somebody else. He had the power (in the words he used of another) to see "how masses can be molded so as to be made to speak." That is enough. The editors have no proper occasion to complain that he "realized only a portion of his talents." Of how many men can more be truthfully said? The editors admit that Schuyler has left us "an extensive body of architectural criticism which constitutes the most perceptive, most revealing, and most urbane commentary on American architecture. . . . " They call this "a prodigious accomplishment." I agree, and suggest that we waste no time wondering what the man would have achieved if his work had not been "a hobby instead of a vocation." The time should be spent in reading and pondering his words, for our instruction and delight.

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Classic Studies

Genetics and Evolution: Selected Papers of A. H. Sturtevant. E. B. Lewis, Ed. Freeman, San Francisco, Calif., 1961. x + 334 pp. Illus. + tables. $7.50.

Some may be surprised to find that a chronological compilation of one investigator's scientific papers can be a very effective way of instilling in the reader a sense of the excitement of discovery, a realization of the implications of this discovery, and an appreciation of the importance of these implications for broad scientific problems. Lewis's selection succeeds in doing this to a remarkable degree. Let me give but one of several possible examples. Here are gathered together the papers that (i) established the linear order of genes in the chromosome—1913; (ii) described genetic factors which reduce the amount of crossing over in particular regions of the chromosome—1917; (iii) showed these factors to be associated with chromosomal inversions—1921; (iv) described how these inversions are used as powerful analytical tools for studying the chromosome mechanics of meiosis in *Drosophila*—1936; (v) pointed out the usefulness of inversions in forming the basis of an objective evolutionary phylogeny—1936; and (vi) provided a theoretical basis for the balanced polymorphism of inversions—1938. This is fascinating reading for geneticists and other biologists as well.

Drosophila geneticists will be particularly pleased, because here between two covers lies much of our heritage of genetic methods of analysis and their application to such diverse areas of biology as animal behavior, developmental biology, chromosome mechanics, the basis of sexuality, speciation, and evolution. This heritage is so rich that a few microbial geneticists may be surprised to find the techniques they use regularly have their basis in schemes employed by Sturtevant. One gets the sobering sense of historical perspective in remembering that in 1923 Sturtevant and Morgan first used very closely linked marker genes to learn whether intra-allelic "mutations" were associated with crossing over—in this case, reversions of Bar. This volume will also serve to remind us that in 1926 Sturtevant performed a complementation test and, being unable to perform a recombination test, realized the importance of keeping these two operational genetic units separate. When he crossed the scarlet mutant of *Drosophila melanogaster* with the "scarlet" mutant of *D. simulans* and observed the scarlet phenotype in the sterile hybrid, he did not call them allelic genes, since recombination analysis could not be accomplished, but rather he proposed the term *corresponding genes*. If he had coined a more euphonious term like "correspon," one wonders if this important concept would have been remembered by more geneticists during the ensuing 30 years.

Sturtevant's papers are of more than historical interest; they formed not only the basis for broad areas of past research, but several initiated research activity being conducted at the present. The 33 papers reprinted here were selected by Lewis and assembled as a tribute to Professor Sturtevant by his colleagues and students on the occasion of his 70th birthday. Sturtevant added explanatory notes at the end of articles in which, for example, current nomenclature differs from that used in the original article, or when further work clarified a point under discussion.

At the end of the volume there is a complete list of Sturtevant's publications that will serve to show the scope of biological subjects on which Sturtevant has published. Since Lewis selected only papers dealing with fundamental genetics and evolution, the complete list reminds us that Sturtevant is one of the world authorities on the taxonomy of acalypterate flies, an avid student of the genetics of iris, and a superb naturalist. Perhaps it would have been appropriate to include his interesting paper on field and experimental studies on "social parasitism" among two species of ants belonging to different genera.

Alexander Weinstein once defined a "classic" paper as one that was often referred to but never read. With the publication of this book, there will be no excuse for having this definition apply to the truly classic studies of Sturtevant.

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Skeleton in the Laboratory

The Human Skeleton in Forensic Medicine. W. M. Krogman. Thomas, Springfield, Ill., 1961. xxvi + 337 pp. Illus. $14.

This lively book provides the opportunity for law enforcement agencies of the world to acquaint themselves with "what the bones tell and how they tell it." Anatomists and physical anthropologists also will find it informative, and it can be recommended to writers of detective fiction. In this book are brought together from the literature tables and figures pertinent to an attempt to establish the age, sex, racial category, stature, and personal identity of an unidentified skeleton, or of any part of it (except the teeth). The interesting text includes interpretation of the statistics, with sufficient anecdotal material recounted in the first person to arouse in the reader an enthusiasm for dry bones.

Krogman's view that a background in comparative osteology, human osteology, craniometry, and racial morphology is an essential qualification for the specialist is well taken. To one so qualified, the extensive reference material collated here will be fully appreciated; it can best serve as a guide to the study of the subject, as well as a stimulus for its further development.

Throughout the book one is reminded of the variability among skeletons and warned against expecting the condition of a single unknown to fit the mean of a series for, as is so aptly stated,

"there is no such thing as an average individual." In view of this emphasis, it is puzzling to find that Krogman recommends "a check by the 'general formulae' of Dupertuis and Haddon" when estimating stature from long limb bones. In addition to the references he cited, in which the pitfalls of general formulae are discussed, another, by Keen, may be added [*J. Forensic Med.* **2**, 190 (1955)].

The book is well turned out. The very occasional misprint, misspelling, and misstatement do not obscure the meaning. However, in Figs. 3, 4, and 7 the labels are illegible without the aid of a magnifying glass.

Krogman implies that a similar book on teeth is in preparation. Readers will hope for its early appearance, since no one is better qualified to write it than Krogman—ever a student of anatomy and a bibliographer, for years a professor of physical anthropology, and when help is needed, an expert in identification.

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Nontechnical Earth Science

Larousse Encyclopedia of the Earth. Leon Bertin. Translated from *La Terre, Notre Planete* (Larousse, Paris) by R. Bradshaw and Mary M. Owen. Prometheus Press, New York, 1961. 419 pp. Illus. $15.

This exceptionally attractive and informative book, prepared for English-speaking readers from the well-received French original, has been extensively revised and has a foreword by Sir Vivian Fuchs and an introduction by Carroll Lane Fenton. Text is blended in unusual fashion with illustrations, of which there are more than 500, largely halftones but including a number of diagrams and maps. Twenty fine, full-page color plates are distributed evenly through the book. The page size, 8⅛ by 11⅜ inches, adds much to the effectiveness of many illustrations and permits the inclusion of considerable text with the related figures. Only exceptional pages are devoted solely to text. The figures are not numbered, but nearly all have explanatory captions.

The book, essentially a nontechnical treatment of earth science, will have a strong appeal to many people who wish to understand what they see in the outdoor world. Subject matter is presented under two main headings, "The present" and "The past." About three-fourths of the book is devoted to the first division, which considers physical features and processes and the exploitation of natural resources by man. The remaining sections are concerned with geologic history and the records of life.

Readers who are mainly interested in descriptive treatment of geologic exhibits will find abundant source material, with a wide geographic range, in the photographs and related text. But the text also outlines fundamental problems of the science, with brief statements of the present status in continuing attempts to find the solutions—for example, of the basic causes of recurring widespread glaciation, of volcanic activity, and of the strong deformation found in mountain belts. An up-to-date account of Operation Mohole, the project designed to section the earth's crust by deep drilling in the Pacific floor, lends interest to the outline of ideas on structure of the earth's interior.

About a fourth of the volume is devoted to the topic "Earth in the service of man." Ores and mining; the occurrence and recovery of coal, oil, and natural gas; the development of hydroelectric power; and future sources of energy are practical subjects about which the average citizen has too little information. He will find the illustrations in this section well chosen to supplement the text outlining the historical development and modern operations in recovering mineral wealth and in harnessing various forms of energy.

In the section that treats geologic history, a systematic account of physical events is followed by an outline of the development of life through the ages. For the physical history, evidence relating to each major division of time is cited from North America, Britain, France, Australia, and New Zealand, with some data from other areas. The section on paleontology outlines the evolution of living things through geologic eras and closes with an account of human prehistory. Modern methods of time measurement are explained briefly.

To present the wealth of detail contained in this book without some minor weaknesses is hardly possible. Critical readers will find the diagram illustrating the principle of isostasy, on page 178, sadly distorted in scale, and they will wish for some indication of dimensions in a sketch such as that showing igneous bodies, on page 155. But these are minutiae. The book as a whole is an excellent source of information for readers with normal curiosity about the earth and its history.

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Protective Coatings

Anodic Oxide Films. L. Young. Academic Press, New York, 1961. xiii + 377 pp. Illus. $11.

In this book Young presents a thorough, concise, critical, and well-written summary of our current knowledge of the formation, structure, and properties of anodic films. To my knowledge, it is the first book to cover this subject, and it is certainly the only one published in recent years. While the main purpose is to discuss the science of anodic film formation, the author has included brief discussions of some of the practical aspects of the various types of films, which are used in batteries and electrolytic capacitors.

Most anodic films may be classified into two types. "Barrier films," the first type, are formed on "valve metals"; they are uniform, insoluble in the electrolytic solution in which they are grown, less than 1 micron thick, and they grow by high-field ion transport. About three-quarters of the book is devoted to such films; Young's own very extensive studies have been made principally in this area. The sections dealing with barrier films are uniformly excellent, and the book will be most useful to those interested in such films.

The second type of anodic film is not uniform; it is formed in an electrolytic solution in which it is partially soluble, and it may be as thick as 0.1 millimeter. The author does not present any generally valid picture of the formation, structure, and properties of such films, and the reader is left with a group of separate stories, one for each metal, and with the implication that these films are barrier films of poor quality. Actually the growth of nonbarrier films is influenced, in a