that the new findings are presented with good balance as to the extent of treatment of various topics. A good cross section of the physical and general chemical properties is given, and much worth-while data and theory are collected and correlated with previous information.

The journal and text literature is assembled chronologically at the end of each chapter, referred to by author and by year. The extensive project literature follows the foregoing and is indexed alphabetically by sites—e.g., British, Brown University, C.E.W.–T.E.C. (Clinton Engineering Works, Tennessee Eastman Co.), etc., with work from each site listed chronologically and serially numbered. In the text, reference is made to these project reports by site and number—e.g. MP Chicago, 2, or U.C.R.L. 35.

There is a rather brief subject index of 9 pages that has rather few cross references on detailed matters. However, the logical arrangement of subject matter in the book is such that the reader should have no great difficulty in finding detailed information.

The lithoprint process has produced a clear and readable text, with adequate emphasis on topics through judicious use of center and side headings.

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Biological Actions of the Adenine Nucleotides. H. N. Green and H. B. Stoner. London: H. K. Lewis, 1950. 221 pp. 25s.

In recent years a number of excellent monographs have appeared on the biochemistry of adenine nucleotides. However, little attention has been given to the pharmacological and pathological aspects of these substances. Most of the available reviews in this latter field are outdated. The recent book of Green and Stoner will, therefore, be welcomed by research workers. The authors, members of the British Traumatic Shock Team during World War II, have published many papers on their original investigations in the past decade dealing especially with the significance of adenine nucleotides in traumatic shock. This book, aside from review material, contains many heretofore unpublished experimental data from the authors' laboratory.

The first chapters review briefly the chemistry and enzymatic decomposition of the adenine nucleotides. Absorption and fate of adenosine triphosphate (ATP) injected into the organism are discussed. Experimental data are presented on the absorption and decomposition of intraperitoneally injected nucleotides. These data are of special interest because of recent attempts to use ATP injections in the therapy of various pathological conditions.

Subsequent chapters describe the actions of ATP and other purine derivatives on the cardiovascular and respiratory systems, body temperature, oxygen consumption, carbohydrate metabolism, etc. Tables are presented on LD_{50} and shock-inducing doses. Autopsy findings are described in detail. All these data are compared with the effects of ischemic shock.

The central concept of the book is to demonstrate analogy between the action of parenterally administered adenine nucleotides and ischemic shock. Such similarities are pointed out in each section. In the last chapter the literature on the possible role of nucleotides in pathological states is reviewed. The authors and their collaborators observed increased inorganic phosphate, acid labile phosphate, and pentose levels in different types of shock in humans and in rabbits. Kalckar and Lowry, however, obtained contradictory results using the differential ultraviolet spectroscopic method of the senior author. The recent studies in this field of Hoffman, Rottino, and Albaum (SCIENCE, **114**, 188 [1951]) and Zahl and Albaum (*Proc. Soc. Exptl. Biol. Med.*, **77**, 388 [1951]) could unfortunately not be included.

The effect of different substances and conditions on ATP shock was also investigated. Magnesium and infections dramatically potentiated ATP shock, calcium increased the cardiac effects, myoglobin the nephrotoxic action, and embolism potentiated the respiratory damage. On the other hand, ATP increased the production of thrombi and retention of emboli in the pulmonary circulation and sensitization to various infections. Isotonic sodium chloride infusions and warm environment proved to be the most effective therapeutic measures in ATP shock of mice. Quinine and mepacrine showed some antagonistic effect toward adenosine derivatives, whereas paludrine was ineffective.

Although the point the authors most emphasize—the role of adenine nucleotides in traumatic shock—seems to be largely controversial, this book will be a valuable reference for those interested in the pharmacological actions of these compounds.

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Scientific Book Register

Diptera of Patagonia and South Chile: Mycetophilidae, Part III. Based mainly on material in the British Museum (Natural History). Paul Freeman. London: British Museum (Natural History), 1951. 138 pp., 49 plates.

Die Grundlagen der Theorie des Mikroskops. Kurt Michel. Stuttgart: Wissenschaftliche Verlag, 1950. 314 pp.

The Psychoanalytic Study of the Child, Vol. VI. Ruth S. Eissler *et al.*, Eds. New York: International Univ. Press, 1951. 393 pp. $7.50.

Higher Chemical Arithmetic. F. W. Goddard. New York–London: Longmans, Green, 1951. 221 pp. $1.60.

Experiments in Biochemistry. Max S. Dunn and William Drell. New York–London: McGraw-Hill, 1951. 197 pp. $5.00.

Progress in the Chemistry of Organic Natural Products, Vol. 8. L. Zechmeister, Ed. Vienna: Springer-Verlag, 1951. Distributed by Walter J. Johnson, New York. 400 pp. $16.00; $16.80 bound.