per hour elevates serum ascorbate from about 1 mg/dl to a maximum of 4 mg/dl. Again, the physiological significance of Lewin’s observation is questionable.

After stress or ACTH secretion, adrenocorticosteroid secretion is associated with decreased adrenal cholesterol and ascorbate. From this finding, Lewin hypothesizes that vitamin C plays an important role in the synthesis of adrenal steroids. He does not, however, satisfactorily address the observations that adrenocorticosteroid secretion is normal in scorbutic individuals and that steroid secretion in perfused adrenal glands is not affected by the concentration of vitamin C in the perfusate.

One should look elsewhere for a critical review of the biological actions and potential medical value of vitamin C.

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**Leucocyte Membrane Determinants Regulating Immune Reactivity.** By V.P. Eijsvogel, D. Roos and W.P. Zeijlemaker. New York, Academic Press, 1976. 776 pp. $26.50.

This book contains the proceedings of the Tenth Leucocyte Culture Conference held in Amsterdam in 1975 and is the latest in a series of volumes summarizing those meetings. The theme of the meeting as expressed in the book title concerned the possible role of membrane structures in a variety of immunobiological phenomena. The 140 contributions are grouped into six sections ranging from “Ligand binding and subsequent changes in membrane properties” to “Mediation of effector functions by membrane determinants in different leucocyte subpopulations.” Within each section presentations are grouped into three categories: complete papers followed by a transcript of the discussion of the paper, complete but brief presentations and abstracted presentations. Most of the contributions are concerned with lymphocyte activity although in some sections studies involving macrophages, neutrophils and polymorphonuclear leucocytes are presented. In general the major contributions are of high quality. Some of the abstracted presentations suffer from an excessive use of abbreviations and acronyms to the point of making the report unintelligible.

This book may be most useful to those well versed in cellular immunology and membrane immunology and essentially gives the “state of the art” as of 1975 in these rapidly developing areas. The information presented would probably be less useful to those not directly involved or acquainted with these particular areas.

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**Human Tumors in Short Term Culture: Techniques and Clinical Applications.** Edited by P.P. Dendy. London, Academic Press, 1976. 344 pages. $24.00.

This book is based on the proceedings of a meeting on “Clinical Applications of Short Term Cultures of Human Tumor Biopsy Specimens” held in Cambridge, England, in September, 1974. The 32 papers in the volume give a detailed overview of this subject, from the methodology of cell and organ culture to the routine use of short term cultures as clinical tools in the diagnosis and treatment of cancer.
The book begins with an excellent section on the methodology for starting and maintaining cell and organ cultures from human biopsy specimens. Techniques for growing monolayer cultures, cell suspension cultures, free-floating slice cultures, and organ cultures of several types are presented clearly and in detail. Subsequent sections of the book describe the application of short term cultures of tumor cells to diagnosing cancer, evaluating the immunological status of the cancer patient, and predicting the sensitivity of tumors to therapy. Several papers describe the use of short term cultures to evaluate the sensitivity of tumors to chemotherapeutic agents, ionizing radiation, hyperthermia, and hormonal therapy. Many of these papers are especially valuable to the researcher, because they emphasize the development, methodology, application, and limitations of the cell culture techniques, as well as the data obtained with the cultures. The final section of the book considers the possibility of individualizing chemotherapy by using short term cultures from biopsy specimens to monitor the chemosensitivity of individual tumors before and during treatment and using the data obtained in these tests to optimize the therapeutic regimen for each patient.

In spite of the fact that this conference was held 3 years ago, the book is one of the best and most up-to-date available reviews of the techniques and applications of short term cultures of tumor cells in cancer research and cancer therapy. The book should be of interest and use to those working with cultures of human or animal tumors, to those interpreting data obtained with such systems, and to those interested in new clinical tools for use in the diagnosis and treatment of cancer.

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**Radiation Protection for Radiologic Technologists.** By Robert Frankel. New York, McGraw Hill, 1976. 150 pp. No price.

This is an excellent book on protection written primarily for diagnostic radiologic technologists but it is a worthwhile introduction to protection for medical students and physicians. For a short textbook, it does very well integrating basic physics, radiation biology and radiation protection.

There are ten chapters starting with a review of the interaction of x-rays with matter, units of radiation, and the biological effects of ionizing radiation both immediate and long-term. These effects are then translated to the clinical situation and into maximum permissible doses for both radiation workers and the general public. Examples of specific calculations of permissible doses in various circumstances are demonstrated.

In later chapters, the student learns the uses and limitations of various types of instruments used in ionizing radiation protection, as well as the basic methods of minimizing diagnostic x-ray exposure of patients and operators.

The book is very easy to read and developed from a series of lectures given to various groups of radiologic technologists. One criticism I have is that with little extra effort, the content would have been adequate for therapy technologists also. Each chapter is concluded with a series of excellent questions covering the most important material delivered in the chapter. The illustrations are clear and uncomplicated. The whole book is well-coordinated which makes it a worthwhile text for diagnostic radiology students and technologists. In addition, diagnostic radiology