

ing three detractors.

1. Although the editor has my deepest sympathy in trying to deal with authors from all parts of the world, I feel he should have "reined-in" some of the more wayward contributions; too many tend to dwell on the specific example rather than the general principle.

2. The volume is not a "manual," but more of a "handbook." It tells you "what" you need to do, but not "how." In this sense it is slightly misleading.

3. There are a number of omissions—inevitable perhaps—but those seeking a balance are perhaps going to be disappointed. The biggest minus is the lack of a rigorous discussion of sedimentological indices.

Notwithstanding, *Sea-Level Research* is an impressive accomplishment, certainly one the editor should be proud of. It contains remarkably few errors, and is generally well-illustrated and readable.

Finally, I must comment on the price. I know the editor was aghast at the eventual pricing of the book, almost 100% more than had been expected. This fact alone may put the volume beyond the reach of those to whom it is aimed. I hope recent efforts to obtain a discount for students are successful.

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**Dating Mediterranean Shorelines**, edited by A. Ozer and C. Vita-Finzi, Berlin: Zeitschrift für Geomorphologie (Borntraeger), Supplementband 62 207p. ISBN 3-443-21062-7X.

A multi-authored volume with 14 papers (12 in English, 2 in French) covers the area fairly comprehensively. The first paper, by Flemming and Webb, analyzes the data for 335 coastal archaeology sites (Holocene), ranging in height from -11 m to 8.5 m above present sea level. From these data they try to derive regional neotectonic trends and an overall eustatic component, but unfortunately no reference is made to the paleoclimatic trends which presumably should be reflected by sea level (steric, eustatic, storminess). Four papers treat with chronometric procedures and results, notably the relatively new isoleucine epimerization and uranium/thorium.

Radke (p 167) discusses values and risks of radiometric dating of shorelines. Specifically, he compares uranium-series methods with ESR — electron-spin resonance. Recognizing that a uni-

versally-valid eustatic curve is now an outdated dream and that in many areas the neotectonic factor is overwhelming, a much more vigorous approach to chronometry is needed. With aminostratigraphy, an integration of the different methods, can now present fairly consistent ("consensus") datings for the last two interglacials. The consistency can then be checked independently against the deep-sea isotopic curve. In the highly unstable areas of central and southern Italy, these methods (using selected Molluscan shells) have proven very encouraging. Considering the aminostratigraphy in the Tunisian area, where the late Pleistocene sequence is exceptionally well-preserved, Miller, Paskoff and Stearns agree that there has to be an integration of different independent methods. Isolated sampling is not only useless; it can be grossly misleading. The famous *Strombus bubonius* (Tyrrhenian) fauna has now been taxonomically revised as *Strombus latus* according to the paper by Richards, who points out that the majority of Tyrrhenian fossils are still living, and that most stratigraphic associations are facies assemblages and not of significant chronological value. Richards is convinced he has evidence for a 30,000 BP transgression (<sup>14</sup>C dates), but he does not mention the oceanic isotopic objections, or Mörner's glacial geological arguments.

In short, this is an original and stimulating collection of papers, rather uncoordinated, but nevertheless useful.

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**The Great Waves**, by Douglas Myles, 1986, London: Robert Hale, 206p. £10.95stg., ISBN 0-7090-2632-3.

Douglas Myles is a freelance writer living in Oregon and has taught history, politics and drama. The dust jacket indicates that he is a student of seismology, vulcanology and oceanography. However, the book itself indicates that he has only the sketchiest knowledge of these areas and his book, which examines *tsunami* as natural hazards, could never be regarded as an authoritative work. The organization of the book follows a meandering path with "Earth Structure" and "The New Global Tectonics" five chapters apart.

In the main, it consists of a series of case studies or regional histories which singly may be of interest, but when put together are repetitive, even to the

extent of using exactly the same phrases to describe different events in different chapters. The author appears to be overawed by his topic and his stilted style, which attempts to place events he is describing into a list of the biggest, largest or highest, certainly does not impress a scientific reader. The Lisbon earthquake of 1755 is described as a "nightmarish phantasmagoria"—a phrase which characterizes the author's approach to his topic. His style is journalistic and personally I find the use of "and" and "but" at the start of sentence after sentence extremely annoying, as well as grammatically incorrect. The author's interest in history is clear, and probably the greatest merit of the book is the way in which he brings together much of the earlier folklore, history and research on early seismic events and related *tsunami*. He has obviously read widely, if not comprehensively, and for some events at least, appears to rely heavily on *National Geographic* magazine. Often the preoccupation with history leads to numerous divergences on irrelevant parts such as the comments on Caribbean pirate treasure or the state of sunken ships.

Although the book contains a number of photographs, it was particularly frustrating not to have included in the text a series of maps of the sites which Myles describes. I must admit to reaching for an atlas on several occasions to see where a particular location was, and to be frustrated with the scale of an atlas map in terms of providing the degree of local detail which Myles describes in his text. A particularly surprising omission occurs in Chapter 9, on other forms of destructive waves. The majority of the world's major natural disasters involving loss of life of over 250,000 people have been associated with storm surges produced by tropical cyclones, typhoons and hurricanes. The lay literature frequently refers to these as "tidal waves" in the same way as *tsunami* are occasionally described. However, Myles, although describing seiches, bores, and whirlpools, does not see fit to differentiate between seismically-produced waves and those produced by meteorological events.

Overall this is a disappointing book. I did not examine it as a scientific text but hoped that it would provide at a general level a good introduction to seismic sea waves. Unfortunately the book never achieves the potential which the title suggests it might have.

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**Ice Sheets and Climate**, by J. Oerlmans and C.J. van der Veen, 1984, Dordrecht/Boston/Lancaster: D. Reidel, 217p. ISBN 90-277-1709-5 (hardcover).

For coastal specialists there are many urgent and unanswerable questions about the hazards of future sea-level fluctuations, specifically any sudden rise that may be linked through melting or surging glaciers to an observed rise of sea level. This timely volume may help the trained scientist to evaluate some of the data. It treats basic climatic relations, energy and modelling (in some detail), so it is suitable for an advanced level textbook.

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**Physics of Shallow Estuaries and Bays**, edited by J. van de Kreeke, 1986, Berlin: Springer Verlag (Lecture Notes on Coastal and Estuarine Studies, No. 16), 280p. ISBN 3-540-96328-6.

This book comprises 20 papers presented at the Symposium on the Physics of Shallow Estuaries and Bays, held in Miami in August 1984. Consequently, it has been about two years in preparation. Despite this, most of the content is topical and has not been superseded elsewhere. The papers are divided into five sections, each of which is supposed to illustrate a coherent grouping.

*Large scale mixing* covers papers on the effects of a branching channel on tidal phase and and salinity intrusion (Abraham *et al.*), on circulation and mixing in a shallow inlet (Kjerfve) where there are large changes in salt flux from tide to tide, and a comparison of observed and modelled currents and salinity in the Elbe Estuary (Duwe and Sundermann).

*Residual currents.* A generalized theory of estuarine circulation by Prandl produces some very illuminating comparisons with the Hansen and Rattray scheme. Uncles *et al.* investigate the salt and sediment fluxes along the Tamar estuary and show the importance of the tidal pumping which, for sediment, results largely from erosion and deposition of sediment during the tide. Huang *et al.* and Geritsen investigate the characteristics of tidal flow models. The latter compares the residual velocities obtained from tidal models with filtering, to direct solutions using tidally-averaged equations, and conclude the first is better for the North Sea. Cheng *et al.* consider the properties of Lagrangian re-