

## BOOK REVIEWS

*Chemical Physiology of Contraction in Body and Heart Muscle*, A. SZENT-GYÖRGYI, Academic Press, Inc., New York.

Dr. A. SZENT-GYÖRGYI has made great contributions to the field of muscle chemistry during the last fifteen years and his views on the subject, although frequently provocative, are always stimulating and interesting. The most recent presentation of his ideas consists of a series of essays on topics broadly covered by the title *Chemical Physiology of Contraction in Body and Heart Muscle*. The author openly admits his treatment to be a presentation of the problem as he sees it and he aims to reach the general biologist. In the reviewer's opinion here the danger lies, for Dr. SZENT-GYÖRGYI is so persuasive and compelling in argument that it is important to realise that the starting point is sometimes a feeling rather than a fact. To assess the views presented the possession of specialist knowledge by the reader is often essential. For example not every worker in the field would agree with the statement that "there can be little doubt that contraction is a folding of L (meromyosin) filaments". Again it should be pointed out that real proof has yet to be provided that in resting muscle actomyosin is dissociated into its constituent proteins. This premise is the starting point of Dr. SZENT-GYÖRGYI's theories.

In this book the author has drawn largely on the results of his associates and at times has been less than just to the work and views of other independent workers. In discussing the combining ratio for actin and myosin, for example, he gives the results of members of his own school, but no mention is made of the values obtained by competent German and Swedish investigators. In a similar way in the presentation of his theory of contraction, which stresses the splitting of ATP during relaxation rather than during contraction, there is no discussion of the close correlation between ATPase activity and the extent of contraction shown by glycerated fibres; results which many workers find convincing enough to suggest that contraction rather than relaxation is the active process.

Perhaps the most interesting section of the book is that devoted to heart muscle and the relation of the serum factor and various drugs to the "staircase" phenomenon. Muscle biochemistry is frequently all too isolated from the everyday clinical problems of muscle function and Dr. SZENT-GYÖRGYI's real contribution in this volume is his attempt to analyse some of these practical problems, particularly in relation to heart muscle, in terms of what we already know of muscle structure and chemistry.

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*Substances Naturelles de Synthèse*. Collection publiée sous la direction de L. VELLUZ. Volume IV et volume V par J. MATHIEU, A. PETIT, P. POIRIER ET L. VELLUZ; volume VI et volume VII par A. ALLAIS, J. MATHIEU, A. PETIT, P. POIRIER ET L. VELLUZ. Ed. Masson, Paris 1952 et 1953. Vol. IV, pp. 165, relié, 2110 francs; vol. V, pp. 206, relié, 2690 francs; vol. VI, pp. 156, relié, 2110 francs; vol. VII, pp. 157, relié, 2200 francs.

La collection due à l'initiative de L. VELLUZ s'est enrichie, depuis la revue du volume III parue dans ce journal (*Biochim. Biophys. Acta*, 8 (1952) 354), de quatre volumes, dont l'intérêt et la qualité ne le cèdent en rien à ceux des précédents; comme ceux-ci, les nouveaux volumes sont divisés chacun en trois parties, se rapportant respectivement à la description de préparations particulières et à l'étude de méthodes générales, et donnant des notes pratiques sur différentes manipulations de laboratoire. Dans les volumes récemment parus, sont ainsi décrites les préparations suivantes: acide D-pantothénique, adermine, riboflavine, testostérone et DL- $\alpha$ -tocophérol (vol. IV); calciférols, papavérine, DL-phénylalanine, phticol,  $\alpha$ -phyloquinone, phytol (vol. V); acide désoxycholique, adrénochrome, DL-cynurénine, histamine, 17-hydroxy-11-désoxycorticostérone, DL-2-hydroxytryptophane (vol. VI); cortisone, DL-hydroxyproline, DL- $\alpha$ -irone, lyxoflavine, L-lyxose, et DL-proline (vol. VII). Les méthodes générales étudiées sont celles de la cyclisation pyridique et de la chromatographie par adsorption (vol. IV), de la cyclisation benzopyridique et de la chromatographie de partage (vol. V), de la cyclisation imidazolique et des séparations par échangeurs d'ions (vol. VI), de la cyclisation pyrrolique, de la cyclisation indolique et de la dégradation récurrente des acides aliphatiques (vol. VII). Enfin, les notes pratiques concernent la chromatographie sur colonnes (vol. IV), les réactions d'addition diénique (vol. V), les échangeurs d'ions (vol. VI) et les indicateurs de pH (vol. VII).