The book is divided into two sections. The first deals with general considerations of mosquito anatomy, biology, zoogeography, and disease relationships. The second and most extensive section consists of a taxonomic treatment of genera and species within the area. Subfamilies and genera are characterized, and diagnostic keys to the adult females and fourth stage larvae are provided for most groups. An illustrated résumé of the salient anatomical features of the adult and larva of each species is presented, along with a concise summary of biology and distribution.

Considering the general editorial excellence of the work, it is unfortunate that the format adopted for synonymy is not consistent with standard usage and is therefore frequently misleading. The description of one new species assures for this book a permanent place in the taxonomic literature. Students of the mosquito fauna of the Australian region will find this work a valuable reference, but, owing to the restricted area considered, the book will be of limited value to culicidologists interested in other geographical regions.

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Space Science: A Curious Conglomeration

Over the past few years we have witnessed the emergence of a new subject area called "space science," a curious conglomeration of topics having one thing in common: the utilization of data obtained in space. Yet this common element exerts an exceedingly strong coalescing influence on the subjects involved—partly because of the enormity of the costs, which overshadow other factors, and partly because of the novel technology, which bears importantly on all disciplines alike. This somewhat artificial merging of disciplines is reflected in the establishment of institutes or even departments of space science at universities and the appearance of books, such as this one, **Introduction to Space Science** (Gordon and Breach, New York, 1965. 934 pp.), edited by Wilmot N. Hess, intended to survey topics that might depend heavily on space measurements.

Books of this kind undoubtedly fill a need, as there are many people who will want to study a large part of space science—for example, students who know they want to enter the field of space science but are not quite sure about the particular subdivision. And many research workers will find it convenient to have timely reviews of these interrelated subjects in a single volume.

The 23 separate chapters were written by scientific staff members of the Goddard Space Flight Center of NASA. The book is divided into three parts, covering, respectively, the earth and its environment; space (for example, the interplanetary medium, cosmic rays, orbital mechanics, and man in space); and astronomy of the solar system and beyond. Space observations have had little influence on most of the field covered by the last part, and, with the notable exceptions of two articles "The sun" and "Space astronomy," these nine chapters emphasize theory and classical observations.

The background physics required is mostly at the intermediate college level, but some chapters are significantly more advanced. A few authors have carefully derived the fundamental concepts in the subject being discussed. But too often the fundamentals are "pulled out of the hat" and merely quoted, while recent observations are discussed at length. Reference lists have been intentionally limited, with the idea that readers may go to other review articles for more background; however, in a few chapters, the authors list no other general reviews and concentrate mainly on the most recent references to space observations. The historical introductions promised by the editor are not given in several chapters. Although excellent author and subject indices have been provided, cross referencing between chapters is virtually nonexistent. Such are the problems in uniformity when an editor tries to get 30 busy scientists to conform.

In view of the size of the book, not even the reference edition ($29.75 for institutions) is exorbitantly priced, and the professional edition ($10, available only to individuals) is an excellent bargain. (The copyright page of the professional edition contains a boldface, ominous warning of the rights and remedies "the publisher shall exercise" if individuals are caught buying professional editions for institutions.) Moreover, the inexpensive edition is nicely printed and bound with a brilliant purple hard cover, which should make it easy for habitual borrowers to find the volume on the owner's shelf.

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Soil Analysis

The two volumes of this treatise, **Methods of Soil Analysis**, parts 1 and 2 (American Society of Agronomy, Madison, Wis., 1965. $17.50 each; $30 set), edited by C. A. Black, D. D. Evans, L. E. Ensminger, J. L. White, and F. E. Clark, were jointly sponsored by the American Society of Agronomy and the American Society for Testing and Materials. The volumes contain 133 chapters written by 96 authors. The first volume, *Physical and Mineralogical Properties, Including Statistics of Measurement and Sampling* (894 pp.), contains 6 chapters on the statistics of sampling and measurement, 14 chapters on measuring physical aspects of soil water, 5 chapters on thermal properties, 14 chapters on determining mechanical characteristics of interest to agriculture and soils engineering, 8 chapters on different techniques of mineralogical analysis, and 2 chapters each on textural properties and gas in soils. The second volume, *Chemical and Microbiological Properties* (926 pp.), contains 6 chapters on different methods of elemental analysis, 28 chapters on the determination of 22 elements (nitrogen and carbon rate several chapters each), 3 chapters on exchange capacity and exchangeable ions, 3 chapters on acidity and soluble salts, 7 chapters on organic compounds, and 15 chapters on isolating and counting populations of microscopic soil organisms. As a convenience, each volume contains the same preface plus the table of contents and index to both volumes.

Despite the diversity of authors and subjects, all chapters follow the same general format. An average chapter is about 20 pages long and consists of a brief introduction, a discussion of the principles on which the method is based, a step-by-step description of the method (including descriptions and plans of apparatus, where appropriate), a discussion of the pitfalls and limitations of

the method, and a list of literature references. So the treatise serves as a "cookbook," but also provides enough background and literature reference to allow the "cooking" to be done with intelligence and insight. With the exception of a few ASTM methods, however, none of the procedures are intended to be standard or official. The choice of methods was left to the authors, who were selected on the basis of their special knowledge of their subjects. Some chapters, therefore, show bias for certain methods; others provide several methods for a particular measurement, along with enough background information to allow the reader to choose according to his own purpose.

Any attempt to produce such a treatise that is simultaneously comprehensive in scope, definitive in treatment, and uniform in presentation can never be completely successful. In this case, however, it is certainly better to have fallen short in a monumental enterprise than to have succeeded in a mediocre one. The seven years that went into the planning, writing, and editing of the book were well spent—to the benefit of the beginner or casual user who needs a recipe as well as to that of the practitioner who needs a good head start into the literature.

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The New Zealand National Character

At the time of its first appearance (1960), this study, **The Fern and The Tiki: An American View of New Zealand National Character, Social Attitudes, and Race Relations** [Holt, Rinehart, and Winston, New York, 1965 (reprint). 254 pp., $1.95], by David P. Ausubel, aroused considerable interest in that country where a number of readers disagreed with it. I can say that I have seen and heard nearly all that Ausubel reports that he has actually seen and heard.

But agreement on manifest facts is not sufficient for a study of national character. Facts must be tallied and measured, so that observers can agree that they have seen swallows and that they have seen enough swallows to make a summer. Behavior, social roles, and beliefs should preferably be accounted for in historical development as well as in functional maintenance. Reporting must have clear standards of comparison and assessment. Ausubel meets these requirements somewhat better than von Keyserling who completely rejected systematic empirical method, but he is very much behind Gunnar Myrdal who based his work on a vast quantitative foundation. Frequency, quantity, and the precise identity of actions generally elude the reader of *The Fern and the Tiki*, and the ascriptions of meaning are often only half right. But because Ausubel's evidence is not systematically presented, conflicts of judgment must remain unresolved, as they might over the findings of any intelligent journalist who had insufficient time for full scholarly inquiry.

For example, everyone will agree that the country is interested in rugby football. But is there really a Black Monday at the high school when the first team has lost on Saturday? I doubt that most of my school friends knew whether the team had lost or won. Has there been such a change in 40 years? I can only say that I know of some schools where there has not. A better statement is that the country is interested in sports—in soccer, field hockey, cricket, racing, track, golf, fishing, swimming, skiing, and others. But how interested? What are the measures? At least 50 percent, the women, know nothing of rugby, and a majority, men and women, know nothing of racing. In an analysis of national character, the importance of a quiet majority should not be obscured by the flamboyant enthusiasm of the minority.

Historical accounting for values and actions requires attention to beginnings as well as to continuation, and Ausubel was undoubtedly hindered by the fact that New Zealand scholars have written so little on their social history.

Graduation ceremonies in the universities are sometimes occasions for rowdiness, and Ausubel ascribes this to current anti-authority feelings of youth. Perhaps this correctly accounts for the present maintenance of rowdiness, but if placed in historical perspective these feelings must be located in England where the customs arose. They have not come into being just at this moment in order to provide an institutionalized outlet to feelings which Ausubel holds to be both strong and dysfunctional. Such an arbitrary juxtaposition of institutions and individual needs is no advance on the famous hypothesis that linked swaddling and the Russian character.

The best section of the book concerns race relations, an area of national life that had been studied in detail by Beaglehole and his associates at Victoria University who thereby provided a foundation for further research. Society has a need for myths about crucial processes and structures, especially ones where the tensions make for some uncertainty. The New Zealand myth about race relations is a comfortable one, but as Ausubel states, race relations in New Zealand do not assure everyone of dignity and equal opportunity and treatment. From time to time, a society also has a need to review its discrepancies, and this section, a partial and popular version of a fuller study that Ausubel has published, is a useful report that should help in altering either the myth or the reality.

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Textbook and Reference Source

If it is the task of a high-level textbook to present fundamental principles clearly, to fortify these principles with evaluated reports, to identify areas that require additional research, and to inspire the reader to increased efforts in microbiology (or in whatever subject is covered) as a professional pursuit, then this book, **Basic Bacteriology: Its Biological and Chemical Background** (Williams and Wilkins, Baltimore, Md., ed. 3, 1965. 1015 pp., $17.50), by Carl Lamanna and M. Frank Mallette, serves pedagogical ideals well. It is a text for the thinking bacteriologist. It is no mere compendium of ancient and novel information about bacteria, but a philosophical and sophisticated work in which teachability is enhanced by constantly raising proper questions. These questions are subsequently discussed in a penetrating manner which avoids any final word so that the reader's own curiosity is permitted to join the fray. For example, on page 354, the authors make the following statement: "It is an extraordinary fact that the superior merit of the simple device of using logarithms to the base 2 in calculating and plotting growth curve data has been largely ignored though emphasized as recently as 1942 by Monod."

This new edition has retained the