

be made by cheque in sterling drawn on a UK bank, or by credit card (MasterCard, VISA, or American Express) stating card number, expiry date, and your full name. (The price and availability are occasionally subject to revision by the Publishers.)

**Handbook of Stress, Medicine, and Health, 1st ed.** Edited by: CL COOPER. (Pp 338; price: £69.) 1996. Boca Raton, FL: CRC Press. ISBN: 0-8493-2908-6.

One of the aims of this handbook, declared by the editor in his preface, is to christen a new medical speciality: Stress Medicine. Cooper qualified in psychology and business studies in California and now holds the chair of organisational psychology at Manchester University's Institute of Science and Technology. He is coeditor of the journal *Stress Medicine*, and is well known for his many publications in this field.

The book constitutes a gold mine of references for anyone wishing to chart the development of the stress concept, from the early work of the physicians who noted that diverse physical challenges (such as noise, cold, heat, pain, toxins, blood loss, x ray films, etc) produced certain shared physiological disturbances in common. Hans Selye borrowed "stress" from engineering usage to denote these shared, non-specific distortions of normal functioning. This was an unfortunate choice, which has caused much confusion: to an engineer, it is the forces applied to a structure (a bridge for example) which comprise stress; the resulting distortion is known as strain. Selye used the wrong word. As he himself later acknowledged, "strain" would have been the right term. Nevertheless stress has persisted, albeit as something of a chameleon with shifting meaning. Today, the emphasis is towards pressures of a more psychological kind and stress has become a vogue word.

Most of the 19 chapters which comprise the book are by psychologists, although some work by specialists in other fields is also included. Detailed chapters are devoted to a variety of adverse conditions which can exert stressful pressures: cancer, ischemic heart disease, HIV/AIDS, and other chronic illnesses. These, as physicians know only too well, bring their burdens of anxiety and depression, which worsen further the quality of life. There is detailed consideration of the need for social support and techniques for coping.

It is much more difficult to show the reverse process: the ability of stress to produce organic disease. What is clear is that emotional factors may play some part in the onset and course of many medical conditions. However, the most convincing evidence that stress may be a significant aetiological factor for a specific illness concerns the association between acute myocardial infarction and psychological variables. Some of the authors who contribute to this book casually include other conditions (such as essential hypertension) for which, on the basis of much less adequate evidence, emotional factors have been claimed to be important primary causes. This book does not always provide adequate critical assessments of the evidence which it presents: instead, the mission of the authors seems (with some encouraging exceptions) to be to accumulate everything which can be traced in the scientific literature in support of the

claimed aetiological relation, to add to their case. It would be unfair to liken the approach to that of the uncritical advocates of psychosomatic medicine between 1930 and 1950, who produced an immense, tendentious literature supporting the case for the alleged emotional origins of essential hypertension, rheumatoid arthritis, thyrotoxicosis, peptic ulcer, ulcerative colitis, neurodermatitis, and asthma. But it is unfortunate that some of the literature on stress reviewed in this expensive handbook has not been presented with more rigorous criticism.

The book offers few practical tips to occupational physicians who advise companies on personnel policies aimed at reducing the adverse effects of restructuring and "downsizing", without jeopardising economic objectives. Professional advisers are only too aware of the reality of stress in organisations which are undergoing such changes. Uncertainties about job security, workload, roles, and self esteem give rise to anxiety and depression, and today general practitioners increasingly certify that stress is the cause of the resulting sickness absence. Those to whom senior managers and personnel directors must answer are concerned above all with financial viability, but many are also responsive to practical, cost neutral proposals for preserving the morale of the workforce.

Although the handbook contains little direct practical guidance, some of the academic work which it reviews can nevertheless be interpreted in helpful terms for this purpose. An example will illustrate this. An employee's performance generally increases, up to a point, as pressure of work goes up: but a critical point is reached beyond which increasing pressure fails to boost output—and may damage performance irreversibly. Again, there is an engineering analogy: increasing tension in a metal sample produces reversible stretching until the elastic limit is exceeded, after which irreversible changes and breakage occur. In employees, the critical point differs from person to person. The changes underway in many companies have the effect of removing people whose critical point is too easily reached. But there are alternatives: for example it is now clear that, if people are allowed some control over how they do their jobs, they are less at risk than those upon whom pressures are imposed with little flexibility or empowerment.

G DIGGLE

**The Pharmacological Basis of Therapeutics, 9th ed.** By GOODMAN, GILMAN. (Pp 1905; price £65.00.) 1996. New York: McGraw Hill. ISBN 0-07-026266-7.

Goodman and Gilman (G and G) was described many years ago as the "Blue Bible of Pharmacology"—this edition is black but still the best textbook of pharmacology and therapeutics available. Occupational physicians wishing to understand toxicological and pharmacological principles and needing a reference source for information on drugs and chemicals, will find this edition an excellent addition to their libraries.

The editors acknowledge that this is the first edition not to be edited by a Goodman or a Gilman and have, sensibly, preserved the best features of earlier editions while adding many excellent new features. These include several new chapters (including one on gene therapy), synopses at the opening of

each chapter, and a prospectus setting out likely future advances at the end of each chapter. This latter innovation is very valuable: not only is G and G now up to date, but it also provides the information which you may need next year.

In reviewing this book I have looked closely at the very familiar group of chapters on the autonomic (ANS) and central nervous systems (CNS). This has been a chastening experience, especially with regard to the CNS. The group of chapters starts with an account of neurotransmission (the fold-out diagram of the ANS remains) which is splendidly up to date but which still includes adequate accounts of the historical development of the field. This has always been a feature of G and G and it is good to see that it has not been lost. The diagrams explaining neurotransmission have been improved and now involve a modest use of colour. This is helpful and attractive. Details of such esoteric subjects as structure of the "docking complex" for neurotransmitters (do you know about neurexin and syntaxin?) are rapidly assimilated from the excellent diagrams. As one would expect, subtypes of nicotinic and muscolinic receptors are discussed in detail. The referencing of this chapter is as up to date as one could hope in a book of this size: references from 1994 and one from 1898 are included.

The chapter on anticholinesterase (AChE) agents has been an old friend for 15 years. Palmer Taylor has taken over the authorship of this chapter from Koelle and has added a valuable series of diagrams illustrating the interaction between the AChE molecule and the anti-AChE molecule. A useful note on Alzheimer's disease and the possible value of anticholinesterase agents in its management has also been included. The bibliography of the chapter has been shortened and it is odd that Koelle's masterpiece (*Handbuche der Experimentellen Pharmakologie*, 1963) and Ballantyne and Marrs' more recent volume (in many ways the successor to Koelle's work) do not figure more prominently.

To other chapters: those in the treatment of myocardial ischaemia and hypertension seem uniformly excellent as is that on the management of asthma. The latter stresses asthma as a predominantly inflammatory disorder and provides a concise review of the inflammatory mediators which may be involved in its pathogenesis. The prospectus is brief, perhaps disappointingly so. As well as being a textbook of pharmacology, G and G has always been a textbook of toxicology. This edition maintains that tradition with a chapter on heavy metals and one on non-metallic environmental toxicants by Klaasen. The reviews, on a compound by compound basis, are short but the coverage is good and although the bibliography looks just a little dated (no Schwartz, Pope, or Dockery on particles), there are some references to works published in 1994. The book concludes with 79 pages of tables of pharmacokinetic data dealing with about 360 drugs. This is a unique source of information.

Goodman and Gilman is a large book and this review, although long, does not do it justice. That such a book can be priced at £65 is nothing short of amazing. No doctor, pharmacologist or toxicologist, or even medical student could spend £65 or many hours better than by buying and reading this book. For those who have entered the computer age there is even a version available on CD-Rom.

R L MAYNARD