition of the Catalogue of the Batrachians in the British Museum. The former volume, which appeared in the spring of last year, we have already noticed. The first edition (1850) was prepared by Dr. J. E. Gray, and contained descriptions of 72 species; 132 species are described in the present work, the great majority of which have been actually examined by Mr. Boulenger. The number of species of tailed Batrachians in the British Museum collection now amounts to 78 against 38 in 1850. Several of the species which are wanting in the collection are natives of America, and in the interests of science we hope some of the distinguished herpetologists of the New World will generously supply these desiderata. The number of footless Batrachians in the Collection is 19 against 5 in 1850, and in this group also nearly all the species unrepresented in the national collection are natives of America. In addition to very full synopses of the families and sub-families, of detailed diagnoses of the genera and species with synonyms, we have appended to this volume a summary of the principal facts of the geographical distri-

bution of Batrachians generally, which adds immensely to the value of this catalogue to the general biologist. Of the various primary geographical divisions which have been proposed, Mr. Boulenger finds that that recognised by Dr. Günther for freshwater fishes into Northern Equatorial and Southern Zones, agrees best with the facts deducible from the study of Batrachians, but with one modification, for a Southern Zone does not exist for Batrachians. Tasmania and Patagonia do not differ in any point regarding their frog-fauna from Australia and South America respectively. The following are the principal conclusions:—(1) In the Northern Zone there is an abundance of tailed and an absence of footless forms. A. In the Old World division (Europa-Asiatic or Palæ-arctic Region) there are numerous Salamandrinæ, with a single exception an absence of Hylidæ, but Discoglossidæ are present. B. In the North American division we find Sirenidæ, few Salamandrinæ, Plethodontinæ, Amblystomatinae, and Hylidæ numerous, Desmognathinæ. (2) In the Equatorial Southern Zone there is an absence of tailed Batrachians and an equally characteristic presence of footless forms. Dividing (A) the Old World region into Indian and African, we find in both the frogs numerous (260 species out of 300), an absence of Hylidæ and Cystignathidæ, while in the former there are no Aglossæ or Dendrobatidæ, while in the latter there are Dactylethridæ or Dendrobatidæ. Dividing (B) the New World region into Tropical America and Australia, the former is rich in footless forms (21 species), has very many tailless forms, some small families quite peculiar to the region, but above all is it rich in the Arcifera, it has also a few tailed forms; the latter is divided into three subregions: the Australian proper is chiefly remarkable for a negative character, there are no footless or tailed forms, almost no toads or frogs, its fauna consisting mainly of the two families, Cystignathidæ and Hylidæ; the Austro-Malayan subregion presents an interesting blending of Indian and Australian forms, a curious fact is the occurrence, according to Peters, of a third species of the African genus *Phrynomantis* in Amboyna and Batavia, New Caledonia does not yield a single Batrachian; the third or New Zealand subregion possesses but a single species, *Liopelma hochstetteri*, very curiously a member of the family Discoglossidæ, which is otherwise restricted to the Europa-Asiatic region. The following new species are described for the first time, and there are excellent illustrations of most of them in the plates accompanying this volume: *Hynobius peropus*, China and Japan, *Spelerpes yucatanicus*, Yucatan, *Uraeotyphlus africanus*, West Africa, *Hypogeophis guentheri*, Zanzibar, *Dermophis albiceps*, Ecuador, and *Chthonerpeton petersii*, the Upper Amazon.

The keeper of the Department of Zoology in the British Museum may be congratulated on the Batrachian collection having held pace with the progress made in this branch of science during the last thirty years.

OUR BOOK SHELF

The Cinchona Planter's Manual. By T. C. Owen. (Colombo: A. M. and J. Ferguson, 1881.)

FEW plants have been so fortunate or unfortunate in having so much written about them as the *Cinchonas*. Ever since their successful introduction into India, now