Book Reviews

Soviet Anthropological Study of Arctic Areas

Studies in Siberian Ethnogenesis. Anthropology of the North: Translations from Russian Sources, No. 2. H. N. Michael, Ed. Published for the Arctic Institute of North America. University of Toronto Press, Toronto, Canada, 1962. vi + 313 pp. Illus. Paper, $3.50.

Previous activities of the Arctic Institute of North America, a joint Canadian-American venture in the scientific study of the polar north, have been concentrated on the New World, chiefly for reasons of expediency. But a recent grant from the National Science Foundation has enabled the Institute to undertake a major program of translating Soviet publications concerned with anthropological research on the Arctic. Russian work, during both the Soviet and the pre-Soviet periods, is of great significance, in both quality and quantity. The Arctic is a unitary area, and it should be studied simultaneously from all sides. The institutions that have made the present series possible have contributed importantly to a program of balanced research into the area.

The present volume, on the ethnogenesis of contemporary Siberian peoples, was preceded by the Institute's translation of a volume by S. I. Rudenko, on the archeology of the Bering Sea area and the problem of Eskimo origins [reviewed in *Science* **134**, 999 (1961)]. Anticipated future publications in the series will include M. G. Levin's *Ethnic Anthropology*, which is concerned with problems of ethnogenesis of eastern Siberia.

If the origins of historically reported peoples figure heavily in the series, it is because this reflects an important trend in Soviet research. The Rudenko volume marshaled evidence on Eskimo ethnogenesis from archeological investigation; the Levin volume discusses Gilyak, Manchu-Tungusic, Yukagir, Eskimo, Chukchi, Koryak Kamchadal, and Ainu origins from the viewpoint of comparative somatology. Although ethnogenesis figures importantly in Soviet writing, the Institute's translations will not deal only with this problem; the series will also include volumes on shamanism, archeology other than that of historically reported peoples, ethnology, and ethnohistory other than ethnogenesis.

The present volume contains translations of 17 articles, published during the 1950's by anthropologists in the Soviet Union, on questions of ethnogenesis of northern Eurasia. An attempt was made in selecting the articles to cover all parts of Siberia and neighboring parts of European Russia, but not every single ethnic group. The articles illustrate the use of a variety of methods and sources in approaches to the problem of ethnogenesis, which employ the evidence of ethnohistory; technology, art, and archeology; somatology; linguistics and philology; comparative social organization; and archival and folkloristic sources. The total scope of Soviet study can thus be seen. Moreover, ethnogenetic research, the results of which have in part been reflected in this volume, has been made the subject of a number of so-called complex expeditions—that is, fieldwork involving the collaboration of specialists from different subdisciplines of anthropology: archeology, human biology, folklore, linguistics, material culture.

The volume will undoubtedly be interesting to students of Eurasian anthropology, Arctic specialists, those who follow cultural relations of the Old and New worlds, students of comparative ethnology and the methods of culture history generally, and (more widely) to those who are curious about the current state of Soviet thought. The last consideration is not without importance, in view of the type of question often put to those with knowledge of the Russian language. Here, then, is a volume strong both in factual detail and in methodology. The editor, in the interests of scientific relevance, omitted certain passages of the original texts (the deletions are indicated in the translation); in these passages (at the beginnings of the articles), the authors took issue with the ethnological theories of N. Ya. Marr, a controversy of little interest outside the Soviet Union (or, for that matter, within the Soviet Union today), or they praised the ethnological theories of Stalin, of which the same may be said.

The first five articles deal with the ethnogenesis, historical development, and affiliation of the peoples of northwestern Yakutia. The discussion of the problem is sharp, and it is clear from the accompanying remarks that not only scientific issues but also a practical question are at stake: Do the territorial boundaries of Yakutia include the Olenek and Anabar river basins? The indigenous population is Yakut-speaking, but they may have spoken a Tungusic language before becoming Yakutized; also, a stereotyped notion of the Yakut as cattle-breeders and of Tungus as reindeer-breeders may have interfered with the identification of these peoples. According to recent maps, the territory of the Olenek and Anabar river basins has been retained by Yakutia, presumably on the basis of the anthropological data.

An equally lively debate on the origin of the Buryats of southern Siberia is undertaken by B. O. Dolgikh and S. A. Tokarev. The Buryats had no name in common at the time of Russian contact in the 17th century. Dolgikh argues that this absence of a common name is related to an absence of ethnic identity. Tokarev sees no connection between consciousness of a common name and consciousness of common kind. Dolgikh's mechanistic association of ethnonym and conscious ethnic unity is less tenable than Tokarev's view, namely that, in the light of available evidence, the unity of the Burvat people in connection with their origin as a people predates the period of Russian contact by three to four centuries. Despite his fate in this controversy, Dolgikh appears to be the outstanding student of the ethnogenesis of Siberian peoples, based on records, including archives. Two of his papers in this volume should be noted: his excellent contributions concerning the Yakutian question (previously mentioned) and his long article on the origin of the Nganasans, a Uralic-speaking people,

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.

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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."

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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