

## Book Review

*(Editor's Note: Dr. Guinn received his Ph.D. in physical chemistry from Harvard in 1949 and has been engaged in radiochemical research at the Shell Development Company's Emeryville Research Center since 1951. He is a graduate of the ORINS radioisotope course in 1952, has been a consultant and lecturer in that course since 1959, and has published in the fields of large-scale tracer studies, liquid scintillation counting, low-level counting, tracer uses in the petroleum industry, and instrumental neutron activation analysis. He is presently the supervisor of the Radiochemistry Group at Shell Development.)*

**Radioisotope Techniques.** By RALPH T. OVERMAN AND HERBERT M. CLARK. McGraw-Hill Book Company, Inc., New York, 1960. 476 pp., \$10.00.

Despite its more-or-less average length and cost, this book contains a surprisingly large amount of information. Perhaps this point can best be demonstrated by a few statistics: There are 24 tables, 89 figures, 196 numbered equations, 45 experiments, 36 problems, and 902 references within its covers. The experiments will be of particular interest to those engaged in teaching nuclear courses, as they are generally well thought out and cover a wide range of topics in the field of radiochemistry. Each experiment includes a complete list of the counting equipment, radioisotopes, chemicals, and other material needed. Most of these experiments are ones which have been used for a number of years in the Oak Ridge Institute of Nuclear Studies radioisotopes training course, and hence are "tried and true."

The ten chapters cover the subjects of nuclear radiations and their interactions with matter, detection of radiation, statistical aspects, radiological safety, preparation of radioactive sources, laboratory characterization of radiation, standardization of sources and calibration of detectors, radioactive decay mathematics, radiochemical separation methods, and (very briefly) some applications of radioiso-

topes. Brief, but commendable, descriptions are given of all the principal types of radiation measurement instruments used today: ionization chambers, proportional and Geiger-Muller counters, sodium iodide scintillation counters, and liquid scintillation counters. The inclusion of brief, but very useful, sections on autoradiography, activation analysis, isotope dilution methods, radiocarbon dating, decontamination techniques, chemical dosimetry, and chromatographic separation methods should also be noted.

The authors started their collaboration many years ago (the first systematic paper on neutron activation analysis was one by Clark and Overman, in 1947) at Oak Ridge, and have continued to the present—this book representing their combined effort during a considerable period of years. Dr. Overman is well known as the Chairman of the Special Training Division of ORINS. In the Oak Ridge course he has supervised the training of some 4000 scientists in radioisotope techniques. In this course he has constantly participated heavily in the planning of the course work and in the lecturing. He is widely known as an excellent teacher, and his ability and experience have contributed to the success of this book. Dr. Clark has for some years taught radiochemistry at the Rensselaer Polytechnic Institute, where he is Professor of Physical and Nuclear Chemistry, so he also writes with authority.

This reviewer finds Overman and Clark's book one to be recommended as a text in laboratory courses on radiochemistry and as a useful reference and guide to the literature for research workers. It is clearly written, remarkably free of typographical errors, and fills a gap in the field of books on radiochemistry—that of an up-to-date book on techniques.

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