

The contents of the book represent several years of experimental work by twenty-two prominent investigators. The editor has taken a good deal of effort to coordinate fifteen diverse experimental works into an integrated monograph on nuclear cytoplasmic interactions. In some ways the book is deficient. For example, the reproduction of photographic materials is not of the best quality, and in some cases the methods used by investigators in obtaining their experimental results are either absent or obscure. Thus, the high school or college teacher not familiar with the techniques might not derive the full benefit of this complicated subject. Knowledge in such procedures as isotope labeling and autoradiography, scintillation counting procedures, biochemical techniques, centrifugation and sedimentation analyses, and other cytological methods would be of particular help to the reader.

The reader should be reminded that while few real answers have been made, it has only been in the last 10-15 years that many of the techniques used in these studies have been developed and utilized. Biology is rapidly advancing and perhaps in another decade many of the unsolved mysteries concerning nuclear cytoplasmic interactions in cells will be solved.

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BLOOD, Leo Vroman, 178 pp., \$4.95, The Natural History Press, Garden City, New York, 1967.

Dr. Leo Vroman has written an interesting little book about a subject very close to his heart—blood (not necessarily a pun!). In addition to a long-time fascination with blood and its properties, Dr. Vroman also is a competent investigator in the area of blood coagulation and has reported his studies in many articles in professional journals. His book differs from many textbooks on this subject in that it is written in the first person; it looks as if the author did his own illustrating, and the book doesn't read like a textbook. By the time you have finished reading the book, you feel you know something about blood and something about the author. Vroman makes frequent references to his experiences as well as his experiments and he invites the reader to share in them. Therein lies both the strength and weakness of the book. By drawing in the reader to participate in the design of an experiment and to speculate on the possible results, the author communicates to the reader some of the excitement of doing research. On the other hand, some of the excursions (travel, employment, philosophy, etc.) get pretty far afield and the reader is left not knowing what point

the author is trying to put across. For the most part, Vroman has explained some fairly complex biochemical and physiological concepts in a novel and lucid fashion. Some of the subjects discussed in the six chapters include the gross structure and composition of blood, the biosynthesis, chemistry and interaction of proteins, and the function of blood. As might be expected, the sections dealing with coagulation are outstanding. The book is suitable for high school students (although a few may find parts difficult) and for college undergraduate students (although a few will feel that the author is "talking down" to them). It is reasonably free of errors and reasonably priced. Incidentally, Leo Vroman's book would be a good one for biology teachers also.

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LIPID METABOLISM IN TISSUE CULTURE CELLS, George H. Rothblat and David Kritschewsky, Eds., 164 pp., \$5.00, Wistar Institute Press, Philadelphia, 1967.

This is a report of a symposium held May 16, 1966 and is the sixth in the Wistar Institute Symposium Monograph series. It reviews the current knowledge of a subject that is new and rapidly advancing. The participants included the principal workers in the field and each of the eight papers is followed by a transcription of the discussion of it by the other participants. The first paper, by H. Earle Swim, reviews the work on the nutrition of cells in culture from the pioneer work by Carrel in 1912 to the recent attempts to develop chemically defined media for cell cultures.

Various aspects of lipid metabolism in cells in culture are discussed in the papers that follow. Chief concern was with the fatty acids and with sterols. The former are used in metabolic activities and when in excess are stored in droplets within the cells. Sterols are important in membrane formation, but do not take part in cellular metabolism. Considerable attention is given to the mechanism of sterol uptake and utilization.

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THE ELECTRON MICROSCOPE IN MOLECULAR BIOLOGY, G. H. Haggis, 84 pp., \$3.95, John Wiley and Sons, Inc., New York, 1967.

A paperback of good quality paper with beautiful electron micrographs and originally published in England. It is not meant to be a comprehensive review of the cell, or its structures, or even molecular configurations, but



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