The coverage is very good and it is an interesting and informative book to read. The references at the end of each chapter are generally extensive and up to date and provide a good route into the food science literature. While most books and articles on water will provoke discussion and debate, I found it surprising that there was no common view on topics such as bound and unfreezable water—are they worthwhile concepts, do they exist and if so, over what timescale? A more general chapter on current research on water itself and the aqueous solution behaviour of biomolecules may have helped; it would have been helpful to see how food research on water related to other research in this area.

Apart from this minor criticism—it is, after all, not possible to cover all aspects in a book of this length—it is a book to be recommended to food scientists and technologists and will stimulate further research.

Steven Ring

Rancidity in Foods. 2nd Edn. Edited by J. C. Allen & R. J. Hamilton. Elsevier Applied Science Publishers, London, 1989. xii + 244 pp. ISBN 1-85166-327-4. Price: £37·00.

The development of rancidity represents a continuous threat to the shelf life and acceptability of fatty foods, and manufacturers must be continuously on their guard against this potential threat. The first edition of this book filled an important gap in the literature by concentrating on the practical aspects of rancidity development and measurement and steps that should be taken to avoid this problem. The editors have now extended the previous edition by including chapters covering practical measures to minimise rancidity in processing and storage by K. G. Berger and rancidity in meats by M. D. Ranken. The other chapters, included from the first edition, describe the principles of rancidity development and measurement, antioxidants, nutritional aspects and practical considerations about rancidity in a variety of food products, snack foods, creams and desserts, biscuits, dairy and confectionery products. Several of these chapters have been extended to provide more detail and cover some of the more recent literature. In particular, the chapters on measurement of rancidity and nutritional aspects have been extended and provide very useful reviews of these areas. Some of the references are rather out of date, such as the book on food microbiology from 1944 in Chapter 10. In addition, Section 11.6, covering the storage of oils and fats, repeats several of the points made in Chapter 4 and could have been omitted. However, in general, the book has been well edited and there

are few errors. The revisions to the first edition have improved the quality of the book markedly and it is strongly recommended for all scientists and technologists interested in fatty foods.

M. H. Gordon

The Human Food Chain. Edited by C. R. W. Spedding. Elsevier Applied Science Publishers, London, 1989. xv + 330 pp. ISBN 1-85166-317-7. Price: £47·00.

This is not only a report of a three-day conference but also the conclusions of four working parties after a period of 18 months discussion.

Each section starts with the conclusions of the working party, followed by several contributions from speakers from various academic and research centres and from industry and a summary of the discussion.

The conference was (most appropriately) organised at Reading University, which is a major centre of food studies with its well-known Departments of Agriculture, Agricultural Economics and Management, Food Science and Technology and Centre for Agricultural Strategy.

The first theme and the subject of the working party was 'Public Perception and Understanding'—one well illustrated these days by magazines, television programmes and the projection of food topics into the daily news headlines.

The public receives most of its knowledge about food from headlines but fundamental education is slow. 'Calories make you fat and energy is a mark of vigour and health' is an illustrative belief.

This, of course, is inevitable since a proper understanding of current food issues (consider food additives and irradiation) demands some knowledge, however basic, of physiology and chemistry—indeed, it is not all that easy to understand food labels without some basic knowledge of science.

Similarly, conclusions from complex biological experiments and human trials call for skills learned from years of experience rather than the facile dicta of the journalist. As an example, publicity has been achieved for that particularly ill-informed opinion that 'the Government' is not interested in those vitamins not quantified in UK RDA tables—when the new tables come out will that mean that 'the Government' has done a U-turn?

The working party points out that the budget of the Health Education Council in 1986 was £30·5 million, of which only £9·5 million was spent on food. That is a large proportion when so many other topics are involved in the maintenance of health.