As the authors have noted in the Preface to the current edition of this excellent volume, in the 13 years since the last edition, the field of neuroscience has exploded and has done so exuberantly. The present volume is a valiant attempt by two senior clinical neuroscientists to present a succinct overview of the advances in the main areas of clinical neuroscience.

The book is divided into 13 chapters of which 12 are devoted to the basic principles of biological psychiatry and the major psychiatric and neurological disorders while the final chapter forms a short epilogue.

The first two chapters are concerned with the principles of brain structure and function from the genetic, physiological, biochemical and anatomical aspects, respectively. These chapters are essential for a basic understanding of the subsequent chapters but the contents will be well known to many of the readers who already have some knowledge of biological psychiatry. It would have been useful if the authors had contributed a more detailed discussion of the physiological importance of glucose metabolism in sustaining brain function and how conditions, such as diabetes, detrimentally affect brain function and behaviour. These chapters are followed by a succinct chapter on the important relationship between the brain and behaviour.

The clinical classification of neurological and psychiatric disorders, and the methods that are used to undertake clinical investigations, are covered in the chapter that include biochemical procedures, use of the EEG, evoked potential analyses and various brain imaging techniques. The importance of MRI techniques is illustrated by the mapping of the brain regions associated with memory, language and the recognition of specific visual cues such as faces.

The next seven chapters are devoted to specific psychiatric and neurological disorders, each chapter following a similar format in which the symptoms of the disorder are described followed by a discussion of the possible genetic basis and the biochemical changes that may be associated with the aetiology of the disorder. The chapters then conclude with a summary of the neurophysiological and neurological aspects of the disorder with particular emphasis on the application of imaging techniques. These chapters start with the personality disorders followed by the anxiety disorders.

The chapter on the schizophrenias, quite correctly considered to be a group of syndromes, summarises the evidence implicating dysfunctional dopaminergic, noradrenergic, glutamatergic and peptidergic systems. There is also evidence that the neuropsychological disturbances which are prevalent in some types of schizophrenia and may be partly linked to the DISC-1 (disrupted-in-schizophrenia gene) which may help to explain the neurodevelopmental basis of the schizophrenias.
The role of dysfunctional serotonergic and noradrenergic systems in the affective disorders is widely accepted but the authors extend the possible neurochemical basis of depression to include the cholinergic and glutamatergic systems, in addition to various neuropeptides and hormones. It is a pity that the authors did not include a section on bipolar disorder, particularly with respect to the ‘‘switch’’ from the manic to the depressive state.

A discussion of drugs and addiction is a new and valuable addition to the monograph. This chapter usefully summarises the importance of conditioning of the brain reward system and the role of the neuroanatomical substrates that involve the prefrontal cortex, hippocampus, amygdala, brain stem and thalamus. The greater involvement of the dorsal striatum in the behavioural effects of chronically administered drugs of dependence is not widely known. The genetics of drug abuse, particularly alcoholism, are discussed while the metabolic changes implicating glutamate, GABA as well as dopaminergic pathways are shown to play an important role in most types of drug abuse. The chapter ends with a discussion of the neurophysiological changes and the value of imaging studies in drug addiction and includes the important caveat that ‘‘so many of those involved in the treatment seem uninterested in brain anatomy and chemistry and, therefore, still consider that the problem is one of only a social dimension, devoid of any neurological substrate’’.

The chapters on the main neurological disorders, epilepsy and the dementias, cover areas that have only fairly recently been included in textbooks of psychiatry but, as the authors state, psychiatrists are frequently expected to treat psychiatric patients who also have such disorders and, therefore, need to be included.

The penultimate chapter gives a useful overall summary of the biological treatments used in biological psychiatry and the section on brain stimulation therapies (ECT, TMS, VNS) and psychosurgery will undoubtedly be of interest to the general psychiatrist.

The final chapter summarises the main changes that have occurred since the first edition of Biological Psychiatry was published in 1987. The authors conclude, not unreasonably, by emphasising that the days of symptom based classification in psychiatry are numbered and that this approach has inhibited development, in ideas and research funding, and ossified an understanding of the brain in psychopathology.

It is always easy to criticise a text for its omissions but my caveat regarding the content of this otherwise excellent text concerns the complete neglect of the role of inflammation in the psychopathology of neurological and psychiatric disorders. Inflammation (and the involvement of the cytokines, chemokines and related immune modulators) is now widely recognised as of major importance. I would, therefore, have hoped that the authors, with their encyclopaedic knowledge of research in biological psychiatry, would have included at least one chapter devoted to inflammation. Hopefully this will be corrected in the 4th edition!!

Apart from this criticism, I welcome the 3rd edition of Biological Psychiatry as an important contribution that should be read by psychopharmacologists, psychiatrists, neurologists and neuroscientists who wish to obtain an interesting and well-written account of the subject.

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