related to the collection and withdrawal of body fluids and infusion; anesthesia and sedation; the care of animals during surgical experiments; radiography; methods of euthanasia and disposal of laboratory animals; methods of parasitic infection; methods in germfree animal research; aerosol challenge of animals; and principles in drug administration. The second volume will treat 11 other areas of interest to the research investigator.

Although the text contains more typographical and other errors than one would expect, these errors do not, in most cases, distort the meaning of the content, and one hopes they will be corrected in subsequent editions. The quality and usefulness of the different chapters is quite uneven, as one would expect in a volume with papers by a number of contributors.

The chapters on the collection of body fluids, radiography, and the aerosol challenge are extremely well done. These three chapters alone make the book worthwhile. The aerosol challenge section is very timely in view of the increasing amounts of research that involves this experimental technique. The chapters on anesthesia and sedation, the care of animals during surgical experiments, methods in germfree animal research, and principles in drug administration are well organized and filled with information that should be of immense value to research investigators.

In the chapter on methods of euthanasia and disposal of laboratory animals, two of the methods listed—euthanasia by decompression and euthanasia by carbon monoxide—have no place in a modern research laboratory. It is probable that they were mentioned only for the sake of completeness, and they do not impair the quality of the rest of the chapter.

The chapter on methods of parasitic infection contains a mass of documented information on specific parasites, but the material does not seem to conform too well to the chapter title. Many factual statements are put together with references in a not very interesting style. It is difficult to look up answers to specific questions concerning methods of parasitic infection.

In the other chapters, however, the material is well organized and specific material can be found by using the index, which seems to be adequate. This book will be valuable to medical students, veterinary medical students, zoology students, research investigators who work with animals, instructors who teach experimental methods courses, and probably to many others.

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Applications of Radioactive Isotopes

Industrial Isotope Techniques. Lars G. Erwall, Hans G. Forsberg, and Knut Ljunggren. Wiley, New York, 1965. iv + 338 pp. Illus. $19.50.

In a short introduction to this book George de Hevesy unequivocally states that "Several books have appeared during recent years about the technical uses of radioisotopes, but none as instructive and well laid out as this work." The book can be highly recommended as a textbook (the purpose for which it was written) suitable for self-education in the field of industrial applications of radioactive isotopes. It will also be of limited use as a handbook and a reference work in this field. The title is somewhat misleading because the coverage is limited entirely to radioactive isotopes without discussion of the uses of concentrated stable isotopes.

The book may be divided naturally into three sections which are of approximately equal length. In the first three chapters, the first section, the elements of nuclear physics, nuclear chemistry, and radiation measuring techniques are briefly but adequately described. The authors have ". . . tried to limit the account to items which are of direct and primary importance for applied radioisotope techniques."

In chapters 4 through 7 specific applications of radioactive isotopes, and the precautions that must be observed, are discussed. Uses as radiation sources include radioactive gauges, radiography, and applications based on the effects of radiation. The latter section together with the preliminary treatment in the first chapter gives a very good, basic, descriptive account of the interaction of the various forms of nuclear radiation and matter. The next chapter is devoted to industrial tracer techniques. A large number of examples are given in order to show typical applications. A useful discussion of the general aspects of tracer methodology is also given. Radioactive methods used in chemical analysis are grouped together in the next chapter. The coverage here is comprehensive and includes the following topics: natural radioactivity, analytical checking methods, radioactive indicators and precipitants, chemical exchange, isotope dilution, radiometric activation, and nuclear reaction analysis. The final portion of the second division is a brief discussion of the various aspects of radiation protection.

The third division of the book, five appendices, constitutes a useful handbook that contains data on the important radioactive nuclides (including decay schemes for 73 isotopes) as well as data that is useful in radiation measurement, activation analysis, and radiation protection. The fifth appendix presents detailed plans for three different types of investigations in which radioactive isotopes are utilized and illustrates the use of data contained in the previous appendices.

In my opinion this is an excellent book—necessarily brief and factual, but quite comprehensive, clear, and accurate. It is well documented with a bibliography of some 140 monographs, survey articles, and other similar publications, in addition to 416 direct literature references. The index is divided into two parts: the first contains the nuclear science terms, the second, specific isotope applications grouped under separate industrial areas.

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Sea Goose of the Pacific Coast

Black Brant: Sea Goose of the Pacific Coast. Arthur S. Einarsen. University of Washington Press, Seattle, 1965. xviii + 142 pp. Illus. $5.

This is the first full-length book devoted to the black brant, a favorite game bird along the Pacific coast. The author, who writes in a style that seems to lie somewhere between strict science and literature, has brought together a

large amount of information about this species. Information about the distribution, both geographic and local, feeding habits, migration, and distinctive characteristics of the black brant is combined with an appraisal of its present chances of survival, and with suggestions about better management procedures and techniques to preserve, and to augment, its numbers. The author's approach and point of view are primarily that of a conservationist interested in protecting the species as a game bird for the benefit of those sportsmen who like to hunt it.

The book has a number of pen-and-ink illustrations, by Harold Cramer Smith, which are very variable in quality. Some are pleasant enough, but not in any real sense additions to the text, while others are crude to the point where they could easily prejudice the reader against the book. The duck hawk (?) attacking two black brants (p. 61) is more like a cartoon than a rendition of its subject. The volume has a useful bibliography and is well indexed.

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Archeology in Tropical America

They Found the Buried Cities. Exploration and excavation in the American Tropics. Robert Wauchope. University of Chicago Press, Chicago, 1965. viii + 382 pp. Illus. $7.50.

The author, an archeologist, who is director of the Middle American Research Institute of Tulane University, has as his theme the proposition that a scientist need not be afraid of making his published material interesting. He laments the fact that in recent years most archeologists have become so pedantic that they feel it unprofessional to include in their reports anything personal, emotional, adventurous, or romantic.

This was not true of the early pioneers in Middle American exploration who managed to include in their archeological reports personal adventures, romances, and frustrations, as well as colorful descriptions of the native peoples, natural history, and the generally exotic atmosphere that surrounded travel in the tropics.

The individualists of those days have been replaced by a breed of scientist cast in the academic mold, who feel that their scientific problems should be completely detached from the matrices in which they occur.

In addition to this, it must be admitted that conditions in the American tropics have changed greatly during the past 30 years. Highway construction and air transport have now largely done away with the need for mules and canoes. This means much less intimate contact with the people and country. Newly constructed hotels and motels have virtually eliminated the need for staying in native houses or primitive camps. When camps are established, it is now possible to equip them with refrigerators, comfortable sleeping quarters, and even electric plants. Modern sanitation methods, insect repellants, and miracle drugs have banished the fear of disease. And more stabilized governments in the Latin American countries have practically eliminated the wandering groups of bandits that formerly were a hazard to the explorer in remote places.

However, there still remain many sites to be discovered and worked. The land and the people are interesting, and there are always local politicians and red tape with which one must cope.

In *They Found the Buried Cities*, the author leads off with a 69-page, condensed account of his own experiences, which began in 1932 when as a young man he joined the staff of the Carnegie Institution's camp at Uaxactun. In describing this experience and later work in Guatemala, his vivid writing loses nothing in comparison with that of his predecessors which he so admires.

Not only are his experiences in the bush described in a way that makes the reader feel that he is present, but his personalized accounts of his involvements with social situations, customs, permits, local rivalries, finances, and the like make one realize that conducting an archeological expedition is considerably more than digging in a ruin. Like an iceberg, in scientific work only a fraction appears above the surface.

Following this entertaining introduction are well-chosen selections from the writings of 17 travelers, mostly archeologists, among whom are John L. Stevens, E. G. Squier, Désiré Charnay, Alfred Maudsley, Teobert Maler, and Sylvanus Morley. In these accounts, which are replete with adventure, humor, tragedy, and romance, the character of each writer emerges in clear perspective. At the same time, each of these men was above all a dedicated scientist.

Each of these fascinating excerpts does much to bolster Wauchope's point that scientific value is not necessarily lost in making a report entertaining.

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The Fungi

The Genus Aspergillus. Kenneth B. Raper and Dorothy I. Fennell. With a chapter by Peter K. C. Austwick. Williams and Wilkins, Baltimore, 1965. xii + 686 pp. Illus. $20.

This treatise on the genus *Aspergillus* is the third to appear since 1926. The authors dedicate this volume to the senior author of the previous two, Charles Thom (1872–1956). The work is "designed to provide keys and descriptions for the identification of the *Aspergilli*"; 132 species and 18 varieties are recognized versus 77 species, 8 varieties, and 4 mutations in *A Manual of the Aspergilli* (1945). These taxa are assigned to 18 groups (the authors' category for a subdivision of a genus), of which five are new. The cultural characteristics and morphology of each taxon are described in detail and workable keys provided. Profuse illustrations greatly enhance the utility of the text. Four most useful checklists are included: (i) generic and (ii) specific names applied to *Aspergilli,* (iii) fungi incorrectly designated as *Aspergilli,* and (iv) recognized species and varieties.

Contrary to the rule set forth in the International Code of Botanical Nomenclature, utilization of the generic epithet *Aspergillus* for both the asexual and sexual stages is advocated. Whether "most workers" (= "the majority of mycologists"?) "accept" this procedure or assign those species forming ascocarps to ascomycetous genera [see C. R. Benjamin in *Mycologia* **47**, 699 (1955)] is in question.

The primary objective of this text is to present a comprehensive, yet usable, treatment of the *Aspergilli.* Simultaneously the authors have provided, in the introductory chapters, a wealth of information on special media for