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