BOOK REVIEWS

ALLCHIN, B., GOUDIE, A. & HEGDE, K. 1978. *The Prehistory and Palaeogeography of the Great Indian Desert*. London: Academic Press. 370 pp. $48.90.

Incidental observations on the prehistoric archaeology of the Indian subcontinent go back well over a century, but regional studies were initiated only in the 1920s by L. A. Cammiade and M. C. Burkitt, followed up in greater detail during the 1930s by K. R. U. Todd and particularly by H. de Terra and T. T. Paterson. These earlier studies have close analogues in South Africa, namely the identification of rock- and climato-stratigraphic units, apparently linked with stone artefacts thought to be representative of specific industrial traditions. Again, as in South Africa, basic prehistoric concepts were defined during these years, for better or for worse. However, unlike South Africa, archaeology in India has, with few exceptions, adhered to its own Vaal River research model well into the 1970s. This volume, representing 6 field seasons (1969–76) in western India and adjacent sectors of Pakistan, will strike South African archaeologists as an anachronism. Yet considering the vast areas in question, the comparatively small numbers of qualified personnel, and the modest financial resources, an essentially exploratory approach has been unavoidable in Indian archaeology.

Allchin, Goudie and Hegde have attempted to study the relationship between 'cultures' and changing environments during the later Pleistocene and early Holocene, focusing on central and western Rajasthan, Gujarat, and the plains east of the lowermost Indus. This is primarily a semiarid environment (250–750 mm rainfall), with extensive development of inactive dunes and sand sheets in what is part of the Thar 'Desert'. Apart from moving sands in the limited zone of truly arid climate, the aeolian bed forms are fossil. They include vast tracts with deep, reddish soils (non-calcic, with some 30% silt and clay); calcrete sands (*kankar*); and, in coastal Gujarat, cross-bedded, cemented dunes of fine shell-debris with marine microfossils (*miliolite*, with ^{14}C dates ranging from 11 450 to 'greater than 35 000 B.P.'). Several generations of alluvial fill form two widespread river terraces; the older of these alluvial complexes has basal, gravelly units with Palaeolithic artefacts, while the capping silt bodies commonly have a palaeosol (vertisol ?), evidently older than 25 000 B.P., judging by multiple ^{14}C dates on soil carbonates. The palaeoenvironmental record includes: (1) major aeolian activity, predating the older alluvium; sand sheets may be interdigitated with colluvium, including rolled Acheulian artefacts; (2) the basal rubbles of the older alluvium appear to be coeval with the impressive red palaeosol and suggest competent, through-flowing streams in the central Thar; they include much 'Middle Stone Age' material; (3) the terminal silts and palaeosol of the older alluvium are approximately contemporary with renewed dune mobilization (and coastal aeolianites) during the terminal Pleistocene; (4) finally, the early Holocene was moist, on the basis of freshwater gastropods in clayey lake beds, free of aeolian sediment and recovered from now-saline pans.

The archaeological sequence generally begins with Acheulian artefacts that include a strong cleaver component; there was only one collection of chopping tools. The Middle Palaeolithic or 'Middle Stone Age' includes variable collections in which discoidal cores and a range of flake-tools are most characteristic, the latter commonly worked into convex or concavo-convex scrapers; there are some atypical points, levallois pieces, carinate scrapers, and simple angle burins. In other parts of India, collections of this general class from alluvial gravels have been associated with apparent dates of 11 420 to 'greater than 39 000' B.P., although the finite assays are suspect. The infrequent Upper Palaeolithic collections are dominated by blades, but previous tool types, such as carinate scrapers, continue in use, together with new forms such as crescents. The 'Mesolithic' (or 'Microlithic') may include two distinct blade industries, the smaller-sized one of which has many crescents and trapezoids; an early Holocene age is inferred.

This study provides a welcome corpus of information for a region with some unmistakable geoarchaeological similarities to southern Africa. But the severe limitations of the data base are equally evident and do not allow the interdisciplinary synthesis promised. The geomorphological sections provide little substantive new data, e.g. detailed sections and sedimentological work are essentially absent, and the handful of sieve analyses are used to make some remarkably wide-ranging conclusions on aeolian processes in India. The archaeological sequence is based primarily on very small surface collections, and no excavations were carried out by the authors. Equally disturbing is that other important research in India is often ignored or downplayed. So, for example, some relevant studies of alluvial history remain unmentioned; the pollen and sedimentary profiles of G. Singh which provide the only useful Holocene environmental sequence are dismissed as inconclusive without giving adequate grounds; and, last but not least, the critical Acheulian excavations at Chirki-on-Pravara, where the problem of assemblage definition is clearly apparent, are disregarded. In effect, the authors' scholarship leaves something to be desired, regardless of whether or not resources may have been insufficient to do more exacting field work.

KARL W. BUTZER
The University of Chicago

HODDER, IAN & ORTON, CLIVE. 1976. *Spatial Analysis in Archaeology*. Cambridge. Cambridge University Press, ix. 270 pp.

In the words of the authors the 'main aim of this work is to suggest to archaeologists that there is a potential for more detailed and systematic study of spatial patterning in archaeological data' (p. 1). This aim is fully achieved with a text which is both free from jargon and rich in suggestions and advice. Space is quite evidently one aspect of prehistoric archaeology which will receive much more attention in the future. If this text becomes required reading for archaeologists, spatial studies will be rigorous and well