tions are dominant over specific economic calculations" (pp. 69 and 70) in tribal economics is effectively made, the chapter as a whole lacks coherence. The question of the applicability to tribal societies of the concepts of modern economics is raised but left hanging.

The concluding chapter deals with stability and change in custom. Gluckman's approach allows him to say some interesting things about stability but virtually nothing about change. He and his fellow social anthropologists have done brilliant work in the study of system maintenance. But the systems they have studied have been or will be changing radically, and their conceptual framework does not equip Gluckman and his associates to describe or analyze processes of change.

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On Selecting Works for Translation and Publication

R. F. Hecker, whose name is usually transliterated Gekker, is one of the world's foremost paleoecologists. His own work and that of his staff in the Paleoecological Laboratory, Paleontological Institute, Academy of Sciences of the U.S.S.R., have spearheaded the ecological revolution that is sweeping through paleontology and stratigraphy. British authors such as D. V. Ager and American authors such as H. S. Ladd freely acknowledge their debt to their Russian colleagues. American paleontologists have been eager to have the Russian paleoecological studies made more accessible to themselves and their students. The proposal to translate some work of Hecker's must have moved through the American Geological Institute and the National Science Foundation like a high-velocity snowball, collecting enthusiastic support at every turn. Almost any work of Hecker's would serve, presumably, but to anyone illiterate in Russian, the *Vvedeniye v Paleoekologiyu* (Moscow, 1957), with its indicated wide scope and fascinating-looking illustrations, must have seemed an ideal choice. M. K. Elias and R. C. Moore, both distinguished paleoecologists, agreed to supervise the translation, made by one (or perhaps all) of the anonymous employees of Scripta Technica. The translation, **Introduction to Paleoecology** (Elsevier, New York, 1965. 176 pp., $7.50), is now published, by the American branch of a respected Dutch firm.

If the editors were disappointed in the work when they read it in English, they do not say so, but a reviewer has less compunction. It turns out to be a textbook, evidently addressed to high school sophomores, for, apart from a useful bibliography, few others will find much in it that they did not know before. As a textbook, it is remarkably uneven.

The student is advised at some length to sketch everything he sees, using pencils of different hardness to render contrast, and not to forget that a hand-held camera is apt to move after the object is focused on ground glass. He is solemnly informed that a paleoecologist should aim at "careful collecting of specimens particularly valuable from [a] paleoecological . . . point of view." The fascinating illustrations prove to be entirely didactic, designed to show how reports should be illustrated, but they are so slick and conceal so much evidential detail that their effect is to bemuse rather than to instruct. Suggestions, which are actually exhortations, are given for setting up paleoecological exhibits and for making national monuments of interesting outcrops. In the chapter on preparing materials, the student is given no hint of proper or useful laboratory procedures, but is told "to conduct, first of all, a detailed morphofunctional analysis of fossil remains," then to separate individual and developmental features from ecological and geographical variables, then to integrate the data with those of lithology, and finally to remember that there are two sorts of ecology, autecology and synecology, which must be separated, because the "total normally exceeds the ability of any one person."

As to the nature of the subject, or why should I raise my boy to be a paleoecologist, the reader is given a heavy account, of the sort that used to be called Teutonic, of problems, terminology, and concepts. The familiar biocoenosis-thanatocoenosis dichotomy is described, rather than discussed, with few suggestions thrown out about how one gets to the one from the other. Careful study of the maps and sections will occasionally reveal a coherent paleoecological reconstruction, *together with some of the evidence on which it is based*, but the relation between fact and hypothesis, so essential in a textbook, is generally replaced in the text itself by abstract statements, admonishments, and little glimpses of the obvious. Throughout, the author continually *asserts*, but neglects to *show*, that paleoecology is interesting and important, that it helps to solve geologic problems, but that it has unsolved problems of its own. The nearest approach to a teaching paradigm is an apparently systematic matching of observations and inferences that are said to permit a reconstruction of the Jurassic lake of Kara-Tau; but the data are given in tabular form, many of the observations are so loosely stated that they do not support the inferences, graphic aids are conspicuously missing here, and there is no mention of the subject in the text.

As a teacher, Hecker has clearly developed one kind of expository skill; however, draftsmanship and a sense of visual design complement but do not substitute for clear and imaginative writing. Can this book be used by other teachers, even in Russia? It is possible that Russian undergraduates are more docile (literally, teachable) than American undergraduates, or that the teacher in Omsk is more able to use authoritarian pronouncements from the naitonal capital than the teacher in Moscow, Idaho, but I doubt it. I assume, without any special knowledge, that Russians can see the defects of this book as easily as I, and use it for its pictures or not at all. Hecker, meanwhile, is insulated by his eminence from any feedback that might improve the book and continues to advance the subject at a quite different level.

It is refreshing to find that great scholars, even Russian ones, are not necessarily great teachers. But I have a free copy of the book; how many American readers will want to spend $7.50 to be disappointed for themselves? I have said that the book must have seemed ideal to anyone illiterate in Russian. To this typically modest ploy of the all-wise reviewer I can add another—the translation is exact and literal, "median Carboniferous" (p. 58) being the only translator's bobble I could find. Let me now drop the mask, for I know not one word of Russian, yet I believe that the English translation was unnecessary, and its publication, once the fact was discovered, an extravagance bordering on a swindle.

I have had in my possession since

1961 a work by R. F. Hecker, entitled *Bases de Paleoecologie* (Editions Technip, Paris, 1960). It is No. 44 of the "Annales du Service d'Information Géologiques," sponsored by the Bureau de Recherches Géologiques et Minières. (The publishers are at 2, rue de Lubeck, Paris XVI.) It is of course the same work, and the accuracy of both translations is sufficiently attested by comparing the English and the French (translators from Russian to English presumably not needing a French trot, as I would). Needless to say, Hecker (1960) is not cited by Hecker (1965).

One expects a commercial publisher to be disingenuous, but the august sponsorship of the English edition raises disturbing questions. Did the sponsors—all of them—simply overlook the French edition? Or do they believe American geologists can read no language but their own?

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Body Composition

Human Body Composition: Approaches and Applications (Pergamon, New York, 1965. 323 pp., $12), edited by Josef Brožek, is a collection of papers presented at an international conference held in London (August, 1963); the volume is organized in three sections: Approaches; Applications in Normal Man; and Applications to the Study of Disease. For the benefit of those who have not followed the growth of interest in this field during the past 25 years, it should be explained that, in the lexicon of the investigator group principally responsible for this advance, body composition has a special meaning. Like Jack Spratt and his wife, these investigators concern themselves mainly with the "fat" and the "lean." A variety of ingenious methods, including (i) techniques for determining specific gravity, (ii) use of skin-fold measurements, (iii) comparison by scoring the results of radiographic examinations, (iv) dilution of body water with tritium or deuterium oxide, and (v) use of potassium-40 measurements made in shielded, total-body counting facilities, have been invoked to give information on fat-free weight, body fat, and lean body mass.

This volume reports the results obtained by using these methods to test such biological parameters as sex, growth and aging, effects of exercise, nutritional abnormalities, and degenerative disease. Each section begins with a review written by the editor, Josef Brožek. Indeed, Brožek writes one-third of the book. However, since he is knowledgeable and speaks with authority, the book benefits substantially from his contributions. There is material that will interest scientists from a variety of professional disciplines: anthropology, psychology, biochemistry, agriculture, physiology, physical culture, internal medicine, pediatrics, and anatomy.

As a physiologist, I found the following contributions particularly stimulating: (i) the description and discussion by Widdowsen (who is not of the Jack Spratt school) of the results of chemical analysis of complete fetal, infant, and adult cadavers; (ii) the thoughtful paper in which Durnin considers somatic standards of reference for such physiological variables as energy metabolism and arrives at what must have been an unpopular conclusion that body weight is the best simple reference at present; (iii) Passmore's discussion of body stores of fat, carbohydrate, protein, water, certain electrolytes, and selected vitamins with a consideration of survival time under circumstances of possible daily loss rates of each material and no intake; (iv) and several papers that report use of the multiple dilutional (isotope injection) techniques, pioneered by Moore, used to define body compartments such as intravascular phase, extracellular water, and intracellular water, and to estimate fat-free body, total body fat, and skeletal weight.

In general the level of writing is excellent, with the exception of two brief papers that are cryptic and poorly organized. A quite complete list of literature references is provided. Altogether, the book presents itself as a first-rate review of the considerable strides that have been made in this field. The gaps in information are understandable because of the great technical difficulties encountered in attempting to find out what goes on inside man without destroying the living organism. Those who believe that the proper study of mankind is man will want to add this book to their scientific library.

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Botany

Weeds of the Northern United States and Canada (Warne, New York, 1965. 254 pp., $3.95) by F. R. Montgomery is an attractive and compact book that is suitable for use in the field. It provides descriptions, habitat, and general distribution of approximately 340 plants. Some 58 additional plants are listed as cultivated escapes or occasional weeds in certain areas, but are not discussed. The majority of the plants described are introductions from Europe or Asia but are now naturalized and widespread across Canada and the northern United States. All the provinces of Canada and all the States north of the 36th parallel, except California, are covered.

The lifelike drawings, in scale, of about 255 plants will be a great aid in identification. The fact that each drawing is placed on the page opposite its description or on the page with the description adds considerably to its usefulness. Unfortunately a number of the illustrations are poorly reproduced. Parts of some drawings are faint to almost indistinct, particularly the leaves.

The simplified identification keys have explicit directions for their use. The flowering families are first separated into four groups, based on leaf arrangement. This is a definite improvement over flower color, the character very commonly used in the flower keys of popular books. Another unusual feature, except in manuals, is a key to the weeds in each family (where more than two genera belong in the same family). These keys are found throughout the text at the beginning of the family. In general, the identification value of keys to a small number of plants from a total of several thousand plants present is debatable, but these keys also add to the descriptions.

This book, written in easily understood terms and intended for laymen, is highly recommended to anyone who is interested in knowing the common uncultivated plants that grow all about us—in gardens, lawns, vacant lots, paths, city streets, roadsides, orchards, and on croplands, for example. The wide distribution of the plants described, the consistent use of their scientific names, and the accurate (if brief) descriptions make this book also a very quick and useful reference for taxonomists. In addition, owing to the excellence of the keys, particularly for