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HOLLOW ROCK SHELTER, A MIDDLE STONE AGE SITE IN THE CEDERBERG*

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ABSTRACT

Hollow Rock Shelter is a small Middle Stone Age site in the northern Cederberg containing only stone artefacts in a shallow deposit. Observed changes in the deposit suggest a sequence of episodic occupation extending over perhaps thousands of years. Relative dating based on stone typology places the HRS sequence into the MSA 2. Bifacial points are a significant component of the retouched artefacts. Pigment nodules were also abundant, including a variety of worked forms. HRS has the potential for further research options, such as refit studies.

INTRODUCTION

The Middle Stone Age in southern Africa, only recently the subject of great attention, remains a relatively poorly understood period when compared *e.g.* to the Later Stone Age. Thackeray (1992) points out that the amount of interest shown in the MSA in the last ten years has put the southern African MSA into "the global archaeological spotlight" (1992:385). The international attention is drawn by a few, yet meaningful finds, such as the early anatomically modern humans from Klasies River Mouth and a possible infant burial at Border Cave (Beaumont *et. al.* 1978; Singer & Wymer 1982; McBrearty 1990; Rightmire & Deacon 1991), the worked bone artefacts from Klasies River Mouth (Singer & Wymer 1982), Border Cave (Beaumont 1973), and Apollo 11 (Wendt 1976) and the incised OES from Apollo 11 (Wendt 1976). However, more ordinary issues also need further study. The meaning of geographic variability of site distribution and content, assemblage composition and possible differential site use, lithic technology and reduction sequence, and the symbolic implications of ochre are some of these issues.

The objective of this article is to report on the findings at a new MSA site in the northern Cederberg, called Hollow Rock Shelter (HRS). The site was excavated and provisionally analysed for the practical component of an honours degree. The analysis of artefacts at HRS adds to the database of regional information on the MSA, while the assemblage components are suitable for technological studies. The high incidence of bifacial points provides a particularly significant difference from other sites such as Klasies River Mouth, Elands Bay Cave and Nelson Bay Cave (Volman 1981). These features, as well as the abundance of ochre make HRS potentially suitable for the examination of some of the issues outlined above.

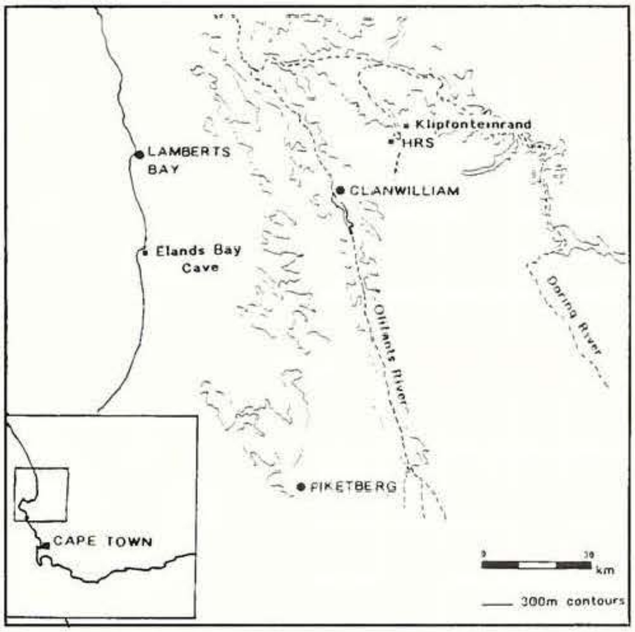

Fig. 1. Hollow Rock Shelter site location.

HOLLOW ROCK SHELTER: LOCATION AND SITE DESCRIPTION

Location (Fig. 1)

HRS is situated on the farm Sevilla, on the northern edge of the Cederberg range, about 40 km north-east of

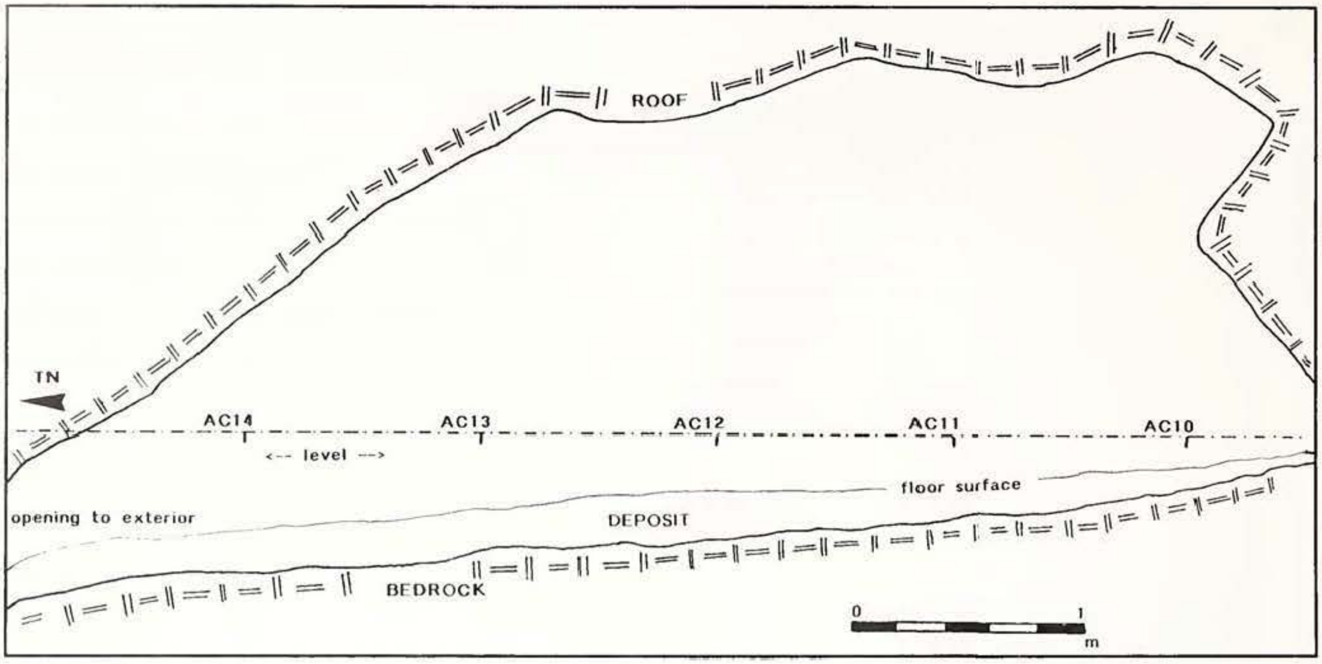

Fig. 2. Hollow Rock Shelter profile.

Clanwilliam at 32.05S; 19.04E. A few kilometres to the north-east lies the site of Klipfonteinrand which contains LSA, Howiesons Poort and then earlier MSA artefacts (Thackeray 1977; Volman 1981). HRS is one of a group of similarly sized boulders (about 2-5 m high) located on a level terrace of bedrock near the top of a ridge west of the Brandewyn River. The opposite bank of the Brandewyn River in the valley below is bordered by extensive rocky ridges which continue south-east into the farm Boontjieskloof. There are several small LSA sites in this area and it is rich in rock art. Evidence of LSA activity becomes scarce higher up along the western ridges and this is consistent with the observation that only MSA material is present at HRS.

Site Description

HRS is a small (6 x 7 m), well defined site situated in the hollow space created by a tumbled boulder (Fig. 2). Access is gained through a few low arches around the perimeter (Fig. 3). The floor is formed by a 20-350 mm sandy soil deposit above bedrock.

The site seems relatively undisturbed. Indications are that natural taphonomic forces have been the main post-occupational factors affecting the site. The most important one of these is the rainwater run-off which trickles through the boulder moistening the deposit. The acid environment would have caused the total disintegration of all organic matter. This may be why only stone artefacts remain. Some of the lithic material though, notably a coarse-grained local quartzite and some indeterminate fine-grained material, was left in an extremely friable state.

Artefacts are concentrated predominantly underneath the boulder, although a diffuse scatter of stone artefacts is present laterally as well as immediately downslope. It is noteworthy that no artefacts were found more than about 2 m behind the boulder on the upslope side. The source of the scattered material was thus undoubtedly from within the hollow boulder.

Fig. 3. Hollow Rock Shelter site photograph.

EXCAVATION

HRS was excavated in February 1993. The only perceivable variation in the generally brown sediments was a change to redder, gravelly soil just above bedrock, in which artefact numbers fell off sharply. Excavation took place in 50 mm spits parallel to the slope of the deposit, down to bedrock in most instances. The spits were named IA, IB, IIA, IIB with IIIA and IIIB being reached in the deepest squares in the centre of the shelter. A total of 17 squares were excavated, roughly across the diagonal of the shelter (Fig. 4).

The most noteworthy feature was a concentration of

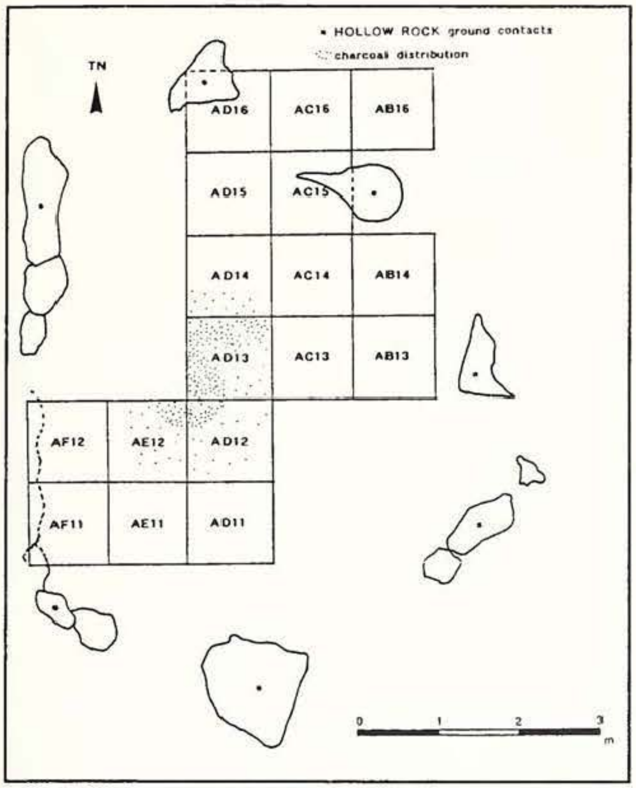

Fig. 4. Hollow Rock Shelter grid layout.

charcoal roughly in the center of the shelter in squares AD13 and AD12, tailing off in AD14 and AE12 (Fig.4). This persisted through almost the entire sequence, from the bottom of spit IA to the end of spit IIB, 150 mm lower.

ANALYSIS

All the stone artefacts from three of the richest squares were analysed (AC13, AC14 and AD14). This amounted to approximately 10 000 artefacts and was considered sufficiently representative of the site for the purposes of a provisional analysis. In addition, all the cores and retouched artefacts from the remaining excavated squares were analysed in order to increase the otherwise small numbers in these categories.

The analysis is based mainly on a scheme developed by Bordes for the European Mousterian and adapted by Volman (1981) to southern African circumstances. Other classifications were also integrated, notably that used at Klasies River Mouth by Thackeray and Kelly (1988) and at Rose Cottage by Wadley and Harper (1989). Because Volman's typology does not deal with bifacial points in sufficient detail and they are a significant component of the assemblage at HRS, other schemes were used for their description (Goodwin 1928; Goodwin & Van Riet Lowe 1929; Goodwin 1953; Malan 1955; Deacon 1979).

The assemblage was sorted by raw material as well as into the primary categories of cores, flaking product, debris, grindstones, hammerstones and manuports.

The analysis of the cores follows Volman's system (1981) with some minor modification. The catergory 'minimal cores' was changed to include blocks with one or two removals, since the strikes represent deliberate flaking, albeit not sustained. Some of these would have been included as 'debris' by Volman and called 'chunks' in other classifications.

The flaking products consist of flakes and blades larger than 20 mm. Blades are defined as mostly parallel-sided or convergent flakes with a length greater than twice the width. This definition of blades difffers from that of Thackeray and Kelly's (1988) flake-blades, which appear not to have any proportional criteria. Any flaking products with intact platforms were individually numbered and described (platform shape and type based on a scheme by Thackeray and Kelly (1988)), while the length and breadth of whole pieces were also measured (Volman 1981). Fragments without bulbs and platforms, but larger than 20 mm were simply counted as 'flake fragments'.

Retouched artefacts, besides bifacial points were classified in terms of Volman's system (1981). Any artefact with modification not readily attributed to retouch, was evaluated in terms of possible natural damage or use wear, taking into account the raw material properties. Of these, only artefacts interpreted as damaged in use (persistent, patterned modification) were termed 'utilised'. The remainder were placed in an 'indeterminate modification' category. Not all utilisation is detectable so this distinction is subjective (Johnson 1975).

Debris consisted of small flaking debitage (SFD) of less than 20 mm and chunks (Thackeray & Kelly 1988). The size cut-off point for SFD is an arbitrary one, most researchers in the MSA favouring 20 mm over the LSA convention of 10 mm (Deacon 1984). For the sake of argument a separate count was kept of SFD greater than 10 mm (but <20 mm) and SFD smaller than 10 mm, except in the poor quality quarzite, where the distinction is meaningless due to its friability.

The raw materials consisted of quartzite (QE), quartz (QZ), hornfels (HF), silcrete (S) and cryptocrystalline silicates (CCS), while any material that did not fall into the above categories was termed 'other'. The quarzite was further divided into poor quality (PQ) and good quality (GQ). The poor quality has loosely cemented grains of mixed size and is prone to post-depositional degradation. The good quality has densely cemented usually small grains, and is thus more compact and durable.

RESULTS

Raw Materials

There is a distinct change in raw materials over time (Table 1). The frequency of quartzite decreases from 75% in units IIA and IIB at the bottom of the sequence to 57% at the top in unit IA. The fine grained materials (silcrete, hornfels and cryptocrystalline silicates) more than double their frequency at the top, increasing from around 13% in units IIA and IIB to 28% in unit IA. The

Table 1. Raw material frequencies in each unit.

UNIT IA TYPE		QE(GQ)	QE(PQ)	QZ	HF	S	CCS	OTHER	TOTAL	%TYPE
FLAKING PROD.	n	177	254	44	29	72	0	7	583	39.5
(INCL. FRAGS)	%	30.4	43.6	7.5	5.0	12.3	0.0	1.2	100.0	
UTILISED	n	8	3	14	5	7	1	0	38	2.6
	%	21.1	7.9	36.8	13.2	18.4	2.6	0.0	100.0	
SFD	n	121	266	121	75	175	7	2	767	51.9
(< 20 mm)	%	15.8	34.7	15.8	9.8	22.8	0.9	0.3	100	
CHUNKS	n	3	0	18	9	9	6	3	48	3.2
	%	6.3	0.0	37.5	18.8	18.8	12.5	6.3	100.0	
RETOUCH	n	6	7	3	2	13	0	0	31	2.1
	%	19.4	22.6	9.7	6.5	41.9	0.0	0.0	100.0	
CORES	n	1	1	7	0	1	0	0	10	0.7
	%	10.0	10.0	70.0	0.0	10.0	0.0	0.0	100.0	
ASSEMBLAGE TTL	n	316	531	207	120	277	14	12	1477	100.0
RM FOR IA	%	21.4	36.0	14.0	8.1	18.8	0.9	0.8	100.0	
PIGMENT	n	184								
LITHICS/PIGMENT		8.0								

UNIT IB TYPE		QE(GQ)	QE(PQ)	QZ	HF	S	CCS	OTHER	TOTAL	%TYPE
FLAKING PROD.	n	328	499	44	75	70	4	14	1034	45.7
(INCL. FRAGS)	%	31.7	48.3	4.3	7.3	6.8	0.4	1.4	100.0	
UTILISED	n	14	7	13	15	14	0	2	65	2.9
	%	21.5	10.8	20.0	23.1	21.5	0.0	3.1	100.0	
SFD	n	225	400	158	79	161	1	16	1040	46.0
(< 20 mm)	%	21.6	38.5	15.2	7.6	15.5	0.1	1.5	100.0	
CHUNKS	n	14	3	12	16	5	0	2	52	2.3
	%	26.9	5.8	23.1	30.8	9.6	0.0	3.8	100.0	
RETOUCH	n	16	9	8	3	11	0	0	47	2.1
	%	34.0	19.1	17.0	6.4	23.4	0.0	0.0	100.0	
CORES	n	5	9	5	1	3	0	0	23	1.0
	%	21.7	39.1	21.7	4.3	13.0	0.0	0.0	100.0	
ASSEMBLAGE TTL	n	602	927	240	189	264	5	34	2261	100.0
RM FOR IB	%	26.6	41.0	10.6	8.4	11.7	0.2	1.5	100.0	
PIGMENT	n	290								
LITHICS/PIGMENT		7.8								

UNIT IIA TYPE		QE(GQ)	QE(PQ)	QZ	HF	S	CCS	OTHER	TOTAL	%TYPE
FLAKING PROD.	n	402	533	72	63	44	1	17	1132	38.8
(INCL. FRAGS)	%	35.5	47.1	6.4	5.6	3.9	0.1	1.5	100.0	
UTILISED	n	14	6	23	6	5	0	1	55	1.9
	%	25.5	10.9	41.8	10.9	9.1	0.0	1.8	100.0	
SFD	n	331	903	183	133	79	4	34	1667	57.1
(< 20 mm)	%	19.9	54.2	11.0	8.0	4.7	0.2	2.0	100.0	
CHUNKS	n	4	2	14	0	5	1	2	28	1.0
	%	14.3	7.1	50.0	0.0	17.9	3.6	7.1	100.0	
RETOUCH	n	6	2	2	5	1	0	0	16	0.5
	%	37.5	12.5	12.5	31.3	6.3	0.0	0.0	100.0	
CORES	n	7	5	6	3	2	0	0	23	0.8
	%	30.4	21.7	26.1	13.0	8.7	0.0	0.0	100.0	
ASSEMBLAGE TTL	n	764	1451	300	210	136	6	54	2921	100.0
RM FOR IIA	%	26.2	49.7	10.3	7.2	4.7	0.2	1.8	100.0	
PIGMENT	n	224								
LITHICS/PIGMENT		13.0								

UNIT IIB TYPE		QE(GQ)	QE(PQ)	QZ	HF	S	CCS	OTHER	TOTAL	%TYPE
FLAKING PROD.	n	489	438	75	64	30	4	13	1113	40.2
(INCL. FRAGS)	%	43.9	39.4	6.7	5.8	2.7	0.4	1.2	100.0	
UTILISED	n	27	0	20	10	4	1	2	64	2.3
	%	42.2	0.0	31.3	15.6	6.3	1.6	3.1	100.0	
SFD	n	508	574	224	70	65	1	53	1495	54.0
(< 20 mm)	%	34.0	38.4	15.0	4.7	4.3	0.1	3.5	100.0	
CHUNKS	n	8	8	19	0	2	1	3	42	1.5
	%	19.0	19.0	45.2	0.0	4.8	2.4	7.1	100.0	
RETOUCH	n	15	4	7	7	1	0	2	36	1.3
	%	41.7	11.1	19.4	19.4	2.8	0.0	5.6	100.0	
CORES	n	10	5	5	0	0	0	1	21	0.8
	%	47.6	23.8	23.8	0.0	0.0	0.0	4.8	100.0	
ASSEMBLAGE TTL	n	1057	1029	350	151	102	7	74	2771	100.0
RM FOR IIB	%	38.1	37.1	12.6	5.4	3.7	0.3	2.7	100.0	
PIGMENT	n	409								
LITHICS/PIGMENT		6.Q8								

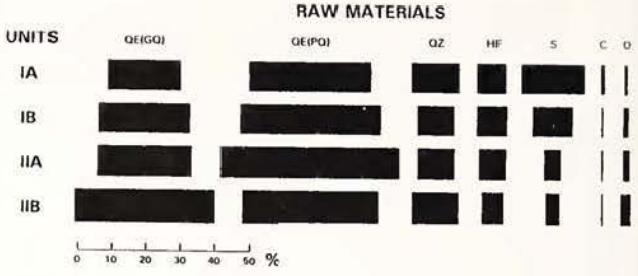

Fig. 5. Raw material frequencies in units IA, IB, IIA and IIB.

frequency of silcrete shows the most pronounced increase from 3.7% of the raw material in the lowest unit IIB, to 18.8% at the top in unit IA. Changes in quartz are less marked and the frequency tends to remain of the same order throughout (Fig. 5). Silcrete, hornfels and quartz often show a higher percentage frequency for utilised and retouched artefacts than for the flaking products in that unit (Table 1). So for example in unit IA silcrete constitutes 12.3% of the flaking product, yet 18.4% of the utilisation is on silcrete and more strikingly, 41.9% of retouched artefacts are made of silcrete. In unit IIB on the other hand, hornfels, with a flaking product of 5.8%, comprises 15.6% of utilised and 19.4% of retouched artefacts. In quartz the percentage of utilised artefacts significantly exceeds the percentage flaking product in all the units. Cortical elements indicate that a common raw material source for hornfels is medium sized river cobbles.

Retouch

The percentage frequency of major retouched elements (Tables 2 & 3) shows a predominance of bifacal points in units IA and IB, denticulates in unit IIA, while scrapers are notably most abundant in the deepest unit, IIB. The percentage of retouched artefacts in the whole assemblage is 1.4% (or 3.7% if the utilised artefacts are also included).

Table 2. Percentage frequencies of major retouched elements.

SCRAPERS

UNIT	n=	%RETOUCHED
IA	9	9.7
IB	7	9.5
IIA	2	6.5
IIB	11	19.6

DENTICULATES

UNIT	n=	%RETOUCHED
IA	8	8.6
IB	9	12.2
IIA	6	19.4
IIB	7	12.5

BIFACIAL POINTS

UNIT	n=	%RETOUCHED
IA	25	26.9
IB	11	14.9
IIA	3	9.7
IIB	1	1.8

MIN. RET. &/or UTILISATION

UNIT	n=	%RETOUCHED
IA	35	37.6
IB	30	40.5
IIA	11	35.5
IIB	22	39.3

Bifacial points

The bifacial points are numerous. Out of 48 bifacially worked pieces, 40 can definitely be related to points. Of these 40, 17 are whole or almost whole. The remainder

Table 3. Frequencies of retouched artefacts and raw materials from all excavated squares.

UNIT IA

	RAW MATERIAL								
	QUARTZITE								
RETOUCH TYPE	(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MIN AND/OR UTIL.	15	3	6	1	9	1	0	35	37.6
CONTINUOUS DORSAL	2	0	1	0	1	0	0	4	4.3
CONTINUOUS VENTRAL	1	0	0	0	0	0	0	1	1.1
ALTERNATING	0	1	0	0	1	0	0	2	2.2
ALTERNATE	0	0	0	0	1	0	0	1	1.1
BIFACIAL	0	1	0	0	4	0	0	5	5.4
NOTCH	0	1	0	0	0	0	0	1	1.1
DENTICULATE	4	0	0	1	3	0	0	8	8.6
ENDSCRAPER	0	0	0	0	1	0	0	1	1.1
ENDSCRAPER/CONVEX SIDESCR.	0	1	0	0	0	0	0	1	1.1
ENDSCR.WITH PROXIMAL RET.	0	0	0	0	1	0	0	1	1.1
CONVEX SIDESCRAPER	1	0	1	0	0	0	0	2	2.2
STRAIGHT SIDESCRAPER	0	0	0	0	2	0	0	2	2.2
CONCAVE SIDESCRAPER	0	0	0	0	1	0	0	1	1.1
DOUBLE SIDESCRAPER	0	0	0	0	1	0	0	1	1.1
UNIFACIAL POINT	0	0	0	0	1	0	0	1	1.1
BIFACIAL POINT	3	6	3	0	13	0	0	25	26.9
VARIANT	0	1	0	0	0	0	0	1	1.1
TOTAL n=	26	14	11	2	39	1	0	93	100.0
TOTAL %=	28.0	15.1	11.8	2.2	41.9	1.1	0.0		100.0

UNIT IB

	RAW MATERIAL								
	QUARTZITE								
RETOUCH TYPE	(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MIN AND/OR UTIL.	11	4	3	2	10	0	0	30	40.5
CONTINUOUS DORSAL	3	0	1	0	0	0	0	4	5.4
ALTERNATING	2	0	0	1	0	0	0	3	4.1
ALTERNATING WITH PROXIMAL	0	0	0	0	1	0	0	1	1.4
CONT. DORSAL WITH PROXIMAL	0	0	0	0	1	0	0	1	1.4
BIFACIAL	1	2	0	0	0	0	0	3	4.1
NOTCH	0	0	1	0	1	0	0	2	2.7
DENTICULATE	4	0	3	1	1	0	0	9	12.2
ENDSCRAPER	0	2	0	0	0	0	0	2	2.7
CONVEX SIDESCRAPER	0	1	0	0	1	0	0	2	2.7
STRAIGHT SIDESCRAPER	1	0	0	0	0	0	0	1	1.4
CONVERGENT SIDESCRAPER	0	1	0	0	1	0	0	2	2.7
BIFACIAL POINT	0	9	1	0	1	0	0	11	14.9
TRUNCATED FLAKE	1	0	0	0	0	0	0	1	1.4
VARIANT	1	0	1	0	0	0	0	2	2.7
TOTAL n=	24	19	10	4	17	0	0	74	100.0
TOTAL %=	32.4	25.7	13.5	5.4	23.0	0.0	0.0		100.0

UNIT IIA

	RAW MATERIAL								
	QUARTZITE								
RETOUCH TYPE	(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MIN AND/OR UTIL	5	0	2	3	1	0	0	11	35.5
CONTINUOUS DORSAL	0	1	0	1	1	0	0	3	9.7
ALTERNATING	0	1	0	1	0	0	0	2	6.5
NOTCH	1	0	0	2	0	0	0	3	9.7
DENTICULATE	2	0	2	2	0	0	0	6	19.4
CONCAVE SIDESCRAPER	1	1	0	0	0	0	0	2	6.5
BIFACIAL POINT	0	2	0	0	1	0	0	3	9.7
TRUNCATED FLAKE	1	0	0	0	0	0	0	1	3.2
TOTAL n=	10	5	4	9	3	0	0	31	100.0
TOTAL %=	32.3	16.1	12.9	29.0	9.7	0.0	0.0		100.0

UNIT IIB

	RAW MATERIAL								
	QUARTZITE								
RETOUCH TYPE	(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MIN AND/OR UTIL	7	1	6	8	0	0	0	22	39.3
CONTINUOUS DORSAL	3	0	1	2	0	0	0	6	10.7
ALTERNATING	1	0	0	0	0	0	0	1	1.8
ALTERNATE	0	0	0	0	1	0	0	1	1.8
NOTCH	2	0	0	1	0	0	1	4	7.1
DENTICULATE WITH NOTCH	0	0	0	1	0	0	0	1	1.8
DENTICULATE	3	0	1	0	0	0	1	5	8.9
CONVERGENT DENTICULATE	1	0	0	0	0	0	0	1	1.8
ENDSCRAPER	0	1	0	0	0	0	1	2	3.6
CONVEX SIDESCRAPER	1	1	1	0	1	0	0	4	7.1
STRAIGHT SIDESCRAPER	1	0	0	1	0	0	0	2	3.6
CONVERGENT SIDESCRAPER	0	1	0	1	0	0	0	2	3.6
BIFACIAL SIDESCRAPER	0	0	1	0	0	0	0	1	1.8
BIFACIAL POINT	0	1	0	0	0	0	0	1	1.8
TRUNCATED FLAKE	1	0	0	0	0	0	0	1	1.8
BACKED FLAKE	0	0	0	0	1	0	0	1	1.8
VARIANT	1	0	0	0	0	0	0	1	1.8
TOTAL n=	21	5	10	14	3	0	3	56	100.0
TOTAL %=	37.5	8.9	17.9	25.0	5.4	0.0	5.4		100.0

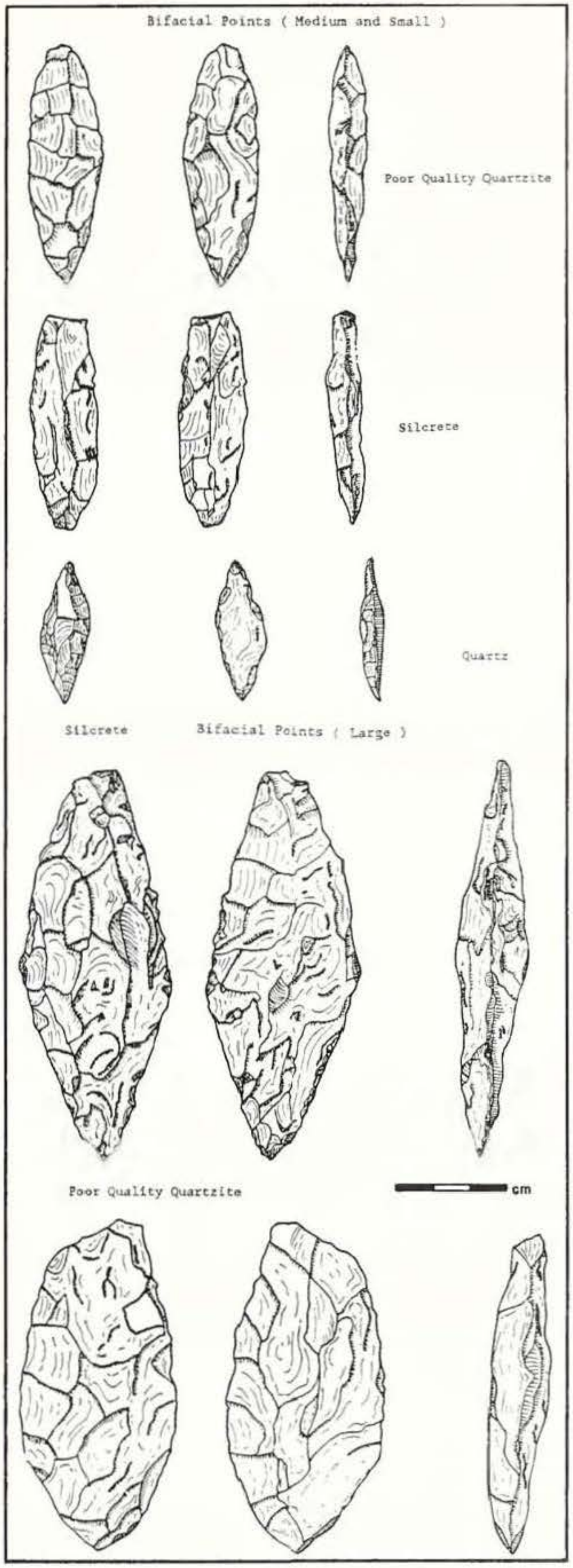

Fig. 6. Illustrations of large, medium and small bifacial points.

are broken and there are no refits amongst them. For the purpose of quantitative analysis this means that all the broken ones are countable as if they were whole. Bifacial points thus constitute 11.4% of all retouched and utilised artefacts (or 30.8% of retouched artefacts).

The bifacial points (Fig. 6) at HRS display the narrow 'willow-leaf' and wider 'laurel-leaf' shapes associated with the Stillbay type as described in the southern and western Cape by Goodwin and Van Riet Lowe (1929). There is a wide variation in size. The diversity in maximum dimensions ranges from a small quartz point of 38 x 14 x 6 mm to a large silcrete one of 107 x 43 x 20 mm. There seems to be no association of size with raw material except in quartz, where 3 of the 4 bifacial points are small. Although most of the bifacial points are made of silcrete, quartzite is the second most commonly used raw material. Poor quality quartzite is used more often than good quality in both large and small bifacial points. In unit IB there are more bifacial points made of poor quality quartzite than of silcrete, although the frequency of silcrete in the assemblage overall is still high.

Platform Types

Blades generally tend to have more multiple faceted platforms than plain ones, while the opposite is true for flakes (Table 4).

Table 4. Summary of identifiable platforms for flakes and blades in each unit.

FLAKES

			PLATFORM TYPE			
	PLAIN		SIMPLE		MULTIPLE	
UNIT	n	%	n	%	n	%
IA	68	38.6	59	33.5	49	27.8
IB	168	44.9	129	34.5	77	20.6
IIA	139	35.5	145	37.1	107	27.4
IIB	119	32.4	134	36.5	114	31.1
TOTAL	494	37.8	467	35.7	347	26.5

BLADES

UNIT	n	%	n	%	n	%
IA	18	33.3	17	31.5	19	35.2
IB	40	32.3	46	37.1	38	30.6
IIA	35	25.7	47	34.6	54	39.7
IIB	38	27.1	52	37.1	50	35.7
TOTAL	131	28.9	162	35.7	161	35.5

Artefact Lengths

The general tendency is an increase in length of artefact with the depth of the deposit. This is illustrated by comparing the flake:blade ratios of the units. These can be calculated from the numbers of whole flakes and blades in table 5. The ratio decreases consistently with depth (3.4 in unit IA, 2.9 in IB, 2.9 in IIA and 2.4 in IIB), which means that there is an increasing proportion of blades with depth. The length/breadth ratios in table 5 also give some indication of this trend. Furthermore flake:blade ratios calculated on the artefact counts from table 4 (platforms) support this finding, yielding ratios of 3.2 in unit IA, 3.0 in IB, 2.9 in IIA and 2.6 in IIB. It is noteworthy that the longest blades appear generally in hornfels except in unit IIA where good quality quartzite and quartz blades are longer (Table 6).

Table 5. Length/breadth ratios for all whole blades.

IA	n	AVG	STD	MIN	MAX	IB	n	AVG	STD	MIN	MAX
QE(GQ)	13	2.6	0.6	2.1	4.3		33	2.5	0.5	2.04	4.3
QE(PQ)	3	2.8	0.3	2.4	3.2		12	2.5	0.4	2.1	3.5
QZ	1	2.3	0	2.3	2.3		2	2.2	0.1	2.1	2.3
QY	2	2.3	0.1	2.2	2.4		1	2.2	0	2.2	2.2
HF	4	2.5	0.4	2.1	2.1		13	2.6	0.5	2.04	3.7
S	7	2.3	0.2	2.1	2.7		11	2.6	0.4	2.1	3.3
CCS							1	2.1	0	2.1	2.1
OTHER							1	2.5	0	2.5	2.5
ALL	30	2.5	0.5	2.1	4.3		74	2.5	0.5	2.04	4.3
IIA						IIB					
QE(GQ)	55	2.5	0.6	2.04	5.5		65	2.6	0.6	2.04	4.8
QE(PQ)	7	2.5	0.5	2.1	3.7		8	2.4	0.3	2.04	2.9
QZ	2	2.4	0.2	2.2	2.5		4	2.2	0.1	2.1	2.3
QY	1	2.04	0	2.04	2.04		2	2.1	0.0	2.1	2.2
HF	11	2.7	0.5	2.1	3.6		10	2.9	0.6	2.1	4.1
S	6	2.6	0.4	2.04	3.1		3	2.8	0.3	2.5	3.2
CCS	1	2.2	0	2.2	2.2						
OTHER							1	2.3	0	2.3	2.3
ALL	83	2.5	0.5	2.04	5.5		93	2.6	0.6	2.04	4.8

Length/breadth ratios for all whole flakes

IA	n	AVG	STD	MIN	MAX	IB	n	AVG	STD	MIN	MAX
QE(GQ)	39	1.3	0.3	0.7	2.0		82	1.4	0.4	0.7	2.0
QE(PQ)	31	1.2	0.4	0.5	1.9		63	1.2	0.4	0.1	2.0
QZ	15	1.3	0.4	0.6	1.9		19	1.2	0.4	0.5	2.0
QY	1	0.7	0.0	0.7	0.7		4	1.3	0.4	1.0	2.0
HF	2	1.6	0.0	1.5	1.6		22	1.4	0.4	0.6	2.0
S	13	1.2	0.4	0.7	1.9		19	1.4	0.3	0.9	1.9
CCS				1.0	1.3		1	1.6	0.0	1.6	1.6
OTHER	2	1.2	0.2				6	1.5	0.4	0.8	1.9
ALL	103	1.3	0.4	0.5	2.0		216	1.3	0.4	0.5	2.0
IIA						IIB					
QE(GQ)	139	1.4	0.4	0.5	2.0		119	1.4	0.4	0.5	2.0
QE(PQ)	45	1.3	0.3	0.4	2.0		40	1.3	0.3	0.6	2.0
QZ	16	1.2	0.3	0.7	1.8		30	1.3	0.3	0.7	1.9
QY	5	1.5	0.4	0.8	1.9		4	1.3	0.2	0.9	1.6
HF	18	1.4	0.4	0.8	2.0		18	1.5	0.3	0.8	2.0
S	15	1.5	0.4	0.6	2.0		10	1.5	0.3	1.0	1.9
CCS							2	1.0	0.4	0.6	1.3
OTHER	3	1.3	0.3	1.0	1.8		2	1.6	0.1	1.5	1.7
ALL	241	1.4	0.4	0.4	2.0		225	1.4	0.3	0.5	2.0

Cores

Minimal cores are numerous and occur almost exclusively in quartzite and quartz. However, of the more extensively flaked cores, radial forms predominate throughout, achieving the height of relative frequencies in unit IIB (Table 7). A small but consistent quartz bipolar component is present. One opposed platform bladelet core and four or five radial cores were so small that their final flaking product was less than 20 mm, i.e. the product would have been classified as SFD. Many cores, even in local poor quality quartzite, appear reduced to their useful limit.

Hammerstones and Grindstones

A total of seven hammerstones are distributed in the upper two units. Four of these are more correctly described as stones bearing evidence of percussion, because the pitting on them is not extensive. Cobbles and

Table 6. Blade length summary statistics for each unit (in millimetres).

IA	n	AVG	STD	MIN	MAX	IB	n	AVG	STD	MIN	MAX
QE(GQ)	14	59.0	9.5	44	78		38	56.9	14.9	33	91
QE(PQ)	3	57.7	12.8	41	72		12	52.8	10.0	33	69
QZ	1	27.0	0.0	27	27		1	46.0	0.0	46	46
QY	2	25.0	1.0	24	26		1	31.0	0.0	31	31
HF	4	59.5	33.4	21	97		11	57.4	18.7	31	93
S	6	44.2	37.0	27	69		10	45.1	13.3	32	70
CCS											
OTHER							1	59.0	0.0	59	59
ALL	30	52.6	18.9	21	97		74	54.6	15.3	31	93
IIA						IIB					
QE(GQ)	59	61.5	17.3	31	111		65	59.7	16.9	28	109
QE(PQ)	6	54.2	15.9	30	71		8	53.3	6.6	42	65
QZ	2	67.5	21.5	46	89		4	36.8	4.8	33	45
QY	1	43.0	0.0	43	43		2	40.5	14.5	26	55
HF	11	56.7	21.4	29	103		9	64.0	22.4	32	109
S	7	44.2	8.4	30	58		3	44.0	5.4	37	50
CCS	1	52.0	0.0	52	52						
OTHER											
ALL	87	59.1	18.1	29	111		91	57.9	17.4	26	109

Table 7. Core types and raw materials from all excavated squares.

UNIT IA		RAW MATERIAL							TOTAL	
		QUARTZITE								
CORE TYPE		(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MINIMAL		12	9	7	1	0	0	1	30	29.7
IRREGULAR		1	0	1	0	0	0	0	2	2.0
BIPOLAR		0	0	4	0	0	0	0	4	4.0
CHANGE OF ORIENTATION		2	3	1	0	0	0	0	6	5.9
RADIAL		12	11	2	1	7	0	1	34	33.7
ADJACENT PLATFORM		4	1	3	1	2	0	1	12	11.9
SINGLE PLATFORM		2	2	0	0	0	0	0	4	4.0
OPPOSED PLATFORM: SAME SIDE		3	1	1	0	0	0	0	5	5.0
OPPOSED: SAME AND OPPOSITE SIDE		0	1	0	0	0	0	0	1	1.0
OTHER DOUBLE PLATFORM		2	0	0	1	0	0	0	3	3.0
TOTAL	n	38	28	19	4	9	0	3	101	100.0
	%	37.6	27.7	18.8	4.0	8.9	0.0	3.0		100.0
CORES ON FLAKES		3	1	0	1	0	0	1	6	

UNIT IB		RAW MATERIAL							TOTAL	
		QUARTZITE								
CORE TYPE		(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MINIMAL		4	4	2	0	0	0	0	10	18.2
IRREGULAR		0	0	0	0	0	0	0	0	0.0
BIPOLAR		0	0	2	0	1	0	0	3	5.5
CHANGE OF ORIENTATION		1	1	0	0	0	0	1	3	5.5
RADIAL		7	5	1	1	3	0	0	17	30.9
ADJACENT PLATFORM		0	6	2	0	0	0	0	8	14.5
SINGLE PLATFORM		2	3	2	0	0	0	0	7	12.7
OPPOSED PLATFORM: SAME SIDE		0	0	0	0	0	0	0	0	0.0
OPPOSED: OPPOSITE SIDE		0	0	0	1	0	0	0	1	1.8
OPPOSED: SAME AND OPPOSITE SIDE		1	0	0	0	1	0	0	2	3.6
OTHER DOUBLE PLATFORM		0	2	1	0	1	0	0	4	7.3
TOTAL	n	15	21	10	2	6	0	1	55	100.0
	%	27.3	38.2	18.2	3.6	10.9	0.0	1.8		100.0
CORES ON A FLAKE		2	1	1					4	

UNIT IIA		RAW MATERIAL							TOTAL	
		QUARTZITE								
CORE TYPE		(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MINIMAL		3	7	3	0	0	0	0	13	20.6
IRREGULAR		0	0	0	0	0	0	0	0	0.0
BIPOLAR		0	0	3	0	0	0	0	3	4.8
CHANGE OF ORIENTATION		1	1	4	0	1	0	1	8	12.7
RADIAL		5	7	1	2	5	0	0	20	31.7
ADJACENT PLATFORM		3	2	0	0	0	0	0	5	7.9
SINGLE PLATFORM		2	1	1	0	0	0	0	4	6.3
OPPOSED PLATFORM: SAME SIDE		1	1	0	2	0	0	0	4	6.3
OPPOSED: OPPOSITE SIDE		0	0	0	1	0	0	0	1	1.6
OPPOSED: SAME AND OPPOSITE SIDE		0	1	0	0	0	0	0	1	1.6
OTHER DOUBLE PLATFORM		3	0	0	0	0	0	0	3	4.8
CYLINDER CORE		1	0	0	0	0	0	0	1	1.6
TOTAL	n	19	20	12	5	6	0	1	63	100.0
	%	30.2	31.7	19.0	7.9	9.5	0.0	1.6		100.0

UNIT IIB		RAW MATERIAL							TOTAL	
		QUARTZITE								
CORE TYPE		(GQ)	(PQ)	QZ	HF	S	CCS	OTH.	n	%
MINIMAL		4	1	1	0	0	0	0	6	13.6
IRREGULAR		1	0	0	0	0	0	1	2	4.5
BIPOLAR		0	0	2	0	0	0	0	2	4.5
CHANGE OF ORIENTATION		0	0	2	1	0	0	0	3	6.8
RADIAL		8	9	3	0	0	0	0	20	45.5
ADJACENT PLATFORM		1	1	0	0	0	0	0	2	4.5
SINGLE PLATFORM		0	2	2	0	1	0	0	5	11.4
OPPOSED PLATFORM: SAME SIDE		0	0	1	1	0	0	1	3	6.8
OPPOSED: OPPOSITE SIDE		0	0	0	0	0	0	0	0	0.0
OPPOSED: SAME AND OPPOSITE SIDE		0	0	0	0	0	0	0	0	0.0
OTHER DOUBLE PLATFORM		1	0	0	0	0	0	0	1	2.3
TOTAL	n	15	13	11	2	1	0	2	44	100.0
	%	34.1	29.5	25.0	4.5	2.3	0.0	4.5		100.0
CORES ON FLAKES		2	1						3	

Fig. 7. Notched ochre. 12,5x magnification.

Fig. 8. Close-up of notched ochre. 20x magnification.

Fig. 9. Notched ochre. 33,5x magnification.

quartzite slab fragments that show a measure of smoothing have been termed grindstones. There are seven of these, also in the upper two units. None have the well developed morphology characteristic of some LSA forms.

Manuports

The manuports consist of quartzite pebbles and cobbles, a CCS pebble and numerous small needle-like quartz crystals as well as a few large ones. Some cobbles show glacial scoring. They most probably originate from the glacial band that runs in the upper shales of the Cederberg and which is exposed in the area of the Pakhuis Pass (Haughton 1969).

Pigment

The pigment at HRS is predominantly red ochre. Besides a significant amount of ground and unground ochre of various sizes, a very large, striated ground piece

(110 x 70 mm) was recovered from unit IB in square AD15. Two notched pieces mentioned earlier came from square AD14 units IIB and IIIB. These are less than 20 mm in length, the one being rectangular about 1 mm thick and notched around much of the perimeter, while the other is narrow and curved 2-3 mm thick, and notched on the concave edge which is thinned down by grinding (Figs. 7-9). The lowest pigment density is found in unit IIA indicated by the high stone:pigment ratio (13.0) (Table 1).

DISCUSSION

For the purpose of an honours degree with its time constraints, it was possible to establish and implement a thorough classification scheme and provisionally to analyse a representative sample of the assemblage. This provides some of the groundwork for a future more comprehensive analysis. Although the purpose of this paper is primarily to present a summary of the more well-defined patterns and observations from HRS, some aspects deserve further discussion.

The Occupation and Assemblages

HRS is small with a shallow deposit. Artefact preservation is disadvantaged by the moist, acid depositional environment, which certainly implies that organic material such as bone, leather or plant material has long disappeared. Considering the bias in preservation it is thus difficult to establish the manner of the occupation of HRS with any degree of certainty. It seems reasonable to suppose that overall stone working was fairly intensively carried out because cortical elements are present in moderately good numbers. Furthermore, a roughly 50% SFD component throughout the sequence suggests a certain intensity of on site stone knapping rather than the transport of detached blanks. Core frequency in the pre-Howiesons Poort MSA at sites like Montagu Cave, Die Kelders 1, Nelson Bay Cave, Paardeberg, Hoedjiespunt and Sea Harvest varies between 1.8% and 0.2% (Volman 1981). At HRS the core frequency is between 0.7% and 1% which falls about midway within this range. This may be considered slightly low if much stone knapping was indeed done on site. However, this figure may be deceptive since indications are that many cores have been reduced to the extent where they must have yielded large numbers of flaking products.

The most prominent stratigraphic feature is the hearth or an area of charcoal density which persists through several units. It is unlikely that the charcoal was washed down through the deposit because of the compact nature of the sediments and the fact that large pieces of charcoal were present even in the lower units. At HRS the deposited material could have resulted from either a short period of continuous occupation, or a longer period of interrupted visits that are not stratigraphically apparent, possibly due to leaching of the sediments. A number of factors however, point to the second of these possibilities being the more likely.

The assemblage composition changes significantly with depth and thus time. Bifacial points are essentially confined to the upper 100 mm, while scrapers and denticulates are much more common in the lower two units than in the upper 100 mm. These changes, as well as variations in raw material and size of products, indicate a considerable development in tool preferences, retouch techniques and overall stone-working technology. These in turn could be linked to changes in raw material availability, resource exploitation or functional considerations. It is uncertain to what extent social change is expressed in these changing patterns of stone artefact type. Thackeray (1989) points out that MSA assemblages often seem to lack the formal tight patterning of stone artefacts which is more commonly seen in the LSA and interpreted there in terms of social factors. However, she notes that the presence of bifacial and unifacial points may sometimes be regarded as evidence for such patterning in the MSA. It may therefore be that the distribution of bifacial points at HRS does reflect changing social trends. Given the shallow nature of the deposit such pronounced changes would indicate a far greater elapse of time than could be suggested by the absence of stratigraphy. Furthermore, if the changes in the sequence at HRS in a shallow deposit broadly followed those documented in other longer sequence sites, it would suggest a telescoped deposition reflecting the elapse of a great deal of time.

Stratigraphy

One major concern in the interpretation of the material from HRS is the effects of spit excavation in the absence of natural stratigraphic differentiation. To what extent are the changes documented a reflection of admixture of occupational episodes in each spit rather than 'real' assemblages? Some admixture is inevitable, yet the compositional profile of each spit presented above indicates patterns which cannot be attributed to mixing. For instance, the lithic:pigment ratio of unit IIA at 13.0 is not possibly derived from combinations of entities reflected in units IB:IIB with ratios of 7.8 and 6.8 respectively. Likewise, the unit IIA percentage of retouched artefacts in hornfels (31.3%) is much higher than those immediately above (IB at 6.4%) and below (IIB at 19.4%). The abovementioned pronounced changes in the sequence indicate that sensitive spit excavation has allowed the detection of dominant trends in time. Although the units do not represent occupations as such, the spits appear to adequately represent distinctive trends through the occupational episodes.

In a number of respects these trends at HRS accord with those documented in MSA sequences elsewhere. The distribution of bifacial points and denticulates through the sequence agrees with Volman's findings of what he terms MSA 2a and 2b. According to Volman (1984), retouched artefact frequency and diversity increases from MSA 2a to 2b, denticulates are common in 2a and bifacial points first appearing in MSA 2, are nonetheless rare or absent in 2a. Observations have been made at several sites that lengths of artefacts generally drift towards a slight decrease with time within MSA 2 (Volman 1981; Volman 1984; Thackeray & Kelly 1988). The lengths and length/breadth ratios of the artefacts in the HRS assemblage also display this tendency.

In the light of these arguments, the persistence of the charcoal feature through a number of spits could be explained by the nature of the site. The central location of this feature in such a small, circular shelter is logical and it could have been repeatedly used through time. It is thus most likely that episodic occupation of HRS spanned a fairly long period, possibly even several thousands of years.

Chronology

MSA sites dating to periods beyond the capability of radiocarbon have had to rely on relative dating in the past. However, recent improvements in such techniques as Electron Spin Resonance, Thermoluminescence and Uranium Series dating means that absolute dating is becoming more of a reality for the MSA (Deacon 1989; Rightmire 1989; Thackeray 1992). At HRS the chronology relies on a relative framework at this stage. Several pieces of fine silicious material with potlid fractures which suggest heating are however present in the assemblage and could in the future be subjected to TL dating.

As noted above, the physical properties of the material at HRS such as size, shape and type (with the exception of the bifacial points) compare very favourably with Volman's MSA 2 which includes infinite radiocarbon dated material described by Singer and Wymer (1982) for the MSA II from Klasies River Mouth. The deposition of MSA II layers at Klasies River Mouth is ascribed by Deacon and Geleijnse (1988) to the period between 100 000 and 80 000 BP. Carbon was collected at HRS and submitted for radiocarbon dating. The results are expected to yield infinite radiocarbon dates. Confirmation of this and the other abovementioned factors strongly suggest that the HRS assemblage fits into the MSA 2 and if so, perhaps that it includes the transitional period between Volman's 2a and 2b.

Bifacial Points

Deacon (1979) attempts to put the term "Stillbay" into perspective. She is of the opinion that the variation in shape and size of what are loosely termed Stillbay points, may reflect the presence of a number of distinct forms not yet resolved by current classifications. She concludes that the nature of the assemblages from which these points have been described often lack stratigraphic integrity, which makes them unsatisfactory for type comparison. The bifacial points at HRS are termed "Stillbay" with these limitations in mind.

HRS has numerous bifacial points. This is in striking contrast to Klasies River Mouth where no completely bifacially worked oval Stillbay type points were found in a pre-Howiesons Poort context, although some unifacial points and incompletely worked bifacial pieces were present in the MSA II strata (Singer & Wymer 1982). Other large, well described sites like Elands Bay Cave, Nelson Bay Cave and Montagu Cave have insignificant numbers of bifacial points (Volman 1981). An exception here is the Peers Cave Complex at Fishhoek in the western Cape, where the "Stillbay" points are described (Goodwin 1953; Malan 1955), though quantitative information is unavailable. Klipfonteinrand near HRS has no bifacial points in the pre-Howiesons Poort MSA, although unifacial points are well represented at 9.8% (Volman 1981).

In small shelters like HRS and Dale Rose Parlour in the western Cape, Garcia State Forest Shelter recently excavated by Chris Henshilwood in the southern Cape, and Sibebe Shelter in north-west Swaziland (Price-Williams 1981) on the other hand, bifacial points are a significant retouched artefact component. These sites have not been securely dated and if they are not contemporaneous, grouping them together in this way may be misleading.

The dimensions of the bifacial points described by Malan (1955) from Skildergat Kop near Peers Cave, portray similar length variations to those from HRS. Indications are however, that the points from HRS are thicker in their dorso-ventral measurement.

Deacon (1979) mentions an association of silcrete with Stillbay points, which is in keeping with the points from unit IA at HRS. However, at HRS the points made of poor quality quartzite in unit IB are more numerous than those in silcrete, despite the relative abundance of silcrete in this unit. The reason for this is open to speculation. It may indicate technological preferences or perhaps social convention. The size of the finished artefact does not seem to be dependent on raw material, except perhaps in the case of quartz where three of the four points are small.

Besides completed points, several incompletely retouched bifacial pieces have been found at HRS which seem to be unfinished bifacial points. Singer and Wymer (1982) report on similar findings at Klasies River Mouth. In the light of these, the manufacturing process of bifacial points can be examined more closely. From the evidence of unfinished pieces at HRS it seems that some rather unlikely blanks that bear no resemblence to the finished product, may have been used. The process of production of a bifacial point could thus be likened more to the act of sculpture rather than to the simple shaping of a blank that already suggests the final shape and form. This implies that relatively complex cognitive processes as well as considerable technical ability were engaged in the production of bifacial points.

Technology

Several technological aspects are obvious from the HRS assemblage. A small, yet consistent bipolar component is present in quartz. Although the bipolar technique is more commonly associated with the LSA it is not an unusual finding in MSA assemblages (Volman 1981). This may have been an obvious way to deal with raw materials available in small units such as quartz, or it could be that the cleaving properties of quartz were recognised by the hominids to be conducive to this form of reduction (Barham 1987). In all materials with the general exception of quartz and excluding minimal cores, radial cores predominate. Flakes rather than blades are produced from such cores. The number of blades in the assemblage however, presuppose more opposed platform, blade yielding cores than appear to be present. Either blades were being struck elsewhere or the cores used for their production on site were then further reduced in a radial fashion. According to Volman (1981), the reduction of cores at Die Kelders shows this pattern. Regarding the distinction made between flakes and blades, it is notable that at both Klasies River Mouth (Thackeray & Kelly 1988) and at HRS the production of blades is more often preceeded by the preparation of the platform on the core than is the case in flake production. This would imply that the flake/blade distinction is not merely a classificatory construct and that different techniques were emphasised in the search for specific end-products.

Raw Materials

The raw material shift in the HRS sequence may reflect a change in environmental resource aquisition, brought about by a different mobility strategy rather than simple availability. Hornfels and silcrete are not locally available. The most likely source of hornfels in this locality would be the Doorn River (Halkett 1982) whilst silcrete is more abundant immediately east of Picketberg, where it may be found in association with deeply weathered sediments derived from the Malmesbury Formation (Theron 1984). The increased frequency of exotic raw materials in the upper units may indicate that greater distances were more often travelled during the latter part of the occupation sequence than earlier on, or that exchange networks were more extensive. Although silcrete is extensively used for the manufacture of bifacial points in unit IA and IB, the shift in importance in the fine-grained exotic raw materials is not exclusively determined by technological demands, because the local poor quality quartzite was also favoured for the production of bifacial points.

It is obviously easier to detect edge wear where it has been well preserved in harder materials such as quartz and silcrete which could, for example, be the reason that quartz shows a particularly high frequency of utilised artefacts. However, if preservation and detection were the main determining factors, retouch in quartz should equally be as high. But it is not. Similarly, in good quality quartzite, which has been well preserved and offers a sharp, hard cutting edge, retouch and utilisation frequencies are much the same and even sometimes lower than the flaking product frequency. There thus appears to be a specific selection of a raw material for utilisation and/or retouch, which is demonstrated by the higher percentage in those categories than is the case for the flaking product. For example, silcrete seems to be selected for retouch in unit IA, silcrete and quartz in unit IB and hornfels in units IIA and IIB. Similarly for utilisation quartz seems particularly favoured throughout, silcrete is selected in IA and IB, and hornfels again in unit IB (Table 1).

Pigment

Ochre is ubiquitous in the MSA, yet not much is known about its uses and the way it was processed. In contrast to findings in the LSA the grinding marks are often coarse and multidirectional. Some pieces seem to have been discarded long before their useful end, while other minute scraps are worked to exhaustion. In spite of the evidence of extensive grinding few ochre stained receptacles or grindstones are ever found, unlike in the LSA. These observations would imply a different mechanical and mental approach to the manufacture and use of ochre powder in the MSA.

At HRS the lowest frequencies of retouch and utilisation occur in unit IIA, which is also the unit with the least pigment. If this correlation can also be demonstrated in other sites it may have wider significance and possible behavioural implications.

CONCLUSIONS AND PROSPECTS

The classification of the material from HRS adds to the body of information about the MSA in the western Cape. Some trends such as platform preparation for the striking of blades, are borne out by sites elsewhere, whereas other features such as the presence of bifacial points, stand out in contrast to some MSA deposits in larger sites in the southern and western Cape. The chronology rests on comparative assemblage typology at this point and is highly suggestive of being confined to the MSA 2. HRS thus represents a relatively discrete window into a specifically defined period, eventhough this may have spanned several thousand years. A correct chronological assesment is important if HRS is to be useful for comparative analyses.

In the MSA ochre has a speculative link with body decoration and thus with the expression of ritual behaviour and personal or group symbolism. This makes it an important assemblage component that could be used to extract information about the emergence of 'modern' behaviour. For this new schemes for analysis and greater emphasis on site comparisons would be necessary. The preliminary analysis at HRS did not include extensive ochre analysis due to time constraints. However, the presence of the two notched pieces mentioned above indicates that further time spent on this aspect may be useful, especially if studied in comparison to material at other sites.

Because HRS is a small, confined site, where indications are that most stone-working took place within the shelter it has the potential for complete excavation for the purpose of refit studies. Through this a better insight may be gained into reduction sequences, which facilitates the interpretation of how hominids approached choices concerning raw material, technique and artefact use. This would engender a broader understanding of the hominids' interaction with their environment. The information gained from stone artefacts would thereby expanded beyond the few inferences that can presently be drawn from the traditional descriptive analysis (Dibble & Rolland 1992). However, the standardised classification of artefacts such as reported here for HRS is a prerequisite of any such study.

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