

HANDBOOK OF NEUROCHEMISTRY

Edited by Abel Lajtha

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PATHOLOGICAL CHEMISTRY
OF THE NERVOUS SYSTEM

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Edited by Abel Lajtha

*New York State Research Institute
for Neurochemistry and Drug Addiction
Ward's Island
New York, New York*

VOLUME VII

PATHOLOGICAL CHEMISTRY OF
THE NERVOUS SYSTEM

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HANDBOOK OF NEUROCHEMISTRY

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| Volume I | Chemical Architecture of the Nervous System |
| Volume II | Structural Neurochemistry |
| Volume III | Metabolic Reactions in the Nervous System |
| Volume IV | Control Mechanisms in the Nervous System |
| Volume V | Metabolic Turnover in the Nervous System
Part A: Chapters 1-12
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| Volume VI | Alterations of Chemical Equilibrium in the Nervous System |
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PREFACE

Anyone who has any contact with mental patients, old or young, or their families, or just visits a mental hospital or school for the retarded, is aware of the tremendous suffering caused by malfunctioning of the brain. The function of no other organ is so crucial for our everyday life, our proper functioning, indeed our happiness, and no other illness causes as much anguish to patients or their families as mental illness.

It is surprising and sad, therefore, how little effort has been devoted to research in this area; more so because such research is the only hope to ameliorate this suffering, or, to speak in the language of politics or economics, to decrease the enormous sums that we spend on trying to help our patients, with what is must generally be agreed are the most primitive and inadequate methods of treatment.

Clearly, since functions of the brain are vital not only in illness, but in health, pathology is not the only area of concern to neurochemists, but it is an area that urgently needs neurochemical contributions. Progress in this field has been slower than in other areas of neurochemistry, and it seems that solutions in this field are very elusive. The reason for this is that the experimental approach is especially difficult in conditions specific for humans, or specific for complex behavior. The past years have seen progress on even such formidable problems as those concerning behavior, and brain function and malfunction are now better understood. Understanding is usually followed by improvement in treatment, and we can be encouraged to hope for better solutions and, in the not too distant future, for preventions and cures.

As has been noted in previous volumes of the *Handbook*, the coverage of the field that can be called neurochemistry necessarily has to be selective. This proved to be even more necessary for problems of pathological alterations in the nervous system. Unlike in other areas of neurochemistry, less fortunate in this regard, enough reviews and books have appeared recently in this area to permit the present volume not to attempt to review the whole field in exhaustive detail, but to discuss only those areas that need particular attention. In this the last volume, as before, the *Handbook* does not pretend to be comprehensive.

In recent years the support for medical research has decreased, but not the need for this research, nor the proven ability of research to attack serious problems and contribute to their solutions. It is difficult in the absence of vigorous and high-level research to hope for improvements in treatment.

The present book and the other six volumes of the *Handbook* emphasize the great need for further work and are, I hope, helpful in pointing out the direction for some of that search. One could not close the series with a better hope than for research on the nervous system to continue, for it to increase in magnitude and scope, improve its techniques, and widen its possibilities. Surely it must make the basic and far-reaching contributions to the knowledge and understanding and know-how that are essential for our future.

Abel Lajtha

New York, New York
September 1971

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