haustively reviewed the literature but has covered it sufficiently to enable the reader to locate the entire literature on any particular subject of interest.

The scope of the book may be seen from the division of the subject matter into the following chapters: "The phosphorus atom, its nucleus and electronic structure"; "Interaction between atoms, with especial reference to phosphorus chemistry"; "Systematic chemistry of phosphorus and its compounds"; "Elemental phosphorus and the metal phosphides"; "Hydrides, halides, and pseudohalides of phosphorus and their organic derivatives"; "Oxides, sulfides, nitrides, and related compounds of phosphorus"; "Lower oxyacids of phosphorus, their salts and esters"; "Structure and properties of the condensed phosphates"; "Orthophosphoric acid, its salts and esters"; "Individual chain phosphates (pyro-, tripoly-, tetrapoly-, and pentapolyphosphates as well as Kurrol's salt and Maddrell's salt)"; "Ring and branched phosphates"; "Amorphous phosphates, including phosphate glasses, condensed phosphoric acids, and phosphate esters"; and "Halo-, peroxy-, thio-, and amidoacids of phosphorus, their salts, esters, and related compounds."

In addition, the book contains three appendices. Appendix A lists 187 accepted mineral names for phosphates, together with the chemical formulas, crystallographic data, and associated minerals. Appendix B contains a collection of single-bond energies and distances, with electronegativity differences for use in calculations concerning phosphorus compounds. Appendix C contains available thermodynamic data on the compounds of phosphorus.

Volume 2, still in preparation, will be devoted to the technology, functions, and applications of phosphorus and its compounds.

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The Atomic Age and Our Biological Future. H. V. Brøndsted. Translated by E. M. Huggard. Philosophical Library, New York, 1957. xiv + 80 pp. $2.75.

This little book is an attempt to supply the physical and biological background needed for an assessment of present and future radiation hazards. The author is professor of zoology at the University of Copenhagen, and the book is based on a series of his public lectures.

The first chapter is an elementary, simplified account of the structure of matter and the nature of radiation. Then follow sections on heredity, mutation, and embryogenesis and on the effects of radiation in these areas. The style is simple, and full use is made of analogies.

The over-all effect of the book is to create a correct impression—that is, that radiation can produce both genetic and somatic damage, and that suitable precautions are necessary. Yet there are so many factual errors, inconsistencies, oversimplifications, and vague statements that the book is of limited use for the serious reader. Perhaps it has suffered in translation, for some words are used in an unusual way, or even incorrectly. For example, *fallout* is given a meaning that is different from the customary one. On page 52, background radiation is given as one five-thousandth of a roentgen per week, whereas one five-hundredth would be more nearly correct.

So much has been written on this subject that this book does not fill a great need. There are much better sources of information—for example, the United Nations report; and there are other publications on the subject, as easy to read as this book, that are not marred by so many errors.

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Manuale di Micologia Medica. Raffaele Ciferri. Renzo Cortina, Pavia, Italy, 1958. 370 pp. L. 4000.

As a reflection of the growing interest in medical mycology throughout the world, manuals dealing with the fungus diseases of man have been published in many countries. Notable books have been written by mycologists in Argentina, Belgium, Brazil, Czechoslovakia, England, France, India, the Netherlands, and the United States. The latest addition to this growing family of publications is the present book, the first of two volumes, written by Raffaele Ciferri, director of the Botanical Institute and Cryptogamic Laboratory of the University of Pavia (Italy). This first volume is intended to provide basic information for the physician who is embarking upon the study of human pathogenic fungi with little or no training in mycology.

The author has fulfilled his objective admirably, for in the ten chapters of this volume a wealth of information, both theoretical and practical, is presented. This material, if assimilated, should enable the invesigator to detect, isolate, and identify fungi in clinical materials of all types.

In chapter 1, a concise history of the science of medical mycology is presented, along with a discussion of the nomenclature and classification of the mycoses. The biological affinities of fungi to other living organisms are discussed, and this is followed by a review of the taxonomy and nomenclature of the fungi. The chapter closes with a brief summary of the histological differences between deep mycotic infections and the superficial mycoses.

The activities of fungi as allergens, symbionts, and parasites and their industrial and pharmacological value are covered in the second chapter.

The next two sections are devoted to a thorough discussion of the morphology, physiology, ecology, and classification of the fungi.

Chapters 5 and 6 deal with specific techniques for the microscopic examination and culture of fungi. These are followed by a chapter on the preparation of antigens and their utilization in serological and skin tests.

Chapter 8 describes pathogenicity tests and their value in the identification of fungi.

A dichotomous key designed to aid in the diagnosis of all the mycoses constitutes chapter 9.

The book concludes with a brief discussion of the therapy of fungus diseases, some remarks on the publication of research findings, and an extensive bibliography. The bibliography cites general mycologic texts and books that deal specifically with medical mycology and includes a selected list of current papers on pathogenic fungi and the diseases that they cause.

The book is of a convenient size and is printed on glossy paper of a good quality. Simple line drawings and several photomicrographs are used to illustrate the text.

On the whole, the author has more than adequately fulfilled his objective of providing useful background information for the study of human pathogenic fungi. Objection can be taken to the classification schemes and nomenclature employed. For example, no valid evidence exists for considering *Coccidioides immitis* to be a phycomycete and for placing it in a special order, the "Coccidiales." Few mycologists will agree that sexual reproduction has been verified in the life cycle of *Cryptococcus neoformans.* Thus, the placement of this anascosporogenous yeast in the genus *Debaryomyces* is of questionable validity. The use of the generic names *Gilchristia* and *Scedosporium* for *Blastomyces dermatitidis* and *Monosporium apiospermum,* respectively, is also contrary to current usage. I also object to the use of *Rhinocladium beurmani* as the preferred name for *Sporotrichum schenckii.*

The most serious limitation in the value of this volume is the absence of an index. While an index for both volumes undoubtedly will be included in the second volume, it would be more convenient for the reader if the contents of each volume had been indexed separately.

The points of criticism raised are relatively minor, and such shortcomings will not detract seriously from the value of this comprehensive work on the basic aspects of medical mycology. This manual is recommended to the serious student. It is regrettable that its usefulness will be limited only to those with a good reading knowledge of Italian.

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Low Temperature Physics and Chemistry. Proceedings of the Fifth International Conference on Low Temperature Physics and Chemistry. Joseph R. Dillinger, Ed. University of Wisconsin Press, Madison, 1958. xxv + 676 pp. $6.

In late August 1957 the University of Wisconsin was host to 440 scientists at the Fifth International Conference on Low Temperature Physics and Chemistry. With the exception of those in Soviet Russia, most of the active cryogenic laboratories in this country and abroad were represented, and the lively sessions covered a sizable fraction of the problems of current interest in this field. This volume, which includes a three- to four-page version of each of the 198 contributed papers and slightly longer reports of the 27 invited papers, provides not only an unusually complete summary of the conference proceedings but a highly valuable progress report on a popular field of research.

About a third of this book is devoted to the behavior of liquid He^4, liquid He^3, and liquid He^3-He^4 mixtures, sometimes called quantum liquids. Superconductivity, including applications of superconducting switches and persistent currents to computing machines, is thoroughly discussed. The following topics are also covered: temperature scale and temperature measurement, transport properties in solids at low temperatures, specific heats, mechanical properties of solids and solidified gases at low temperatures, magnetic properties, nuclear and paramagnetic resonance, and nuclear orientation experiments. The broad range of topics reflects the growing interest in the behavior of matter near the absolute zero of temperature.

Since much of the material in this book is not yet available elsewhere, this is an essential reference volume for active research workers in the field and should be of interest to a somewhat wider audience.

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Cerenkov Radiation and its Applications. J. V. Jelley, Pergamon, New York, 1958. x + 304 pp. Illus. $10.

By a happy coincidence Jelley's monograph became available almost simultaneously with the announcement of the award of the 1958 Nobel Prize for physics to P. A. Cerenkov, I. M. Frank, and I. E. Tamm for their pioneering work on the "Cerenkov effect." Jelley has written a timely, authoritative, and very complete account of the discovery, properties, and applications of this interesting phenomenon.

In the introduction the work of these three Russian physicists is given perspective within the framework of earlier experiments (the observation of Cerenkov radiation dates back almost to the discovery of radioactivity), and the credit reflected by the Nobel award is undisputed. It is interesting to note, however, that the contribution made by S. I. Vavilov, Cerenkov's professor at the Lebedev Institute, which is inconspicuous both in Jelley's review and in the literature, has been emphasized lately by the adoption in the U.S.S.R. of the more inclusive name "Vavilov-Cerenkov effect."

After a summary of the theory of "ordinary" Cerenkov radiation, a long and fascinating chapter describes many of the more exotic circumstances in which the radiation may be emitted. In some of these cases the phenomenon is potentially useful; in others it is quite unobservable. A large part of the volume is of course concerned with the practical detection of charged particles and the determination of their velocities. There is a comprehensive review of the types of counter that have already been used and of their advantages, and some hints are given of future possibilities.

One property of the Cerenkov counter that is surely destined to be exploited further is its inherent speed, and one would perhaps like to have seen more discussion of the speed of the photomultiplier which sets the practical limit in this direction. A more trivial omission is a sketch of the DuMont box dynode structure, which would have completed the set of illustrations of various basic designs. Again, one might quarrel with the statement that only the measurement of Cerenkov angle with the focusing type counter is useful for the direct determination of velocity. If the angular divergence of the particle beam becomes sufficiently large, there comes a point where better velocity resolution is achieved by measuring intensity, and to this end I have used nonfocusing counters successfully in cosmic-ray experiments.

Such shortcomings detract little, however, from the value of this book, which manages to combine very satisfactorily an introduction to the subject for the uninitiated with reference material for the expert. Included are many useful tables and graphs and a comprehensive list of references that is especially to be praised for its coverage of the extensive Russian literature. The care with which the volume has been edited is shown by the fact that I found only one typographical error. It occurs on page 157 and is sufficiently obvious to be harmless.

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International Bibliography of Social and Cultural Anthropology. vol. 1. Prepared by the International Committee for Social Sciences Documentation. Georges Balandier and J. F. M. Middleton, Eds. United Nations Educational, Scientific, and Cultural Organization, Paris, 1958 (order from UNESCO Publications, 801 Third Ave., New York 22). 259 pp. $5.50.

Publication of the *International Bibliography of Social and Cultural Anthropology* is a part of the general program of the International Committee for Social Sciences Documentation—a committee formed in 1950 with UNESCO support. The purpose of the committee is to promote the development of all bibliographical and documentary work of interest to the social sciences. The committee is made up of representatives of the various disciplines, nominated by the international scientific associations—the International Social Science Council, the International Sociological Association, the International Economic Association, the International Political Science Association, the International Association of Legal Science, the International Union of Scientific Psychology, the International Federation for Documentation, and the International Federation of Library Associations.

The committee considers that its main task is to supply each social science discipline with the basic bibliographical work essential to it. In certain fields it seemed essential to create annual international bibliographies; the *International Bibliography of Social and Cultural Anthropology* is one such bibliography.

It is the aim of the committee to record all publications concerned with the discipline, whatever the country of origin of the publication or the language in which it is written. They seek to list all scientific publications—books, articles in periodicals, reports distributed in duplicated form—but they exclude unpublished works (for instance, theses which have been merely typed), articles appearing in the daily press, and so forth. Special attention is paid to official publications of governments.