students, professional researchers, and interested parties in general. The editors are to be commended for putting together a comprehensive reference work that will serve the profession for many years to come. When combined with the *Encylopedia of Beaches and Coastal Environments*, edited by M.L. Schwartz (1982) [Stroudsburg, PA: Hutchinson Ross Publishing Company. 940p], researchers have a wealth of collected coastal information at their disposal that was heretofore unavailable.

The composition and layout of the book is somewhat disappointing. The large 8½ x 11 inch format lends itself well to oversize illustrations. It is unfortunate that the publishers did not make use of turnpage illustrations as many photographs could have benefitted from larger display. By limiting photos to page width, many pages were left blank. The large number of completely blank pages, which came at the ends of articles but could have been filled by maps or photos, is unfortunate in a book that carries an impressive price tag. An author citation index and general subject (topical) index are provided at the end of the book.

All those interested in coastal environments are enjoined to participate in this feast of information. Even though each individual section is but an apophoreta for that geographic region, the collected works provide a truly unique and comprehensive treatment of an important subject area. Serious coastal researchers will find themselves turning to this reference book again and again.

Charles W. Finkl, Jnr.
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The Times Atlas of the Oceans, edited by A.D. Couper, 1983. Van Nostrand Reinhold, 272p. US$ 90.50, ISBN 0-442-21661-0.

There is something reassuringly English about a *Times* Atlas. One feels one can trust the quality, the objectivity, and the purposefulness that comes from years of running an empire. The very solidity of the product conjures a vision of English breeding, church bells, and following the hounds. It comes therefore as a surprise, nay a shock, to discover that, like the muffin, little of the English connection remains. The Atlas is the brainchild of a Scottish editor working in Wales, printed in Italy with Danish help, and published by an American company.

However, it is gratifying that the 'english' tradition lives on. This is in fact an excellent production, 270 pages packed with information on coasts and oceans.

The book is divided into four sections — environments, resources, trade and management. Within each section are a series of sub-sections, usually spread over 2 or 4 pages, covering topics like deep-sea drilling, Atlantic fisheries, shipping accidents and casualities, and the Law of the Sea, to name but a few at random. Each comprises a map or maps, together with explanatory diagrams and text (usually 1000-2000 words). Coverage is comprehensive, the sources many — and thankfully well-cited — and the style clear and entertaining.

The quality of the maps, on which an atlas stands or falls, is good. Various projections and styles of presentation are used, although particular choices appear arbitrary. The Times Projection is employed extensively. Sadly, this is a flat, rectangular projection, which has been justly criticized in the past for gross exaggeration of polar regions relative to equatorial regions. In this case many maps are left with blank tops and bottoms and rather crowded middles. All the maps are in colour, often rather garish blues and greens, although this does not detract from their clarity.

The quality of information is often hard to gauge. Almost all the maps are drawn from secondary sources, some dating back 20 years or more and/or from perhaps crude and speculative originals. To have some of these ideas enshrined in this expensive publication may not be fully justified.

Notwithstanding, the Atlas is a remarkable compilation, and is certainly destined to become a major reference book for many years to come. I would imagine that most professional libraries will need a copy.

R.W.G. Carter
Ulster, Northern Ireland

Sub-Littoral Ecology: The Ecology of the Shallow Sublittoral Benthos, edited by R. Earll and D.G. Erwin, 1983. Oxford University Press, 277p. US$ 35.00, ISBN 0-19-854573-8.

The Underwater Association for Scientific Research was the first organized science diving group. For the past seventeen years it has held annual meetings which provide a unique forum for communicating the results of scientific work carrier out with the aid of diving. The theme of the 1981 symposium was "Underwater Biology of the British Isles" and this book is the outcome.

The first chapter briefly puts the subject of benthic ecology and the advent of diving in its historical perspective and the author takes the opportunity to remind us that until the 18th century, the general term for a diver was "urinator." Those familiar with the ambiance in diver's changing rooms may mourn the passing of this apt word. The remaining six main chapters then cover the traditional subject areas in marine macrobenthic ecology. Three deal with the major physical factors (light, water movement, and substratum), the others with biological concepts (biological interactions, the community concept, and biogeography).

What marks this compilation as different from other marine biology texts is that each chapter was written by a professional diving scientist, each ideally placed to synthesize the background knowledge with what they have directly observed on the sea bed and, perhaps most importantly, what is possible in terms of underwater fieldwork. As a whole, the book clearly reflects the outstanding contribution that diving has made to our understanding of patterns and processes occurring on the sea bed.

As is not unusual for multi-author works, the style is somewhat variable and in places rather pedestrian, and some sections could profitably have been introduced to the editorial pruning shears. Nevertheless, the basic groundwork is in all cases covered competantly and the whole provides a good "state of the art" picture of field-orientated marine biology in the British Isles. The extensive 59-page bibliography will be particularly valuable for British marine biologists in drawing together macrobenthic work which hitherto has been rather widely scattered among the scientific literature. It is based on the Nature Conservancy Council's reprint collection supplemented by checking relevant journals, recent reviews, and making computer searches, in addition to those papers referred to in the text.

My overall impression was of a science which has proceeded in a piecemeal fashion, often distorted by an emphasis towards the large and more easily identified organisms. If the resultant picture may at times seem confused, it is because it contains all the classic symptoms of chronic underfunding. The need now is for a more systematic and co-ordinated approach, based on hypothesis-testing, with a move away from purely descriptive work. This book contains plenty of relevant ideas and I hope that, together with the emergence of the Marine Conservation Society and the provisions made for marine nature reserves by a recent Act of Parliament, it will prove to be a watershed in the process of understanding, and thereby protecting, the fascinating but largely unseen life at the bottom of the shallow seas around our coast.

Howard Platt
London, England

Coastal Oceanography, edited by H.G. Gade, A. Edwards, and H. Svendsen, 1982. Plenum Press, New York, 582p. US$ 79.50.

This volume of thirty-four papers, arranged in five sections, is a product of a NATO Workshop held in Norway in 1982, the aim of which was "to deal with the frontiers of research on physical oceanography of coastal waters . . . stress was laid on the importance of bottom topography."

Section 1, coastal and shelf sea circulation has one general paper and several regional case studies, ranging from the Alaskan coastal current to coastal upwelling off Peru. The papers vary in approach; some have a large mathematical content, others are more descriptive.

Section 2, coastal upwelling etc. has four papers. Again, this section contains an introductory paper which develops a linearized model of two-dimensional transient upwelling generated by variability in the wind stress, followed by three Canadian regional examples.

Sections 3 and 4, topographically controlled flow etc. at meso and small scales appear to be closer to the aim of the workshop and together these sections have ten papers. These include a few general and several wide-ranging regional case-studies. Some of the papers contain references to sediment transport but the main themes are essentially those of water mass interactions and flows produced by meteorological effects, especially winds, tidal, and other physical forces.

Section 5 consists of three papers on turbulent mixing and entrainment.

All papers have extensive reference lists and there is a subject index. A useful Geographical Index is also provided.

This is clearly a book for physical oceanographers. For some readers *e.g.* coastal geomorphologists, geologists, ecologists, the term coastal might be a little misleading in that there is little or no reference to the coastline, rather it is concerned with shelf and nearshore water movements in both horizontal and vertical directions. Most papers involve mathematical modelling related to oceanographic measure-