Book review

Introduction to Neuropsychopharmacology

Leslie Iversen, Susan Iversen, Floyd Bloom & Robert Roth. Published by Oxford University Press, Oxford 2009. 576 pages.
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As pointed out in the Preface by the authors, this book has a long pedigree: it grew out of *The Biochemical Basis of Neuropharmacology* by Cooper, Bloom and Roth whose 8th (last) edition was published in 2003. Another antecedent of the book is *Behavioural Pharmacology* by Iversen and Iversen, published in 1981 by two of the authors. However, the present book goes beyond the updating of the previous publications by incorporating a large section devoted to drugs used in the treatment of neurological or psychiatric disorders and/or used recreationally. In fact, this clinically focused section takes up approximately 50% of the space. After a brief introductory chapter, defining the scope of neuropsychopharmacology, there follow two chapters devoted to a more general discussion of the Cellular and Molecular Foundations of Neuropsychopharmacology (Chapter 2) and Principles and Methods of Behavioural Pharmacology (Chapter 3). Both of these chapters provide clear expositions of their respective fields and successfully set the scene for the understanding of the rest of the book. A major chapter (Chapter 4) is devoted to receptors, covering definition, assays, identification, signal transduction, desensitization and modulation of synaptic transmission. The subsequent seven chapters are devoted to neurotransmitters, including amino acid neurotransmitters (glutamate, GABA, glycine), acetylcholine, catecholamines (noradrenaline, adrenaline, dopamine), serotonin, histamine, neuropeptides (cholecystokinin, corticotrophin-releasing factor, galanin, neurotensin, opioid peptides, substance P, vasopressin and oxytocin, appetite-stimulating and appetite-suppressing peptides) and purins (adenosine, ATP). These chapters provide succinct summaries of current knowledge related to neurotransmitters and are supported by helpful tables and figures. The figures include diagrams of the synapses using each neurotransmitter, showing the processes of synthesis, storage, elimination and receptor activation. In the cases of some of the neurotransmitters schematic anatomical diagrams illus-

trate the main pathways involved (in the rat brain). A separate chapter is devoted to Other Interneuronal Signals, such as prostaglandins, neurosteroids, nitric oxide, carbon monoxide, hydrogen sulphide and endocannabinoids. The section dealing with therapeutically relevant drugs is made up of chapters dealing with either individual classes of centrally acting drugs (antidepressants and anxiolytics, antipsychotics) or symptoms (pain) or disorders (cognitive and movement disorders, epilepsy). This part of the book suffers from a lack of focus. For example, sedative drugs are lumped together with anxiolytics in a chapter entitled Antidepressants and Anxiolytics, and it is not clear on what basis the disorders included were selected. Although cognitive dysfunction is a feature of both Alzheimer's disease and attention deficit hyperactivity disorder (ADHD), it seems to be rather idiosyncratic to bring them together under the heading 'cognitive disorders', rather than using the more conventional taxonomy of disease (i.e. to refer to Alzheimer's disease as a neurodegenerative disorder, and to ADHD as a developmental disorder). The inclusion of the details of the CANTAB test battery in this chapter seems to be rather superfluous in a book aimed primarily at medical students who after graduation are more likely to use some more simple bedside neurocognitive test battery. The last section on recreational psychoactive drugs is helpful by providing up-to-date information on biological mechanisms involved in drug addiction. This section covers psychostimulants (amphetamine, cocaine, ecstasy), opiates, psychedelics (in particular LSD), cannabis and alcohol.

All-in-all, this is a useful, modestly priced textbook providing an up-to-date and comprehensive introduction to the foundations of current neuropsychopharmacology. I found the first half of the book more helpful than the second 'translational' section, which may reflect that the authors' expertise is in basic neuroscience, and also that the same precision and clarity cannot be applied when discussing clinical issues.

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