

charge and electronegativities is used to calculate the dipole moments of various molecules like the halogenomethanes, and the results are in good agreement with the experimental values. Furthermore the distributions of charges calculated by Bykov are in satisfactory agreement with those coming from wave mechanical calculations.

Chapters VII-X are mainly concerned with questions of chemical reactivity. As a whole this book can be useful as a starting point for other investigations, and, as the author claims, "must help the coordination of work on the subject of electronic bond charges."

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Problems of the Biochemistry of the Nervous System. Edited by Professor A. V. PALLADIN, Member of the Academy of Sciences of the U.S.S.R. and the Academy of Sciences of the Ukrainians S.S.R. The Macmillan Co., 60 Fifth Ave., New York 11, N. Y. 1964. xii + 330 pp. 16.5 × 23.5 cm. Price, \$11.50.

This volume is the translation of the papers presented at the Second Conference on the Biochemistry of the Nervous System, which was held in Kiev in February 1957 under the auspices of the Institute of Biochemistry of the Ukrainian Academy of Sciences.

The book presents 33 papers. The first three deal with brain proteins, their isolation, and their changes in functional states, and the incorporation of amino acids in the tissue. They follow the general trend of thought and methodology in the West at the time. Five papers on the metabolism of phosphorus compounds follow, which again show adequate awareness of information and of thought then current among us. Three papers on carbohydrate and one on adrenaline and noradrenaline are up-to-date. Four papers on brain ammonia in different functional states show a definite emphasis on the possible metabolic effects of conditioning, a trend which is peculiar to Soviet biochemistry. Two papers on oxidative phosphorylation and on the influence of temperature on labile phosphorus metabolites, and three papers on histochemistry, covering lipoproteins, certain enzymes, and nucleoproteins, offer no special clue to a difference in emphasis from the West. The last three sections deal, respectively, with four papers on the metabolism of brain during hypothermia, three papers on the effect of radiation, and four papers on changes in brain in relation to illness. The volume closes with a review by A. V. Palladin on the "Functional Biochemistry of Brain."

The volume is well presented, and the translation is such that there is no difficulty in following the results and the reasoning of the authors.

The time elapsed since the symposium was held has permitted a sizable part of these contributions to appear in regular scientific periodicals, or under other forms of publication. Therefore it is not so much the actual results reported in this volume that render it interesting to the American reader, but rather the presentation in a single volume of a representative cross section of neurochemical work and ideas of Soviet scientists of that time. From this point of view, the volume is exceedingly worthwhile and its simple

perusal is of interest. It is clear that the Soviet scientists were at the time quite well informed about happenings in the West, and they usually quote adequately the western references pertinent to their work. However, the degree of this awareness varies markedly from paper to paper, some of the papers being just like any western paper, while others are clearly influenced by the Soviet emphasis on Pavlovian doctrine. There is no relation between this emphasis and the degree of technical excellence, which appears quite adequate in the case of most papers.

This book is also interesting in illustrating the degree of interest in neurochemistry in the Soviet ambiance. Of the 33 papers, 22 come from the three main centers, Moscow, Leningrad, and Kiev. The other 11 come from seven Soviet centers, and from Prague. Thus there is both a concentration of neurochemical work (and, presumably, of facilities) in the main three centers and a fairly wide diffusion in smaller centers throughout the U.S.S.R. This indicates a fairly active interest in neurochemistry, which most likely has increased since the date of the symposium.

In summary this is a book of interest to the specialist who is concerned with the evolution of neurochemical concepts and to the general scientific reader who wishes to learn about scientific progress in the U.S.S.R.

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