which is based on folkloristic, ethnonymic, material cultural, and archival evidence.

A concluding article (by Dolgikh and Levin) relates the ethnogenetic questions to distribution and acculturation of peoples. Their essay on the transition of Siberian peoples from kin to territorial groupings points to a development, based on the studies of ethnogenesis, which is of both theoretical and practical relevance. During the early period of Russian contact, the indigenous peoples were reorganized on the basis of "administrative clans," which were not always, or perhaps even usually, related to their aboriginal organization. In the light of the investigations carried out in recent decades, faithfully reported in this volume, it is clear that the problem of local territorial groupings of Siberian peoples as administrative units during the Tsarist period is to be re-examined, as is now being done. Out of the research, the problem of consanguineal groupings, linguistic relationships of peoples, and ethnic origins is being clarified. These questions of theoretical purview can only be developed through the kind of painstaking research that is reported in this volume.

The work is well translated and edited, and difficulties of jargon, and of multilingual transcription and transliteration, have been overcome. Numerous maps, illustrations, and a glossary are included; the price of the volume is low. Those responsible for the realization of the series and of this volume are to be congratulated.

LAWRENCE KRADER
Department of Anthropology, American University, Washington, D.C.

Review of Related Fields

Researches on Meteorites. Carleton B. Moore, Ed. Wiley, New York, 1962. xii + 277 pp. Illus. $7.

This volume contains 12 papers that were presented at a symposium on meteoritics held in March 1961. The purpose of the papers was to review and discuss "current problems in meteoritics and those which will probably be answered by future research on meteorites." A specific attempt was made to include as many as possible of the various disciplines that contribute to this field, and metallurgy, nuclear chemistry and physics, mineralogy, petrology, and geophysics were represented.

It was intended, according to the editor's preface, that "the essays generally review the current status of research in each area, describe the author's recent work, and contain a pertinent bibliography." Unfortunately, not all the papers conform to this model. Instead, they range from intensive reports of original research, which would perhaps have been better published in one of the current journals (at least one has been, and is reprinted in this book), through a short statement of preliminary work, to the more rounded review papers.

The first paper, by E. L. Krinov, contains a condensed history and an overall definition of the subject. P. Signer and A. O. Nier present a chapter, which contains a mass of new data, on cosmic-ray–produced rare gases in iron meteorites. The chapter by P. S. Goel and the one that follows (by J. R. Arnold, M. Honda, and D. Lal) are detailed studies of models which attempt to correlate and interpret data on cosmic-ray–produced stable and radioactive nuclides in the meteorites. To conclude the nuclear portion of the book, Goel and T. P. Kohman present some preliminary data on the detection of carbon-14 in a stone and in an iron meteorite.

T. B. Massalski gives a descriptive review of the role of metallurgy in the study of iron meteorites. R. E. Maringer and G. K. Manning carry this aspect further with a hermeneutic survey of observed deformation and thermal alterations in the irons. B. Mason lists a summary compilation of the minerals found in meteorites. C. B. Moore discusses the relationship of meteoritic evolution with the experimental petrochemistry of the achondrites. J. F. Lovering reviews nonimpartially the available evidence for the possible coexistence of chondritic, achondritic, and iron meteorites in a parent body and the influence of this postulated association on evolutionary theories. A. E. Ringwood presents a review of the chondritic earth model, and H. H. Nininger closes with an anecdotal description of the problems involved in meteoritic material recovery.

The book itself was obviously rushed into print, presumably utilizing a photolithographic reproduction process. The text is not hard to read, but some of the graphs are mildly illegible. A lack of proofreading is painfully obvious; captions for some of the graphs (see page 170) contain no identification of the various points, circles, squares, and question marks. The text abounds in typographical errors, some of which, aside from the obvious misspellings, may be confusing—for example, "the average chondrite contains only 13 per cent of its mass" (page 201). There are also occasional references to such things as "A" and "B sub-groups" (page 208) which are nowhere defined.

These faults, while distracting, are relatively minor. The main objection to the book is that much of it is probably too detailed to fulfill its stated purpose of providing scientists "not actively engaged in meteorite work with an outline of problems of current interest," although it does fulfill its alternate promise of "enlightening (meteoritic) workers of the activity in fields related to their own."

DAVID E. FISHER
Department of Engineering Physics, and Center for Radiophysics and Space Research, Cornell University

Concepts and Investigations

Biochemical Mechanisms. L. L. Ingraham. Wiley, New York, 1962. x + 108 pp. Illus. $5.75.

Many fields of science have evolved from a descriptive and ground-breaking period to the stage of development at which the scientist can and must ask questions about the underlying nature of the phenomena he observes. Organic chemistry, whose synthetic aspects were brilliantly developed in the latter part of the 19th and the first part of the 20th centuries, has now progressed to the point where study of the mechanisms of organic reactions shares in research efforts along with the synthesis of new compounds. Biochemistry, and particularly enzyme chemistry, has developed to the stage that makes it possible and desirable to be concerned about the mechanisms by which these complicated reactions occur. The present book is the first of a number that will certainly appear to fill the need for a consideration of biochemical or enzymatic mechanisms.

Occasionally such a pioneering book will define the field, discuss its manifold complications and possibilities, and predict the future work in it. Such a book in the field of organic reaction mechanisms is L. P. Hammett's classic work, *Physical Organic Chemistry*. The