

re-establishment of geography, but no action was taken. Dr. Rice, discouraged by the policy of the university to discontinue geography, withdrew his support of the institute. The building is now closed, pending the decision of the university as to its further use.

It is too soon for the staff of the institute to have completed plans for the future, but Edward S. Wood, Jr., expert in acrophotography, is going on with his consulting jobs, and Erwin Raisz is continuing at his workshop in Cambridge.

ERWIN RAISZ

107 Washington Ave., Cambridge, Massachusetts

Radiation Sensitivity of Benzene- d_6 ¹

OF ORGANIC compounds, the aromatic are the most resistant to radiation, and of these the most resistant heretofore reported is benzene (1). For example, it is less sensitive to decomposition by high-energy radiation than aliphatic hydrocarbons by a factor approximating 100. It has been shown (2) that the 100 ev yields of gaseous products from liquid benzene

¹Contribution from the Radiation Chemistry Project operated by the University of Notre Dame under Atomic Energy Contract AT(11-1)-38.

irradiated with 1.5-mev electrons from a HVEC Van de Graaff generator are, respectively, $G(H_2) \approx 0.037$ and $G(C_2H_2) \approx 0.022$.

We have now examined the radiation chemistry of benzene- d_6 and find that it is even more resistant to high-energy radiation than benzene, with yields $G(D_2) \sim 0.011$ and $G(C_2D_2) \sim 0.013$. These results are undoubtedly to be correlated with differences of zero-point energy of C-H and C-D and perhaps of C-C vibrations in the two compounds, but no simple relationship can be expected. The fact that $G(H_2) > G(C_2H_2)$, whereas $G(D_2) < G(C_2D_2)$, suggests that in radiolysis benzene decomposes by at least two essentially different processes.

It is noteworthy that benzene- d_6 has the lowest currently known radiation sensitivity of any liquid organic substance.

SHEFFIELD GORDON²

MILTON BURTON

Department of Chemistry

University of Notre Dame

References

1. BURTON, M. J. *Chem. Education*, **28**, 404 (1951).
 2. MANION, J. P., and BURTON, M. J. *Phys. Chem.* (in press).
- ²Present address: Chemistry Division, Argonne National Laboratory, Chicago, Ill.



Scientific Book Register

Copolymerization. Turner Alfrey, Jr., John J. Bohrer, and H. Mark. New York-London: Interscience, 1952. 269 pp. \$6.80.

Urine and the Urinary Sediment: A Practical Manual and Atlas. Richard W. Lippman. Springfield, Ill.: Thomas, 1952. 124 pp. \$7.50.

The Action of Hormones in Plants and Invertebrates. Reprinted, with additions and supplementary bibliographies, from *The Hormones*, Vol. I. Kenneth V. Thimann, Ed. New York: Academic Press, 1952. 228 pp. \$5.80.

The Explanation of Human Behaviour. F. V. Smith. London: Constable; New York: Macmillan, 1951. 276 pp. \$2.75.

Classical Mechanics. D. E. Rutherford. Edinburgh-London: Oliver and Boyd; New York: Interscience, 1951. 200 pp. \$2.25.

Plastics Molding. John Delmonte. New York: Wiley; London: Chapman & Hall, 1952. 493 pp. \$9.00.

The Lebesgue Integral. Cambridge Tracts in Mathematics and Mathematical Physics, No. 40. J. C. Burkill. New York: Cambridge Univ. Press, 1951. 87 pp. \$2.50.

Plane Table Mapping. Julian W. Low. New York: Harper, 1952. 365 pp. \$5.00.

Essentials of Histology. 2nd ed. Margaret M. Hoskins and Gerit Bevelander. St. Louis, Mo.: Mosby, 1952. 240 pp. \$4.00.

The Principle of Relativity. A collection of original memoirs on the special and general theory of relativity by H. A. Lorentz, A. Einstein, H. Minkowski, and H. Weyl. Reissue. New York: Dover, 1952. 216 pp. \$1.50; cloth, \$3.50.

Drugs and Solutions. Harold N. Wright and Mildred Montag. Philadelphia: Saunders, 1952. 91 pp. \$1.75.

A Laboratory Manual for Geology, Part II: Historical Geology. Kirtley F. Mather and Chalmer J. Roy. New York: Appleton-Century-Crofts, 1952. 96 pp. and worksheets. \$2.75.

Electrical Communications Experiments. Henry R. Reed, T. C. Gordon Wagner, and George F. Corcoran. New York: Wiley; London: Chapman & Hall, 1952. 458 pp. \$6.75.

Journeys and Voyages to Nature: A Survey of One Hundred Books. J. Christian Bay. Chicago: John Crerar Library, 1951. 67 pp. \$2.00.

The Hand of God: A Study of the Creation of Man, Mind, and the Universe. Harriet Chaffey Payne. New York: Exposition Press, 1952. 107 pp. \$2.50.

Partial Differentiation. R. P. Gillespie. Edinburgh-London: Oliver and Boyd; New York: Interscience, 1951. 106 pp. \$1.95.

Textbook of Organic Chemistry. 3rd ed. George Holmes Richter. New York: Wiley; London: Chapman & Hall, 1952. 762 pp. \$6.75.

A Sex Guide to Happy Marriage. 1st Am. ed. Edward F. Griffith. New York: Emerson Books, 1952. 352 pp. \$3.00.

Nutrition and Climatic Stress: With Particular Reference to Man. H. H. Mitchell and Marjorie Edman. Springfield, Ill.: Thomas, 1951. 234 pp. \$6.75.

Connective Tissue. Transactions of the Second Conference, May 24-25, 1951, New York. Charles Ragan, Ed. New York: Josiah Macy, Jr. Fdn., 1952. 190 pp. \$3.50.