these local populations are disappearing, quite as has happened elsewhere in the world, under necessities imposed by central planning for standardizing livestock for purposes of greater production. Thus local gene pools, adapted to local conditions of environment or human culture, are being lost, as are a wealth of localized beliefs and practices of management. Someday people will be interested in recovering this information, and Epstein's book may be the only source they will have for some of it. Even here, except for information on toy dogs (information which the Chinese already have), there is not much on the history of selection leading to varietal specialization. Probably little of this information was ever recorded, and thus it was not available to Epstein.

The pig, with more than 100 recorded varieties, easily earns its popular place as China's most important domestic mammal. Considering that Chinese pigs, from Inner Mongolia south, seem to function in major part as ambulatory fat reservoirs, the wide distribution and great popularity of fat-tailed sheep is surprising; however, these sheep do not occur in the southern third of China, where the pig is ubiquitous, and do have their major distribution in the drier areas of northern China where pig raising (although often accomplished) is not so easy as in the semitropical south.

With regard to histological details and qualities of fleece of sheep, cashmere goats, camels, and reindeer (these last limited in China to a small part of the northeastern Inner Mongolia), Epstein often tells us more than most of us are going to want to know. I suspect that wool in particular and fleeces in general are favorite subjects with him. His enthusiasm for the pilose even extends to pig bristles, which obviously are still an important by-product of pig raising.

Although the book is essentially a practical compendium on cattle, yaks, buffalo, sheep, goats, reindeer, camels, pigs, horses, asses, mules, and dogs, many bits of quaint and otherwise forgotten lore are included. One not mentioned, however, comes to mind by the omission. The only human use for yak tails listed is as fly-whisks. How have the mighty fallen to lowly functions? When Genghis Khan was the scourge of the world his standard consisted of nine yak tails; when the yak tails were raised and the kettledrums roared, forward swept the horsemen and empires fell. That is the proper function of a yak tail!

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East European Neuroscience

Neurobiology of Invertebrates. Proceedings of a symposium, Tihany, Hungary, Sept. 1967. J. SALÁNKI, Ed. Plenum, New York, 1968. 504 pp., illus. $27.50.

Although only a few of the 34 papers in this volume do more than present recent research, the book is interesting because about two-thirds of the articles are from laboratories in Eastern Europe. Their standard of research is high in the fields of neuroanatomy and biophysics. Papers such as those on cephalopod statocysts (Vinnikov *et al.*, Leningrad), structural changes in photoreceptors of arthropods caused by light (Röhlich, Budapest), and the influence of ionic environment on the activity in giant neurons of mollusks (Kostyuk, Kiev) show that there is no noticeable difference with the best research in the Western part of the world. In the field of integrative neurophysiology the Eastern research still clearly suffers from the mysticism and authoritative inheritance that have characterized neurophysiology, especially Russian, for many decades.

It should be pointed out that the title of the book may be slightly misleading, for mollusks have by far the most pages devoted to them, with arthropods a poor second and other phyla having few or none. Though mollusks have come very much in the limelight because of their identifiable cell bodies, such a distribution reflects more the interest in the Eastern countries than that on a global scale. One paper, illustrating an important use of the features of molluscan nerve cells, may be especially mentioned. Glaizner (Southampton) studied systematically the effect of four potential transmitting substances on a good-sized population of identified cells in the garden snail, *Helix aspersa*. It was found that even neighboring cells, though reacting identically in different specimens, showed a wide variation in their reactions to the four substances—a beautiful proof of the diversity in properties of central nervous elements.

In some of the Eastern articles, the language barrier is still present, so that it is difficult to understand what the author really means, but this is here less pronounced than one has come to expect. Figures and general editing are of good quality, but a definite drawback is the absence of an index, which would have been useful even if it only included the names of chemical substances and species. In general, this book illustrates again that, at least in invertebrates, the innate properties of nerve cells are of great diversity and that one should not neglect these properties when networks based on interconnectivity are modeled to represent central nervous functions.

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A Primate Group

The Chimpanzee. Vol. 1, Anatomy, Behavior, and Diseases of Chimpanzees. G. H. BOURNE, Ed. Karger, Basel, and University Park Press, Baltimore, 1969. xii + 468 pp., illus. $28.50; by subscription, $25.

This book, the first volume of a proposed multivolume series, is in effect an account of the anatomy of the head and brain of the chimpanzee. Chapters on the growth changes in the skull, face, jaws, and teeth, on the larynx, and on the brain constitute 70 percent of the text. Apart from Schultz's general review of the skeleton, the anatomy of the chimpanzee ends at the neck.

The behavior section is composed of two short chapters, one on comparative nesting patterns of the great apes and one on research on home-raised chimpanzees. The section on disease is equally condensed, there being two shortish chapters, one on malaria and one on intestinal infections. Although not flagged in the subtitle the first two chapters, by W. C. Osman Hill on the discovery, geographic distribution, and history of the chimpanzee, are satisfyingly learned, well-written, and informative.

The book, I am afraid, is a thorough hotchpotch, unbalanced, uninspiring, and unrepresentative. The problem facing a reviewer of multi-authored volumes is to differentiate between the worth of the individual contributions and that of the total concept. There is

no doubt that most of the individual chapters have immense value as contributions to the literature of the chimpanzee. Keleman's chapter on laryngeal anatomy, although it reads as if it had been badly translated from the author's native tongue, is precise and informative. Primatologists and psychologists will relish the unequivocal, infinitely quotable statement that the anatomy of the larynx of the chimpanzee makes it entirely impossible for this animal to reproduce the phonetic elements of human speech. The lengthy chapter by Shantha and Monocha on the chimpanzee brain is a meticulous and highly specialized, if unfunctional, neuroanatomical treatise. Schultz's chapter on the chimpanzee skeleton is a welcome synthesis of the author's unique knowledge of growth and variation of the higher primates. Krogman's chapter on growth changes in the skull and dentition is an exemplary presentation of known facts, though it is not an easy read. There is inevitably some overlap between Krogman's and Schultz's contributions; one could have wished that Krogman was as up-to-date on Schultz's work (on cranial capacity, for example) as Schultz himself is. Rewell's comprehensive chapter on intestinal infections is marred by nomenclatorial inadequacies, *Macacca cynomolgus* [*sic*], *Maccaca pileatus* [*sic*], *and* (save the mark) *Seniocebus leucopus*. One might have expected that a volume deriving editorially from a major primate research establishment would have done better than this.

I find it hard to excuse the inadequacies of this book as a whole, which, from its misleading title to its nomenclatorial imperfections, does scant justice to its distinguished contributors.

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Information on Fisheries

The Encyclopedia of Marine Resources. FRANK E. FIRTH, Ed. Van Nostrand Reinhold, New York, 1969. xii + 740 pp., illus. $25.

The oceans, or "inner space," have lately attracted a degree of attention only slightly less than outer space. This interest has created a demand for easy access to information on marine resources. The present volume attempts to fill this demand; it is to be regretted that the attempt is not entirely successful.

A major shortcoming is incomplete coverage; of some 150 contributions all but about a dozen deal with fisheries and related biological subjects. Of the authors, over 70 percent come from the United States, and three-quarters of the rest are from other English-speaking countries. A book can hardly claim to be an encyclopedia of marine resources with no contributions from countries with such vast programs of research and exploitation as the U.S.S.R. and Germany and with only two from Japan.

Even within the restricted scope of the living resources of the waters around North America there are some very apparent gaps. The problems of conservation and management of overexploited stocks receive no explicit treatment, though touched on in several articles; similarly, the references to the various international fishery commissions, which are such a feature of the modern fishery scene, are very few, and sometimes erroneous; for example, neither the International Commission for the Northwest Atlantic Fisheries (ICNAF) nor the Northwest Atlantic Fisheries Commission (NEAFC, not ICNEF) employs its own biologists to evaluate the statistics.

It is probably inevitable that the contributions to this type of volume should be highly variable, but there appears to be an unnecessary amount of second-rate material. Partly this is due to the rather broad subjects of many articles, so that particular topics are touched on briefly in several places. Thus the mode of operation of an otter trawl is discussed in a paragraph or so in some half-dozen articles (cod fishery, redfish fishery, and others) but there is no detailed description of the modern trawl and its many variations. Incidentally, it is not true (as is stated on p. 582) that "it is a marvel of ingenuity that this mixture of netting and heavy doors, rollers and cables, dumped over the vessel's side en masse, lands on the bottom in proper position and functions perfectly." If this ever happened it would be a miracle.

These faults should not detract from the usefulness of many of the articles: the drawings of fishing vessels by Hitz are a pleasure to look at as well as being clear and informative; the article by Manar on Pacific fisheries—tropical and subtropical—gives clearly the information one expects from such a heading (but why no equivalent articles for Atlantic fisheries, or for the North Pacific?). A number of useful articles do not, however, make a good encyclopedia.

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Infrared in Medicine

Medical Thermography. Proceedings of a Boerhaave Course, Leiden, 1968. S. F. C. HEERMA VAN VOSS and P. THOMAS, Eds. Karger, Basel, 1969 (U.S. distributor, Phiebig, White Plains, N.Y.). viii + 224 pp., illus. Paper, $15.60. Bibliotheca Radiologica, No. 5.

Thermography, one of the newer diagnostic methods, was introduced to medicine in 1956 and since that time has received considerable attention from the medical and scientific world. Although over 200 articles concerned with this subject appear in the literature, there are only two books about it. The first book, *Thermography and Its Clinical Applications*, was published in 1964 as volume 121 of the Annals of the New York Academy of Sciences and like the second, which is being reviewed here, was a collection of papers from a conference. It differs in that most of the contributors are Americans. The contributors to the Boerhaave Course are with one exception European investigators, and this book is a reflection of current efforts on the continent in the field of infrared thermography. Like its predecessor, this volume includes discussions of history, instrumentation, technology, and clinical applications in breast diseases, vascular disturbances of the extremities, and cerebrovascular disorders.

Very little that is new can be added to the history of infrared. During the interval between conferences improved technology has developed in the form of several new instruments—notably the AGA Thermovision and the Bofors IR-Camera. In the reviewer's experience, these two instruments, which are manufactured in Sweden, are the finest equipment for rapid screening that is now available. Both are discussed in this publication. Unfortunately, the latest technological advancement, color thermography, is not included.