Techniques for the Use of Radioisotopes in Analysis. A Laboratory Manual by D. A. Lambie. D. Van Nostrand Company, Inc., Princeton, N. J., (1964). 135 + vi pp. $4.85.

The purpose of this book, according to the author, is "to cater for the needs of the ordinary analyst or research worker with little or no knowledge of radiochemistry who wishes to make use of radioisotopes in analysis but who has not the time to make a thorough study of the subject." However, prior acquaintance with the elementary principles of radioactivity is expected of the reader.

While the author considers the book to be a laboratory manual of radiochemical analysis, it is not a laboratory manual in the traditional sense. No experiments are included; instead the author discusses the principles and procedures of radiochemical analysis in a fairly general manner, although he draws upon specific cases for illustrative examples. The topics discussed in the various chapters include: applications, the laboratory and its organization, analytical operations, instrumentation, evaluation of results and selection of methods.

The chapter on the application of analytical procedures is, perhaps, too brief to indicate the true value of such techniques. On the other hand, the chapter on analytical operations occasionally is too detailed in describing operations—particularly the handling of wash bottles and pipettes—that are very similar to those in current use in most analytical laboratories. The book would probably be more valuable if the applications chapter were expanded and the analytical-operations chapter shortened.

Because the book is intended for use primarily in the United Kingdom, British regulations concerning radioisotopes and their use receive considerable attention. However, the regulations of the United States are described briefly in the appendix. The section on health physics is probably inadequate to satisfy the anxieties of the beginner who is concerned with the dangers associated with radioactivity.

The author is realistic about radiochemical analysis and points out that the use of radioisotopes should be limited to those situations where a radiochemical technique has a definite advantage over conventional methods. Time, labor, desired results of the analysis, availability of suitable radioisotopes, and the cost of equipping a radiochemical laboratory are among the factors suggested for consideration.

Because the book is a very brief introduction to the subject of radiochemical analysis, the reader who is interested in applying some of the techniques but has little experience will find it necessary to seek further information from the references which, generally, are sufficient for such purposes. However, the reader who is interested only in acquiring a general knowledge of radiochemical analysis will find that this little book is quite adequate and its brevity should prove to be an advantage.

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About the Reviewers: Ralph L. Ely and Donald L. Wright are at the Research Triangle Institute in Durham, North Carolina. Ely was introduced as a reviewer on page 255 of NS&E Vol. 19. Wright, whose field is analytical chemistry (Ph.D., North Carolina, 1964), has used radioisotopes to separate trace elements from large quantities of natural water.