

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

beginners, and its informative introduction, glossary, overall accuracy, and general arrangement, it is suitable for use as a text or supplementary text for courses in weed identification, field botany, or local flora.

The professional weed specialist will regret the scarcity of seed drawings and descriptions; the lack of emphasis on the economically significant, primary noxious or prohibited weeds; and the author's failure to consult the standardized list of common names for weeds occurring in the United States and Canada, published by the Weed Society of America (1962).

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### "Whither Medicine"

In the first chapter of this excellent book, **Medicine in Transition** (University of Chicago Press, Chicago, 1965. 232 pp., \$5.95), the author, Iago Galdston, states that "Whither Medicine" is the goal of its exploration; however the book contains much material that is concerned with "whence" and "where." There are excellent presentations of the historical background of the socioeconomic aspects of medicine as well as of the background of professional, scientific, and educational problems. The discussions are balanced, temperate, and well documented. The sections on the cost of medical care, the pharmaceutical industry, various methods of prepayment, and the role of the modern hospital show thoughtful study and excellent comprehension of the complexities that make dogmatism inappropriate.

The dangers inherent in the British National Health Service of the "conversion of medical practise into the pursuit of a vocation rather than that of a profession" are convincingly explained. Nevertheless the author is clearly aware of the need for some solutions that will increase the availability of good medical care for those who cannot afford it. He quite properly urges that alterations in the methods of distributing medical services be evolutionary rather than abrupt and radical as was true in England. This warning is based on recognition of the rapid changes occurring in our socioeconomic environment, changes that might make extrapolation tend to be erroneous. Soundly, he ad-

vises us to "work toward change by short range trials . . . successive steps, trial and experiments," avoiding the dangers of impatience. Furthermore, constant new approaches to diagnosis and treatment plus changing patterns of practice are unpredictable in their effect, good or bad, on costs and methods of distribution of patient care.

As the author describes the slow transition from "Hippocratic medicine" to what he designates as "physiological medicine," there is slight overemphasis on the influence of changing ecology and relatively inadequate recognition of the fact that the basic change in clinical medicine is that, at last, it has become a science. Observation is now enlightened by understanding with the application of the philosophy of science to human biology. For example, psychosomatic medicine is essentially a scientific rather than a humanistic development, and it thereby gives the necessary solid foundation for the expression of compassion. It is disappointing, even shocking, to find the author quoting a statement suggesting that it would be a happy thing "to find the top man in a medical school class yearning to be the best physician *rather than* the best scientist"; shades of the horse and buggy.

No one would deny the influence of increasing affluence on community health, but, with respect to the care of patients, the outstanding component responsible for its extraordinary improvement is derived from the fact that the physician has become scientifically oriented rather than remaining merely a bedside comforter. This change in his intellectual attitude is even more important than his new tools and knowledge, indeed the latter would be useless, even dangerous, in the absence of a scientifically trained mind.

The chapter on reorientation in medical education evokes more negative responses than any other section. It is surprising in its lack of quotations from teachers of internal medicine, which is the keystone of medical education. The best of many quotations is Wolf's statement that what we need is not curriculum change as much as a "complete reorientation of our ideas of what constitutes medical education." It is not content, not facts, that are deficient in medical education, it is lack of training in disciplined intellectual power that would permit the physician to integrate his facts so that he can use them with maximum critique.

There is no space to refute the suggestion that there should be two kinds of medical training—one for practitioners, the other for those who will pursue a research or academic career. This idea is wholly unacceptable to me, and I have spent a lifetime teaching internal medicine. Increase in well-trained paramedical personnel may be necessary, but the quality of the training must be as high for a physician who will be a practitioner as that for the one who will be an investigator, never forgetting that diagnosis is research and treatment is experiment.

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### Ecology of the Seashore

It is difficult to write still another book about life on British shores without sounding too much like others that have gone before, but in **Life on the Sea-Shore** (Harvard University Press, Cambridge, Mass., 1965. 163 pp., \$3) A. J. Southward has succeeded by approaching the subject with a strong seasoning of ecology. The book is not a guidebook to our little friends of the shore, but a handbook of procedures for studying what is going on at the seashore, as well as an introduction to shore ecology. There are numerous hints and suggestions, many of them with practical advice on procedures, about the problems that may be studied by beginning students and class groups on trips to the seaside. The book is intended for the various levels of the British sixth form, that elusive entity which combines the terminal and preparatory phases of our better junior colleges with the final year of high schools. Many of our instructors at these levels are unaware of the procedures described, and this book will be useful to them as well as to their students; it should inspire more meaningful study of the seashore. The problems and principles are universal to all shores (the book treats the environments of rocky, sandy and muddy shores, and estuaries as well as general adaptations to shore life), and the book will therefore be useful as a basic introduction to any shore.

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