The remainder of the book deals with the metabolism of drugs by pathways other than glucuronic acid conjugation, and it might be considered somewhat sketchy and incomplete—for example, epinephrine metabolism is covered in two short paragraphs. Perhaps it would have made for easier reading had the author started with general mechanisms of drug metabolism rather than with specific examples. Despite these minor criticisms the book should be received with appreciation by those engaged in research on the metabolism of organic chemicals and drugs, both for its content and for its excellent bibliography.

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Controlling Hazards

Radioactive Wastes. Their treatment and disposal. J. C. Collins, Ed. Wiley, New York; Spon, London, 1960. 239 pp. Illus. $8.

The benefits of atomic energy cannot be attained without accepting the risks. Radioactive wastes provide one insidious hazard. This timely book is one of the most complete volumes yet published dealing solely with that waste problem. Eight authorities combined their talents in this excellent, highly technical but easily readable symposium volume, and they summarize work throughout the world. Of course they concentrate on Great Britain's problems and the solutions so far obtained there.

The authors are properly conservative but realistic. They offer four general precepts or guides: (i) disposal is ultimate only after radioactive decay, (ii) dispersed radioisotopes may be reconcentrated to hazardous levels, (iii) carefully scaled-up experiments are necessary before full-fledged disposal, and (iv) extensive and exhaustive environmental sampling and evaluation are necessary to document safe operation, to provide factual knowledge of the processes involved, and to relate theory, experimental data, and practice.

Half the book deals with fundamentals of radioactivity (the nature, hazards, measurement) rather than with disposal or disposal practice. That part provides a complete background, however, and is well keyed to waste disposal. Many examples enlighten the subject.

The section concerned with actual disposal describes thoroughly the theory and practice of disposing of gaseous wastes into the atmosphere, burying solid waste on land and in the sea, and disposing of liquid waste in rivers and oceans. Numerous case histories and experiences are cited. Disposal of liquids in the ground, a dominant practice in some large-volume separation plants in the United States, is treated only briefly, and only brief mention is given to problems of long-term storage of wastes in tanks, on ceramics or other materials, until adequate decay occurs. For the length of time involved in this process, no container can be guaranteed corrosion- or fail-proof and no radioactive ceramic or other fixation product guaranteed unleachable. Hence the earth features that regulate waste behavior need be known.

The experience recounted here, because it reflects the waste disposal philosophy of the United Kingdom Atomic Energy Authority, makes their practices well worth studying. More discussion of the long-term and international aspects may well be warranted.

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New Books

Mathematics, Physical Sciences, and Engineering

Analytical Elements of Mechanics. vol. 2, *Dynamics*. Thomas R. Kane. Academic Press, New York, 1961. 353 pp. Illus. $6.25.

Atlas of the Universe. H. E. Butler, Ed. Nelson, New York, 1961. 226 pp. Illus. $9.95.

Ballistic Missile and Space Vehicle Systems. Howard S. Seifert and Kenneth Brown. Wiley, New York, 1961. 538 pp. Illus.

Basic Concepts of Physics. Chalmers W. Sherwin. Holt, Rinehart, New York, 1961. 421 pp. Illus. $6.50.

Calculus of Finite Differences. Charles Jordan. Chelsea, New York, ed. 2, 1960. 673 pp. $6.

Combustion, Flames and Explosions of Gases. Bernard Lewis and Guenther von Elbe. Academic Press, New York, 1961. 750 pp. Illus. $22.

Concepts of Mass. In classical and modern physics. Max Jammer. Harvard Univ. Press, Cambridge, Mass., 1961. 230 pp.

Dyeing of Cellulosic Fibres and Related Processes. S. R. Cockett and K. A. Hilton. Academic Press, New York, 1961. 430 pp. Illus. $12.

Explosion Studies of Continental Structure. Publ. 622. John S. Steinhart and Robert P. Meyer. Carnegie Institution of Washington, Washington, D.C., 1961. 422 pp. Illus. Paper, $2.50; cloth, $3.

Geology of the Arctic. vols. 1 and 2. Gilbert O. Raasch, Ed. Univ. of Toronto Press, Toronto, Canada, 1961. 1210 pp. + maps. Illus. $25.50.

Introduction to Chemical Engineering. L. Bryce Andersen and Leonard A. Wenzel. McGraw-Hill, New York, 1961. 376 pp. Illus. $9.50.

An Introduction to Information Theory. Fazlollah M. Reza. McGraw-Hill, New York, 1961. 517 pp. Illus. $13.50.

Lectures on the Calculus of Variations. Oskar Bolza. Chelsea, New York, ed. 2, 1961. 280 pp. Illus. Paper, $1.19; cloth, $3.25.

Mathematics in the Making. Lancelot Hogben. Doubleday, Garden City, N.Y., 1960. 320 pp. Illus. $9.95.

A Modern Introduction to Organic Chemistry. William B. Smith. Merrill, Columbus, Ohio, 1961. 271 pp. Illus.

Namenreaktionen der Organischen Chemie. Ein Beitrag zur Terminologie der organischen Chemie, Biochemie und theoretischen organischen Chemie. Helmut Krauch and Werner Kunz. Hüthig, Heidelberg, Germany, 1961. 591 pp. Illus. DM. 46.

New Thinking in School Mathematics. Organization for European Economic Cooperation, Paris, 1961. 246 pp. $2.50.

The Organic Chemistry of Boron. W. Gerrard. Academic Press, London, 1961. 318 pp. Illus. $9.

Pressurized Packaging. Aerosols. A. Herzka and J. Pickthall. Academic Press, New York; Butterworth, London, ed. 2, 1961. 520 pp. Illus. $15.

Principles and Applications of Paper Electrophoresis. Ch. Wunderly. Elsevier, New York, 1961 (order from Van Nostrand, Princeton, N.J.). 253 pp. Illus.

Programming and Coding for Automatic Digital Computers. G. W. Evans and C. L. Perry. McGraw-Hill, New York, 1961. 261 pp. Illus. $9.50.

Progress in Cryogenics. vol. 3. K. Mendelssohn, Ed. Academic Press, New York, 1961. 177 pp. Illus. $8.

Quantitative Organic Microanalysis. Al Steyermark. Academic Press, New York, ed. 2, 1961. 682 pp. Illus. $16.50.

The Rare Earths. F. H. Spedding and A. H. Daane, Eds. Wiley, New York, 1961. 652 pp. Illus. $14.75.

The Royal Society International Geophysical Year Antarctic Expedition, Halley Bay, Coats Land, Falkland Islands Dependencies, 1955-1959. vol. 1. Introductions. Aurora and airglow. Geomagnetism. Sir David Brunt, Ed. Royal Society, London, 1960. 420 pp. Illus. $23.

Space Power Systems. Nathan W. Snyder, Ed. Academic Press, New York, 1961. 649 pp. Illus. $6.

Stability in Nonlinear Control Systems. Alexander M. Letov. Translated from the Russian by J. George Adashko. Princeton Univ. Press, Princeton, N.J., 1961. 330 pp. Illus. $8.50.

Theory of Elasticity. V. V. Novozhilov. Translated from the Russian by J. K. Lusher. Pergamon, New York, 1961. 460 pp. Illus. $12.50.

Transactions of the Second Prague Conference on Information Theory, Statistical Decision Functions, Random Processes. Publishing House of the Czechoslovak Acad. of Sciences, Prague; Academic Press, New York, 1960. 843 pp. $22.