

the Working Party on Professional Affairs of the Federation of European Chemical Societies, University of Lancaster, 12–13 April 1983.

Following the opening chapters, which deal with statistics of accidents and morbidity experiences, and the approaches which have been made in various countries (the U.K., West Germany, France, the Netherlands, the U.S.A.), the book proceeds to real substance in the excellent chapter on Hazards of Handling Chemicals (by L. Bretherick), Hazards of Apparatus, Equipment, and Services (by I. Szentpeteri), an especially important discussion of Handling People (by E. Thompson), a critical review of What Standards Should We Use (by T. Rose), and the Protection of Workers Against Chemicals (which closely parallels the "Hazard Communication" or Right-to-Know regulation of OSHA in the U.S.A.).

The book concludes with a summary of the short-term and long-term needs for cooperation of professional societies and organizations to achieve what is a badly needed internationally recognized policy of health and safety programs for chemical laboratories. This reviewer enthusiastically endows this concept, and highly recommends the book.

H.H. FAWCETT

The Plutonium Business and the Spread of the Bomb, by Walter C. Patterson for the Nuclear Control Institute, Sierra Club Books, San Francisco, CA, 1985, 272 pages, cloth cover, \$16.95.

In the questions which have been raised pro and con over nuclear power development, perhaps the most troublesome is whether, or to what extent, civilian power and weapons technology are interchangeable. In particular, to what extent is plutonium, which is a product of the fission of enriched uranium with neutrons in a power reactor, controlled so it will not eventually become a common weapon component of many nations about which we know relatively little politically?

There is no doubt that the author, a Canadian living in England, has done a very thorough research effort in tracing the progress and mishaps of atomic energy. Specific dates and places abound. Whether or not his conclusions, that spent fuel should not be processed, and that breeder reactors should not be built and operated, are correct is open to question. There is no doubt in this reviewer's mind, based on long observations starting with "hands-on" work with plutonium in 1944, that there should be a place for breeder reactors in our national energy future, but opponents have successfully blocked it. (The Clinch River breeder reactor site is now being considered for storage of spent fuel elements.) The U.S. position is in contrast to other countries, of which France is a notable example, which are developing breeder reactors and hence will be in a position of economic advantage in the

world of international competition in the coming years because of the central role that electric energy will play. As to the question of plutonium in weapons, that is a political question which must be approached on an international basis if we are to avoid the consequences of improper distribution.

H.H. FAWCETT

Chemical Carcinogens, Second Edition (in two volumes), by Charles E. Searle (Ed.), ACS Monograph 182, American Chemical Society, Washington, DC, 1984, Vol. 1: 641 pages + index, Vol. 2: 730 pages + index, price: U.S.A. and Canada — \$129.95, other countries — \$155.95.

This revised and updated version of ACS Monograph 173 — which was published in 1976 with 788 pages including index — recognizes that the cause of cancer in humans is still not clearly understood, and notes that a multiplicity of biological, physical, and chemical causes are known or suspected. In the 22 chapters which constitute this work, recognized authorities in their respective areas of interest review the data available, and cite numerous references. Beginning with epidemiology, the book continues with chapters on polynuclear aromatic carcinogens, soots, tars and oils, aromatic amines and related compounds, alkylating agents, DNA interactions of reactive intermediates derived from carcinogens, organic halogenated compounds, inorganic carcinogens, and mineral fibers — all in volume one.

Volume two discusses *n*-nitroso carcinogens, triazenes, hydrazine derivatives, azo and azoxy compounds, methylazoxymethanol and cycasin, aflatoxins, fusarial mycotoxins (including T-2 and possible interactions with selenium compounds), bracken, carcinogens in food and in medicine, inhibition of chemical carcinogenesis, and finally bioassay of carcinogens in *in vitro* and *in vivo* tests. Indexing is excellent and comprehensive.

Each chapter contains extensive references, from 150 to 390 citations, and should serve as an excellent starting point for any serious student who seeks more specific information. Since cancer is as much an emotional as scientific word, this reviewer suggests careful study and professional detachment when approaching this subject.

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