Readings in Botany

Selected Botanical Papers. Irving William Knobloch, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1963. xiv + 311 pp. Paper, $3.95.

This collection consists of 58 selected papers arranged in 18 categories; the editor has provided a brief introduction, a paragraph or two, for each paper. The selection covers almost the entire spectrum of botany and even includes some basic aspects of biology. Several of the papers were chosen from the older and historically important works —from Theophrastos, Gnew, Ingen-Housz, Linnaeus, von Humboldt, Asa Gray, and others. Most, however, were written in the 20th century. The collection contains some technical works, but the majority of the items emphasize the more general aspects of the science—the sort of papers that botanists prepare as presidential addresses or for symposia. Many items have been condensed somewhat by omitting certain passages, but they have survived the operation well and seem not to have suffered in the process.

The book is aimed directly at the beginning student of botany, and each of the papers is followed by a series of questions for the student. The editor calls attention to the fact that, for most students, the first course in botany is also the last. A survey of large midwestern colleges showed that 82 percent of those who took an introductory course in botany never pursued the subject further. Beginning botany, the editor points out, should be made useful to those who study it, and it should not be considered merely an introductory course for future professionals. Important papers, such as those in this collection, should, he hopes, add to the educational background of those whose interests lie elsewhere.

The papers as a whole seem to have been selected exceptionally well, despite the necessary omission of many excellent items. The book as it stands should aid the educational process of any student who becomes acquainted with it. A very minor exception must be taken, however, to an excerpt from *On Plants* which is ascribed by the editor (following many precedents) to Aristotle. True, the selection follows the peripatetic tradition, but almost certainly it was not written by Aristotle. Historians of science are almost unanimous in ascribing it to Nicolas of Damascus, who lived three centuries later.

The emphasis of *Selected Botanical Papers*, however, is upon the great modern and very recent discoveries, such as radioactive carbon, the nature of the gene, genetic transduction, the possibilities of space biology, Arctic botany, and tree-ring dating. I am convinced that the contents of this collection should be in the repertory of every broadly educated man.

CONWAY ZIRKLE
Department of Botany,
University of Pennsylvania

Early Man and Archeology

The Prehistory of East Africa. Sonia Cole. Macmillan, New York, ed. 2, 1963. 382 pp. Illus. $7.95.

Sonia Cole has produced a fully revised edition of her *Prehistory of East Africa*, first published in 1954 in England as a Penguin paperback. This new edition is updated to include the results of varied prehistoric and protohistoric archeological studies carried out in eastern Africa during the last decade. Consequently, it is the single, and the best, available summary of early man and archeology in one of the most fascinating regions of the world. The coverage includes principally Kenya, Uganda, and Tanganyika, the several countries of the Horn (Ethiopia and Somalia), and the Sudan. However, the discussion is placed in broader perspective throughout, with reference to other parts of Africa, both central and southern, as well as to the vast Saharan zone.

The scope of the book is broad, with initial chapters on the country and its peoples, the geographical setting, and the nature of the regional Pleistocene stratigraphic and faunal successions, including the evidence for past climatic changes. In the latter case, some important work is still in progress and some of the author's statements (for example, those on the existence of a major time gap separating Beds I and II at Olduvai Gorge and those about the nature and magnitude of changes in Pleistocene mammal faunas) already need revision. The remainder of the book is essentially chronological, with chapters on the Tertiary higher primates, their habitats and evolutionary significance; very early hominids (genus *Australopithecus*) of the early Pleistocene, their age and ecological adjustments; the peoples of the mid-Pleistocene, their distribution and cultural adaptations; the varied cultural patterns of late Pleistocene peoples; artistic and other cultural manifestations of the post-Pleistocene hunter-gatherers; and discussions of subsequent cultural adaptations and inferred population shifts prior to, and attendant upon, the introduction of food production and animal domestication and the introduction of iron-working.

Sonia Cole is a most skillful writer, and, while the intricacies of stone artifact typology may seem tedious or the meaning of pottery types and their distribution may seem obscure, even the nonarcheologist, with an interest in Africa or the study of man's past, will find that the story she competently unfolds makes interesting reading.

F. CLARK HOWELL
Department of Anthropology,
University of Chicago

Inorganic Chemistry

Inorganic Thermogravimetric Analysis. Clement Duval. Translated from the French by Ralph E. Oesper. Elsevier, New York, ed. 2, 1963. xvi + 722 pp. Illus. $22.

The first edition of this work, published in 1953, was a monograph in which the author and his co-worker described their studies of the thermal behavior of some thousand or more inorganic compounds. The thermograms (plots of sample weight as a function of temperature) that the author provided have been of considerable use to the analytical and inorganic chemist; among other things, these data have certainly led to a more rational basis for the heat treatment of precipitates in gravimetric analyses.

The new edition of *Inorganic Thermogravimetric Analysis* is appreciably larger than the original, owing to the impressive number of contributions to the field made by the author and by many others during the period from 1953 to 1961. According to the author, data for some 5000 compounds of 79 elements are given. Unfortunately, it was not possible to reproduce the thermolysis curves for the compounds studied; only written descriptions of