here many points of departure for their flights into fantasy. The already great gullibility of the reading public will be increased by the book, and some eager amateur zoologist just might be so stimulated by it that he will go out and blunder onto a new kind of animal. As the author would say, it is "not impossible."

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**Purchase Guide for Programs in Science, Mathematics, Modern Foreign Languages.** Prepared by the Council of Chief State School Officers with the assistance of Educational Facilities Laboratories, Inc., and others. Ginn, Boston, Mass., 1959. vii + 336 pp. Paper, $3.95.

Under Title 3 of the National Defense Education Act, elementary and secondary schools (grades 4 through 12) will be able to purchase equipment for science, mathematics, and foreign language classes in far greater quantities than their present abilities allow. Educational administrators, teachers, and supervisors who need assistance in selecting equipment may turn to this publication for helpful suggestions.

The *Guide* consists of a subject list of the items recommended for use in teaching biology, chemistry, elementary science, general science, physics, mathematics, and modern foreign languages. Each item suggested for use in science is classified under one of the following headings: "Basic," "Standard," or "Advanced." This classification, with one exception, is the same for mathematics: "Additional" replaces "Advanced." In the section on modern foreign languages, special functional designations are used. Definitions of these terms are included in the *Guide*. The reader should study these terms carefully in order to interpret the recommendations and intentions of this list.

Each item of the alphabetical list is coded in one or more of the subject areas. The descriptions include brief specifications which generally provide enough information to assist substantially in making a better decision for purchasing equipment. There is no mention of cost, nor is there a commercial publisher or manufacturer associated with the items.

A most interesting feature of this publication is the guidelines offered through the use of essays. In general, these essays explain and clarify the modern trends in science, mathematics, and language education. Readers who are not familiar with these ideas will enjoy the essays and will find good suggestions for improving the physical setting of instruction in the various courses. For example, the description of a modern foreign language laboratory presents a new concept in the teaching of this subject. The description includes sketches and charts illustrating the use of a language laboratory.

The final items in the *Guide* are a bibliography of books for the school library and a directory of publishers and book dealers.

The foreword points out that all of the lists are necessarily incomplete and that they are to be regarded as open at both ends. Thus, the writers of the *Purchase Guide* recognize the dangers inherent in such a project and publication. Ways must be found to keep this *Guide* up-to-date, else in only a few years, it may become actually harmful, because it might serve to perpetuate the use of old equipment and traditional method and course content. Scientists should welcome the invitation from the Council to provide this assistance on a continuing basis.

The Council of Chief State Officers is to be congratulated on this significant contribution to education. It seems almost certain that this *Purchase Guide* will contribute greatly to the success of the National Defense Education Act of 1958. It is also a most encouraging sign in that the council sought the active support of scientists and language and library experts in this effort. Evidence of this is seen in the contribution of the National Bureau of Standards, the fact that the education officers of the American Association for the Advancement of Science, the American Chemical Society, and the American Institute of Physics, and persons nominated by the American Institute of Biological Sciences and the Modern Language Association were members of the advisory Committee of Seven, and in the participation of such agencies as the School Mathematics Study Group (sponsored by the National Science Foundation).

The project was organized and administered by Edgar Fuller, executive secretary of the Council of Chief State School Officers. The foreword was written by George E. Watson, state superintendent of public instruction in Wisconsin and president of the council. As Watson states, "This *Purchase Guide* is a pioneering effort in American education."

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**Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick.** vol. 3. *Tortricidae, Olethreutidae, Noctuidae.* J. F. Gates Clarke. British Museum (Natural History), London, 1958. 600 pp. £6.

It is a pleasure to announce the appearance of volume 3 of Clarke's monumental work; volumes 1 and 2 were reviewed earlier [*Science* **122**, 1274 (1955)]. In volume 3 the species of Tortricidae and Olethreutidae are covered, as well as one species of Noctuidae. As in the previous volumes, all of the species are illustrated, and dissections show the taxonomically essential characters. The illustrations are superbly reproduced photographs, microphotographs, and, in some cases, drawings. The text comprises full bibliographic citation of the original publication and type locality, as well as the present taxonomic disposition of each species, citations of type specimens, and captions for the illustrations. The volume is produced in the same sumptuous manner as the earlier ones. It will certainly serve for a long time as the point of departure for future taxonomic studies of the families and genera treated.

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**Eskimo Prehistory in the Vicinity of Point Barrow, Alaska.** *Anthropological Papers,* vol. 47, part 1. James A. Ford. American Museum of Natural History, New York, 1959. 272 pp. Illus. + plates. $4.75.

Ford's monograph reporting on the 1931-32 and 1936 excavations, mainly on the Birnirk culture site near Point Barrow, Alaska, is a work of major importance in Arctic prehistory. Excavation of frozen refuse mounds was limited to the time during the short summer when the ground thaws. Ford

briefly recounts in his introduction some nonarcheological experiences such as participating in the harpooning of bowhead whale from a skin boat (to collect the skull), helping castrate, mark, or kill (for skins and camp meat) 12,000 reindeer, traveling 1300 miles by Model-T Ford snowmobile (to secure supplies), and taking 200-mile dogsled jaunts (to collect asphalt for winter fuel).

The bulk of the report is a detailed description of the artifacts recovered, and the reader will agree with Ford's characterization of Eskimo culture as "gadget-burdened." Of particular interest is Ford's analysis of the chronological development of harpoon-head types in the Western and Canadian arctic areas (summarized in bar charts in Figs. 113 to 117). Trait-comparisons and frequency of shared-elements with other arctic culture complexes lead Ford to agree with earlier conclusions that the Birnirk culture phase at Point Barrow was derived from the Bering Strait region to the south, and that the Thule culture of the central and eastern arctic is derived from the Birnirk. Ford is able to tie the later Point Barrow site sequence in with the tree-ring dated sites of the Kobuk River to the south, but he believes that the radiocarbon dates for the Ipiutak culture are in error (much too recent). A valuable appendix by T. D. Stewart deals with the human skeletal material recovered and makes meaningful, at last, the information earlier provided for the Point Barrow materials by Hrdlička.

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**International Directory of Radioisotopes.** vol. 1. *Unprocessed and Processed Radioisotope Preparations and Special Radiation Sources.* International Atomic Energy Agency, Vienna, Austria, 1959 (order from International Publications, 801 Third Ave., New York). xiii + 264 pp. Paper, $3.50.

For some years radioisotopes and radiation sources have found a ready use as tools for scientific research, and their application to such activities as agriculture, industry, and medicine is now steadily increasing. In view of this fact, the secretariat of the International Atomic Energy Agency has collected information on the sources of supply, nomenclature, and procedures for obtaining radioisotopes, and the prices of the radioisotopes (when this information was available). This information is made available in the *Directory,* which will be published in two volumes.

The contents of volume 1 are: "Safe handling of radioactive materials"; "Suppliers of radioisotopes" (entries are alphabetically arranged and include mailing addresses); "Additional information on radioisotope production" (information that arrived too late for use in the main section or about activities still in the planning stage); "Definition of terms"; "Information on tables"; and "Tables of radioisotopes."

Volume 2 will contain a list of the labeled compounds of carbon-14, hydrogen-3, iodine-131, phosphorous-32, and sulphur-34.

**The Open Sea: Its Natural History.** Part 2, *Fish and Fisheries.* Sir Alister Hardy. Houghton Mifflin, Boston, Mass., 1959. xiv + 322 pp. Illus. + plates. $7.50.

I don't know who will derive more pleasure from this book, the general reading public which will discover a new world, or the biologist who will find a most readable account of a vast and complex topic with which he may be, more or less, familiar. The book deals mainly with the natural history of fishes, around the British Isles. But since British fishermen go pretty far offshore to ply their trade, and since the North Sea and part of the adjoining North Atlantic are the oceanic areas about which we know the most (little as that may be still), Sir Alister has a lot to tell. With this selection of geographic area, it is only natural that the herring found on one side (chapter 3) and the plaice (chapter 8) and "Hake, haddock, cod and co." (chapter 11) found on the other side are treated in more detail than other fishes. The book deals not only with fishes and how they are caught, but as could be expected from the author of *The World of Plankton,* also with the invertebrates, whether they float in the open sea or crawl on the sea bottom. Some of the passages on the natural history of these benthic invertebrates and their relationships to the lives of fishes are every bit as fascinating as the treatment of the fishes themselves. Sir Alister belongs to the outstanding group of British biologists who have been actively concerned with the fate of the North Sea fisheries. Two chapters, one a concise and hearteningly simple treatment of 'the overfishing problem' and the other entitled "The ecologist and the future," bear witness to this concern.

A reviewer of this book's companion volume, *The World of Plankton,* wrote of Sir Alister's exuberance and contagious excitement in dealing with his subject. This is also true for the present volume, and if you feel yourself sidetracked at one or two points, you willingly follow the lead of the enthusiastic observer who says: "Now this is really interesting, come with me, I must show it to you and tell you more about it."

There is a chapter on marine mammals in which sea-going Eskimos are covered, and gigantic "sea serpents" get honorable mention.

If the book had only black-and-white drawings and photographs, it would be well illustrated. A friend who saw the original color sketches for the book says that the book's color plates have lost much in the process of reproduction. I quite believe this, but the photographs are still beautiful and set an example by their pleasing arrangement of that kind of information which only good, color pictures can convey.

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## New Books

*The Age of the World.* Moses to Darwin. Francis C. Haber. Johns Hopkins Press, Baltimore, Md., 1959. 314 pp. $5.

*The Boy Engineer.* Edward L. Throm. Golden Press, New York, 1959. 248 pp. $3.95 (juvenile). The story of engineering is traced from the time of the cave dweller to the man who builds a machine to do his work—the tools of Peking man, the great pyramids of ancient Egypt, bridges and canals, and globe-encircling rockets.

*Classic Papers in Genetics.* James A. Peters, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1959. 288 pp. Paper, $3.95.

*The Relationship between Nucleus and Cytoplasm.* Proceedings of a symposium. Academic Press, New York, 1959. 276 pp. $12. This symposium, organized by the International Society for Cell Biology, was held in Brussels, 9-13 June 1958.

*What Is Cybernetics?* G. T. Guilbaud. Translated by Valerie MacKay. Criterion Books, New York, 1959. 134 pp. $3.50.

*Zulu Journal.* Field notes of a naturalist in South Africa. Raymond B. Cowles. Univ. of California Press, Berkeley, 1959. 281 pp. $6.