

Book reviews

Claude Fernand Bourgeois. *Antioxidant Vitamins and Health: Cardiovascular Disease, Cancer, Cataracts and Aging*. New York: HNB Publishing. 2003. US\$72 (hardback). ISBN 0 9664286 6 8

Whether or not one was captivated by the idea that antioxidant vitamins played a major role in maintaining health and that this function could be assisted by consumption of liberal quantities of vitamin pills, one cannot ignore the fact that an enormous amount of interest was created and research was done over the last 30 years; its influence, and some of the myths created by this enthusiasm, continue to promote the sale of vitamins worldwide. Furthermore, although the enthusiasm for mega-dosing as a preventive therapy has waned (except in the case of retinol, but the reason is not based on antioxidant properties), one cannot ignore the fact that antioxidant micronutrients can have powerful effects both good and bad on the human body and that research will continue to explore the mechanisms.

This book by Dr Bourgeois appears at an appropriate time. Researchers are more cautious in their claims for antioxidants and grant authorities less generous; the time is opportune to take stock of the copious literature now available, to design and carry out the sorts of studies that will increase our understanding of the mechanisms by which antioxidants influence health. The enormous health benefits resulting from diets rich in fruits and vegetables, which are the principal natural sources of antioxidant nutrients in our diets, cannot be ignored. Many of the attempts to elucidate effects and/or the mechanisms of action, however, have been naive, but even the notorious ones, such as the β -carotene supplementation studies that increased rates of lung cancer in the recipients, should not be ignored. A better understanding of the mechanism should help prevent the similar excesses with other carotenoids or polyphenols in the future.

This book is an excellent source of the very extensive literature that has been reported on the antioxidant field over the last 30 years and runs to approximately 300 pages. There are more than 1000 references occupying one-sixth of the volume. The rest of the space is assigned to what we mean by antioxidant theory (three chapters and an appendix) and then individual chapters on the specific subject areas on mechanisms of interaction between antioxidant vitamins and immune responses, CVD, cancer, cataracts and ageing. There is a separate chapter on phenols and polyphenols and finally one discussing conclusions.

Dr Bourgeois has to be congratulated on his excellent review of the literature in the different fields. Researchers will no doubt argue with some of his interpretations. That is the nature of research, but it is difficult to criticise his coverage. His interpretations will help students and more senior researchers wanting to get a broad impression of what has been done and why things may have happened

the way they did. One thing that does irritate me is the lack of any standardisation in presenting data. Mass units and micromoles are both used. How much more useful it would have been if all the data had been converted to micromoles, as is now happening in all the better journals both in the USA and Europe.

I would also take issue with Dr Bourgeois on his definition of a 'moderate dose' of an antioxidant vitamin. I agree that most people can cope with 500 mg vitamin C/d, but it would be difficult to find a food to provide that amount of vitamin C on a regular basis. That dose of vitamin C is bordering on the pharmacological level and high intakes of micronutrients are likely to stimulate drug-metabolising enzymes. As the author points out, activation of such enzymes might be the mechanism by which β -carotene supplementation increases the risk of cancer in smokers. I think the term 'moderate' should be reserved for amounts of nutrient that can be achieved easily from dietary sources.

Finally, it should be pointed out that this book is not just a source and analysis of the literature: the author provides a lot of information on cell physiology to assist the reader in understanding the potential functional roles of antioxidants, as well as showing molecular structures for the main dietary antioxidants. He presents the hypotheses on the aetiology of cancer, the theories regarding ageing and a useful and current analysis of data pertaining to the French paradox. The book will be a valuable resource for students, as well as those with a casual interest in this field, but also for any health professional whose job it is to lecture or who wants to work in this area and to have access to the vast database of information on antioxidant nutrients.

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Martin Eastwood. *Principles of Human Nutrition*, 2nd ed. Oxford: Blackwell Science. 2003. £37.50 (softback). ISBN 0 632 05811 0

This is a well-written and eminently readable introductory text. The approach is largely informal and the enthusiasm of the author does much to retain the interest of

the reader throughout. The book is divided into seven parts, which cover the fundamental concepts of nutrition.

Parts 1 and 2 focus on food in the community, addressing issues such as historical, social, population and environmental influences on nutrition, as well as nutritional requirements and epidemiology. However, at times, in an effort to maintain an international perspective, the narrative seems to lack depth and would benefit from some comparative data to develop and corroborate the discussion. This would have been particularly welcome in the section on dietary reference values and measurements.

Part 3 provides a useful overview of genetic influences on nutrition, including a discussion of general principles and an explanation of relevant vocabulary. It is good to see this included here, as it provides a useful insight into a subject often not included in standard nutrition texts. This is certainly one of the strengths of the book and it is to be hoped that familiarity gained in this context may help to make the progression to textbooks of molecular biology less daunting for many students.

The assessment of nutritional status is reviewed in Part 4. This covers the basics, and whilst it may lack the depth afforded in some texts, when combined with the additional information later in the book on laboratory methods for measuring nutritional status for vitamins, electrolytes and trace elements, it provides a good overview of the area.

Parts 5 and 6 describe the nutrients and their ingestion, digestion and metabolism.

Considering the high level of public interest and debate it is good to see that, in addition to the essential nutrients, non-nutrients such as food additives and agricultural chemicals are also included. Again, this is a strength in relation to comparable texts as this is, perhaps, a topic less familiar to many of us. On a less positive note, Chapter 14 covers 'Dietary fibre' and this is, perhaps, one of the weaknesses of the book. This is an important area, but one that is plagued by confusion due to the international disparity in definition and measurement. I don't feel that this chapter adequately addresses these issues. For example, there is no reference to the FAO/WHO terminology and the advice on recommended intake of fibre is brief and lacks discussion of international differences.

Part 7 addresses nutritional requirements at various life stages and in relation to specific issues such as famine and sport, and makes stimulating reading. Whilst the discussion on nutrition in outer space is fascinating, the brev-

ity of the chapter is limiting and I wonder whether it is included at the expense of other more relevant areas, namely the role of nutrition in the aetiology of disease. The author acknowledges the importance of this issue and addresses cancer and CHD, but I feel that these essential topics deserve more coverage, as do others, such as obesity and diabetes.

Overall, this book is presented in a very reader-friendly style. However, rather than being listed, the contents of chapters and sections are presented in the form of figures. Whilst these may be eye-catching, the format is not particularly effective and they do nothing to enhance clarity.

Chapters are divided into 'bite-size' sections that encourage logical progression through each topic. Whilst this segmented approach is effective, some more extensive cross-referencing would improve coherency between related sections. 'Key points' included at the end of each chapter emphasise the main learning outcomes and are likely to serve as a useful revision summary for many students, and many of the 'Thinking points' will stimulate informed discussion. Each chapter ends with a comprehensive list of further reading. In view of the ever-increasing hunger amongst students for information from the Internet, the inclusion of useful websites is beneficial and will help to direct students towards appropriate sites. It is pleasing to note that the web pages for the book will be kept updated with new references and links.

In summary, this book should have wide appeal as an accessible and comprehensive overview of human nutrition. Limitations are few and relatively minor. It complements key texts such as the new *Nutrition Society Series* and should prove to be extremely popular with students studying human nutrition and also with those taking nutrition as a subject within other multidisciplinary courses, such as food studies and health sciences. Furthermore, the enthusiastic approach will ensure wider appeal amongst professionals working in the food and health industries.

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