

telescopes, and have nothing exactly corresponding to a vast emporium such as that of Max Kohl. All the more reason, therefore, for the association and discipline urged on his French colleagues and co-workers by Cornu.

R. T. G.

AMERICAN FOOD AND GAME FISHES.

American Food and Game Fishes: a Popular Account of all the Species found in America North of the Equator, with Keys for Ready Identification, Life Histories and Methods of Capture. By David Starr Jordan and Barton Warren Evermann. Pp. 1 + 573; illustrated with coloured plates and text drawings, and with photographs from life. (London: Hutchinson and Co., 1902.)

DRS. JORDAN AND EVERMANN, who have recently enriched science by the publication, under the auspices of the Smithsonian Institution, of a great work in four volumes describing in detail the 3300 species of fishes distinguished by them in North and Central America, reviewed not long ago in the columns of NATURE, have now prepared another book, intended to

“furnish that which well-informed men and women, and those who desire to become well informed, might wish to know of the food and game fishes which inhabit American waters.”

This book, teeming with interest from the full accounts, presented in a charming manner, of the habits, distribution and uses of the more important forms from the point of view of the angler, has been lavishly got up in America. The coloured pictures, as well as the photographs taken from life with marvellous success by Mr. A. Radclyffe Dugmore, could not be surpassed in excellence, and the numerous “process-blocks” which have already appeared in various American publications will, thanks to the perfect accuracy with which the fishes have been delineated, greatly facilitate identifications. Authors and publishers are to be congratulated on the production of such a book, which will undoubtedly have the effect of enlisting a more scientific interest in fishes on the part of many who have hitherto looked upon them as mere objects of sport or curiosity, and to whom the use of the more technical treatises on the subject would be distasteful. In deference to such readers, the systematic aspect has been reduced to the narrowest limits that appear compatible with the proper recognition of the numerous genera and species dealt with. It is to be hoped that not a few whose interest is sure to be awakened by a perusal of this charming book will later turn to the more technical work by the same authors, and improve their knowledge through a study of the relationships existing between the various families of fishes, which are here merely defined without any allusion to the higher groups into which they fall.

American taxonomists have always shown a particular predilection for reducing all divisions of the system to the narrowest possible limits. This tendency is carried to the extreme by Messrs. Jordan and Evermann, who inform us in the introduction that not only the lampreys and hags are to be excluded from the class Pisces, but also the sharks and rays, the lung-fishes and

Polypterus, which they regard as only fish-like creatures, fishes in the broad sense of the term, but not “true fishes,” and are therefore excluded from the work. Ganoids, on the other hand, are still maintained among fishes proper. In conformity with this method of excessive multiplication of systematic divisions of all grades, the various forms of Salmonidæ which are usually regarded as subspecies, such as the land-locked salmon and the varieties of *Salmo clarkii*, *gairdneri* and *fontinalis*, are all dealt with as distinct species—twenty-six species instead of the four admitted by the same authors in their previous work. True, a few pages before, the authors pertinently remark that

“The non-migratory species (subgenus *Trutta*) occur in both continents, are extremely closely related and difficult to distinguish, if, indeed, all be not necessarily regarded as forms of a single exceedingly unstable and variable species. The excessive variations in colour and form have given rise to a host of nominal species. European writers have described numerous hybrids among the various species of *Salmo*, real or nominal, found in their waters. We have thus far failed to find the slightest evidence of any hybridism among American Salmonidæ in a state of nature. Puzzling aberrant or intermediate individuals certainly occur, but such are not necessarily hybrids.”

Bearing in mind the authors' tendency to excessive multiplication of species and higher divisions, it is not a little surprising to read in the introduction that the “true fishes” of the whole world are estimated at only 12,000 species, arranged in about 200 families. A careful computation which has recently been made by the reviewer, applying somewhat different canons of classification, has resulted in numbers that are not very different, viz. 11,200 for the species and 160 for the families. The number of species in the American authors' estimate is even far below that given in the article “Ichthyology” in the supplementary volumes of the “Encyclopædia Britannica,” viz. 17,000.

The usefulness of the work is enhanced by special chapters on the external characters of fishes from the descriptive point of view, on fly-fishing (by Mr. E. J. Keyser), a glossary of technical terms, and an artificial key to the families of American food and game fishes.

The copy received for review bears the mark of a London publishing firm. But the identical book was issued in May last by Messrs. Doubleday, Page and Co., at New York.

G. A. B.

HUMAN ANATOMY.

Text-Book of Anatomy. Edited by D. J. Cunningham, F.R.S. Pp. xxix + 1309; 824 wood engravings from original drawings. (Edinburgh: Pentland, 1902.)

AT the present time the human anatomist tries to sit as comfortably as he may on the two stools of science and practice. It must be admitted that few do it with success. While his posture evokes the indulgent smile of the man of science, the professed zoologist and morphologist, the man of practice, the surgeon and physician, regards it as altogether unprofitable and impracticable. To reconcile the views of these two contending factions, to make the theory of anatomy assist in its practical application to the sick and the facts of