

matters of detail in a book of this kind, but it is a little disturbing to see a picture of the cyclotron with a sub-title: "Dr. E. O. Lawrence and associates at the University of California," when neither of the individuals shown happens to be Professor Lawrence.

On page 12 there is an implication, of course unintentional, that the droplets in a cloud chamber are produced by condensation on the charged ray which is under investigation rather than by condensation on the charged droplets resulting from ionization. However, such defects are of minor importance. The elementary reader will not be harmed, because the details of his picture must be incomplete anyhow, and the advanced reader will not be harmed, because he will make his own corrections. All in all, the author may be congratulated on producing a very clearly written volume useful for the purpose for which it is obviously intended.

W. F. G. SWANN

BARTOL RESEARCH FOUNDATION
OF
THE FRANKLIN INSTITUTE,
SWARTHMORE, PA.

BIOLOGICAL NAMES AND TERMS

A Source Book of Biological Names and Terms. By EDMUND C. JAEGER. xxvi + 256 pp. 96 figs. Springfield, Ill.: Charles C Thomas. 1944. \$3.50.

THAT which we call a rose might still retain its sweetness by another name, but it would lose much of its charm for us nevertheless. Names may be fraught with meaning or they may be nonsense, as the author suggests in his dedication.

We are told that this rather slim volume contains some 12,000 elements from which biological names and terms are made. These, in alphabetical order, are explained, and examples are cited. According to the preface, this book surpasses in scope "many times the most complete collections in unabridged dictionaries and scientific glossaries and gives a key which unlocks the treasury of meaning of more than a million technical names and terms."

This volume is not a dictionary of technical terms, but, as the title says, a source book. All the more commonly known genera, many specific names and technical terms are included, from the standpoint of the elements of which they are composed. Geographical names and those based on modern personal names are not listed; nor are "ill-coined terms" of some "careless insect-anatomists and ecologists who have proved themselves to be word-butchers of the meanest sort." There is a discussion of a little over a page on "How Words Are Built." Some nine pages on word-formation of generic names are quoted from T. S. Palmer's "Index Generum Mammalium."

In the 256 pages which constitute the bulk of the

book word elements are carefully considered, from "a-" which, as you probably know, has various meanings, including "a negative or absence of something," "from," "without," "away"; to "zyzz," which, as you probably don't know, means "zigzag." The origin of such elements, usually from the Greek or Latin, is indicated, often with notes of interest.

Ninety-six of the plants and animals are illustrated. Some of the drawings are original; many of those of plants are adapted from the author's book on "Desert Wild Flowers"; and some at least of the animals glint with expression—from wistful to smug.

Obviously this book contains a wealth of information on the derivation, meanings and uses of biological words and word elements. From it the student, to whom it seems to be more especially addressed, may learn the underlying significance of the names and terms of his science. The specialist may also profit by the opportunity for reflection on the original meanings of the vocabulary with which he graces or encumbers his field. Both may search in vain for more particular meanings of certain technical terms—but then, this is a source book rather than a dictionary.

EDWIN B. MATZKE

COLUMBIA UNIVERSITY

MAMMALS OF THE OLD WORLD

Extinct and Vanishing Mammals of the Old World.

By FRANCIS HARPER. Special Publication No. 12, American Committee for International Wild Life Protection. xv + 850 pp., 1 pl., 67 figs. Baltimore, Md.: The Lord Baltimore Press. 1945.

IN 1942 appeared a companion volume devoted to mammals of the Western Hemisphere, prepared mainly by the late Glover M. Allen but with aid by Harper; in the present work, the proportions of contributions of the two authors are reversed. This volume is the larger by 230 pages and is more thoroughly illustrated. Together they constitute a record that mankind, being chiefly responsible for the extirpations, should view only with contrition, but which it is well both for laymen and scientists to have in permanent form. May it prove more than a pious hope that these books will stimulate action before it is too late for the preservation of some of the earth's most interesting creatures.

Already the hour has passed for more than a hundred kinds of mammals, 31 per cent. of which were exterminated during the preceding, and 67 per cent. in the present, century. The deadly work has thus attained a doubly accelerated pace. The volume here reviewed, though relating to only one hemisphere (the eastern), contains more summarizing statements than its predecessor. One of these itemizes the extirpations by countries and leading, to our sorrow,

and it should be also to our shame, are North America with 27 martyrs to "civilization" and the West Indies with 41. For the Eastern Hemisphere, all the animals of ten families and of one entire order are treated as among the vanishing.

Among other summarizations in the present work are: statements as to conditions leading to extermination in seven major areas of the Old World, including lists of the forms of mammals extirpated or threatened; a chronology of exterminations by 50-year periods and countries of the whole world; and an enumeration of the extinctions by mammalian families.

In the main body of the book, the mammals are treated in systematic order by species and often by subspecies. Reference to the original (and sometimes other) scientific descriptions and illustrations, vernacular names (invented if necessary), description, history, status and often suggestions for preservation are included in the accounts. These appear to contain all that can reasonably be expected and are evidently based on vast research. The bibliography (with its regional index) occupies 78 pages. There is also a thorough general index. The work reflects credit on all concerned: sponsors, contributors, author and illustrator (Earl Lincoln Poole).

From the author's summary:

The primary factor in the depletion of the world's mammalian faunas is civilized man, operating either directly through excessive hunting and poisoning, or indirectly through invading or destroying natural habitats, placing firearms in the hands of primitive peoples, or subjecting the primitive faunas of Australia and of various islands to the introduction of aggressive foreign mammals, including fox, mongoose, cat, rat, mouse, and rabbit. . . . The chief hope for the survival of the larger mammals of the world lies in the establishment and maintenance of a sufficient number of sanctuaries. This will avail in most parts of the world, but the matter is not so simple in Australia. Unless sanctuaries in that country can be surrounded with fences that are proof against foxes, rabbits, cats and house rats, even they will not avail for many of the smaller Australian mammals. So perhaps the darkest picture to-day, as far as the future of mammals is concerned, is to be found in Australia, where many of the primitive native species can not stand up against the highly organized introduced pests, and where conditions have gotten largely beyond human control.

The reviewer is not inclined to take so unemotional a view of the situation. He can not admire those propensities in man which apparently are leading to the extermination of every creature that is in any way a competitor, that can be eaten, or is an object of so-called sport. Even less creditable are the motives (in addition to sport shooting) for killing off the rhinoceroses, every form of which is on the

endangered list, because of the premium on their horns, which are regarded as having magic and aphrodisiac properties. This traffic is so inexcusable and so shameful that, if true civilization were dominant, it could never have been allowed to develop, much less to continue to this supposed era of enlightenment. Again every form of primate (a whole order of the animals most nearly related to man) is on the roll of the vanishing; a really intelligent culture would not have permitted this tragic denouement, and now should arrest it by the most positive action.

As to the hunters who kill for the thrill, sentimental protestations by Selous (legend for frontispiece and elsewhere) and by Roosevelt (back of title page *et al.*), for example, leave me cold. These men, roaming the world for "sport," were among the greatest of killers, and must be put in the "Don't do as I do; do as I tell you" school. So far as the welfare of mammals is concerned, good example on their part would have been worth far more to the cause of conservation than any spates of words.

The burden of hunter blame for finishing the mammals is in part indicated by the extinctions of: bears (17 forms), cattle, sheep, antelopes (10), horses, zebras, asses (5) and deer (3); and by the now threatened extirpation of all the forms known on earth of the primates, rhinoceroses, hippopotamuses, musk deer, giraffes, okapis, lions and tigers as well as of a considerable number of species and races of the deer, cattle, goat and antelope groups.

As a race, we know that we are guilty of exterminations, we know that our actions of to-day are sure to add to the shameful scroll, but we go on. Surely the record proves that we are more selfish than intelligent, more human than humane.

W. L. McATEE

CHICAGO, ILL.

BOOKS RECEIVED

- BROCK, SAMUEL. *The Basis of Clinical Neurology*. Second edition. Illustrated. Pp. xii + 393. The Williams and Wilkins Company. \$5.50. 1945.
- EVE, A. S. and C. H. CREASEY. *Life and Work of John Tyndall*. Illustrated. Pp. xxxii + 404. The Macmillan Company. \$6.50. 1945.
- LUTZ, HARLEY L. *Guidposts to a Free Economy*. Pp. ix + 206. McGraw-Hill Book Company, Inc. \$2.00. 1945.
- MACKIE, T. J. and J. E. MCCARTNEY. *Handbook of Practical Bacteriology*. Seventh edition. Pp. vii + 720. The Williams and Wilkins Company. \$5.00. 1945.
- MERRIAM, CHARLES E. *Systematic Politics*. Pp. xiii + 349. University of Chicago Press. \$3.75. 1945.
- MUSTARD, HARRY S. *Government in Public Health*. Pp. xix + 219. The Commonwealth Fund, New York. \$1.50. 1945.
- TEMKIN, OWSEL. *The Falling Sickness; A History of Epilepsy from the Greeks to the Beginnings of Modern Neurology*. Illustrated. Pp. xv + 380. The Johns Hopkins Press. \$4.00. 1945.