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Four thousand years at the Spitzkoppe: changes in settlement and landuse on the edge of the Namib Desert

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Archaeological remains including thirty-seven rock art sites indicate the pattern of hunter-gatherer settlement and subsistence which existed at the Spitzkoppe at least until the introduction of livestock in the last millennium. Thereafter, pastoral settlement apparently predominated until some time before the establishment of a short-lived German colonial outpost at the end of the last century. Finally, after a series of unsuccessful ranching ventures under the South African administration the area reverted to communal livestock farming.

INTRODUCTION

Situated on the interior fringe of the Namib Desert, the Spitzkoppe are one of the most striking geological formations in Namibia. The domed granite inselbergen are almost the only remarkable topographic feature on a landscape of low rolling hills covered by sparse thorn-scrub (Fig. 1). Today the Spitzkoppe area is communal land and the site of a small rural stock-farming settlement served by a school, a clinic and a single store. The present limits of freehold commercial ranching lie 40 km to the east, near the town of Usakos, on grazing reserved for settler farmers by the Odendaal Commission Report of 1964.

The early history of human settlement in the arid western parts of Namibia is known mainly from archaeological evidence, the larger mountain areas of the Brandberg and Erongo having attracted considerable research (Kinahan 1989; Pager 1989; Rudner 1957; Sandelowsky & Viereck 1969; Wadley 1979). The primary attraction for research has been the great wealth of rock art which is concentrated in this region, but although the Spitzkoppe are widely known for their rock art no systematic survey of the area is available.* The object of this paper is therefore to describe the evidence of early settlement at the Spitzkoppe, including the rock art as well as other archaeological and



Figure 1. A view of the Spitzkoppe from the south.

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historical evidence. Indeed, one motivation for the survey reported here is the increasing destruction of the rock art by uninformed visitors, particularly at the site known as Bushman Paradise, a proclaimed national monument.

Although the exact age of the rock art in the Namib is not known, its distribution coincides with that of Later Stone Age hunter-gatherer settlement during the last four millennia, a period that is well represented in the regional archaeology. From the Brandberg, there is evidence that the rock art tradition was abandoned during the last millennium after the introduction of domestic livestock and the start of a regional economic transformation which brought changes in community structure and the adoption of pastoral settlement patterns (Kinahan 1989). In this part of the Namib, the dominance of the nomadic pastoral pattern is most clearly visible in the last 500 years, prior to the second major shift in the sequence which began in the middle of the nineteenth century when the colonial merchant and settler economy began its rise in Namibia.

This broad sequence is not everywhere confirmed and in the Erongo, for example, Wadley (1979) found little evidence of economic changes in precolonial times. The Erongo, receiving more than twice the 100 mm annual precipitation of the Spitzkoppe, offered a wider variety of game and seasonal plant foods which lead Wadley to suggest that the hunting and gathering economy may have survived into more recent times without being entirely displaced by pastoral settlement. On the east-west rainfall gradient of central Namibia (van der Merwe 1983) the Spitzkoppe lie between the Erongo and Brandberg mountain areas with their apparently contrasting archaeological data. It is therefore of interest to establish whether or not evidence from the Spitzkoppe reflects local variations within a broader regional pattern of precolonial settlement and subsistence activity. In the case of the Spitzkoppe it is also possible to combine the archaeological evidence with the colonial documentary record and in this way gain an illuminating perspective on changes in local settlement and landuse patterns.

SURVEY OF THE ROCK ART

A systematic search of the Spitzkoppe revealed a total of 37 rock art sites located at the foot of the hills among large boulders or in other

suitably sheltered places. The site distribution in Fig. 2 exhibits a loosely clustered pattern with small groups of sites centred on the few waterholes close to the Spitzkoppe. These springs are fed by runoff from the granite slopes and some of them hold adequate supplies of water for months after other rainwater catchments in the area have dried up. Very occasionally, when coastal fogs reach this far inland, condensate trickles down the rockfaces to replenish the springs, but unless there is some rain every year the Spitzkoppe have no surface water.

Most of the rock paintings at the Spitzkoppe were executed on the overhanging sides of the boulders and consequently they are exposed to both direct sunlight and rain. This, and the use of earth-coloured pigments has in most cases ensured that the paintings are indistinct and difficult to identify. The presence of rock art sites was sometimes indicated by extensive scatters of stone artefact material, but as these sites are also attractive campsites, the convergence of vehicle tracks and the presence of modern campfire hearths proved equally reliable indicators. Although some of the sites were very badly damaged by fire and other forms of vandalism, it was possible to describe and count most of the paintings. The results of the survey are given in Table 1 which shows the distribution of the fourteen identifiable subjects found in the rock art.

Numerically, the rock art of the Spitzkoppe is dominated by human figures to the extent that all other subjects together comprise less than one fifth of the recorded total. Table 1 shows the effect this contrast has on the distribution of the paintings: while human figures occurred at nearly every site, most animal subjects were restricted to one or two sites. The table also indicates considerable selectivity, not necessarily guided by the availability of the various species as huntable game, and in the rock art itself the animals are often grouped without apparent regard to their natural habits. Although most of the animal subjects were represented by single, isolated examples, animals such as the giraffe were often depicted in pairs or groups. The relatively common association between human figures and giraffe is difficult to assess, however, for this particular species shows some ambiguous qualities in the rock art.

In most cases the giraffe is simply denoted by its shape of head, and the characteristic back-

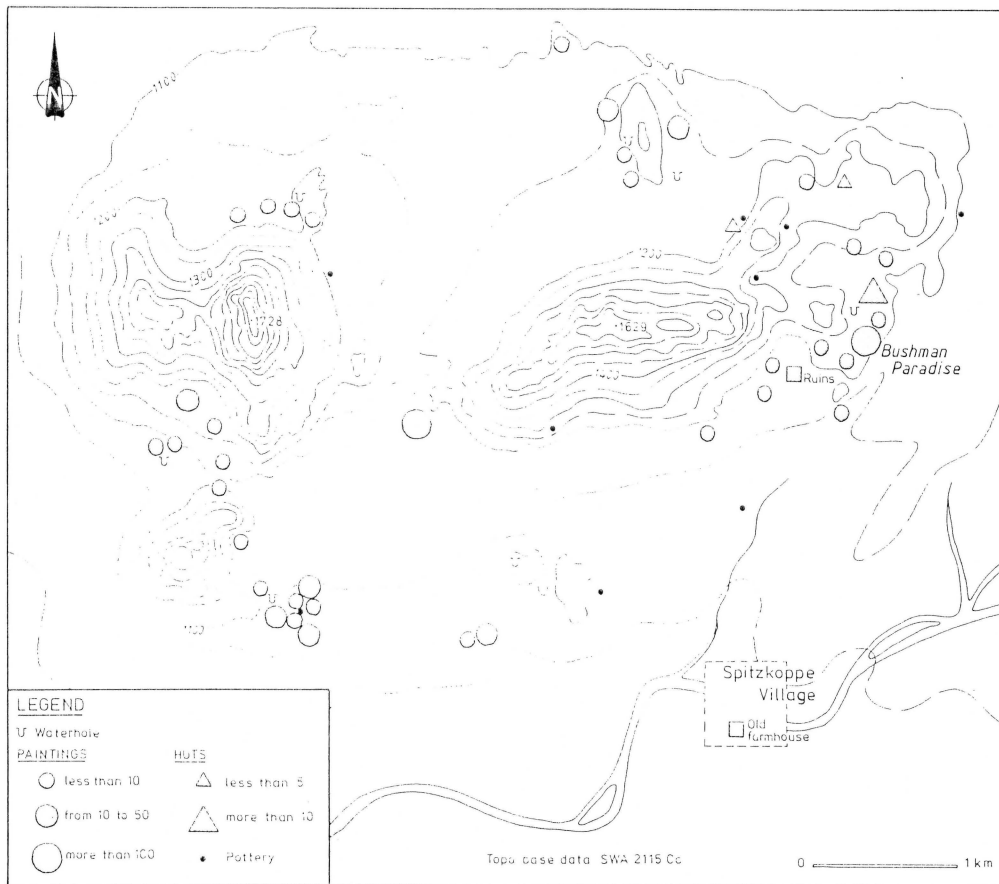


Figure 2. The distribution of archaeological sites at the Spitzkoppe.

Table 1. Distribution of identifiable subjects in the Spitzkoppe rock art

Subject	Number of sites	Greatest count	Total recorded
Human	28	86	317
Therianthrope	2	1	2
Lion	3	2	4
Elephant	3	2	4
Rhinoceros	2	7	8
Zebra	2	1	2
Giraffe	7	14	26
Springbuck	2	1	2
Eland	3	2	4
Kudu	6	3	10
Hartebeest	1	1	1
Ostrich	1	2	2
Snake	2	4	5
Cattle	3	7	10



Figure 3. Giraffe-headed serpent with human figures, monochrome dark brown, Spitzkoppe.

line and withers. One group of giraffe depicted in this way is accompanied by a series of sinuous lines, like snakes, but without the head or pointed tail. Apparently, the conflation of snake and giraffe is complete in the painting reproduced as Fig. 3 which shows the head of a giraffe on a clearly serpent-like body. In this case the withers of the giraffe are not shown, but the trailing longitudinal split about halfway down the length of the body does appear in several other examples of giraffe paintings at the Spitzkoppe. This example implies that the rock art had more complex purposes than to record the diversity of animal life. Nonetheless, the uneven distribution of the paintings, with heavy concentrations near the waterholes, suggests that the rock art is a useful indicator of settlement patterns at the Spitzkoppe.

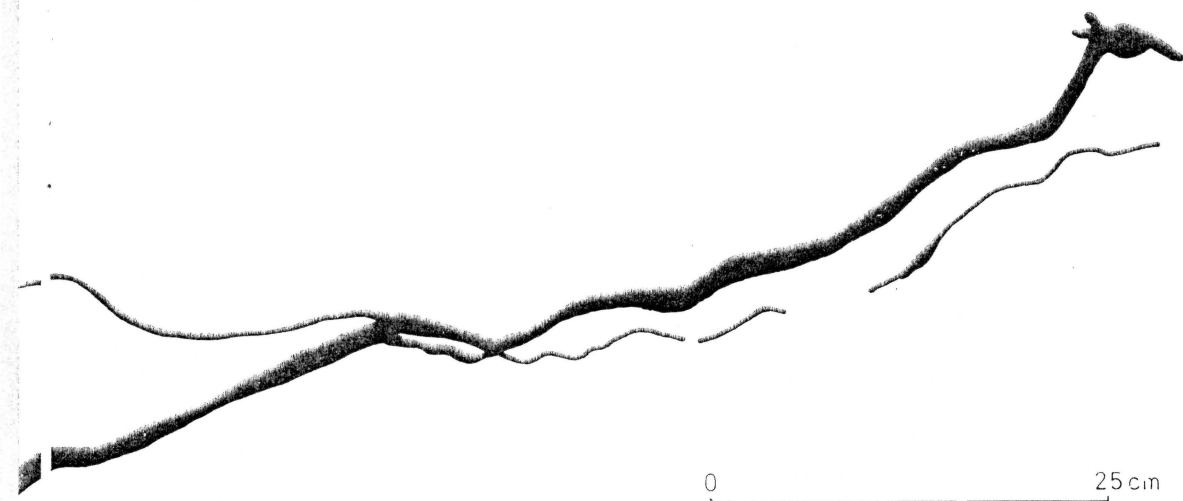
Two of the Spitzkoppe sites have a far greater number and diversity of paintings than all other sites combined and these two major sites are emphasized in the Fig. 2 distribution map. Conceivably, settlement at the Spitzkoppe was concentrated at the larger, more important sites. In the case of Bushman Paradise, this large site is associated with a number of lesser sites, all within easy reach of water. The other groups of sites at the Spitzkoppe are also concentrated near waterholes, which suggests a

simple pattern of settlement tethered to the available water. While this explains the distribution of the rock art sites, it does not take into account the somewhat different distribution of sites with hut remains (cf. Fig. 2).

EXCAVATION RESULTS

To establish a chronological framework for the occupation of the rock art sites, a test excavation was made at one of the smaller sites in the Bushman Paradise group. The rockshelter site shown in Fig. 4 is deeply shaded by a screen of trees growing along the dripline, and the inner floor is covered by a surface of coarse gravel derived from the surrounding granite outcrop. The shelter looks out over a secluded valley and there are a number of spring-fed pools within less than 50 m of the entrance.

The 1 m² test excavation reached bedrock at 1.51 m below surface, exposing a series of twelve stratigraphic units. To a depth of 1.0 m the sediments were characterized by aeolian sand and silty material with varying admixtures of ash and plant remains, whereas the deeper sediments were mainly of coarse granite gravel without plant material or ash. The section drawings in Fig. 5 show the stratigraphy of the site in more detail, including a single post-



mould presumably from a wooden structure built into the shelter during the final occupation. Apart from the localized disturbance caused by the planting of this sharpened stake, the stratigraphy was quite firm and clear, only the three basal units being difficult to distin-

guish. All stratigraphic units at the site contained stone artefact debris and the uppermost layers yielded a range of other artefacts including pottery in Units 9, 10 and 12, as well as quantities of identifiable bone, plant remains and charcoal suitable for radiocarbon



Figure 4. Spitzkoppe test excavation site, arrowed.

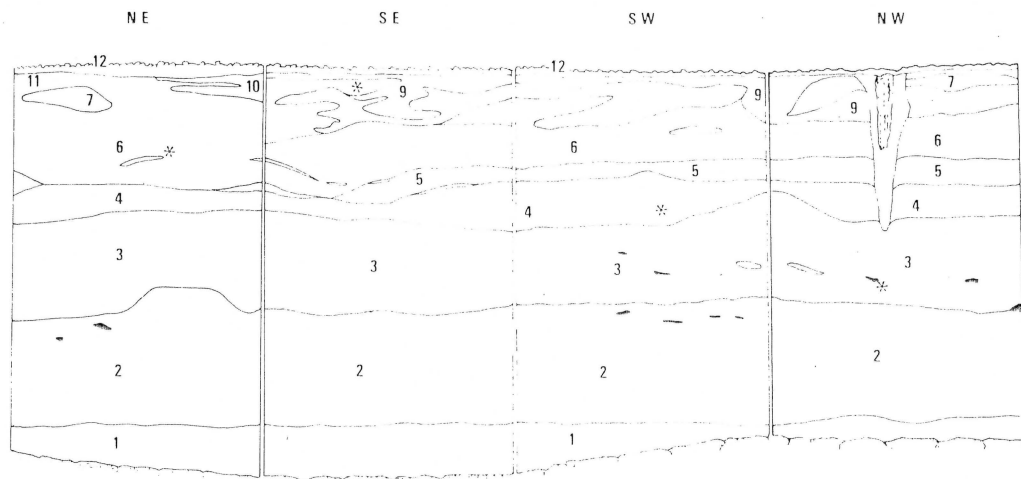


Figure 5. Stratigraphic profiles of the Spitzkoppe test excavation. Asterisks indicate radiocarbon samples.

Table 2. Analysis of stone artefacts.

Unit	1	2	3	4	5	6	7	8	9	10	11	12
PORPHYRY												
total mass kg	0.2	2.2	0.3	1.2	0.1	0.6	0.1	0.1	0.1	0.3	0.2	0.2
cores n	1	3	3	1								
HORNFELS												
total mass kg	0.1	0.4	0.4	0.6	0.4	0.3	0.2	0.1	0.1	0.5	0.1	0.0
cores n			3	1					1			
rubber stone					1							
QUARTZ												
total mass kg	0.5	3.4	1.7	3.2	1.0	2.7	1.0	0.2	0.2	0.3	0.8	0.5
cores n	1	36	6	10	3	17		2	4	5	11	
blades n	3	20	1	1								
scrapers n		3		4	1			1	1	1	3	
points n	1	1		1		2			2		1	
crescents n				1	1							2
segments n			1			7		2	2	7	4	
utilized n				3							1	
hammer stone						1						
CHALCEDONY												
total mass kg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
cores n	1		1	1		1	1			1		
blades n		1		1								
scrapers n			1	1		1				2		
points n		1			3	3				1		
crescents n						2						
utilized n	2									1		

dating. Radiocarbon dates for charcoal samples from the sequence are as follows:

- Unit 10: compact ash (0.1 m) 1240 ± 50 years B.P. (Pta-4635)
- Unit 6: coarse burnt sand (0.3 m) 2600 ± 45 years B.P. (Pta-4652)
- Unit 4: loose ash and sand (0.5 m) 3400 ± 60 years B.P. (Pta-5134)
- Unit 3: coarse gravel (0.75 m) 4160 ± 60 years B.P. (Pta-4633)

Finished stone artefacts and raw material debris dominated the cultural remains from the excavation. The summary in Table 2 identifies the main characteristics of the sample, showing the stratigraphic distribution of the stone and its various reduction states. All of the raw materials found in the excavation occur naturally in the vicinity of the site. Although porphyry and hornfels were abundant throughout the sequence, quartz and chalcedony were clearly favoured as the raw material of formal stone artefacts. In the undated basal sediments some porphyry flakes and core debris appeared to have been softened, possi-

bly by geothermal processes (R. Swart, pers. comm.) which, however, left the quartz artefacts in association with these pieces quite unaffected. Pieces of muscovite mica in Unit 5, and topaz in Units 6 and 8 were possibly mere curiosities brought in by the occupants of the site, but the presence of red haematite in Unit 9 serves as circumstantial evidence that paintings were being done in the time between the deposition of Units 6 and 10.

The emphasis on quartz as an artefact raw material is shown by the high number of cores in Table 2; among the variety of tool categories made from quartz, pieces based on blade flakes were predominant until the time of Unit 4, after which they were replaced by small segments suitable for use in the construction of barbed arrowpoints. Most of the blade flakes were unfortunately broken, but the fact that most were over 50 mm in length suggests they were designed as points for large projectiles such as spears. Scrapers and points were made consistently, both in quartz and chalcedony, although obviously chalcedony was the

Table 3. Analysis of faunal remains

Units	1	2	3	4	5	6	7	8	9	10	11	12
Animal taxa	n individuals per taxon											
Mongoose			3	2		1			2		2	
Medium carnivore			1									
Small carnivore					1			1		1		
<i>Procapra capensis</i> Dassie												1
<i>Equus zebra</i>					1							1
<i>Phacochoerus aethiopicus</i> warthog						1						
<i>Alcelaphus buselaphus</i> Red Hartbees				2						1		
<i>Raphicerus campestris</i> Steenbok			1					4				
<i>Antidorcas marsupialis</i> Springbok				2	2	2	3				2	
Small bovid antelope				2			1					1
Medium bovid (wild)				1	1							
Large bovid (wild)			2									
Medium rodent							4					
↖ <i>Struthio camelus</i>			3	3	1	1	1					
Large bird				1								
Medium bird				2		1			1			1
Small bird											1	
Snake												1
↖ <i>Gerrhosaurus validus</i>						1						
↖ <i>Varanus</i> spp. leguan				2			3		1	1		
Tortoise	2	6	8	27	7	18	8	6	7	4	6	1
Terrestrial snail							1					

secondary raw material in the making of formal tools. This tendency is also to be seen in the preferred use of quartz for segments after the time of Unit 6. The presence of food remains with these tools allows further and more detailed examination of the sequence.

The analysis of faunal remains in Table 3 shows that the meat component of the diet was derived both from hunted game, including antelope such as springbuck, and from small, easily captured animals such as lizards and tortoise. Ostrich eggshell fragments worked into beads were common in all but the three basal units of the sequence, and the eggs must have formed an important supplement to the diet. Most of the larger animals in arid areas such as the Spitzkoppe are nomadic in their habits and would have moved elsewhere if supplies of water were insufficient for their needs. However, all of the species represented in the sample still occur in the area today, including the red hartebeest (Joubert & Mostert 1975: 14), which is rare and may in any case have only visited the Spitzkoppe after unusually good rains.

While large game kills were apparently exceptional throughout the sequence, it is clear that antelope and ostrich kills were more frequent before the time of Unit 7. There is indeed no indication that the emphasis on barbed arrow-points led to improved hunting success, although it is possible that passive strategies, including the use of snares near waterholes, were more important than the use of projec-

tiles. Presumably the scarcity of water also assisted in the hunt by limiting the number of places where the game could drink, particularly in the dry winter months.

The plant species represented in Table 4 are all relatively common at the Spitzkoppe, although each is a highly seasonal source of food. Both of the corm-producing species are prolific in the area and easily harvested from the loose, granular soil. In the growing season they are, nonetheless, entirely useless to man and this applies also to the small variety of fruit-bearing plants recorded in the sample. The vegetable component of the diet therefore argues strongly in favour of the site having been used in the winter months. This agrees with both the faunal evidence and the general pattern of site location at the more reliable waterholes rather than in areas served only by ephemeral rainwater puddles.

However, more complex influences than seasonal abundance are suggested by the apparent long-term decrease in hunted game and the parallel increase in the variety of exploited plants (Tables 3 & 4). This process evidently coincides with adjustments in the stone tool assemblages and therefore implies systematic changes in the hunting and gathering economy during the last four thousand years. The site was eventually abandoned at some stage in the last millennium, after the introduction of pottery, and, probably, the cattle depicted in the rock art at Bushman Paradise (Fig. 6).

Table 4. Analysis of botanical remains

Unit	1	2	3	4	5	6	7	8	9	10	11	12	
Plant taxa													Remains found
<i>Vangueria</i> sp.				x					x				fruit seeds
<i>Ondetia linearis</i>						x	x		x			x	flower head
<i>Lapeirousia</i> sp.							x		x			x	corm husks
<i>Boscia albitrunca</i>							x		x			x	fruit seeds
<i>Euclea pseudabenus</i>									x			x	fruit seeds
<i>Combretum</i> sp.									x				wood chips
<i>Sarcocaulon</i> sp.										x			bark chips
<i>Acacia erioloba</i>										x		x	seeds
<i>Citrillus</i> sp.											x		fruit seeds
<i>Commiphora</i> sp.											x	x	seeds
<i>Cyperus</i> cf. <i>fulgens</i>												x	corm husks
<i>Fabaceae</i> sp.												x	seeds



Figure 6. Cattle, partially exfoliated, monochrome dark brown, Spitzkoppe.

PASTORAL SETTLEMENT

Occasional sherds of coarse, undecorated pottery were recovered from the excavation, including a thin incurved rim possibly from a shallow bowl. The pottery all came from the upper layers of the deposit and is most securely associated with the date of 1240 ± 50 B.P. obtained for Unit 10. Pottery also occurred at two other rock art sites as surface finds and in both cases the sherds were from decorated rims, little trace being found of the vessel body itself. These finds suggest that pottery was introduced to the Spitzkoppe during the last one or two millennia. However, the main distribution of pottery was associated not with the painted sites, but with the hut sites shown in Fig. 2. The map also shows the positions of several isolated pottery finds.

The largest and most completely preserved of the hut settlements at the Spitzkoppe is located in the secluded valley below Bushman Paradise (Fig. 7). Altogether eighteen structures are represented at the site by circular and semi-circular arrangements of stone, and these are associated with ashy middens, traces of cooking hearths and a general scatter of artefacts, including pottery and small grindstones. Not all of the structures would have been huts, and in the paired or closely grouped structures some were probably cooking shelters adjacent

to huts, while others would have been suitable as small stock enclosures. The site is undated, but the presence of pottery shows that it was established during the last two millennia.

Although the evidence of pastoralism is circumstantial, the site would have been appropriate as a dry season stockpost, the nearby waterholes being among the most reliable at the Spitzkoppe. There are also no other hut sites of comparable size, which suggests that the occupants of the site probably dominated the surrounding pastures as well. In the absence of secure dating, these observations suggest that hunter-gatherer settlement ceased, possibly during the last millennium as the Spitzkoppe became part of a pastoral herding area. Furthermore, the absence of Western materials such as glass indicates that the site was not used after the mid-nineteenth century, when colonial penetration of the region began.

COLONIAL OCCUPATION

The ruined buildings situated in an embayment on the southern side of the hills (Fig. 2) were originally of sundried brick and today only the stone foundations are still intact. These remains clearly indicate the size and orientation of the buildings, and in combination with

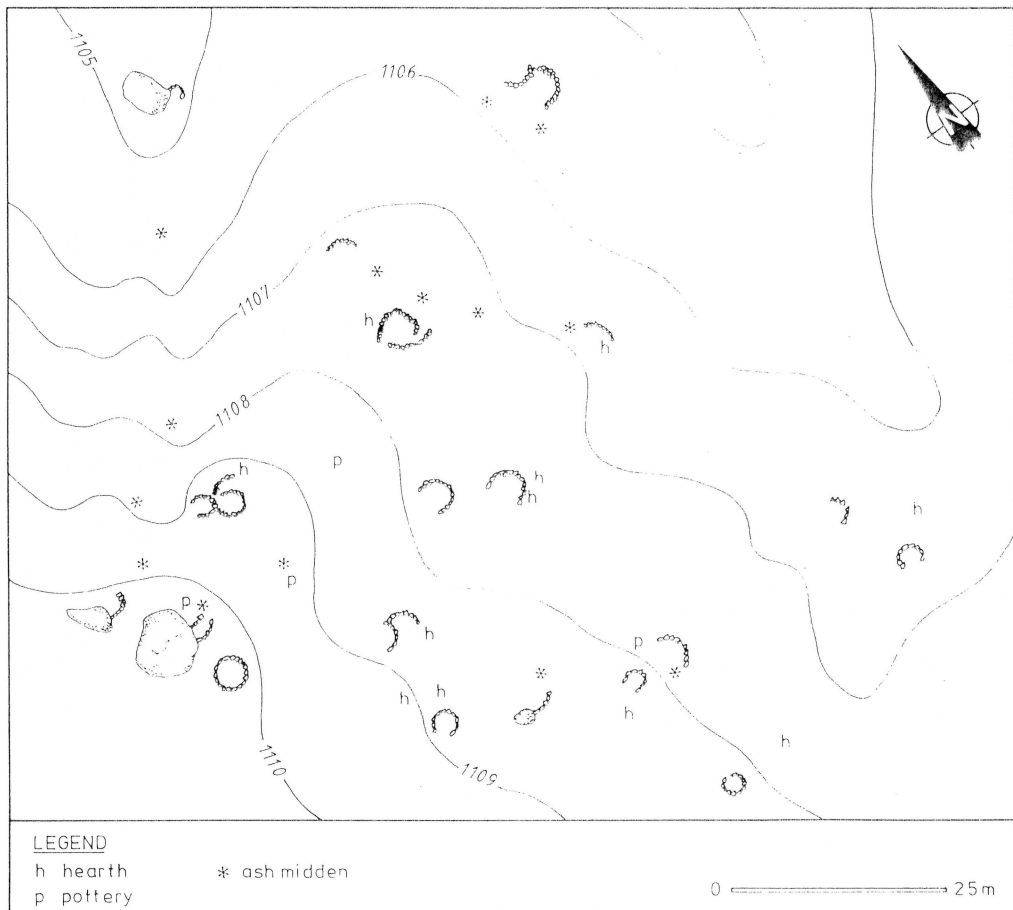


Figure 7. Plan of pastoral hut settlement at the Spitzkoppe.

specific features of the surrounding rocks it is possible to positively identify the site as that shown in the early photograph reproduced in Figure 8.

The most detailed contemporary reference to this site is Sander (1912: 97-113), who describes the efforts of the *Deutsche Kolonial-Gesellschaft für Südwest-Afrika* to establish an ox-wagon transport route between the landing stage at Swakopmund and the interior outpost at Heusis, with the Spitzkoppe as a way station which also supplied the coast with slaughter animals obtained in trade with the western Herero. The building shown in Fig. 8 served as a residence for the company representative and evidently as business premises, to judge from the number of transport wagons standing outside. Chief Manasse of Omaruru challenged

the presence of the Germans at Spitzkoppe soon after the building was erected in 1896, but the following year saw the outbreak of the *rinderpest* epidemic which virtually destroyed the pastoral wealth of the Herero (Drechsler 1980: 98). With this and the typhoid epidemic of the following year the trade in livestock declined and the German settlers quickly rose to dominate cattle production and the ownership of grazing land.

Of the traditional dung-plastered hut to the left of the building in Fig. 8 nothing remains, although dung which accumulated in a small stock enclosure nearby is still clearly visible. Other indications of later occupation include stone foundations which do not correspond to the photograph, and it is possible that these extensions were made to house the Spitzkoppe

Deutsch-Südwest-Afrika - Spitzkoppe

Dem Jungbäckher Fräulein
 Luise in D. von H. H. Schöner



Figure 8. Residence of the *Deutsche Kolonial-Gesellschaft* wagon transport and trading station at the Spitzkoppe, postcard, circa 1896.

police post (National Archives BKE, LP 10/8). While the commercial importance of the Spitzkoppe declined with the collapse of the cattle trade, the strategic position of the station on the route between the coast and the interior seems to have ensured that it remained under direct government control.

After the South African invasion early in World War I, leasehold farming in terms of the Land Settlement Consolidation and Amendment Proclamation of 1927 saw the Spitzkoppe pass from one itinerant farmer to another, eventually being sold to one J. H. P. Jooste in 1947 (National Archives LAN 4067). At this stage a small gabled farmhouse was built on the south bank of the river and water supplies from a shallow well were eventually improved by the installation of a borehole and windpump. Apparently, this venture was no more successful than the earlier ones; the farm was once more acquired by the government in 1966 and rented to three tenant farmers in succession before finally being incorporated into the communal subsistence farming area defined as Damaraland by the Commission of Enquiry into South West Africa Affairs under Odendaal (1964).

DISCUSSION

The concentration of rock art sites at the Spitzkoppe clearly indicates the importance this isolated granite range once held among hunter-gatherers living on the edge of the Namib Desert. While the distribution of the sites shows the density and general pattern of settlement, the rock art does not reflect as directly the relationship between the hunters and their environment. A test excavation at one of the sites gave more detailed information, including an array of edible plant and animal remains which showed that the area was occupied in the dry winter months. Few other places nearby have adequate water supplies, but as soon as the first rains fell people would have been able to move much further afield, returning only when the water elsewhere ran dry. These natural constraints affected human settlement at the Spitzkoppe for at least four thousand years, including the period in which pastoralism seems to have predominated immediately prior to colonial occupation.

Conditions were less difficult in the Erongo Mountains, only 40 km to the east of the Spitzkoppe. In excavations at Big Elephant Shelter, Wadley (1979) found evidence of year-

round occupation during the last three millennia and postulated that the Erongo had supported a stable population of hunter-gatherers and pastoralists. However, the Big Elephant Shelter sequence is comparatively short and lacks the early component from which it is possible to observe a gradual change in hunter-gatherer subsistence during the last few millennia at the Spitzkoppe. Furthermore, stratigraphic settling has produced anomalous pottery dates from the Erongo site (Wadley 1979: 51) and this leaves open the possibility that the processes observed in the Spitzkoppe sequence might be obscured in the Erongo. Unfortunately, the smaller scale of the Spitzkoppe excavation precludes statistical comparisons that might reveal similarities between assemblages from the two sites. Comparison is also hindered by the fact that the Erongo site has not yet been placed within the context of a local site distribution such as that of the Spitzkoppe, where the excavation relates to a specific pattern of settlement within the overall distribution of sites. Since there are no data on the size and distribution of pastoral sites from the Erongo, it is difficult to confirm whether or not the apparent succession of hunting and pastoralism at the Spitzkoppe also occurred further to the east.

More detailed comparative data are available on the rock art and archaeological sequence of the Hungorob Ravine in the Brandberg, 100 km to the northwest. As with the Spitzkoppe, the Hungorob rock art is dominated by human figures and the paintings are most heavily concentrated at a small number of central sites. These sites are located at the most reliable waterholes in the ravine and there is archaeological evidence to show that they were favoured places for dry season aggregations of hunter-gatherers during the last four millennia. The archaeological sequence derived from excavations in the Hungorob culminates in the adoption of pastoralism and the emergence during the present millennium, of a nomadic herding cycle based on a distinct pattern of settlement (Kinahan 1989).

Surface finds of pottery were the most common indicators of pastoral settlement in the Hungorob, particularly in the upper reaches of the ravine where they usually occurred in association with the remains of hut structures. These sites formed the dry season component of the herding cycle which encompassed the same general vicinity as the major rock art

sites, both having been limited by the distribution of reliable water. Pottery rarely occurred at the rock art sites, however, and together with the dating of the hut sites this repeatedly confirmed that the two patterns of settlement were quite independent. Some of the pastoral homesteads were reoccupied many times and in this way dry season sites near reliable waterholes grew to a considerable size.

The paintings of cattle are the only evidence to suggest that hunters and pastoral communities coexisted at the Spitzkoppe, as Wadley has posited for the Erongo. But this evidence neither excludes the possibility that the rock art was eventually abandoned in a local transition to pastoral settlement, nor does it explain why the pottery at the Spitzkoppe is also generally associated with the hut remains rather than with the rock art. On balance, the evidence from the Spitzkoppe indicates that the same basic sequence established for the Hungorob is valid for a wide area of western Namibia.

Combining the archaeological evidence of early settlement at the Spitzkoppe with the history of colonial occupation provides an extended sequence which illustrates a series of important shifts in patterns of landuse during the last four millennia. Although hunting, pastoralism and freehold ranching at the Spitzkoppe have visible differences in settlement location, density and outward appearance, some of the evidence is potentially misleading. For instance, the hunter-gatherer component of the sequence is the longest and for this reason it dominates the overall distribution of sites in Figure 2. Contributing to the impression of a greater intensity of settlement prior to the pastoral occupation is the existence of several site clusters. It is possible that these represent successive centres rather than simultaneous occupations, although the size of hunter-gatherer aggregations in all likelihood exceeded that of pastoral groups in the last millennium. Similarly, if the Spitzkoppe did serve as a dry season stockpost, the comparative observations from the Hungorob suggest that the size of the hut settlement probably increased over time as a result of repeated occupation. There may have been other stockposts in the area, but the absence of hut sites from the remaining waterholes indicates that the pasture was insufficient to sustain a greater intensity of landuse.

Precipitation at the Spitzkoppe seldom exceeds 100 mm per annum, less than half of the usual total for the Erongo. Poor rain would have meant that pastoral occupation was sometimes interrupted, perhaps for several years. This may account for the lack of early colonial trade goods on the hut sites and the apparent hiatus between the archaeological and recent colonial occupation of the Spitzkoppe. The area was not abandoned entirely however, for the /Khobesen under Hendrik Witbooi raided livestock from the Spitzkoppe as late as 1877 (Köhler 1958: 19). Indeed, Chief Manasse's objection to the arrival of the Germans in 1896 reflects the value of access to grazing in an otherwise marginal area where "sehr gute Weide und guten Wasserverhältnissen" (Sander 1912: 97) are often decidedly short-lived phenomena.

The ingenious dams which colonists built to impound rainwater at the Spitzkoppe (Sander 1912: 104) allowed relatively permanent settlement but took no account of the deterioration of pasture which would inevitably follow. Arguably it was the presence of a viable borehole (National Archives ZBU P.V.D.5) installed to augment the dams which decided that the area was suitable for leasehold ranching. Few additional improvements were made during the first half of the present century and the relevant documentation indicates that the farm was unprofitable. The eventual sale of the land in 1947 occasioned a minor dispute, the details of which (National Archives LAN 4067) seem to confirm the criticisms of corrupt land administration noted in 1922 by Hoernlé (Carstens et al. 1987: 107).

Archival sources covering the last thirty years, or the period elapsed since the decision to incorporate the Spitzkoppe as part of Damaraland (Odendaal 1964), are subject to a moratorium and therefore unavailable for study at present. Short of a detailed community survey it is not yet possible to fully account for the growth of the rural farming community which exists at the Spitzkoppe today. However, it is worthy of emphasis that the agricultural land unit which had earlier seemed inadequate to support even a single settler household now supports several hundred people. Living partly from livestock production and gemstone mining and partly from wages earned elsewhere, the Spitzkoppe community typifies the compromised economic status of communal farm-

ing settlements throughout Namibia (Mbuende 1986: 196).

*NOTE: A small selection of copies by Reinhardt Maack were published by Obermeier and Kühn (1930). Copies of the Spitzkoppe rock art were also made by Henri Breuil in the 1940's.

ACKNOWLEDGEMENTS

I am indebted to several specialists for their expert advice and assistance in the course of this study: Ina Plug of the Transvaal Museum in Pretoria identified the faunal remains from the excavation; Mike Müller of the State Herbarium in Windhoek identified the botanical remains; John Vogel of the C.S.I.R. in Pretoria carried out the radiocarbon dating of the test excavation; Roger Swart of the Geological Survey in Windhoek examined the porphyry artefacts from the excavation; Brigitte Lau of the National Archives in Windhoek located the Spitzkoppe documentation. For assistance with the excavation and rock art recording I am grateful to my wife, Jill Kinahan.

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Manuscript received August 1990; accepted October 1990