Stroke: Pathophysiology Diagnosis and Management. In 2 volumes. Edited by: Henry JM Bennett, Bennett M Stein, JP Mohr, Frank M Yatsu. (Pp 1274; £135.00.) Edinburgh: Churchill Livingstone, 1986.

This will become a major reference book on stroke. The two volumes cover all aspects of neurological vascular disease including that affecting the spinal cord. Volume 1 covers the pathophysiology, clinical manifestations and investigation of stroke. Volume 2 includes an excellent section on specific medical disorders associated with stroke (11 chapters). There is a most extensive and at times exciting section on stroke therapy (15 chapters) including chapters on progressing stroke, interventional neuro-radiology, surgical considerations, antispasmodics and fibrinolysis.

The editors have themselves made a major contribution to the writing of the book and this helps considerably in giving it a sound framework and uniformity. The quality throughout is of the highest order and the contributors appreciate the major issues of the day and tackle them well. There is an extremely rich source of references. Some of the authors have been rather too enthusiastic in compiling their reference list. The second edition might be improved by starring the key references for the relatively uninitiated. The index will also doubtless be improved in the second edition; for example, there was no entry for anaemia, leukaemia, polycythaemia or thrombocytosis.

This excellent book in two volumes should be obtainable in every medical library.

DJ THOMAS

Food constituents affecting normal and abnormal behaviors. *Nutrition and the Brain* (Vol 7). Edited by Richard J Wurtman and Judith J Wurtman. (Pp 260; \$60.00, £40.) New York: Raven Press, 1985.

Research in the past decade has made the obstacles separating the brain from external influences appear less effective than hitherto. We have become familiar with the idea that extracerebrally synthesised peptides can act on central receptors. Also, numerous publications have been stimulated by the realisation that the rate-limiting enzymes for 5-HT and catecholamine synthesis in the brain are unsaturated with their precursor amino acids, tryptophan and tyrosine. In the case of 5-HT, the enzyme is normally only about half saturated; in the case of the cate-

cholamines it is closer to saturation.

These relationships suggest that central transmitter synthesis and hence functional activity can rapidly respond to food intake. However, while it is common experience that feeding can affect mental state it would be surprising if the wide range of brain functions potentially influenced by transmitter amines were normally completely at the mercy of the last meal. Indeed, major compensatory mechanisms oppose such an eventuality. For example, tryptophan becomes more readily transported to the brain when its intake falls owing to food deprivation or following a high carbohydrate-low protein (and hence low tryptophan) meal. Conversely, meals which contain tryptophan increase brain tryptophan less than one might imagine, as they invariably also contain other amino acids which impair its transport to the brain. A substantial part of the present volume concerns circumstances in which these compensatory mechanisms may no longer be sufficient to maintain normal brain function, for example when foods of unusual composition are ingested, or when there are exceptional demands on transmitter synthesis (as in stress) or in disorders involving defective transmitter function.

In the first of the six chapters, Spring considers the behavioural effects of food on normal individuals and whether these can be related to transmitter changes. This is a useful critical account which should help to put various claims into perspective. The next chapter (Young) reviews a large literature on the behavioural effects of tryptophan when given as the amino acid. Here, there is good evidence of increased brain 5-HT synthesis and also of anti-depressive effect, at least insofar as the therapeutic response to MAO inhibitors is enhanced, but animal work suggests that this response is not necessarily due to 5-HT changes. Other findings described in the chapter indicate that tryptophan can decrease pathological human aggression and this result is consistent with animal data showing that drugs which impair 5-HT synthesis cause aggression.

The chapter by Van Praag and Lemus deals with the effects of monoamine precursors in general on psychiatric disorders, especially depression. This and the chapter by Young contain interesting material and have relevance to the title of the volume. However, the administration of pure precursors in considerable amounts comes within the sphere of pharmacology rather than that of nutrition. Van Praag and Lemus believe that combined treatments with 5-HT and catecholamine precursors merit further study as a possible antidepressant medication; there

is much in favour of this point of view.

Normal regulatory mechanisms which protect the brain from acute nutritional variations may well be overwhelmed in disorders of appetite such as bulimia (Rosenthal and Heffernan) and anorexia nervosa (Pirke and Ploog). Although these disorders are more often than not strikingly dependent on social attitudes this does not mean that they are not also dependent on central transmitter defects; whether the latter are exacerbated by neurochemical consequences of the disorders are questions of great importance. Also the evidence of relationships with depressive illness discussed by Rosenthal and Heffernan are worth attention.

The final chapter by Pardridge focuses on potential central effects of the dipeptide sweetener, aspartame. This compound of two amino acids, aspartic acid and phenylalanine could, in principle, cause central depletion of other amino acids such as tryptophan and tyrosine with which phenylalanine competes for transport to the brain. Therefore, it could lead to transmitter deficiencies. Animal experiments apparently give conflicting evidence on whether this occurs but it is obvious that aspartame is contraindicated in phenylketonuria and might also be harmful to subjects who are heterozygous for this disease.

The volume as a whole reveals the large amount of work being done in an area situated where nutrition, neurochemistry, pharmacology and behaviour meet. It also reveals how much remains to be done. For example, even though the rate limiting enzyme for histamine synthesis in the brain is far below saturation with its substrate (histidine) and therefore brain histamine synthesis may be much more sensitive to dietary effects than that of 5-HT or the catecholamines, little work appears to have been done on this topic.

Overall, the book is a useful addition to the series and conforms to the high standards set by the previous volumes.

G CURZON

Deep Dyslexia. Edited by Max Coltheart, Karalyn Patterson and John C Marshall. (Pp 443; £8.95 p/back.) Henley: Routledge and Kegan Paul, 1986.

This book is a scholarly analysis of reading disorders acquired by previously literate adults through brain injury, and deals predominantly, although not exclusively with "deep dyslexia", that purported syndrome