Seismic Waves. By E. F. Savarenskii. Translated from Russian. Pp. vi+281. (Israel Program for Scientific Translations: Jerusalem; Wiley: Chichester; May 1975.) £13.95.

THIS book, excellently translated, caters mainly for the physicist who wants to study elastodynamics and that part of data-handling needed with seismic data. There are three chapters: the first, on oscillations, deals mainly with Fourier analysis and operations in the frequency domain; the second, on waves, derives the basic equations of elastic wave motion and goes on to obtain radiation fields for point sources in an unbounded medium; the third describes the propagation of plane seismic waves in a half-space or a layer.

The book is written at a fairly elementary level, and mathematical demonstrations are sketchy. It omits, for instance, mention of the splitting of degenerate eigenfrequencies of the Earth, or of matrix methods for layered media. The reader will not find such recent topics as earthquake prediction, lunar seismology or deep seismic sounding. Within its scope, Savarenskii's book is clear and practical; it has obviously grown out of the experience of an expert seismologist. **E. R. Lapwood**

Bee Research Association, 1949–1974: A History of the First 25 Years. Pp. 199. (Bee Research Association: Gerrards Cross, 1974.) np.

LAST year was the 25th anniversary of the founding of the Bee Research Association and to help commemorate the first quarter of a century a history of the association, to which many of its prominent members have contributed, has now been published.

The history traces the foundation of the Bee Research Association as an offshoot of the research committee of the British Beekeepers' Association, its growth in size and importance to an international organisation and its acquisition of a permanent headquarters at Hill House in Chalfont St Peter. During this process it took over publication of the well established journal *Bee World*, introduced *Apicultural Abstracts*, first as an integral part of *Bee World* in 1950 and then as a separate quarterly journal in 1962, and launched *Journal of Apicultural Research* in 1961 in response to a strongly felt need for a journal devoted to experimental work relating to pollination and beekeeping.

Bee research workers and advisory officers readily acknowledge the value to their work of these three journals and the many other facilities the association provides, including its library of reprints, books and translations, all of which are discussed at length in this book. With the recent increase in beekeeping and in the use of bees for pollination, especially in developing countries, the services of the association are in greater demand than ever before. It is vital that they should continue to grow. **John B. Free**

Books brief

Atomic Physics.. (The Manchester Physics Series.) By J. C. Willmott. Pp. xiv+357. (Wiley: London and New York, April 1975.) £8.50 cloth; £4.25 paper.

THIS textbook is intended for the second year of the honours physics course at an English University, specifically, Manchester, whose reputation in atomic and molecular physics is high. The book contains the necessary quantum mechanics, and inevitably, material that might be taught in the first year, and material that would in the opinion of some belong in the final year. But it stops short of Lamb shift and hyperfine structure. The author is primarily a nuclear physicist, and it is to some extent a reflection on atomic physicists that the subject is not particularly well served by undergraduate texts; for this reason, the book will fulfil a useful role. It is a competent book, although not everyone will find it inspiring. There are sets of problems in each chapter, and it is well produced and indexed.

J. B. Hasted

Registry of Mass Spectral Data; volumes 1–4. Edited by E. Stenhagen, S. Abrahamsson and F. W. McLafferty. Pp. xvii+3,358 (Wiley, New York, 1974.) £250.00.

WHEN it was first developed and became commercially available in the early 1960s, mass spectrometry was hailed as the panacea that would take the pain out of structure elucidation. No longer would organic chemists have to slave for months, if not years, degrading and analysing new compounds; instead a mass spectrum would tell all, and even a milligram of material would be sufficient. But this early euphoria was not wholly justified, and since then in the years of appraisal that followed, the limitations and the complications of mass spectrometry have become apparent. Although the expert practitioner, backed up by expensive and elaborate computing facilities, is able to combine mass spectral fragments and deduce the structure of his unknown, the average organic chemist can deploy neither expertise nor facilities on this scale. Instead, he merely compares the spectrum of his unknown with those of known compounds and attempts to spot significant similarities.

This is where the *Registry of Mass Spectral Data* fits in. It is an immense and invaluable collection of reproductions of 18,806 authentic mass spectra. The spectra themselves are easy to locate, being arranged in order of increasing molecular weight (to the nearest whole mass unit); there is also an excellent index. Although expensive, the cost is, in fact, less than two pence a spectrum, and when the price of even the most modest mass spectrometer is considered, the additional expense in purchasing this unique compendium of spectra as an accessory is easily justified. I strongly recommend the *Registry of Mass Spectral Data* as a must for every laboratory in which mass spectrometry goes on; it cannot afford to be without one. **E. J. Thomas**

Biological Transport. Second Edition. By Halvor N. Christensen. Pp. xvi+514. (Benjamin: Reading, Massachusetts and London, April 1975.) $19.50.

NOWADAYS, the term 'Biological Transport' concerns the nature of, and mechanisms underlying, the transport of substances between different phases separated by membranes (for example, plasma and mitochondrial) or by epithelial structures (for example, intestine, placenta, renal tubule).

This second edition of H. N. Christensen's excellent book is really a complete new work and the author is to be congratulated on attempting to embrace within one volume all aspects of epithelial transport and membrane structure and function, including kinetic, thermodynamic and genetic aspects of real and artificial systems. He has largely succeeded in surmounting the disciplinary prejudices that seem to have caused an exceptional degree of fragmentation in the subject, and the book will accordingly be useful to workers studying membranes and epithedia.

The account of the ATPases seems somewhat old fashioned; vitamin B_{12} is not absorbed in the duodenum; the electron micrograph of the erythrocyte is an antique; and after page 367 the contents page and the text become out of phase. But there is much in this book for those interested in any aspect of biological transport, and that must include biochemists, morphologists, physiologists and molecular biologists. **Dennis S. Parsons**