

rising number of industry-related oil spills and so on. At first I was somewhat off-put by this journalistic picking and choosing to highlight the sensational. However, a glance at the bibliography (uncited in the text) was very reassuring, as the author seems to know the professional literature well. The factual material is nicely incorporated into the beautifully written text, sprinkled with anecdote and intelligent comment.

The second part of the book adopts a far more hard-hitting approach. Ms Simon is obviously aggrieved over the failure of the US to embrace the recent Law of the Sea proposals, putting political expediency in front of environmental well-being. This failure appears, to me at least, to be the main motivation behind the writing of the book, and although other international dilemmas are mentioned, the author is not able to summon up quite the same enthusiasm for them.

All in all a worthwhile read, although the market is perhaps somewhat saturated with this type of book. The main value of the volume may be to catch the attention of students and channel their thoughts into devising and implementing the coast and ocean management practices of the next generation. Unless they are successful, we will exact Neptune's Revenge upon ourselves.

R. W. G. Carter  
University of Ulster  
Northern Ireland

**Wandering Continents and Spreading Sea Floors on an Expanding Earth**, by Lester C. King, 1983, John Wiley and Sons, New York, 232p. ISBN 0-471-90156-3.

Written by a distinguished geomorphologist, this is an excellent introduction to plate tectonics and sea floor spreading. His earth expansion hypothesis is controversial but only a secondary question. Of particular value is his dynamic-historic explanation of coast types, coastal plains and continental shelves.

Rhodes W. Fairbridge  
New York, New York

**Ice Sheets and Climate**, by J. Oerlemans and C. J. van der Veen, 1983, D. Reidel, Dordrecht, Boston, 217p. ISBN 90-277-1709-5.

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 modeling (in some detail), so it is suitable for an advanced level textbook.

Rhodes W. Fairbridge  
New York, New York

**Commission on the Coastal Environment: Bibliography**, compiled by R. P. Paskoff, 1984, International Geophysical Union, 203p. \$16.00, available from the author, 10 Square Saint-Florentin, 78150 Le Chesnay, France.

**International Bibliography on Regional and Local Coastal Morphology**, compiled by D. Kelletat, 1983, Verlag Ferdinand Schoningh, Paderborn, FRG, 218p. DM26.50, ISBN 3-506-72307-3.

These two bibliographies, appearing within a year of each other offer a considerable body of citations for coastal workers. The Paskoff volume is one of the regular (?) quadannual productions by the IGU Commission on Coastal Environments. It is basically a compilation of correspondents' reference lists, country by country. These have not been edited and one must assume there are gaps and omissions, certainly this is true of the British, Irish, American, and Australian lists with which I am most familiar. Some correspondents have stuck to physical geography, others have included ecology, geology, and so on. The range of subjects tends to be inversely proportional to the size of the country. This volume has no index, and it can only be useful for browsing.

The Kelletat volume, on the other hand, is a far more substantial piece of work, over a much longer period (20-22 years). The text is bilingual German/English. It contains 6428 citations arranged alphabetically by first author, but also useful tables allowing cross-referencing by country, and by coastal form and process. Some of these latter categories are a bit bland; for example "Barrier Islands and Mud Flats" are lumped together. Despite such limitations this is a much more impressive piece of work, and if my calculations are correct about twice the value of the IGU volume. Certainly students

and incoming coastal researchers would get more succour from the Kelletat bibliography.

In short, they are both worth having, the German volume winning on points!

R.W.G. Carter  
University of Ulster  
Coleraine, Northern Ireland

**The Thames Barrier**, by S. Gilbert and R. Horner, 1984, Thomas Telford Ltd., London, 182p. £12.75, ISBN 0-727-70182-7.

Gilbert and Horner have produced a book concerned with what must be the most expensive engineering structure specifically designed for coastal defence to be built in the UK, namely the Thames Barrier at Woolwich. At the cost of £446 x 10<sup>6</sup> (1972 prices) the barrier was completed in 1982 and is designed to save Central and Inner London from the flood-related consequences of a severe North Sea storm-generated surge moving up the Thames estuary. The authors have produced an informative and readable account of the need for, design, and construction of the barrier. Their style is documentary but authoritative as both authors had the advantage of being on the various official working parties related to the barrier development during its over-long gestation period. I use the word 'over-long' as it was nearly thirty years after a near-disaster in 1953 before the barrier was completed. It took the North Sea Surge of January 1953 to force the UK Government to recognise the disaster that could overtake Central London and more directly, the infrastructure of central Government, if a surge level as high as recorded in 1953 flood was to reoccur in conjunction with a high spring tide. By 1966 the cost of such a repeat storm and surge level was estimated at £2000 x 10<sup>6</sup>. Clearly given such an obvious positive value to the cost-benefit analysis, the crucial question to ask is why the barrier took so long to be started, let alone completed?

By virtue of their positions as representing the Greater London Council (GLC) and the Department of the Environment (DOE) the authors have partially opened the lid on the long history of planning and counter-planning caused by the vacillation of what may be termed the major villain of the affair! The Port of London Authority (PLA) exercised an overwhelming influence on the type of structure to be built: barrier or barrage, as well as to its position on the Thames. The book provides an interesting

perspective on how a 'tail wagged the dog.' The PLA through the 1950s and 1960s constantly reviewed the design requirements of the barrier as a function of controlling ship access to their principal docks in eastern London. The dimensions of ship locks or barrier openings were constantly being re-defined downwards (170 m down to 66 m widths) as the PLA found more and more of its port facilities being either closed due to a decline in shipping or being transferred downstream to new developments well beyond any potential barrier sites. The switch to facilities downstream with bigger ship berths meant that the maximum size of vessels requiring access through the barrier steadily fell during this planning stage. The only benefit from this protracted planning exchange was that the original dimensions of barrier access demanded either moveable barrier or swing bridges that were probably beyond the technical ability of design engineers in the UK at that time. Gilbert believes that this vacillation probably added 15% to the final bill as well as extending barrier completion by several years. The authors are only thankful that an emergency of the type that necessitated the barrier's construction was not recorded during the delay!

The book can be split into two themes. The first seven chapters will probably be of greater interest to coastal scientists as they concentrate on explaining the nature of the surge problem as well as outlining the debate over which course of remedial action was the best to implement. Chapter 1 outlines in concise, yet comprehensive terms, the origins of the Thames flood problem, looking back to historical times to show how London river-side development had accentuated the possibility of flooding. The important element in flood prevention, that of the height of extreme tides in London, is introduced. The increasing rapidity of higher and higher flood levels being reached is shown to be the principal spur for the barrier to be built. For example in 1978 two tides reproduced very closely the record level reached in the 1928 flood, *i.e.* after only 50 years a record tide had been repeated twice in one year. Chapter 2 considers the reasons underlying this growing flood hazard; sea-level rise, subsidence of S.E. England, increasing settlement of the London area due to groundwater abstraction, amplification of estuary tidal range plus the overriding problem of North Sea surges (which could at the mouth of the Thames create upwards of a 3.5 m rise in water level above the predicted tide height). Chapter 3 considers how the 1953 storm-generated surge triggered the realization that London, Central Government