ing a wide range of chemical problems inherent in fusion reactors. The authors are recognized experts in their fields, and the material is generally up-to-date. Most of the articles are largely reviews; all contain extensive literature lists. The level of difficulty varies. The introductory paper by Gough is very general and outlines the need for fusion power and recent progress in confinement studies. Later articles become more specific and are thus more detailed. However, anyone with a nuclear or a chemical background should have little difficulty understanding any of the papers.

A large portion of the book deals with blanket materials and with permeation studies, perhaps the most obvious chemical problems associated with fusion reactors. J. D. Lee reviews the neutronics of various blanket materials and configurations. For lithium metal blankets, potential tritium breeding ratios are higher and doubling times are shorter than those expected in fission breeder reactors. Cairns, Cafasso, and Maroni examine the pertinent properties of lithium metal, the most likely blanket material. The compilation of data on *H*, *D*, and *T* solubilities in lithium at various pressures is particularly significant. Grimes and Cantor examine the properties of molten fluoride salts, which are alternate breeding materials. The most important shortcoming of molten salts for fusion reactor blankets involves their neutronics (breeding ratio). It is even likely that the most studied molten salt, Li_2BeF_4, will not yield a breeding ratio greater than unity; nevertheless, uncertainties of these breeding ratios are still considerable. Molten salts, however, would have some advantages because of their lower electrical conductivity. Pressure drops when crossing magnetic field lines would be less than those experienced with lithium, and turbulent eddies would not be suppressed when flow is parallel to field lines; turbulent flow would improve heat performance. Other weaknesses and advantages of molten salts are also discussed. E. Johnson surveys the processes for recovering tritium from blanket or coolant fluids.

The permeation of hydrogen isotopes in metals is reviewed in detail by R. Stickney and more briefly by G. Libowitz. The latter author discusses only tritium solubility in metals, but Stickney's comments include data on both solubility and diffusion coefficients which contribute to the permeability. Possible surface effects are also discussed.

The three remaining papers cover individual topics. Radiation damage will be a major problem in fusion reactors. D. Gruen reviews some (but not all) of the aspects of this problem—surface effects, sputtering, and ion trapping. These effects may be important to the first wall surrounding the plasma and to diverter collection surfaces if these are required. M. Bowman provides a historical review of the search for new superconducting materials. The needs and difficulties of finding and fabricating new materials are discussed. Finally, M. Lubin reviews laser-induced fusion. Although this is not primarily a chemistry problem, the paper is interesting. Conceptual methods for recovering heat from these systems and the behavior of particles upon sudden heating are discussed. Little is said about laser development.

In summary, the book is timely and should be recommended to most technical libraries. Perhaps the principal weakness of the book lies in its balance of presentation. A short collection of symposium papers is not likely to provide the consistency possible under single authorship. On the other hand, this is significant only if the reader desires to use the book as an introduction to the subject. The chemistry-related aspects less thoroughly covered in the book are materials problems, particularly radiation damage and corrosion.

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Corrigenda

STEPHEN A. McGUIRE and JOSÉ G. MARTÍN, "A Monetary Correction Model of Economic Analyses Applied to Nuclear Power Costs," *Nucl. Technol.*, 18, 257 (1973).

In Ref. 21 on p. 266, the spelling of a name should be corrected from L. Cintra do Pardo to L. Cintra do Prado.

J. L. STRAALSUND and C. K. DAY, "Effect of Neutron Irradiation on the Elastic Constants of Type-304 Stainless Steel," *Nucl. Technol.*, 20, 27 (1973).

On p. 32 the error is in Eq. (9). As presently written, Eq. (9) is

$$\frac{K}{K_0} = 1 - \frac{3(1 - \nu_0)}{2(1 - \nu_0) + (1 + \nu_0) S} \quad .$$

The equation should be as follows:

$$\frac{K}{K_0} = 1 - \frac{3(1 - \nu_0) S}{2(1 - 2\nu_0) + (1 + \nu_0) S} \quad .$$