the different fields covered and to the general reader. It is a welcomed addition to an excellent series.

K. L. Jones

Food Texture and Viscosity: Concept and Measurement. By M.C. Bourne, Academic Press, New York, 1982. Price: £23.80.

This work is one of a series of monographs on food science and technology. It represents an up-to-date, detailed review of work on the measurement of food texture and viscosity by sensory and instrumental methods. It comprises seven chapters as follows:

Chapter 1 Texture, Viscosity and Food: This sets the scene, so to speak, by discussing the importance of texture as a food quality attribute, presenting definitions for the term texture and related terms and outlining the early history of texture measurement.

Chapter 2 Body–Texture Interactions: In this short but useful chapter the author discusses the process of mastication, the rate of application of force and the magnitude of the forces developed in the mouth.

Chapter 3 Principles of Objective Texture Measurement: In this chapter the author outlines the principles involved in instrumental texture measurement, including the measurement of force, distance, area, volume, work energy and power. Multiple measuring instruments are also discussed.

Chapter 4 Practice of Objective Texture Measurement: Here the author describes the design and operation of texture measuring instruments, under the same headings as in the previous chapter. The applications and limitations of each instrument are outlined.

Chapter 5 Viscosity and Consistency: The various patterns of flow behaviour of fluid foods and methods of measuring such behaviour are discussed in this chapter.

Chapter 6 Sensory Methods of Texture and Viscosity Measurement: Sensory texture profiling is the main topic in this chapter and various aspects are discussed, including: selection and training of panel members, establishing scales, developing score sheets and developing comparative texture profile analysis ballots for specific products. Correlations between subjective and objective measurements are also discussed.

Chapter 7 Selection of a Suitable Test Procedure: The various criteria to be used in the selection of a test method are outlined and also advice is offered on the preparation of samples for testing.

Appendix Suppliers of Texture and Viscosity Measuring Instruments: This is a very useful addition to the text.

The material is well organised with a pleasant uniformity of style throughout. The illustrations, both figures and plates, are of good quality. The references are listed in alphabetical order at the end of the book. The work is well indexed.

This book should be regarded as essential reading for all engaged in research and development work in the field of food texture in both academic and commercial laboratories. It is also likely to be used as a reference work by those involved in teaching food science and technology courses. It would also be useful to have available in quality control and product development departments in the food industry.

J. G. Brennan

Microbial Enzymes and Biotechnology. Edited by W. M. Fogarty, Applied Science Publishers Ltd, London, 1983. 382 pp. Price: £35.00.

Microbial Enzymes and Biotechnology is concerned with extracellular enzymes and their applications, with additional chapters on glucose-transforming enzymes and extracellular enzyme synthesis. Amylases receive by far the most attention, their mode of action, distribution and application being discussed in detail and the potential for using immobilised forms of starch-degrading enzymes reviewed. Cellulases, proteinases and pectinases are also the subjects of lengthy discussion but cover ground which has received considerable attention elsewhere.

Over the past few years microbial lipases have received less attention than the other enzymes mentioned, resulting in the chapter on this topic making interesting and refreshing reading. It is true to say that lipases have found new industrial applications, although interesting novel uses are emerging. The specificity of certain microbial lipases makes these enzymes useful tools for producing fats with desired properties. The remaining two chapters on enzyme synthesis and glucose-transforming enzymes are again rather disappointing, the reader being left with the feeling of having re-covered old ground.