

tated CoA, it has been found that the arsenolysis of succinyl CoA¹ is independent of CoP which might indicate that the reaction catalyzed by enzyme preparation A is complex. The sequence of reactions in phosphorylation as known at present may be indicated as follows:

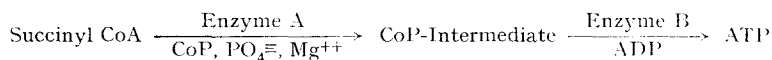


TABLE I
COENZYME REQUIREMENT FOR SUCCINYL CoA SYNTHESIS
μmoles

ATP commercial	ATP rechromatographed	CoA	CoA reprecipitated	CoP	-A -SH
---	---	---	0.32	---	0.00
---	0.50	---	0.32	---	0.02
---	0.50	---	0.32	0.0015	0.11
---	0.50	---	0.32	0.006	0.18
0.50	---	---	0.32	---	0.14
---	---	0.47	---	---	0.00
---	0.50	0.47	---	---	0.18

The reaction mixture consisting of KBH₄ (1 μmole), MgCl₂ (2 μmoles), THAM buffer (6 μmoles), succinate (20 μmoles), enzyme A (0.1 mg), enzyme B (0.025 mg) and above components in 0.5 ml at pH 7.5 was incubated for 10 minutes at 30°. The -SH was determined by the nitroprusside reaction².

REFERENCES

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- ³ H. BEINERT, R. W. VON KORFF, D. E. GREEN, D. A. BUYSKE, R. E. HANDSCHUMACHER, H. HIGGINS AND F. M. STRONG, *J. Biol. Chem.*, 200 (1953) 385.

Received January 10th, 1954

BOOK REVIEWS

The Harvey Lectures, delivered under the Auspices of the Harvey Society of New York, 1951-1953, Series XLVII, Academic Press Inc. Publishers, New York, 1953. Price \$ 7.50.

This series of Harvey Lectures contains four lectures of great biochemical interest. A. R. TODD (The nucleotides: some recent chemical research and its biological implications) gives a survey of the work carried out in the Department of Organic Chemistry in Cambridge on the structure of nucleotides, including co-enzymes of nucleotide-like structure, and of the macromolecular nucleic acids. The contribution of I. L. CHAIKOFF (Metabolic blocks in carbohydrate metabolism in diabetes) not only gives a lucid account of the numerous investigations on the metabolic disturbances of carbohydrate and fat metabolism in diabetes by the author and his co-workers, but also clearly shows the importance of lipogenesis as a pathway in glucose metabolism. The complexity of the phenomenon of blood coagulation is once more revealed by the lecture, entitled "Coagulation of the blood" by WALTER H. SEEGER, who reviews 15 years' work of strenuous experimental work with its pitfalls and successes. This appears to be the first comprehensive survey of SEEGER'S work, published in about 70 original papers. L. ZECHMEISTER (Biochemical studies and chromatography) treats his investigations by means of chromatographic procedures of the carotenoids and of colourless fluorescent polycyclic hydrocarbons, including the strongly carcinogenic 3,4-benzpyrene, occurring in marine animals, barnacles.

Most of the other lectures of this series (F. R. WINTON, Hydrostatic pressures affecting the flow of urine and blood in the kidney; H. W. MAGOUN, An ascending reticular activating system in the brain stem; W. BARRY WOOD, Jr., Studies on the cellular immunology of acute bacterial

infections; CARRALL M. WILLIAMS, Morphogenesis and the metamorphosis of insects; LOUIS B. FLEXNER, The development of the cerebral cortex: a cytological, functional, and biochemical approach) also contain several points of biochemical interest. Indeed from a biochemist's point of view this series of Harvey Lectures can only be warmly welcomed!

H. G. K. WESTENBRINK (Utrecht)

Textbook of quantitative inorganic analysis (3rd edition). I. M. KOLTHOFF AND E. B. SANDELL, The MacMillan Cy, New York, 1953, \$ 5.00.

Many of the readers of this revue may be familiar with the earlier editions of this text. The book has been employed in many undergraduate and graduate courses in inorganic analysis in the United States. This third revision adds little to the major portion of this excellent text with the exception of some minor additions such as the expansion of the section on physico-chemical methods to include a chapter on analysis by physical methods. The new chapter includes a general background and bibliography of many of the new physical methods of inorganic analysis. Another welcome change is the expansion of the chapter dealing with quantitative separations with a fuller treatment given to organic reagents.

This is a very well written textbook on the subject of inorganic analysis. It is designed primarily as an elementary text but the handling of the theoretical portion is satisfying even to the advanced student. Balancing the theoretical sections there are practical parts of the book dealing with techniques and methods. Each chapter contains a valuable bibliography and a set of practice problems.

The new edition adds little to the already excellent text. Any edition of this book is a valuable asset to a student of inorganic analysis. The new sections modernize the book somewhat and add further reason for the acquisition of this book.

A. S. POSNER (Liège)

Pigment Cell Growth. Proceedings of the third Conference on the Biology of Normal and Atypical Cell Growth, Edited by MYRON GORDON, Academic Press, New York, 1953, 365 pp., \$ 7.00.

Cet ouvrage sur la croissance des cellules pigmentaires (melanocytes) est le fruit d'un symposium, qui s'est tenu en 1951 à Bronx, New York; 38 auteurs y ont participé sous la forme de 22 travaux distincts.

Bien que le sujet soit, à première vue, d'un intérêt limité, le choix des travaux introduit une heureuse variété: l'ouvrage commence par des études sur l'origine embryologique des cellules pigmentaires et sur le contrôle exercé par les gènes sur la pigmentation. L'effet des hormones oestrogènes et thyroïdiennes sur la différenciation des cellules pigmentaires chez la poule *Brown Leghorn* fait l'objet d'une intéressante discussion par J. P. TRINKAUS.

La partie suivante de l'ouvrage a pour objet les tumeurs pigmentées: 8 travaux, d'allure surtout clinique, ont trait aux mélanomes et à des affections voisines de la peau. Enfin, les aspects biochimiques de la mélanogénèse normale ou pathologique sont examinés en détail à la fin du livre: le rôle de la tyrosine et de la tyrosinase sont étudiés chez l'homme par TRAUB ET SPOOR, et chez la grenouille par A. S. BAKER. On doit à V. RILEY, G. HOSSER ET D. BURK une étude extrêmement soignée sur la distribution des enzymes oxydatifs dans les mélanomes chez la souris, à H. S. MASON une excellente discussion de la structure des mélanines et à A. B. LERNER ET T. B. FITZPATRICK une revue sur le contrôle de la mélanogénèse chez l'homme.

La question qui, au point de vue de la Biochimie générale, présente le plus d'intérêt — tout en demeurant fort discutée — est celle des rapports existant éventuellement entre les grains de mélanine et les mitochondries; les observations morphologiques de A. J. DALTON ET M. D. FELIX (contraste de phase et microscopie électronique) n'indiquent aucun lien entre les deux types de granules; mais J. I. PLUMMER ET M. J. KOPAC montrent que des grains d'amidon ou des granules cytoplasmiques se recouvrent d'une couche de mélanine lorsqu'on leur ajoute de la tyrosinase et de la tyrosine. Enfin H. G. DU BUY, M. W. WOODS ET J. L. SHOWACRE insistent sur les ressemblances biochimiques existant entre les mitochondries et les grains de pigment, notamment au point de vue de leurs activités glycolitiques.

La plupart des travaux sont suivis d'intéressantes discussions et la présentation de l'ouvrage est excellent. Tout au plus peut-on regretter que certains travaux européens récents soient ignorés, notamment ceux de BILLINGHAM ET MEDAWAR et de BALTZER dans les domaines génétique et embryologique.

J. BRACHET (Bruxelles)