some have been shown to affect humans, while others are reflected by studies in one or more species of animals, principally rats and mice.

Major chapters consider sex differences in biochemical/physiological processes, pregnancy, sex differences to liver toxins, to renal toxins, discussions of major inorganic contaminants, to organic contaminants, to drugs, the effects of oral contraceptives (especially well documented for drugs, for carbon disulfide, and lead exposures), endogenous and related substances. The question of safety factors in setting human exposures is raised in view of the relatively little recognization of male vs. female effects.

This book is extremely carefully documented, with copious references, and will doubtlessly be a landmark reference point in this important, but frequently overlooked area of chemical safety.

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Design, Construction and Refurbishment of Laboratories, by R. Lees and A.F. Smith (Eds.) for the Laboratory of the Government Chemist, London, published by Ellis Horwood, Chichester, West Sussex, PO19 1EB, U.K., distributed by John Wiley & Sons, New York, NY, 1984, 375 pages, $69.95.

Recognizing that many laboratory personnel work in facilities designed years before which are often inadequate and even unsafe by modern standards, the Laboratory of the Government Chemist, U.K., co-sponsored with several technical and professional societies a conference in June 1982 titled Labdesign 82. The aim was to assemble experts from several disciplines with designers and providers of laboratories to review the state-of-the-art in laboratory design, arrangements, and utilization. The 36 chapters from the presented papers represent a wide variety of views, know-how, and factual data on design and operation of chemical, electrical, microbiological, radiochemical, and major engineering facilities of varied sizes and complexity.

Especially valuable in the opinion of this reviewer is the section on equipment, including six chapters on fume cupboards (or hoods), a subject which has received much attention in several countries but little agreement. Another important subject covered is the large-scale evaluation of fire-doors in a building at the University of Bristol, with conclusions which are considerably different than expected. Two short but excellent chapters on handling and disposal of toxic and flammable wastes conclude that each laboratory should provide its own facilities, such as incineration of the proper design and capacity, to serve the laboratory needs, as the most practical and economical approach. Chapters on electrical hazards, gases, and illumination highlight frequently overlooked essential services.

The volume is a major contribution to recent thinking on design, planning, and refurbishing of laboratory and related facilities, and should be of value,

not only to scientists and engineers who use the facilites, but to planners and designers who frequently have limited understanding of the "real-world" problems they either create or eliminate by proper design and construction. We highly recommend it to anyone who has, or plans to have, responsibility for a laboratory or who works in one.

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