Although the casual reader would be unlikely to be interested in the depth (and the necessary controversy) represented by all 5 subjects, the volume would seem to be an ideal handbook for fellows in perinatal physiology.

Gerald G. Anderson
Department of Obstetrics and Gynecology
Yale University School of Medicine

The Living State, with Observations on Cancer. By Albert Szent-Gyorgyi. Academic Press, New York. x, 114 pp. $6.55.

In a letter to the Editor of Science (176, 966, 1972), Professor Szent-Gyorgyi described his approach to science as Dionysian. This little book provides some further insight into the meaning of this statement. In 114 pp. he writes about some of his research interests over the past half century. This account does not describe the work in much experimental detail, but rather tries to give the motivation for the interest in each subject.

It came as a mild surprise to this reader to find that apparently Szent-Gyorgyi has made a career of making significant discoveries which were motivated by what seem to be rather suspect hypotheses, or just intuition, combined with fateful circumstances. For example, he indicated that his research which led to the discovery of ascorbic acid (vitamin C) was motivated by his interest in how plants respond to injury (discoloration is a related symptom in some plants, which involved the study of phenol oxidases and peroxidases) and his simultaneous dislike of peppers. When his wife served some peppers for dinner, he tactfully avoided them by a plan to take them to the lab where he found them to be the only adequate source of ascorbic acid which he had discovered.

It is not clear for whom this book is written. It is too technical in places for general audiences, yet its scientific content is meager. The author wanders through his pet theories which impinge on everything from the origin of life to the nature of malignancy. He pulls together bits and pieces of scientific evidence, opinion and wishful thinking to support his ideas. This reader is no more enlightened on “The Living State” after reading this book than when reading the statement on p. 1 that, “Life appears to be a revolt against the rules of Nature.” On the other hand, I have a great deal more understanding of the Dionysian approach to science and of one of its most successful practitioners.

William C. Summers
Department of Radiology
Yale University School of Medicine

The Molecular Basis of Electron Transport. Edited by J. Schultz and B. F. Cameron. Academic Press, New York, 1972. xi, 368 pp. $11.50.

Volume four of this series of winter symposia is devoted in large measure to the presentation of reviews by prominent investigators on the relationship of electron transport to the mechanism of energy conversion and the structural and functional organization of the mitochondrion. Approximately two-thirds of this volume is comprised of reviews of current researches and hypotheses regarding the orga-
nization of the respiratory chain and its relation to phosphorylating and nonphosphorylating energy conversion. These are presented by E. C. Slater, E. Racker and D. E. Green. B. Chance discusses kinetic and thermodynamic experiments on electron transport and energy coupling at site III of the mitochondrial electron transport chain. A summary of experimental findings on the relationship of electron transport to calcium accumulation is presented by A. L. Lehninger. The relationship of the structure and chemistry of cytochrome c to its role as a component of the mitochondrial electron transport chain is discussed by E. Margoliash et al.

The balance of the volume is devoted to an analysis of the mechanism of action of selected electron transferring enzymes including cytochrome P-450, Orcinol hydroxylase and various peroxidase systems.

This volume will be of greatest value to those investigators and students wishing a rapid insight into current investigations on and conceptualizations of the process of electron transport in energy conserving systems. The studies on site III electron transfer and the discussions of the mechanism of action of various electron transferring enzymes should also be of great interest to investigators of oxidative systems which utilize oxygen as the electron acceptor.

Ernest G. Uribe
Department of Biology
Yale University

Immunosympathectomy. Edited by G. Steiner and E. Schonbaum. Elsevier, New York, 1972. xiii, 253 pp. $27.50.

There are several fascinating articles in this monograph to satisfy appetites both of the novice and the professional; their value comes largely from a temporal overview of research on Nerve Growth Factor and its antiserum. The striking effects of Nerve Growth Factor on sympathetic ganglia were first observed in 1952 as a byproduct of an implanted tumor (sarcoma 180). Subsequent investigations have dealt with purification of the factor, studies that attest to its specificity of action on developing sympathetic and sensory peripheral nerve cells, and descriptions of its morphological and functional effects. In this context the use of antibodies to Nerve Growth Factor has been useful, and much of the present volume is devoted to descriptions of the antibody's effects in animals, thus the title "immunosympathectomy."

The way in which Nerve Growth Factor acts remains an enigma, albeit an intriguing one. One disappointing aspect of this book is that there is little discussion of cellular targets of action or reasons for the exquisite specificity of Nerve Growth Factor. The known chemical nature of Nerve Growth Factor and its active molecular site has been completely omitted in the present volume. In this sense its counterpart "Nerve Growth Factor and its Antiserum" (E. Zaimis, Ed.), also published in 1972, is preferable in that it reviews such information. "Immunosympathectomy" has more articles dealing with whole animals and their behavioral and metabolic response to Nerve Growth Factor antibody. Most of the articles suggest that the use of immunosympathectomy clinically is limited, because although there are profound changes in peripheral sympathetic innervation, ensuing functional deficits are barely detectable.

Laura Manuelidis
Department of Pathology
Yale University School of Medicine