and the clinician then comes to the key chapters on fatigue, muscle damage and pain, with a final review of the changes occurring in muscle diseases.

This text is based on undergraduate and postgraduate courses and will be of interest to scientists and physiologists as well as clinicians.

I have found this book both fascinating and useful, but part of the fascination is that some of our practical sports medicine problems, such as severe post-exertional muscle pain, are not yet fully explicable. This book encourages both dipping and further study in pursuit of clinical answers and is highly recommended.

Peter Sperry

Nutritional Needs of Athletes

Fred Brouns

New York: John Wiley & Sons, 1993,
£19.95. ISBN 0 471 94079 8

Fred Brouns has written an excellent

scientific overview of the relationship between nutrition and sporting performance. Beginning with a general introduction to the subject, Brouns gently leads the reader through the nutritional aspects, in relation to sport, of macronutrients (carbohydrate, fat, protein), micronutrients (minerals, trace elements, vitamins), fluids and electrolytes, and nutritional ergogenic aids. The book concludes with a summary chapter and a brief outline of metabolism for those who are a little rusty on their metabolic pathways.

The manuscript is based on a large number of recent scientific reviews and publications (numbering 216 and including references up to 1992) which have appeared in peer reviewed scientific journals. As Brouns states in his preface "This means that these publications have generally survived the criticisms of reviewers and that the interpretations are in line with existing scientific consensus". Comments and statements about such controversial topics as vitamin supple-

mentation, the use of bee pollen, L-carnitine or branch chain amino acids as ergogenic aids, or the composition of oral rehydration beverages for sport are all therefore backed up by worthy references. This is one of the book's great strengths.

Another strength is the "readability" of the book. So many scientific texts can be dry and hard work but Brouns has managed to keep the text light yet informative, even bringing humour to the book with well selected photographs, though the quality of the black and white photography is not of a very high standard.

The wide audience of athletes looking for a book that will tell them what to eat and drink, and when, may be frustrated by the lack of such information here. This is, however, an excellent book for those who want to know the theory behind the practice of sports nutrition. It will therefore have greatest appeal to coaches, sports scientists and those involved in sports medicine.

Jane Griffin