Psychopharmacology of Aversively Motivated Behavior

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PLENUM PRESS · NEW YORK AND LONDON

Library of Congress Cataloging in Publication Data

Main entry under title:

Psychopharmacology of aversively motivated behavior.

Includes bibliographies and indexes.

1. Psychopharmacology. 2. Brain chemistry. 3. Neuropsychopharmacology. 4. Avoidance (Psychology) I. Anisman, Hymie. II. Bignami, Giorgio. [DNLM: 1. Avoidance learning 2. Psychopharmacology. 3. Behavior—Drug effects. 4. Motivation. 5. Psychotropic drugs—Pharmacodynamics. QV77 P9727]

BF207.P86

615'.78

77-17998

ISBN-13: 978-1-4684-2396-9

e-ISBN-13: 978-1-4684-2394-5

DOI: 10.1007/978-1-4684-2394-5

© 1978 Plenum Press, New York

Softcover reprint of the hardcover 1st edition 1978

A Division of Plenum Publishing Corporation

227 West 17th Street, New York, N.Y. 10011

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Preface

During the past two decades, remarkable advances have been made in psychopharmacology, resulting in increased demands for journal space (witness the large number of journals that cater primarily or exclusively to this topic). Concomitantly, a need developed for more integration of the currently available data. To this end, numerous edited volumes in psychopharmacology have appeared which have been primarily concerned with the role of a particular drug or system in modulating a wide variety of behaviors. While such texts have been most useful in elucidating drug mechanisms and the etiology of a number of behaviors, few attempts have been made to evaluate and integrate pharmacological treatments within a single behavioral category. Specifically, the researcher interested in understanding a given behavior from a neurochemical point of view must consult several texts, each dealing with a different chemical or system. When texts are obtained covering a broad spectrum of systems, they also invariably deal with many different behaviors, thus not allowing for complete integration within a behavioral category. The present volume was planned to meet the needs of the scientist interested in understanding neurochemical mechanisms underlying aversively motivated behavior, as well as drug effects thereon.

In organizing the contents of this text, it quickly became apparent that any attempt to provide a complete overview of behavioral and pharmacological information pertaining to aversive situations was not practical for at least two reasons. First, a considerable portion of this information belongs in highly specialized texts on behavioral endocrinology, macromolecular events in behavioral regulation, and specific learning phenomena, such as memory consolidation. In fact, excellent reviews and books are currently available concerning hormone effects on aver-

sively motivated behaviors, changes in acquisition and retention induced by chemicals that modify protein and nucleic acid metabolism, and agents, mainly convulsants, which have been widely employed in the analysis of memory consolidation. Clearly, any attempt to explore these areas would have led to a multivolume enterprise, much of which inevitably would prove to be redundant with recent reviews. Accordingly, the content of the book was restricted to those areas evaluated extensively but not available in a compact integrated form. The reader will find the initial chapter summarizing the organization of aversively motivated behavior and methodological issues in treatment evaluation. This is followed by a chapter analyzing genotype $\times$ environment interactions that are relevant for the understanding of learning, in general, and avoidance performance, in particular. Chapter 3 describes the neurochemical consequences of stress and the necessary and sufficient conditions in order that these changes occur. Chapters 4 and 5 assess the effects of cholinergic and monoaminergic treatments, respectively, in a variety of aversive paradigms, cutting through several levels of organization—physiological, biochemical, and behavioral. The two following chapters necessarily use a less unitary approach, since they cover heterogeneous groups of agents. Specifically, Chapter 6 considers hallucinogens belonging to different chemical classes, whereas Chapter 7 concentrates on a broad list of psychotropic drug groups that have little in common with each other. Stimulus attributes of drugs, which have become essential in any psychopharmacological analysis, are reviewed in Chapter 8. Finally, the closing chapter represents a tentative overview of the current state of affairs pertaining to the pharmacologic analysis of aversively motivated behaviors.

Last, but certainly not least, we wish to acknowledge the aid of several individuals whose assistance was of inestimable value: Seymour Weingarten, executive editor for Plenum Publishing Corporation; Larry Kokkinidis and Gary Remington for their critical comments on Chapters 1, 3, and 5; Joan Drummond and Beverly Riley who patiently and competently typed successive versions of most chapters; Luigi Amorico and Luigi De Acetis for their assistance in the preliminary preparation of Chapters 4 and 7; Steve Glazier and Jill Morowski for the preparation of the indexes; Maida and Ann-Charlotte for too many things to be listed here; and Simon A. and Francesco B. *in memoriam*, whose endowments to us still appear frequently.

HYMIE ANISMAN
GIORGIO BIGNAMI

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