

NAMIB IV AND THE ACHEULEAN TECHNO-COMPLEX IN THE CENTRAL NAMIB DESERT (SOUTH WEST AFRICA)

MYRA SHACKLEY

Department of Archaeology, University of Leicester, UK

SUMMARY

The author is at present engaged in a systematic survey of the archaeology of the central Namib desert, and in 1978 a preliminary reconnaissance was made at the Acheulean site of Namib IV, located in an interdune flat in the linear sand dunes (Figure 1). A further visit was made to the site in 1980 which produced more details about the artefacts and further faunal remains, including the mid-Pleistocene *Elephas recki*. During the 1980 season, a further four sites were located (Xmaspan, Tsondab route, Narabeb West and Zebraivlei) and a new assemblage studied from Narabeb where Acheulean material had already been reported by Seely & Sandelowsky (1974). Since less than a month has passed since the end of this 1980 field season, it is not yet possible to describe the characteristics of these Acheulean technocomplex sites in detail, but they will provide the beginnings of a framework for an understanding of the Pleistocene occupation of the Namib, which at present is seen to begin with the kill and butchery site of Namib IV and its associated fauna (Shackley 1980).

1. INTRODUCTION

The surface assemblage of artefacts and faunal remains called Namib IV is located in an interdune flat where different generations of fossil calcretes have been exposed by sand shift. The material has recently weathered out of a dark red calcrete, traces of which may be seen on the ventral surfaces of much of the material. It seems likely that the site is the remains of a kill and butchery area near the margin of a former waterhole which, after it had dried, was buried by sand shift. Post-Pleistocene dune movements then exposed the calcrete and its included material initiating a new weathering cycle, resulting in the present surface distribution of material. Such a sequence of events, with local variations, is responsible for the present configuration of most of

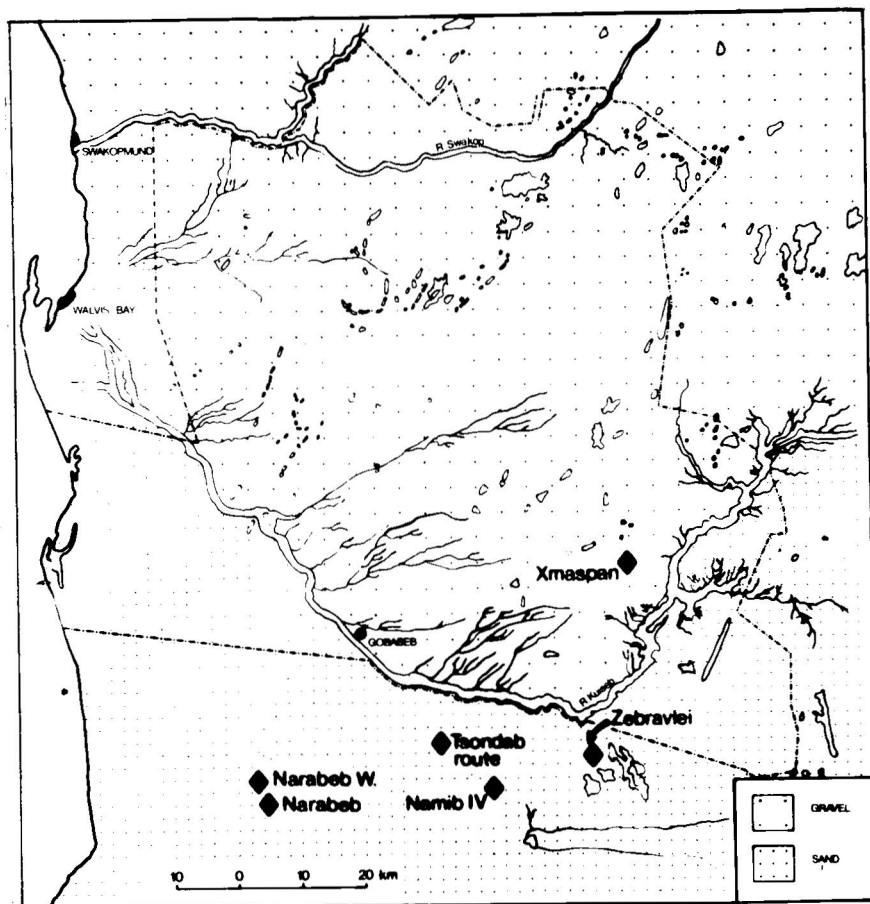


Figure 1. Surface sites provisionally assessed as belonging to the Acheulean techno-complex in the central Namib Desert, south west Africa.

the archaeological sites of the Namib, and new material is constantly being revealed by sand movements.

In 1978 a grid was set out across the interdune flat and a statistical and typological analysis of the contents of one randomly-selected grid square (2,500 m²) was undertaken. The 394 implements studied were supplemented by a further assemblage of 107 artefacts considered in the 1980 field season, which also produced extensive new faunal remains which are at present awaiting analysis.

2. THE ARTEFACTS

The 1978 and 1980 artefact assemblages total 501 pieces, 57 % of which could be classified as 'heavy duty tools' (choppers, cleavers and handaxes). The 43 % 'light duty tools' included points, scrapers, flakes and blades but no evidence of the prepared-core technique which has been found at other Acheulean sites. The raw materials were very varied and included quartzites (yellow, orange, pink and grey) with lesser quantities of dolomite, dolomitic marble and diamictite; all probably obtained as water rolled cobbles from the bed of the ephemeral river Kuiseb 8 km to the north. There was a definite relationship between raw material and artefact type. The large cleavers, for example, were almost exclusively made from quartzites and dolomite was used for hammerstones. The smaller flake tools were occasionally made from quartz (although this raw material was not so common here as at the other sites), obtained locally as vein quartz from outcrops of mica schist.

Various technological features of the Namib IV assemblage make it particularly distinctive. Most of the cleavers and a few of the handaxes were made by splitting rounded quartzite cobbles of suitable size and trimming the resulting large thick flakes to the desired shape. In the case of flake cleavers this trimming was often minimal (Figure 2) so that the ventral surface of the tool had but a few small trimming flakes removed from it and the dorsal surface consisted entirely of cortex. This approach, involving the use of as few blows as was consistent with the production of a serviceable edge and the required shape is not only related to economy of effort but to the extreme difficulty of working quartzite, a fact not sufficiently appreciated by many archaeologists. It requires a great deal of force to split a quartzite pebble and this is easiest when the raw material has been heated by the sun. Full advantage must also be taken of any lines of weakness in the pebble but a 'block on block' technique is the only way of initially splitting it, although a hard hammer may be used for shaping. Retouching quartzite is not the easy matter that it is with softer rocks such as flint, a point which probably accounts for the relatively low frequencies of retouched tools in Namibian sites and the small number of flake scars on bifaces. At Namib IV more than ten flake scars per side is unusual and over 50 % of the bifacial tools have less than seven. The method of production outlined above also accounts for the high frequency of handaxes and cleavers made on flakes (84 % of cleavers), often side struck. These characteristic Namib IV divergent cleavers (Figure 2(1)) have only been found at one other Acheulean site in the area (Tsondab route) where the same manufacturing method has been used.

Another feature of interest is the occurrence of 'chisel-ended' handaxes (called convergent cleavers by Kleindienst 1962) although the bifacial component of the industry also includes more 'classic' pointed ovate handaxes (Figure 2(4)) with a notable tendency towards plano-convexity (again a function of the method of manufacture). Cleavers were nearly three times as common as other bifacial tools (37 % cleavers, 12 % handaxes) and cores

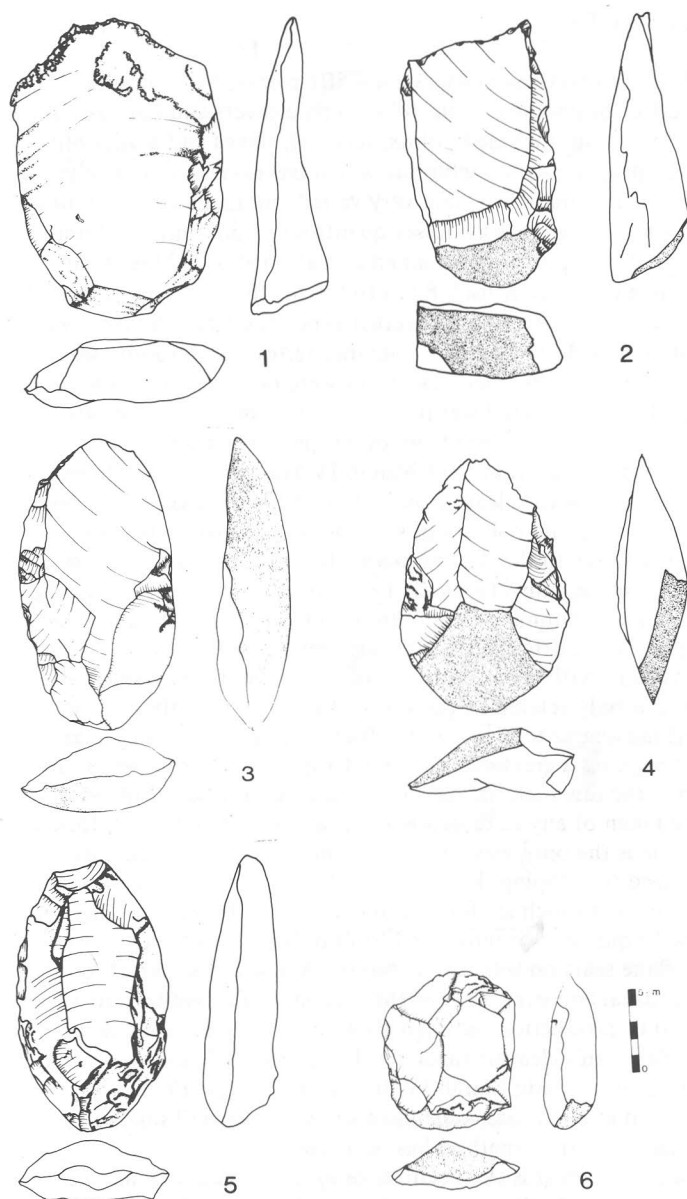


Figure 2. Implements from Namib IV. 1-2 – Divergent quartzite flake cleavers; 3 – Flake cleaver made from a split ovate quartzite pebble; 4 – Pointed handaxe with cortex butt made from a split ovate quartzite pebble; 5 – Irregular ovate handaxe made from poor-quality quartzite core; 6 – Small rectangular quartzite handaxe made on a thick flake.

formed only 2 % of the whole assemblage. This is also a function of the type of raw material being used but the lack of small flake cores is perhaps surprising in view of the comparatively high number of scrapers (7 %) and points (23 %). At Namib IV, as at other sites in the area, the continuum which exists between raw material, hammerstone and finished product is very striking and seems likely to require a revision of technological nomenclature. The transportation of a lump of rock to the site qualifies it as a manuport and as raw material for tool production. If one cobble is struck against another until a flake is removed one then has an arbitrary division into hammerstone and core, and as more flakes are removed an implement which may be described as either a core or a chopper is often produced; it certainly functioned as both. By far the majority of cores from all Namibian sites show signs of having been used as choppers so what is the distinction? All the artefacts from Namib IV whether bifacial, core, chopper or flake also show signs of heavy use-wear which is another characteristic of the Namibian Acheulean industries.

Isaac (1969) suggested that the manufacture of bifacial tools from large flakes may be crucial in differentiating Acheulean industries from Oldowan. The Namib Acheulean industries do not, however, all contain bifacies made on flakes and at the other sites (Figure 1) this technique may occur on less than 10 % of the handaxes. In the authors' opinion the manufacture of bifacial tools on flakes is largely governed by the nature of the raw material and is more likely to occur where, as at Namib IV, the artefacts are made from pebbles. Some techniques do not occur at Namib IV but are found in other sites in the area, for example at Narabeb West where 50 % of the handaxes are ovates with a pronounced S-twist, rare in the African Acheulean technocomplex. At Narabeb, Narabeb West and Zebravlei the industries include a Levallois component together with prepared single-platform cores, and in some cases points represent over 50 % of the 'light duty tools', approaching the figures for middle stone age industries.

The closest typological parallels for Namib IV are undoubtedly to be found in East Africa, at the sites of Olorgesailie (Isaac 1977), Kilombe (Gowlett 1978) and PDK and HEB 1 and 3 at Olduvai Bed IV (Leakey 1975). It could be argued (Shackley 1980) that the thick, crude Namib IV bifacies with their low number of flake scars are even earlier than the East African sites, but in order to make such a comparison detailed study of the comparative technologies involved must be undertaken. There is, however, no doubt that the Namib IV industry must be placed firmly within the Acheulean technocomplex. Namib IV contrasts with the East African sites in its dominance of cleavers over handaxes, but if one is manufacturing a bifacial tool from a spherical pebble the cleaver is the simpler form. The absence of picks and the presence of sub-rectangular cores, spheroids and large numbers of flake tools is similar to the East African material. It is interesting to note that cleavers do not dominate the assemblage at any of the other Namibian Acheulean sites, being present only at Tsondab route. Certain features of the other assemblages (for example, the use of the prepared core technique) suggest that they may be later than Namib IV.

Preliminary readings from Kilombe (Dagley et al. 1978) suggest that the site antedates the Brunhes-Matuyama transition and is therefore >700 000 years old. Isaac (1977) is of the opinion that Olorgesailie may date to >400 yr BP, and it is suggested on typological grounds that Namib IV must be at least of similar antiquity.

3. THE FAUNA

The faunal remains were mineralised, fragmented and found in the same area as the implements. The 1978 faunal assemblage was identified by Professor R.G.Klein but the 1980 finds have not yet been analysed. The fauna included the remains of *Elephas recki* together with one indeterminate alcelaphine antelope and one other medium-sized antelope. The *Elephas* remains fortunately included tooth fragments whose characteristics (thin enamel, hypsodonty and tight enamel folding) suggested that a late stage of *E.recki* was represented, probably comparable with Maglio's Stage 4 (Maglio 1973) as represented at Olduvai Bed IV. This confirms the mid-Pleistocene date for Namib IV and is especially interesting in view of similar finds from the Southern Kalahari site of Kathu Pan where *E.recki* remains have also been found in association with an Acheulean industry (Klein, personal communication).

4. THE SITE AND ITS IMPLICATIONS

It seems likely that the calcrete deposits are connected with the former presence of surface water, probably a small ephemeral lake. It was previously suggested (Shackley 1980) that the presence of elephant indicated that in mid-Pleistocene times the Namib was receiving at least sufficient precipitation to support savannah grassland but it is equally possible, though in the writer's view less likely, that the elephants were only migrating through the area. The repeated association of Acheulean artefacts and interdune calcretes in the Namib undoubtedly represents a hunting pattern of kill and butchery sites near waterholes situated not too far from suitable sources of raw material for toolmaking. Namib IV was probably both a kill, butchery and workshop site although it seems unlikely that it was ever occupied for any substantial length of time. The presence of game at such waterholes could be predicted and the chances of a kill were sufficiently high to justify the transport of heavy raw materials from a distance away. The paucity of bone refuse from Namib IV makes it impossible to come to any conclusion about the number and distribution of the animals which were killed; if indeed they were killed by man and not merely scavenged from the kills of the large carnivores who would have represented intense competition and probably meant that the occupants of the sites were unlikely to remain in the vicinity of their kills for very long (Klein 1978). The availability of water and food even on a seasonal basis,

would no doubt mean that Namib IV was a location which was visited on more than one occasion. This is, indeed, the general pattern of occupation of all the Namib sites, which seem to have been utilised for their particular resources by different groups of people visiting the area over a period of many years, but not making permanent camps there. Such an occupation pattern makes the lot of the typologist an especially hard one since the visits may be spaced in time yet by the archaeological 'telescoping' effect appear contemporary. It would be possible to envisage a utilisation pattern which involved several groups of people in the central Namib at the same time but with different tool-making traditions, as well as groups of people who came at different times with the same artefact types. Associated faunas are clearly going to be of the greatest importance here and much more detailed ground survey and artefact analysis is needed before even a preliminary model can be obtained. One thing is clear, and that is that the possibility of finding assemblages with virtually the same artefact component types and percentages is remote. Many of the early hypotheses have to be revised; for example the theory that Acheulean material is never found north of the Kuiseb (Seely & Sandelowsky 1974) which has been confounded by the discovery of the Xmaspan site. The six sites shown on Figure 1 are at present being attributed to the Acheulean technocomplex on typological grounds, but an examination of Namib IV has shown that the nature of the raw material and methods of manufacture may to a certain extent control implement typology. It seems likely that not only will the structure of the Acheulean assemblages of the Namib turn out to be incredibly varied but that the conventional division between the Acheulean and later technocomplexes may become meaningless here due to the nature of the use pattern of the area.

In conclusion, it may be said that Namib IV has provided a first peg in the framework for the Pleistocene occupation of the Namib by its association of artefacts and fauna with clear parallels from other African sites. It is to be hoped that future work will enable us to establish a chronology for the different tool-making traditions of the central Namib, the detailed analysis of the five new 1980 assemblages shown in Figure 1 being a good starting point.

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