

Book Reviews

Action of Chemicals on Dividing Cells. Bengt A. Kihlman. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966. 260 pp. \$8.

Cell division has long been a favorite subject in biologic research. Recent advances in molecular biology and cell biology have contributed immensely to the understanding of division processes. Dr. Kihlman's book reviews the large amount of work devoted to the actions of physical and chemical agents on dividing cells dealing with mitotic apparatus, the cell cycle, DNA synthesis, and the chromosomes. Part I is a review of our knowledge of the cell, the nucleus, DNA synthesis, chromosomes, and mitosis; Part II is on inhibition of mitosis and production of chromosomal aberrations. As the author admitted, the book is somewhat unbalanced because of his own interests. This is especially reflected in the poor representation of fine structure studies. His few electron micrographs are not of first class quality, probably because of his taste in plant materials.

It is perhaps unfair to review a book such as this two years after its publication, which means at least three years after the completion of the manuscript. A great deal of new information relating to the topics discussed in this book has become available during the past three years, thereby out-dating some of the points. Not an exhaustive review, it does remain, however, a good introduction to the literature.

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Tobacco and Tobacco Smoke. Studies in Experimental Carcinogenesis. Ernest L. Wynder and Dietrich Hoffmann. New York: Academic Press, 1967. 730 pp. \$29.

This book should be read by current and prospective researchers in tobacco or atmospheric pollutants. All phases of tobacco chemistry, physics, and biology related to experimental carcinogenesis are exhaustively discussed. Methodologic minutiae and other details are given on various topics not available elsewhere in a single volume: ciliostatic, tumorigenic, and smoke inhalation technics; reconstituted tobacco sheet (by a collaborating author); smoking machine designs and performance; and the technology of smoke filtration, including a list of patents (1937-1964) (by collaborating authors). The chapter on the chemical constituents of leaf and smoke is a somewhat expanded version of a previous review by the authors, and supplemental information on pesticidal residues and tobacco additives is of special interest. Comments on the relative contribution of the known carcinogens, promoters, and other biologically active agents in smoke to the tumorigenic and related activities in animals are provocative. A section on suggested future studies is especially interesting. Relatively few errors occur; perhaps the major criticism is the failure to include

many references to the 1966 and early 1967 literature, although readers seasoned in the hazards of modern-day publication will understand. The authors' readiness to express opinions freely will be criticized by some but will be considered a change from conformity by others.

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The Cell Periphery, Metastasis and Other Contact Phenomena. Frontiers of Biology. Volume 7. Leonard Weiss. New York: John Wiley & Sons, Inc., 1967. 388 pp. \$17.50.

Recent years have witnessed a growing interest in the membrane of cells and on the cell surface and, not unexpectedly, compilations of the rapidly expanding literature are now appearing in the form of reviews and monographs. One of these, by Dr. L. Weiss, is a useful summary and source of pertinent references of the physical aspects of cell surfaces and their interactions. The special contributions of this book are the discussions on the interplay of attractive and repulsive factors between cells, kinetic factors and the nature of cell contact, intercellular adhesiveness, and cell separation phenomena. A full, critical chapter is devoted to physical methods of studying the periphery of the cell, cell electrophoresis, tension at the cell periphery, and methods of assessing cell adhesiveness. Almost a third of the book is devoted to problems of the surface of the malignant cell and to the nature of metastases and cell infiltration, and there are interesting discussions on the participation of the cell surface in developmental processes and in virus infection. However, it is unfortunate that the book is marred by an outdated and inaccurate discussion of the chemistry of the cell surface. Despite this shortcoming, this comprehensive presentation of the physical-chemical aspects of the cell periphery should prove to be an invaluable stimulus to workers in the field.

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Cancer Therapy by Integrated Radiation and Operation. Benjamin R. Rush, Jr., and Robert H. Greenlaw (eds). Springfield, Illinois: Charles C Thomas Publisher, 1968. 167 pp. \$12.75.

This volume contains the results of a symposium sponsored by the University of Kentucky College of Medicine and the American Cancer Society. It is almost entirely devoted to a series of disconnected presentations of preoperative radiotherapy or "integrated" radiotherapy and surgery in the treatment of a variety of malignant tumors. Through-