

particularly over the ratification and implementation by allied Nations. There is a fear that the US will be left out should the Treaty be widely accepted, and late entry may bring unwanted and severe penalties. Meanwhile many US companies, in whom, ironically, much of the technology and expertise needed for the development of ocean resources is vested, are likely to operate through 'offshore' subsidiaries. The real losers could be the US Government, particularly if the Treaty moves against unimpeded navigational access. This could lead to security problems. Many of the book's chapters discuss these points directly, covering ocean mining, navigation, fishing, and scientific research.

A fascinating undercurrent in the book concerns the more general attitude of the right-wing Reagan Administration to world affairs. Oddly enough, many of the opinionated passages in the book remind me of the strident socialist writings of George Orwell. Reluctance of some contributors (and by implication the current Administration) to accept ideas of shared heritage, presumably because of its 'communist taint,' is distressing. It is hard to see how a realistic LOS structure can be established without accepting such a principle. Concern, expressed by the anti-treaty lobby, that the LOS might hasten "the new economic order" seems far-fetched.

However, the book is well-balanced, at least on the central LOS Treaty issue, and should be widely recommended to, and read by, students of ocean management for the wider issues it discusses. For all that the text is hard to read for those not trained in law. (The direct transcription from verbal presentation does not help.)

R.W.G. Carter
Ulster, Northern Ireland

Quaternary Period in Saudi Arabia, Volume 2, by A.R. Jado and J.G. Zötl, 1984. Springer-Verlag, Wien-New York, 361p. DM 158, ISBN 3-211-81749-2 (Wien), ISBN 0-387-81749-2 (New York).

The first volume of this work was published in 1978 (ed. S.S. Al-Sayari and J.G. Zötl), dealing with eastern Saudi-Arabia and the Persian (or Arabian) Gulf coastline. This work deals with its western coastal belt from the Gulf of Aqaba to the Red Sea shore as far as Yemen and the Farasan Islands. Treating mainly the hydrogeology, a great deal of attention is paid to coastal geomorphology and the late Quaternary history of sea-level changes.

This is the first in-depth and well-illustrated work on this almost unexplored coast. The Gulf of Aqaba sector is almost a mirror image (but with strike-slip) of the Sinai coast where the Israeli work disclosed three important uplifted coastal terraces, dated by Th-230 as 110,000, 200-250,000 and over 250,000 yr. One Holocene coral terrace at about 2 m was dated by Friedman as 4770 BP, which appears to be without neotectonic disturbance. Along the Red Sea shore, as far south as Jeddah, there is an alteration of sandy coastal plains, up to 50 km wide, with some sectors of cliffed Precambrian. Uplifted Pleistocene coral-reef terraces, as in Sinai, have been tested by radiocarbon-dating, but all those dated in the 16,000 to 30,000 BP range are quite properly rejected as spurious (p. 72), resulting from a small contamination by recent carbon. K/Ar dates of youthful basalts are in the range 0.4 to 1.4 million years, the younger flows resting on the middle of the uplifted coastal terraces (20 m) and the older basalts on the uppermost terrace (up to 40 m). Mid-Holocene terraces are dated at 4400-7000 BP. Samples of shell and coral from the south of Jeddah taken from the 4 m raised reef also gave spurious (17,000-39,000 yr) dates, but shells from a raised beach 5 m above the erosion notch on the Farasan Islands (p. 219) gave the date of 4700 BP (p. 155). An interesting feature is the coastal uplift caused by the Jizan salt diapir. In this area extensive sabkhas formed during the eustatic high-level stage, 4000-6000 BP, and subsequently were partly covered by dunes. The hinterland was characterized, as in North Africa, by generally heavy monsoonal rains in the period 12,000 to 6000 BP, but with arid fluctuations. General aridity returned after 6000 BP. It is interesting that the maximum of sea level in the mid-Holocene is 6000 years later than the appearance of the heavy rains, but that the subsequent fluctuating fall of sea level is more or less coincident with increasing desiccation.

Rhodes W. Fairbridge
New York, New York, USA

The Pleistocene Geology and Life in the Quaternary Ice Age, by Tage Nilsson, 1983. F. Enke Verlag, Stuttgart and D. Reidel, Dordrecht, 651p. DM 240.00, US\$ 115.00, ISBN 90-277-1466-5.

This is a wonderful book! Something I've waited for a very long time. It is a comprehensive treatment

of the fauna, flora, and formations of the last 2 million years. Its meticulous reference list runs to 80 pages. It has appendices ranging from the classification of vascular plants (with the Latin and common names of the appropriate species cited in palynology) to the code of stratigraphic nomenclature. Here is a simple and straightforward (and clearly illustrated) primer on the stone tools and history of early Man, chapters on the systematics and distribution of the extinct creatures and their stratigraphy. And of course the glaciers and their

deposits.

The book started as a basic text in Swedish ("Pleistocen", Esselte, 1972), thus oriented for Nordic readers, but this reviewer claims some credit for getting the author to expand it into a world view and in English. There is one regrettable point: the price, alas, will restrict most sales to libraries, but every serious library must have a copy.

Rhodes W. Fairbridge
New York, New York, USA

