

atomical nomenclature has by it been brought within easy reach. The original report, however, has not been sufficiently accessible in this country, and Professor Barker has done good service for anatomy in republishing the list of accepted terms in their Latin form as originally adopted, giving also a literal translation of each term; and, in the few cases when a term differs to any great extent from the English usage, the familiar term is also added. The nomenclature is thus made accessible in a convenient form for all who require a knowledge of anatomical terms, and the introduction to the book, in which are given an interesting account of the work of the commission and a discussion of the advantages of a uniform terminology, is worthy of careful perusal by all who are in any way interested in anatomy.

The translations of some of the Latin terms are open to criticism in that convenience has occasionally been sacrificed to literalness; it seems unnecessary, for instance, to translate *intestinum jejunum*, *intestinum ileum* and *intestinum cæcum* by empty intestine, twisted intestine and blind intestine, when the adjectival portions of the Latin terms are already in common use in English text-books. There seems little likelihood that the Latin terms will be generally employed by English-speaking people, nor is it necessary that they should be; their use merely adds an additional burden for the student and savors somewhat of pedantry. It would perhaps be a further aid to the cause of uniform terminology if, let us say, the American Association of Anatomists would select for each BNA term an English form; the great majority of Professor Barker's translations, and they are intended merely as translations, could be adopted as they stand, and, with some few modifications, the entire list given an authority which it now lacks.

J. P. McM.

*The Labyrinth of Animals.* (Including mammals, birds, reptiles and amphibians.) By ALBERT A. GRAY, M.D., F.R.S.E., Surgeon for Diseases of the Ear to the Victoria Infirmary, Glasgow. London, J. &

A. Churchill. 1907. Vol. I. Pp. 197; 31 stereoscopic photographs.

This volume deals with the labyrinths of Primates (man, yellow-faced baboon, black ape, green monkey, Hocheur monkey, Mona monkey, common marmoset, mongoose lemur, slow loris); Cheiroptera (Indian fruit bat, pipistrelle); Carnivora (tiger, lion, cat, puma, dog, aard-wolf, mongoose, otter, common weasel, crab-eating raccoon, common seal, gray seal, Cape sea-lion); Ungulata (the beisa antelope, Indian gazelle, common sheep, dromedary, common pig, horse); Edentata (three-toed sloth, Tamanduan ant-eater); and Rodentia (common hare, common rabbit, common mouse, common rat, hairy-footed jerboa). It is intended to bring out a second volume dealing with rodents, insectivora, cetacea, sirenia, marsupalia, monotremata, birds, reptiles and amphibia.

The method of study employed is as follows: The labyrinth with the bone immediately about it is fixed in a five- to ten-per-cent. formaline solution, embedded first in celloidin and then in paraffin, decalcified in hydrochloric acid and then washed. There remains a cast of the organ in paraffin and in this the membranous structures are embedded. The object is now placed in xylol, which removes the paraffin and leaves the organ transparent. It is then photographed from two points of view by taking one picture, then slightly rotating the object-holder and taking the other picture. Each picture represents the image seen by one eye. The pictures are mounted like ordinary stereoscopic photographs and are studied with a stereoscope. In publishing these photographs they are pasted on rather heavy cardboard, two to a page, and the book is accompanied by a pair of prisms, with which, after a little practise, good stereoscopic images may be obtained.

Dr. Gray is evidently a skilled preparator. In the photographs the objects are magnified, usually from four to six diameters, and through the stereoscope they stand out with a beautiful distinctness.

Each photograph is accompanied by a few lines of descriptive text. In addition brief

summaries are given of the chief characteristics of the labyrinth of animals of various species and orders. References are made to the more important papers dealing with the comparative anatomy of the labyrinth. There is no attempt at a prolonged treatment of the speculative aspect of the subject, although there is a short chapter in which there is discussed the value of the labyrinth in the determination of phylogenetic problems. The semicircular canals vary more from species to species than the cochlea does. There are two types of cochlea: sharp pointed, carnivora and rodents; flat; cetacea, primates, ungulata, cheiroptera, sirenia, and insectivora. The edentata have an intermediate type. Both types are found in the marsupalia.

At the end of the volume there is given a very important table of the chief measurements of each of the labyrinths studied.

Stereoscopic illustrations of organic structures are likely to be more and more utilized as simpler methods of taking the photographs and of studying them are devised. Dr. Gray has been undoubtedly successful in both respects. There are, however, some disadvantages in relying wholly upon this method of illustration. Only one object can be viewed at a time, so that quick comparison of two or more objects is difficult. The value of the book to one who has not a great deal of time to devote to its perusal would be much increased were diagrammatic outlines of the objects studied arranged in groups. With the more important similarities and differences thus emphasized the details revealed by the stereoscope could be followed with greater ease and interest.

The author has, however, furnished a rich lot of material for the comparative anatomist, and has made a distinct contribution to anatomical technique.

C. R. BARDEEN

UNIVERSITY OF WISCONSIN

HERPETOLOGY OF JAPAN AND ADJACENT  
TERRITORY

"HERPETOLOGY of Japan and Adjacent Territory" forms an important addition to scientific literature and is the work of Dr. Leon-

hard Stejneger, curator of the division of reptiles and batrachians in the United States National Museum. Even a superficial examination of this work shows Dr. Stejneger's painstaking methods in handling his subject. His manner of simplifying descriptions, interspersing paragraphs helpful to the novice, besides giving some attention to habits, produces a work of far broader use and interest than a strictly technical compilation. The author has taken uniform care to present a résumé under the head of each order, suborder, family and genus, this plan being very satisfactory to the reader in bringing his information strictly up-to-date. The tendency of boiling down descriptions of families and genera to concise and pertinent paragraphs shows considerable study. Strong characteristics are brought to the front and the student is saved wading through the mass of descriptive matter favored by many scientific writers—which matter is often remarkable for its repetition. Throughout the work, there is an effort, by means of foot-notes, to define the meaning of the technical names—both generic and specific—a method we have noted in previous work by Dr. Stejneger. An excellent idea—applied to the treatment of the serpents—is the presence of the popular Japanese name over the description of each species. This condition should make the work very useful to the collector in Japanese territory.

The thirty-five plates show judicious selection. Regarding them the author explains:

The plates are mostly reproductions of important illustrations more or less inaccessible to those for whom this work is chiefly intended. Very often these illustrations represent type specimens, and in nearly every instance are based on specimens collected in the regions covered by this work. The expensive *Fauna Japonica* is long since out of print, and the reproduction of the best figures from this classic will be welcome to the majority of students of Japanese herpetology.

In the text are numerous pen drawings by Mr. R. G. Paine—to the number of over four hundred. Altogether the work may be said to be profusely illustrated and, with its nu-