with the Company, by taking shares in it—for which he gained the support of the British government. For a short time in 1929, when Cadman went out to the oil-fields, there seemed a real chance of achieving such a partnership, which would have been unique for its time.

But Cadman and Timurtash soon discovered they had different concepts of partnership, and Timurtash insisted on nothing less than a permanent quarter-interest in the Company. The negotiations were adjourned in a friendly atmosphere, but soon afterwards the opportunity had gone: the New York stock market collapsed, the British government's relations with Iran deteriorated, and Timurtash was out of favour. It was, as Dr Ferrier says, a tragic lost opportunity, and the Company was never to be so far-sighted again in its dealings with Iran.

This volume ends at the tantalizing point

(at least for those interested in oil history) before the discovery of oil in Kuwait and the transformation of Middle East economics. The author has also annovingly chosen to postpone the account of the great cartel agreement of 1928, negotiated at Achnacarry Castle, to the next volume. The relationships between BP and its rival companies - particularly Royal-Dutch Shell and Standard Oil of New Jersey weave in and out of the story, and there is important new information about the proposals to merge BP with Shell. But it was the "As Is" agreement at Achnacarry which brought those relationships to a climax, and it is tiresome to have to wait still longer to read BP's side of that story.

But this volume nonetheless provides valuable new insights into the devious and difficult relationships between oil companies and governments, which played such a part in determining the future of the Middle East; and into the especially odd relations between BP and the British government which half-owned it. Some readers may be put off by the intricate detail, the confusing spelling of Iranian and Arabic names and the author's mannerisms including a fondness for the double negative. But the detail and the slow pace of the book do have the useful effect of conveying what the oil business must have seemed like at the time - a complex, cautious yet very commercial venture which only occasionally found itself exposed to the diplomatic crises which would critically affect the future of the world.

Anthony Sampson is author of The Seven Sisters: the Great Oil Companies and the World they Shaped (Hodder & Stoughton, 1975). His most recent book is The Changing Anatomy of Britain, published earlier this year by Hodder & Stoughton.

Low down on the Great Barrier Reef

R.F. McLean

The Geomorphology of the Great Barrier Reef: Quaternary Development of Coral Reefs. By David Hopley. Pp.453. ISBN 0-471-04562-4. (Wiley: 1982.) £49.85, \$79.75.

THERE are many barrier reefs; some are even great, Fiji's 200 km long Great Sea Reef being an example. But there is only one Great Barrier Reef. This reef province is enormous. It has an outer perimeter of 2,300 km and a lagoon up to 260 km wide that incorporates, in an area the size of Britain, some 2,500 separate coral reefs. How does one make sense of such a vast and complex system? David Hopley does it by starting from the theoretical foundations of Darwin, Dana, Davis and Daly and the more recent integrated reef models and evaluates these in the local context. He argues that the essence of the explanation of reef morphology is the extent to which it is karst-induced as opposed to growth determined. Rightly he concludes that no single theory will explain all reefs. He also makes sense of the Great Barrier Reef by systematizing its spatial organization and classifying its features.

Coral reefs are biological and geological entities. Hopley's interpretation is unashamedly that of a geomorphologist. Reefs are seen as morphological features consisting of rocks, sediments, structures and surfaces that result from an array of geological, biological, physical and chemical processes. These processes, past and present, are covered in four of the book's thirteen chapters that are less likely to satisfy the respective specialist readers than a more general audience. Later, Hopley comes into his own when discussing the Reef's evolution in terms of antecedent platforms, sea level changes and reef responses, which ultimately leads to an idealized evolutionary model of the reef over the last 125,000 years. This is a highpoint.

Ten years ago, in 1973, two events of significance for reef study took place on the Great Barrier Reef. One was the Royal Society-Universities of Queensland Expedition led by David Stoddart, the other the Second International Symposium on Coral Reefs held on board ship. Both stimulated a great deal of new research on the Reef by Australian workers as well as an

interest in it by scientists from other countries. What then has been learnt in the past decade? The answer is: a great deal, especially in the geosciences. Some indication of this is given in the four chapters dealing with modern reefal environments and the spatial variation within and between reefs. There is a wealth of recent and hitherto unpublished data in these chapters, much stemming from the author's own researches. Also impressive is the way in which the scale problem is handled, local, regional and whole reef. Expanding the scale even further, the book concludes with a brief examination of the variation on a world scale of the most important influences on coral reef development and a comparison of the Great Barrier Reef with other reef systems.

Nineteen eighty-two was an important year for the coral reef community with the launching of a new journal *Coral Reefs* and the Smithsonian publication of a detailed study of part of the Atlantic barrier system. David Hopley's book certainly tops up the vintage. Much is now known about fringing reefs and barrier reefs. Now equal attention needs to be given to the third of Darwin's reef triplet—atolls.

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