

further incidentals, such as Fermat's views in physics and on probability, as well as a "Bibliographical essay and chronological conspectus of Fermat's works." These round out a remarkably satisfying and cogent analysis of the work of one who, though a nonprofessional living in the "century of genius," led all of his contemporaries in the setting and solving of mathematical problems.

CARL B. BOYER

*Department of Mathematics,
Brooklyn College,
City University of New York,
Brooklyn, New York*

Radiation Chemistry

Neutron Activation Analysis. D. DE SOETE, R. GIJBELS, and J. HOSTE. Wiley-Interscience, New York, 1972. xx, 836 pp., illus. \$39.50. Chemical Analysis, vol. 34.

This book tries to give an up-to-date account of the fast-moving field of neutron activation analysis and to provide the scientist new to the field with a rather deep background in the basic nuclear physics of the generation and decay of neutron-activated radionuclides. It performs the second task very well, so well in fact that the first stands a little in shadow. This basic part (actually standing first in the book) spans four chapters after the brief introduction, amounts to about 40 percent of the text, and could be moved to a text on nuclear chemistry without major change. Though one may question the magnitude of the effort, the authors surely construct a firm foundation for the discussion of analytical procedures, to follow.

They then move to the "nuts and bolts" of activation analysis, with a long, valuable chapter on "Preparation of samples and standards": valuable because they gather into one place all the data bearing on the introduction of impurities in reagents and through sampling, handling, and packaging, and the effects of interfering nuclear reactions—in short, because they chart a path through some of the worst pitfalls that surround the activation analyst. My only objection to this chapter is that the discussion of interlaboratory comparison of (especially) multi-element standards is brief and incomplete, a deficiency that is surprising inasmuch as the authors have already cited the International Atomic Energy Agency

interlaboratory study in the second chapter. Also, they mention only the two early U.S. Geological Survey standards W-1 and G-1, and not the six current, widely used and more carefully prepared standard rocks. I could not find any reference to Flanagan's two important summaries, though they do refer to the work of Gordon *et al.*

I found the chapter on "post-irradiation radiochemical separations" excellent, with well-organized tables and flow diagrams that will be worth their weight in gold, even at today's speculative prices. The next chapter, "Analysis without chemical separation," unfortunately is somewhat out of date in its emphasis on spectrum stripping and data smoothing and analysis via decay curve decomposition. This chapter may be of use to those still working with NaI-Tl detectors, but that is not where the action is today.

The book concludes with a series of excellent tables and bibliographies—these amount to close to one-third of the whole book and will be of value to anyone in the field. In summary it can be said that the authors have cast their net wide, are perhaps a little unbalanced in emphasis, but have produced a book that will find wide acceptance and use in the field of neutron activation analysis.

GARMAN HARBOTTLE

*Department of Chemistry,
Brookhaven National Laboratory,
Upton, New York*

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