magnetic octupole moments." There are also two appendixes, one on angular momentum states in quantum mechanics, the other on the observed and calculated moments of odd A nuclei.

Because of the very substantial progress of the subject of nuclear moments during the past decade, a monograph in this field is timely. This book serves to point out that "tho' much is taken, much abides" in the field of nuclear moments. As the title of this book aptly points out, there is at present no complete theory. The graduate student, and the post-Ph.D. graduate who wants to catch up with the developments in this neighboring field, will obtain from this book a summary of the accomplishments to date. However, without going to the original articles (which are listed in a very useful bibliography), the graduate student will find it difficult to obtain a thorough understanding of the present theories of nuclear moments.

As a summary of the observed moments of nuclei, this book is probably not to be strongly recommended. However, since the purpose of the book was to discuss the theories of nuclear moments, and since the predictions of the different models may differ appreciably, it might have been argued that precise statements of the observed values were not in question. Notwithstanding this, the observed values are often given in this monograph with expressions of accuracy. For instance, to take one case, the magnetic moment of cobalt-58 is given in Table 5 as 3.5 ± 0.3 and in Table 4, as 4.0 nuclear moments. In fact, the latest accurate determination given by Jeffries *et al.* is 4.052 ± 0.011 nuclear moments. In such a short monograph it is clearly impossible for the author to cover everything in the subject field, and Blin-Stoyle has taken here for his subject the theories of nuclear moments. Of these, this monograph provides an excellent summary, and it serves as an appropriate guide to further intensive investigations.

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Quantum Field Theory. H. Umezawa. North-Holland, Amsterdam; Interscience, New York, 1956. 364 pp. Illus. $9.75.

The difficulty in writing a book on quantum field theory lies in the rapidly changing nature of the subject; moreover, such changes are sometimes fundamental additions to our knowledge and sometimes quite ephemeral enthusiasms for a particular point of view. Quantum electrodynamics has reached the stage of making very accurate quantitative predictions, very high energy physics is still at the stage of classification, while pion physics is somewhere between these extremes. A text which attempts to deal with all aspects of quantum field theory is to be expected, therefore, to be of a rather uneven character in its material, and this is the case here.

H. Umezawa starts his book with a discussion of relativistic wave equations, and then there are two chapters on the quantization of free fields and three on interacting fields. The perturbation solution is discussed, and after the idea of renormalization has been introduced, the predictions of quantum electrodynamics are given in some detail. The book ends with four chapters on, respectively, the general theory of renormalization, damping theory, S matrix theory, and the theory of propagators. Since the book was written, new work has made part of it incomplete, and parts of the last four chapters are likely to become unfashionable, their permanent place being as yet unassured. But anyone wanting to understand relativistic quantum theory must know almost all of the material in this book and will find it a good mentor. There are many examples worked in the text, and it is also a valuable reference book. It is definitely a theorists' book—in particular, there is no discussion of pion experiments and their interpretation; but within these limitations it contains much material which is not to be found in any of the other books in English.

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Mosses of Indiana. Winona H. Welch. Bookwalter, Indianapolis, Ind., 1957. 478 pp. Illus.

This earnestly and conscientiously compiled manual will be helpful to advanced students and to serious amateurs in Indiana. The fact that most of the mosses found in Indiana are widely distributed throughout eastern North America makes this treatment appear more prosaic and less highly original that it otherwise might. The alphabetical listing of names of up to 75 counties for weedy and ubiquitous species that unquestionably occur in every county—and township—of Indiana occupies space that could better have been used for original observations and interpretations by the author. The uncritical listing of counties for the handful of truly interesting species does not offer much help for the reader interested in ecology and geographical distribution, since he must first find the counties on a map and then draw his own conclusions.

The great majority of the illustrations used in this book appeared originally in Sullivant's *Icones Muscorum,* in Bruch, Schimper and Gümbel's *Bryologia Europaea,* and in contributions to journals by many different authors; yet these original sources, surprisingly, are acknowledged neither in the introduction nor in the text.

In spite of the limitations mentioned, most of which, fortunately, will be taken seriously only by professional bryologists, this manual will take its place among the better moss floras of individual states.

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Scientific and Technical Translating. And other aspects of the language problem. United Nations Educational, Scientific and Cultural Organization, Paris, 1957 (order from Columbia University Press, New York). 282 pp. $4.20.

"Fifty percent of scientific literature is in languages which more than half the world's scientists cannot read." This generalization from the introduction of UNESCO's study of the language problem in the sciences would be hard to prove or disprove with fragmentary statistical evidence, but it does serve to explain UNESCO's concern with a vast intercultural problem.

The study is essentially a compendium of comments on a draft prepared for UNESCO by three national editors—Italian, French, and British—together with additional material supplied by the UNESCO secretariat. Its scope is large; the array of opinion, kaleidoscopic. There are comments and discussions on the statistics of scientific journals and on the language skills of scientists and techniques for improving them. The editors have devoted attention to the working problems of translating, to translating organizations and services, and to the status of machine translation, as well as to linguistic problems, including those of international languages and scientific lexicons. The book closes with extensive bibliographies, lists of contributors, and proposed solutions for one or more aspects of the problem.

The work is essential for those concerned with international scientific communication, yet the multitude of perspectives (preponderantly European) revealed in the comments on the UNESCO draft tend to hinder rather than assist in formulating the problem. Perhaps this is inevitable; the long shadow of the Tower of Babel follows even those who would escape it.

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