A COMPARISON OF HUNTER-GATHERER MATERIAL CULTURE FROM MATJES RIVER ROCK SHELTER AND NELSON BAY CAVE

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Abstract

This thesis investigates whether or not there is a material cultural expression of the economic (and by inference, social) difference seen in the stable isotope values of human skeletons from Robberg/Plettenberg Bay and Matjes River Rock Shelter between 4500 and 2000 B.P. After 2000 B.P. the introduction of pastoral subsistence in the area changed existing modes of production in such a way as to alter $\partial^{15}N$ values. The two major excavated archaeological sites in this region are Nelson Bay Cave and Matjes River Rock Shelter, which lie only 15 kilometers apart.

For this thesis, previously published descriptions of the artifact assemblages from these two sites were studied, and selected categories of artefacts were re-examined. More original work was necessary on the Matjes River collection, due to the poor quality of previous reports. The thesis focuses on the Wilton and preceramic post-Wilton. In general, the same types of artefacts were found at both sites, but a number of types that were common in Layer C (i.e. in the Wilton) at Matjes River were not a feature of the Wilton levels at Nelson Bay Cave, although they became common in the post-Wilton. Backed scrapers were much more common in the Wilton levels of Matjes River than in any levels at Nelson Bay Cave, and chalcedony was more strongly favoured. Stone sinkers and perforated turtle carapace were present at Nelson Bay but were very rare at Matjes River. Several of the differences noted are not readily explained in terms of different functions or activities at the two sites. The contrast in the proportions of backed scrapers is best understood in terms of different traditions of artefact manufacture. Similarly, differences between the two sites in highly visible decorative items such as shell pendants are likely related to the negotiation of group or personal identity. These differences are consistent with a territorial separation between the groups that occupied the two sites, as postulated on the basis of the isotopic evidence.

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Chapter 1
Introduction

The southern and eastern Cape contain a wealth of archaeological resources, especially remains left by hunting and gathering people who lived in this region for several hundred thousand years. The first recognition and study of archaeological material in this area goes back nearly 150 years to the artifact collections of Thomas Holden Bowker (Deacon and Deacon 1999). Later, many amateur collectors pursued archaeological finds. During the nineteenth and early twentieth centuries, South African archaeology, as in much of the rest of the world, progressed mostly from the collections of enthusiasts. Casual excavations by untrained excavators continued with increasing intensity. This has unfortunately resulted in some important archaeological collections that are documented in a less than ideal manner (FitzSimons 1923; 1926; Dreyer 1933; Louw 1960).

The work of Goodwin and van Riet Lowe during the late 1920s and 1930s was in large part a response to such practices. Together they attempted the first systematic survey of southern African archaeology and drew up the first widely accepted culture history (Goodwin & van Riet Lowe1929). They studied tool assemblages that had been collected from around the southern subcontinent, initially mainly from more densely inhabited areas. However one of van Riet Lowe's great contributions to this work was to collect and record assemblages in the interior of South Africa while he worked as an engineer. The major ideas expressed in the work are attributed to Goodwin. It became clear from this work that there was a need for the excavation of long sequences for more consistent reporting of data and recording the contexts of collections. This led Goodwin to undertake his own benchmark excavations at Oakhurst and Glentyre.

Past research into the Later Stone Age inhabitants of the southern Cape has yielded much information about their life-ways (e.g. Dreyer 1933, Goodwin 1938, Hoffman 1958, Louw 1960, Klein 1972a,b, 1974, Deacon, H.J. 1976, 1995, Deacon, J. 1978, 1984a,b, Hall 1990, 2000, Hall & Binneman 1987, Inskeep 1987, Binneman 1996, Döckel 1998, Deacon & Deacon 1999, Sealy & Pfeiffer 2000, Sealy n.d.). Middens, caves and rock shelters are relatively common along the alternating rocky and sandy

shores of the Cape. Most archaeological remains date from the Holocene, so that we are able to reconstruct a relatively detailed picture of life during this time. The period between 8000 and 2000 B.P. has produced some especially interesting material and physical signatures. The Wilton era started around 8000 B.P. and Wilton assemblages have been found around most of southern Africa: Zimbabwe, Namibia, and Botswana, as well as in South Africa (Goodwin and van Riet Lowe 1929, Sampson 1974, Deacon 1984a). Wilton assemblages are uncommon in the drier interior of South Africa (Goodwin and van Riet Lowe 1929, Deacon 1974, Humphreys & Thackeray 1983, Wadley 1986). The term is generally applied to mid and late Holocene microlithic assemblages with formal tools such as scrapers, segments and other backed tools, borers and adzes, but also includes non-lithic artifacts like the ornaments and bone tools described in this study. Several researchers have argued that the later Wilton was a period of population increase, material culture and dietary change and intensification (Mazel 1989a,b, Hall 1990, Binneman 1996, Jerardino 1996). These changes may have been accompanied by restructuring of social networks and, in some areas, decreased mobility. In the southern Cape recent work has shown strong dietary differences, based on stable isotope analysis, between individuals buried in the Plettenberg Bay area and those buried at Matjes River (Sealy and Pfeiffer 2000, Muller 2002). This difference appears to have begun at about 4500 B.P. and persisted until 2000 B.P. when the emergence of pastoral economies in the area probably disrupted the pattern (Sealy n.d.). These authors have argued that, if the burials represent the people who lived in the sites, such clear economic separation must mean that there was also social separation: two groups of people living in two distinct adjacent territories. If this was indeed the case, then one might expect differences in material culture between the two groups. The purpose of this thesis is to re-examine the excavated artefactual assemblages from Nelson Bay Cave, adjacent to Plettenberg Bay and Matjes River Rock Shelter, to see whether there are indeed material cultural expressions of this economic separation.

In order to approach this question, one needs to consider the basis for recognizing 'style' in archaeology, a topic on which there is a large body of literature (Binford 1962, 1965, Sackett 1973, 1977, 1982, 1985, Wiessner 1982, 1983, 1984,

1985, Wobst 1974, 1977).These authors have taken varying stances on what constitutes 'style', how it can be recognized, and the extent to which it is a purposeful system of social signaling. More recently, the problem has been explored in some depth by Jones (1997) in her widely-cited book '*The Archaeology of Ethnicity*'. Based on Bourdieu's concept of 'habitus', among others, Jones has proposed a 'practice theory of ethnicity' based on how people use culture in pursuit of their interests and how these are, reciprocally, influenced by their cultural environment. This shared habitus allows people to identify with one another leading to the formation of ethnic identities. In this way, culture (including material culture) contributes to the development of ethnic identities. Jones regards the construction of ethnic identity as active, collective, and participated in by people who share control over this identity and manipulate it to foster bonds in varying life situations. Most previous archaeological work of this kind has focused on relatively recent time periods about which a good deal is known, such as Jones's own work in Roman Britain. Application of these approaches in the Stone Age is challenging, but the case study investigated here offers a special opportunity, in that economic and social separation between the two areas *has already been demonstrated* using independent (stable isotope) evidence. This thesis, therefore, does not need to try to show that there is a separation. Instead, it sets out to test the archaeological evidence against the isotope-based reconstruction of hunter-gatherer societies in the Plettenberg Bay/Matjes River area, 4500-2000 B.P.

A range of artifacts were studied for this research. First, items that show significant changes at 4500 B.P. in the Nelson Bay Cave sequence (the time at which the separation described above appears to have begun) were obvious candidates for study. These are discussed in more detail in the next chapter. Second, items that were used for decoration or embellishment of some kind were studied, on the basis that these would be likely candidates for "stylistic" variation. Pendants of marine shell, bone, and tortoise shell fall into this category. Artefacts made for the purpose of display carry social messages and these may well have included messages bearing on group membership. (i.e. "embedded text" after Hodder 1982). Ethnographic studies tell us that messages about gender or age status are also commonly conveyed in such items (Hodder, 1977, 1979, Wiessner, 1982, 1983). Hodder (1982) found that, when groups

occupying the same area are competing for the same resources, they tend to adhere strictly to their respective material cultures. Ethnic boundaries are rigorously maintained through dress style and other personal ornamentation. This can reflect social tension or resource scarcity. When resources are more abundant or groups are not in direct competition, there tends to be more borrowing of aspects of material culture and ideas are more freely copied and incorporated. This makes distinct ethnic groups difficult to recognize archaeologically. When studying periods of proposed intensification, however, in fairly restricted spatial settings, one might expect to find an archaeological signature of ethnic distinction.

The Plettenberg Bay area has considerable environmental diversity in a small space. In addition, the area falls in what has been a year-round rainfall regime for at least the last 18000 years (Sealy 1996). Thus it would have provided a diverse array of non-seasonally restricted resources. These features characterize the types of environment in which Mazel proposed that intensification would be likely to have taken root and territories established (Mazel 1989a, b). If boundaries were maintained, people would naturally have tended to use features of the landscape for borders. The Keurbooms/Bietou estuary would, we believe, have been ideal for this purpose (Döckel 1998, Sealy and Pfeiffer 2000).This major estuary is situated in between the two sites and while not uncross-able even in prehistoric times, it would likely have presented a formidable foraging boundary to people on a daily basis

An important aspect of the study is that it focuses on a time where the research area was occupied solely by hunter-gatherers. The processes studied here occurred without influence from food producing or colonial societies. Exploring the dynamic and fluctuating circumstances of mid-Holocene southern Cape societies is a very intriguing area of study that merits further attention. As such, this research programme makes a contribution to hunter-gatherer studies at a wider level than simply the southern Cape, or even South Africa.

In Chapter Two, previous research at Nelson Bay Cave, and Matjes River is oulined in order to provide a summary of the archaeological context from which the artifacts were derived. Chapter Three presents the results of the re-examination of selected categories of artifacts from Nelson Bay Cave and Matjes River. This analysis,

and the comparison and contrast of the assemblages from the two sites forms the bulk of the research conducted for this thesis. In Chapter Four a careful consideration and interpretation is offered for the observations documented in Chapter Three. Chapter Five summarises the main points of the thesis, and considers the work in relation to the wider field of Later Stone Age studies in South Africa.

Chapter 2

Previous archaeological work at Nelson Bay Cave and Matjes River Rock Shelter

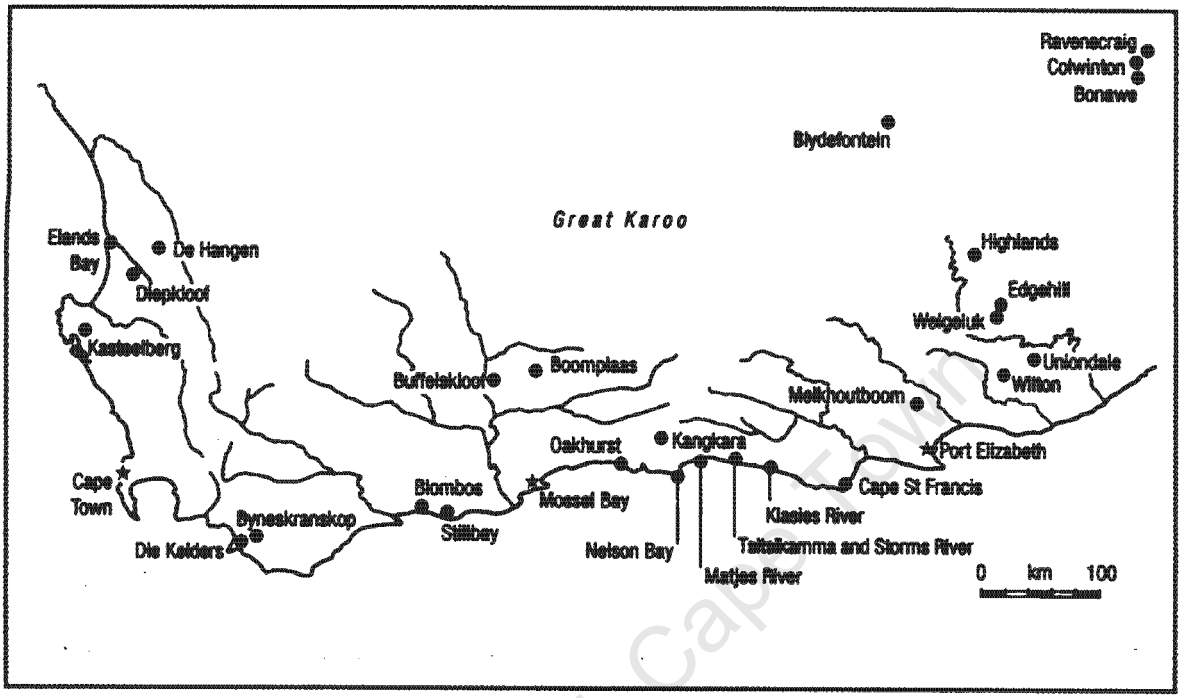

Figure 2.1 Later Stone Age sites in the Western and Eastern Cape. Taken from Deacon & Deacon (1999:114)

2.1 Nelson Bay Cave

Nelson Bay Cave is located on the Robberg Peninsula, which creates part of the sigmoid shape of the Plettenberg Bay. The peninsula is just over three kilometers long, with its axis running approximately WNW to ESE. Nelson Bay Cave is on the south side of the peninsula, facing the Indian Ocean, and is located some ten meters above the rocky coastline. The cave is approximately 18 meters wide, and 35m deep. The mouth is low, but generally the roof is three to four meters above the floor. The cave is formed between the contact of Table Mountain Sandstone (Devonian) below, and Cretaceous breccia of the Uitenhage series above. Repeated prolonged episodes of elevated sea levels caused this cave, as well as many others, to form over the eons (Inskeep 1987).

The Robberg Peninsula is in an area of southern Africa that receives year-round rainfall. Faunal evidence, and $\partial^{15}N$ analyses of animal bones from Nelson Bay Cave

indicate that this was the case throughout the Holocene (Klein 1972b; Sealy 1996). This regular rainfall must have been a large factor in attracting habitation and even population packing prehistorically (Cohen & Tyson 1995). The contemporary vegetation has been markedly affected by poor veld management strategies and agriculture. During the Holocene, the area around Nelson Bay Cave was likely forest and scrub forest, with typical fynbos located approximately 30-35 km inland (Inskeep 1987:12 Fig. 6).There are a number of other major vegetation zones between the Fold Mountain Belt chain and Nelson Bay Cave on the coast. These include, but are not limited to, coastal fynbos, mountain rhenosterveld, succulent mountain scrub, and karroid broken veld. The vegetation in the area is a mosaic, containing patches of these and other veld types supporting a range of plant and animal resources. This would have been relevant in any system of regional transhumance (Inskeep 1987).

From an archaeological perspective Nelson Bay Cave is considered by many to be one of the most informative cave sites in the southern Cape. The excavated assemblage is housed in the Iziko Museums in Cape Town. It contains a great spectrum of artifacts. There is adequate spatial information, and excellent stratigraphic information on nearly all artifacts, which facilitated this study immeasurably.

Several times early in the last century the caves of the Robberg Peninsula were 'excavated' *sensu lato* to recover skeletons for collections in museums, by farmers seeking guano, and curiosity seekers. Nelson Bay Cave shows signs of having been the victim of such episodes. Nevertheless the areas later excavated were carefully chosen for their preservation of mostly undisturbed deposit, where the excavators could see they were digging in deposits with stratigraphic integrity.

Inskeep's Excavations

R.R. Inskeep began to excavate Nelson Bay Cave in 1964. In the first season he focused on the midden deposit near the cave entrance. He also dug a test pit further back in the cave, often referred to as 'Inskeep's deep sounding', where MSA deposits were encountered. The excavation was continued over three further seasons, one in 1965-1966, another in 1970-1971, and a final season in 1979. For the 1970-1971 excavations R.G. Klein joined the group, focusing primarily on the early Holocene and

late Pleistocene. The combined program resulted in a well-dated LSA sequence with a wide spatial sample. Over the first three seasons artifacts were recovered from an area of some 78 square meters, although this still constitutes a relatively small percentage of the cave's total area (Klein 1972a; 1972b; Deacon 1982; 1984b; Inskeep 1987).

With the notable exception of the deep sounding in the first season, Inskeep focused on squares near the front of the cave. Klein's excavations were in the deeper section of the cave where the Holocene material was thinner. His trench incorporated Inskeep's original deep sounding in its southeast corner. Klein's excavations yielded a range of Holocene and late Pleistocene cultural material dating back over 50,000 years to the Middle Stone Age, beyond the limits of radiocarbon dating (Butzer 1973). Table 2.1 is a compilation of all the radiocarbon dates obtained on material from Nelson Bay Cave relevant to this thesis. This table lists them in stratigraphic order even though this does not always equate with chronological order. Overall this sequence demonstrates stratigraphic integrity to the extent that we can speak about chronological trends with confidence.

Layer Name	Layer #/letter	Lab no.	Material	Date B.P.	Standard dev.
Betty	22	Pta-1361	Charcoal	455	± 455
Betty	22	Pta-1360	Charcoal	1500	± 35
Bill	23	Pta-3361	Charcoal	850	± 50
Alex	24	Pta-3362	Charcoal	650	± 50
Bob	28	Pta-3363	Charcoal	2560	± 60
Brett/Bonnie	29	GrN-5703	Charcoal	1930	± 60
Brett/Bonnie	29	Oxa-873	Bone	1100	± 80
6	6	Pta-2921	Charcoal	2450	± 60
18	18	GrN-5715	Charcoal	2540	± 50
Burial 1	19	Lv-217	Bone	2660	± 150
Bert	31	Pta-1485	Charcoal	2950	± 80
Bonnie	30	Pta-1363	Charcoal	2085	± 35
Dan	42	GrN-5702	Charcoal	2925	± 35
David	43	Pta-2913	Charcoal	2970	± 60
Garth	49	Pta-2920	Charcoal	3020	± 35
Geoff	59	Pta-3095	Charcoal	3190	± 50
Lucy	62	Pta-3097	Charcoal	3270	± 70
Mat	63	Pta-2919	Charcoal	3600	± 50
Mark	64	Pta-2910	Charcoal	3350	± 60
Paul	78	Pta-2916	Charcoal	4520	± 60

Mid. Ivan	IC	UW-217	Shell	4860 ± 65
Hearth b. Victoria	105	Pta-2933	Charcoal	5320 ± 220
Brown soil b. Helgren	BSC	UW-187	Charcoal	5825 ± 150
Mid. B. Glen/Helgren	BSC	UW-216	Charcoal	5830 ± 115
Valerie	129	Pta-2915	Charcoal	5860 ± 70
Xerxes	148	Pta-2909	Charcoal	5890 ± 70
Brown soil b. Ivan	BSC	UW-176	Charcoal	6020 ± 160
Brown soil b. Ivan	BSC	UW-186	Charcoal	6050 ± 80
Mid. Rice A	RA	UW-222	Charcoal	6070 ± 125
Top Rice A	RA	UW-179	Shell	9080 ± 185
Rice B/ Jake	RB	UW-181	Charcoal	8070 ± 240
Rice B/ Jake	RB	UW-184	Shell	8570 ± 170
Jake	J	Pta-391	Charcoal	8990 ± 80

Table 2.1 Radiocarbon dates from Nelson Bay Cave. From Fairhall et al. 1976; Klein 1974; Deacon 1982; Inskeep 1987)

The Holocene levels excavated by Inskeep dated from 455±30 B.P. (Pta-1361 unit 22) to 5890±70 B.P.(Pta-2909 unit 148). Some 148 distinct stratigraphic units were recognized within this timeframe. This sequence apparently contained no major stratigraphic break, and occupation was occurring on a regular basis over this time. It must be noted that, like most archaeological deposits, this one represents pulses of occupation and episodes of human behavior (Inskeep 1987). The 148 units are grouped here into broad brackets for economy of description. From a simple reading of Inskeep's Figure 81 (1987:273) one can see these groupings clearly.

Units 28-64

Units 28-64 were dated between 2000 B.P. and 3300 B.P. and consisted primarily of shell refuse, with a few ash spreads, and hearths. Within these levels, units 42-64 were very closely spaced, indicating more regular occupation over longer periods. These layers can be grouped based on material cultural similarity. Several classes of worked material, as well as collected items first occur in these younger layers, or are exclusively or overwhelmingly represented here.

Quartzite dominates these layers in both the informal and the rare formal tool component. Chalcedony and quartz were hardly used. Miscellaneous retouch is much less common than in units older than 64. Most cores are crudely worked and show little

evidence of rejuvenation, so that traditional core typologies are largely inapplicable. These layers contain a very informal lithic industry as the only formal tools present in any number are *pieces esquillées;* 117 of the 120 from Ray Inskeep's excavations are derived from these units. Indurated shale lost favor as a medium for formal tools in units younger than 64, although shale waste increased dramatically in these levels further indicating a very informal lithic set.

Of the 189 examples of *Glycymeris* reported by Inskeep (1987), 185 are clustered in unit 43 and those younger. This part of the sequence is awkwardly dated, as unit 29 dates to only 1930 ±60 B.P., however unit 28 dates to 2560 ±60, and unit 19 dates to 2660±50 B.P. Carnivorous snails may have naturally perforated *Glycymeris*, but apparently the site's inhabitants collected them. The sizes of the holes vary, and some have teardrop-shaped perforations commonly associated with suspension wear. *Glycymeris* pendants have also been found in grave contexts (Goodwin 1938; Hall and Binneman 1987).

The 3300-2000 B.P. time bracket has yielded a large assemblage of worked bone in the form of spatulae, tubes, rings, and engraved pieces. Tortoise carapace worked and un-worked is exclusive to units 60 and ones younger. Bored stones and reamers (used in manufacture of bored stones) show a marked increase in units younger than 62.

All of Inskeep's type 1 shell pendants cluster in units younger than 64(~3350 ±60 B.P. Pta-2910). These were made on shell fragments from *Turbo sarmaticus*. They often contain two perforations and are nicked around the nacreous face. When describing perforated shaped shell pendants Ray Inskeep wrote "These are made on fragments of nacreous shell derived from a mollusk large enough to yield a fragment which, in the pieces included in this group, have a very shallow curvature. They vary in outline from heart, or shield, shape to broad oval (and, rarely, circular), and the edges are nicked on the nacreous face. Two holes for suspension are drilled towards one end; the broader end in asymmetric specimens." (1987:176, see also Plate 18)

The faunal assemblage also changes in units 31-64 to show a marked increase in focus on marine resources. Seals, especially yearlings and second years, became more common compared with underlying levels. This is demonstrated by the marked

increase in un-fused distal humeri for seals derived from units 62 and those younger (Inskeep 1987:249, table 63). Additionally in units 31-64 the weight of fish bone 'per square foot' doubles. With a steep bank, Robberg Peninsula has deep waters on its south side, allowing line or net fishing from the shore directly into deep water. The people accumulating these deposits were certainly focusing on marine resources (Sealy and Pfeiffer 2000).

Units 65-78

Unit 65 and down, all the way to the bottom of Inskeep's excavation, contained artifacts that are assigned to the Wilton lithic tool tradition. Microlithic artifacts made on chalcedony, and other cryptocrystalline silicates were more common in layers older than unit 65, as were tools made from quartz. The most common formal tools were small scrapers.

Units 65-78 date to approximately 3300-4500 B.P. The closest dates are for unit 64: 3350±60 (Pta-2910), and unit 78: 4520±60 (Pta-2916). The stratigraphy in layers between 64 and 78 (and down to unit 99) is characterized as shelly with occasional hearths and ash spreads (Inskeep 1987). It is thought that sediment accumulation in these levels occurred more gradually, indicating regular but less intense occupation. Although these units contained microlithic artefacts, especially small scrapers, they did not yield segments (other than a single example from unit 66).

Around unit 78 (4520±60 B.P.), a number of clear changes occurred in a relatively narrow time span. In units younger than 78 quartz became much more favored as a raw material. Seven of the eight backed scrapers that Inskeep recovered are tightly clustered around units 78-80. The exception was the only specimen on quartz, deriving from unit 65, which consisted of grave-fill. Formal tools, and cores made of chalcedony and quartz are much more common in unit 78, and older.

Bored stones and reamers occurred much less frequently between units 64 and 119. Banded shale sinkers (N=138) purportedly for weighing down fishing lines were all found between units 22 and 78. Interestingly no marked increase in fish remains accompanied this new technology. Possibly, during this era the fish were processed and

eaten at some other locality on the Robberg Peninsula. A more likely explanation comes from closer scrutiny of the assemblage, and is discussed in the next chapter.

Units 79-104

The third cultural bracket covers unit 79 down to unit 104. These span the time between 4520±60 (Pta-2916) and 5320±220 B.P. (Pta-2933). The deposition rate at Nelson Bay Cave changed around unit 78, with units 79-104 having accumulated much more slowly than units 65-78 (Inskeep 1987:273). Below unit 99 the deposits were ashier, and contained fewer shell remains. In terms of material culture the only real distinguishing characteristic of these units is that in unit 78 and those older, perforated *Donax* are a regular component of the artefactual assemblage. 96% came from units older than 4500 B.P. In younger levels they were found sporadically and clustered.

Units 105-148

The fourth cultural bracket consists of units, which date from ca. 5300 to 5800 B.P. (Pta-2933 5320±220, and Pta-2909 5890±70). In these pre-5300 B.P. levels 92.5% of segments were found. We will see from Richard Klein's excavations that segments began to occur all the way back at the Albany/Wilton transition (Deacon 1984). Drills also occur only in units below 104 of Ray Inskeep's excavations with the exception of two quartzite examples from units 31 and 35. Segments and drills were the two major categories of backed artifact in the Nelson Bay Cave Wilton sequence. Backed blades and flakes also were present but rare (n=10) in units 66-140, and scattered throughout the sequence. At this site, unlike Wilton Large Rock Shelter, backed blades did not become a prominent part of the assemblage after segments had fallen out of favor (Deacon 1972). Bored stones and reamers again occurred more frequently in units 120-148 (Inskeep 1987:273).

The third characteristic of these levels were the 'type 3' shaped shell pendants (Inskeep 1987), which were not found in any other units. Type 3 pendants differ from Inskeep's other types of pendants in that they "seem to be made on often thinner shell ", possibly *Oxystele sinensis*, and were found generally to be wider than they were long.

Inskeep reported a marked increase in seal MNI/NISP between units 64 and 112, (Table 64, page 251-252 i.e. between roughly 3300 B.P. and 5300B.P.) compared with the underlying units 113-148. It is difficult to evaluate this in the absence of information on volumes of deposit excavated, but taken at face value, seals were coming to play an increasingly important role as a commodity in a shifting social demographic.

So in the span of about 2000 years people occupying the site dropped several components of their material culture and added others. Certain items like bored stones fell out of favor and then back in again. Only after ~3300 B.P. was there a marked increase in the range of items of decoration, or distinction. This time period likely represented a shift of great magnitude in the area. It has been suggested that there was a large increase in population at around 4000 B.P. across the entire southern Cape (Deacon 1984a). This could in effect be a lagged response, as material culture could have been adjusted in the wake of social change.

Klein's Excavations

Richard Klein's first season at Nelson Bay cave ran from July to September 1970. The intent was to investigate the deposits that underlay the shell middens deeper in the cave. Over this time Klein excavated five square meters to a depth of three meters, three square meters to a depth of two meters, and an additional 16 square meters to a depth of one meter. Four of these last 16 m^2 constituted a sump used to pump out the water from the bottom of the trench, resulting from the fact that the team had run up against the rainy season in the southern Cape. Apparently the back of the cave is a conduit for a spring, and during a particularly heavy storm the water table rose nearly 1.5m. An electric water pump was installed to restore the water table to its previous depth, and excavations proceeded.

Klein encountered three Holocene-aged groups of units relevant to this study (Deacon 1982; Klein 1972a): Ivan complex (IC), Brown Soil complex (BSC), and Rice Midden complex (RC). These occupation soils dated between 4860±65 B.P. for Ivan complex (UW-217), and 8070±170 (UW-181), and 8570±170 (UW-184) for the interface between Rice B and the underlying layer Midden Jake.

The Ivan complex was therefore roughly contemporary with layers from Inskeep's excavations underlying unit 80. It varied in thickness from10 to 55 cm and its matrix was composed of marine shell and well-sorted aeolian sand (Butzer 1973).

The next group of units was the Brown Soil Complex (BSC). Four radiocarbon dates for BSC range from 5825±150 to 6050±80 (UW-187 and UW-186 respectively). The matrix of the Brown Soil Below Ivan and Betsy (BSBI and BSBB) was "...highly organic, sandy silt packed with artifacts, bones (especially from fish), and crushed shell" (Klein 1972a:181). Klein regarded this as an occupation soil due to the contrast between it and other middens, which he viewed as refuse heaps. Deacon (1984) confirmed this inference on the basis of the high number of backed artifacts (36) per bucket excavated from this horizon.

The date for the top of BSC was 5825±150 (UW-187), nearly contemporary with Ray Inskeep's basal date of 5890±70 (Pta-2909) for his unit 148 (Xerxes). Here the temporal overlap between the two excavations ended. Material from BSC and layers underlying it constitute the entire assemblage recovered from Nelson Bay Cave for these periods.

Under BSC lay the Rice complex of middens, which can generally be described as containing loosely packed, crushed shell mixed with ash and a small amount of light brown/grey loam. The Rice complex was much less disturbed by previous excavations than overlying layers. Midden Rice A, the upper part of the Rice complex, was composed of a great deal of crushed shell, and relatively low content of bone and artifacts. It was partially decalcified in parts, and was ashier towards the rear. Lithic artifacts from the Ivan and Brown Soil complexes and from Rice A were attributed to the Wilton Industry (Deacon 1982, 1984; Klein 1972b). Midden Rice B contained little mineral matrix and was also low in artifacts and bone. Rice B also contained a very large lens of strongly calcined shell, extending over several square meters. This was tentatively interpreted as the result of a bedding fire. Janette Deacon thought the artifact content of Rice B was similar to Rice A, yet sufficiently different to discuss it separately in her thesis (1982). She viewed the Rice B artefactual assemblage as transitional Albany/Wilton in character due primarily but not entirely to the presence of smaller scrapers. Midden Rice B also contained fewer polished bone tools than the older Albany

units BSBJ and CS, but more than the younger overlying Rice A (Deacon 1979). The artifacts from RB will not be included in this study. Dating of the Rice complex is slightly problematic. Two dates were obtained for Rice A: UW-222 6070±125 B.P., and UW-179 9080±185 B.P. The latter date is probably erroneously old, since it is older than two out of three dates on the underlying Rice B/Jake interface: UW-181 8070±240, UW-184 8570±170 and Pta-391 8990±80 B.P.. UW-179 and UW-184 were obtained on marine shell, which provides dates several hundred years older than charcoal (Stuiver and Brazunias 1993; Döckel 1998). Otherwise the series of radiocarbon dates was chronologically sound. There may have been a hiatus between the deposition of RB and RA (Deacon 1978).

2.2 Matjes River Rock Shelter

Layer	Lab no.	Material	Date B.P.	Standard Deviation
B	Pta-9201	Charcoal	2050	± 120
A/B ?	GrN-5888	Shell	3555	± 35
EE	Pta-6877	Shell	4615	± 20
EE	Pta-6920	Shell	4655	± 20
EE	Pta-6856	Charcoal	4740	± 50
C	LH L-336F	Charcoal	5400	± 250
EE	Pta-6917	Charcoal	5720	± 70
TSM-W	Pta-6811	Shell	6720	± 25
TSM-W	Pta-6691	Charcoal	7010	± 80
C	GrN-5887	Shell	7050	± 45
TSM-W	Pta-6817	Shell	7075	± 25
TSM-L	Pta-6823	Charcoal	7400	± 30
TSM-L	Pta-6831	Shell	7685	± 30
C	LH L-336E	Charcoal	7750	± 300
LSL-U	Pta-6687	Charcoal	7900	± 340
TSM-L	Pta-6688	Charcoal	7920	± 100

Table 2.2 Radiocarbon dates from Matjes River. Taken from Louw 1960, Döckel 1998, and Sealy et. al. (in press)

The Matjes River Rock Shelter is located about 45 meters above sea level and a few hundred meters inland. It faces east from the western side of the Matjes River, which is a relatively minor drainage for the coastal platform (Döckel 1998). The shelter

is shallow, with the drip-line only about three meters from the back of the wall along its 55-meter length. It contained at one time an estimated 25 feet (7.62 m) of deposit (Louw 1960) spanning the entire Holocene, with a basal date of 10660±280 (Pta-6702 Döckel 1998:39). Table 2.2 lists all radiocarbon dates taken from the site, which are relevant to the work for this thesis. These dates are simply placed in numerical order. They are not directly comparable, as the first were measured in the late 1950s using what can only be assumed to be antiquated techniques, others were run in the 1960s, 1990s, and even one as recently as 2003. The table does, however, provide the necessary base for finding what in fact can be gleaned from critical examination of our existing data.

The surrounding environment and vegetation are very much the same as that at Nelson Bay Cave on the Robberg Peninsula, with the same year-round rainfall conditions, and access to a mosaic of vegetation zones.

Excavations 1920s-1950s

T.F. Dreyer first excavated the Matjes River Rock Shelter. Dreyer, an entomologist who held the chair of Zoology and Geology at the Grey University College (now University of Free State), began excavations in 1928. During 1928 and 1929 he removed an immense amount of material along the back of the cave wall. Little information is available on the amount of material removed, or the context of the artifacts recovered. Commonly the trench along the back wall is referred to as 'Dreyer's cutting'. The site was established, through Dreyer's excavations, as an important archive of prehistory. Most of the emphasis was, however, focused on the human remains, and some on re-constructing simple typological models and culture histories (Dreyer 1933).

Matjes River was next excavated through a somewhat complicated set of events in 1952. Upon his retirement, Dreyer was made Honorary Curator of Archaeology and Anthropology at the National Museum in Bloemfontein. It would seem that in retirement he influenced the director, A.C. Hoffman, and A.J.D. Meiring to begin excavations again. Over five more field seasons, they took some 2000 tons of material in what is referred to as the 'cross cutting'.

They interpreted the site as consisting of five separate layers. Even for its time this approach was considered inadequate and coarse. In his initial report Dreyer (1933) labeled layers A-E, yet failed to describe them or provide any reasoning for these demarcations.

J.T. Louw published a monograph on the site in 1960. It was the first of the Memoirs of the National Museum of Bloemfontein series. This effort at documentation was found lacking, as publicly noted by Ronald Singer, and Ray Inskeep in a review published in the South African Archaeological Bulletin in 1961 (Inskeep & Singer 1961). They found the standards of excavation and publication to be severely wanting. Ronald Singer probably put it best: "It is unfortunate for Mr. Louw that this thesis obviously went unedited into this memoir form, because the poor English and spelling only heighten further this reviewer's blood-pressure already breaking the glass by the academic poverty of the text" (1961:29).

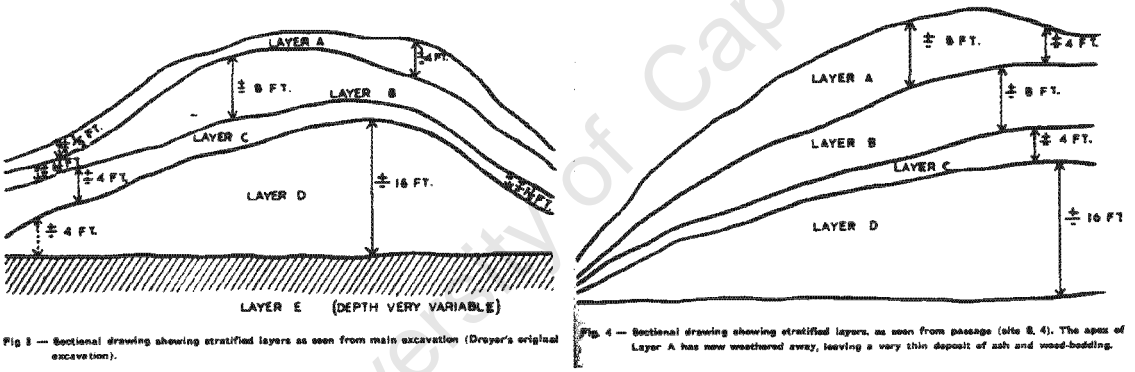

Fig 3 — Sectional drawing showing stratified layers as seen from main excavation (Dreyer's original excavation).

Fig. 4 — Sectional drawing showing stratified layers, as seen from passage (site B, 4). The apex of Layer A has now weathered away, leaving a very thin deposit of ash and wood-bedding.

Figure 2.2 Stratigraphy of Matjes River Rock Shelter. Taken from Louw (1960)

Matjes River Layer A

There is no description of the sediments in the uppermost layer, A, to be found anywhere in the literature and the contents of its matrix therefore remain a mystery. Only 118 objects in total were recovered from this layer. Louw reported nine large quartzite flakes, two rubbing stones, three pieces of ochre, two thumbnail scrapers, one saw edged piece, nine pieces of quartz or chalcedony, 25 ostrich eggshell beads and 27 shell ornaments (including nacre beads). There are also two shale sinkers listed as stone beads (Louw 1960:123, Fig. 53). Only two turtle-shell beads come from this layer (see also Fig. 53:123). There were also 32 bones listed as "food remains". Layer A is

almost definitely the only one at Matjes River from which pottery sherds were recovered (Dreyer 1933). It is likely to be post-2000 B.P., and therefore outside the scope of this study.

Matjes River Layer B

Layer B was referred to as the *Mytilus* Layer, as Dreyer and those who followed him mistakenly identified the primary shell here as *Mytilus*. These were most likely *Perna perna* shells, and apparently made up some 90 percent of the deposit in Layer B (Hoffman 1958). According to Dreyer this layer was "about 8 feet thick" (1933:189). For its thickness relatively few artifacts were recovered from this layer. Only 527 objects are curated in the collection, including 182 items simply called "food remains" and 69 "flakes and blade-like tools". Hoffman (1958) listed three potsherds from Layer B, and Louw (1960) reported two. None were encountered during the re-analysis, and their origin in Layer B should be seriously doubted.

There are no radiocarbon dates for Layer B whatsoever. There is a date of 3555±35 (Gr-N 5888), which some researchers have considered to date the interface between Layers A and B (Deacon 1979; Döckel 1998). There are two problems with this. First, Ray Inskeep took the charcoal material from the section of Matjes River deposits in 1964, six years after excavations of Hoffman, Meiring, and Louw had formally ended. It is likely that a significant amount of slumping had occurred by this time, and it would have been extremely difficult to correctly identify specific places on the profile. Second, when Vogel originally published the radiocarbon dates for Matjes River (Vogel 1970), he did not indicate that the sample was from the Layer A/B transition, but simply that it was from the "uppermost layer" of the deposits. By the time Ray Inskeep actually took this sample, Layer A could have been completely destroyed. This date cannot be considered to reliably represent the A/B interface. It is at least as likely that it reflects the B/C interface.

During re-analysis of the Matjes River material for this project, it was decided that further dating might be able to shed some light on this issue. A sample of charcoal was drawn from a packet of charcoal labeled "Boonste pre-Boesman Okt. 1958", catalogue

no. 5235. This was subsequently dated to 2050±120 B.P. (Pta-9201) (Sealy et al. in prep.). Layer B is clearly much younger than previously indicated.

The date reported as the date for the interface between Layers B and C is 5,400±250 B.P. (L-336F) (Hoffman 1958). Based on tool typologies to be discussed below, this date is too old. The standard error alone should cast some doubt on this date. Compared with Layer C (described below), Layer B has yielded few stone artifacts made from cryptocrystalline silicates (CCS, which would include chalcedony common at NBC), and very few formal tools. Layer B yielded only four small, and two medium scrapers. Three small scrapers were manufactured on quartz, and one of CCS. The two medium scrapers were made on indurated shale and silcrete. Quartzite is by far the dominant raw material in Layer B (Louw 1960 and personal observation). Secondary trimming is also uncommon in these artifacts. Layer B resembles the post-3300 B.P. assemblage from Nelson Bay Cave in that the raw material chosen was overwhelmingly quartzite, and the entire lithic assemblage is highly informal. The large volume of deposit and low density of formal tools combine to make the post-3300 deposits at Nelson Bay and Layer B very comparable to western Cape mega-middens, which generally date to ~3500-2000 B.P. (Jerardino 1996).

Not many shell artifacts came from this layer. According to Louw it yielded either five or six shell beads (some of which appear, from the figure, to be pendants) depending on whether one consults his list (page 113) or his figure (page 119). *Glycymeris queketti* were not reported from this layer, and only three specimens of *D. serra* bearing perforations were found while examining the collection. Generally Layer B had fewer non-lithic artifacts then the underlying Layer C. 82 ostrich eggshell beads, 17 pieces of ochre, and three palettes are listed in Louw's inventory, plus 54 "amorphous pieces of quartz and chalcedony" grouped along with two "pendants" as "General and unidentified". The pendants could not be located in the collection in 2003 and no information was to be found on these 'General and unidentified' items.

Louw reported 23 bone implements from this layer, including a spatula, 17 needles and awls, and a "chisel". He illustrated a sample of these (1960 figures 49-52). One bone tube was engraved with two rows of cross-hatching and a zig-zag design (Louw 1960 figs 51 and 52, see bone artifact appendix for details). Louw noted: " a

number of bone tools were recovered, but of a superior quality when compared with the stone implements." The importance of bone tools in Layer B again is similar to post-3300 levels at Nelson Bay Cave.

There is little information available on the faunal remains in Layer B. Louw was insistent that *Mytilus* constituted 90% of the diet of people accumulating this layer. From the remains that can be found in the collection it is apparent that a range of fauna was present in the area. Specimens of hippopotamus, bush pig, various antelope, seal, were present. No quantitative information can be compiled on these remains due to the fact that only a few of the best examples of food remains were kept in the collection, while most were discarded.

Matjes River Layer C

Layer C was distinguished primarily on the basis that it contained the Wilton culture. In total, Louw listed 20,657 objects recovered from this layer. This layer had a maximum depth of four feet (1.22 m). In contrast to Layer B, many more artifacts were recovered from a much smaller (although still enormous) volume of deposit. Microlithic formal tools, and cryptocrystalline silicates were abundant here. Typical of the Wilton, segments, small and backed scrapers were made predominantly on CCS, but quartz was also common in the assemblage.

This layer yielded a large number of marine shell ornaments of every kind. Pendants and un-perforated objects that may be blanks for pendant manufacture exist in the collection, and vary greatly in size. The material ranges from bone, to *Patella* and *Turbo* shells, and even ivory.

Numerous bone artifacts were recovered from these layers. Louw listed 366 bone and 62 ivory artifacts from Layer C (1960: 99-103). The range and variability of this assemblage is simply astounding.

Again, only a select sample of faunal remains was curated, so a simple list of species present is all that is possible. Hoffman (1958) provided the most accurate account, which included only presently extant species. For Layer C he reported the occurrence of buffalo, bushbuck, duiker, steenbok, klipspringer, oribi, hippopotamus, bushpig, hyrax, seal, otter, and a few smaller carnivores. Marine shellfish included

various patellids, *Turbo, Haliotis*, and *Perna perna*. Both parts of Döckel's Top Shell Midden member, which would have formed part of Layer C, showed *P. perna* to constitute about 85% of the total shellfish remains (Döckel 1998).

Matjes River Layer D

Layer D relates to the Albany industry (the southern Cape variant of the Oakhurst complex). Dreyer (1933) referred to this as the "burnt layer", and Louw described the ashy matrix as being "well consolidated" (1960:18). Its maximum thickness was16 feet (4.88m). This layer contained a low frequency of formal tools, mostly scrapers that are substantially larger than the small Wilton ones from Layer C, with quartzite by far the most abundant raw material.

There are ornaments made on a range of materials including patellids, cowrie and *Glycymeris*, as well as ostrich eggshell, and a few bone ornaments (Louw 1960, fig. 34). This layer is relatively poor in these items, especially considering the great volume of deposit indicated by other studies. A prolific bone tool industry has been recovered from Layer D. This appears to be coarse when compared with that of Layer C, but was certainly abundant.

Matjes River Layer E

Layer E was reported (incorrectly) to contain MSA artifacts. In total it yielded only some 66 objects recovered from the original excavations. The Layer E collection consists principally of quartzite flakes, with no secondary trimming. There are insufficient diagnostic artefacts to allow the assemblage to be classified.

Deacon and Döckel's excavations

In 1993 a rehabilitation effort was undertaken to try to preserve what remained of the badly slumping deposit, and to obtain a greater understanding of the stratigraphy (Deacon 1995). Hilary Deacon and Willemien Döckel excavated from the standing section of the apex, which is near S4 on the corner where the cross-cutting trench meets the original trench near the back wall (Louw 1960:12). They also sampled near the entrance to the site to reconstruct what they called 'Member EE'. Unfortunately no

material younger than 6700 radiocarbon years was recovered in the sequence from the apex, and the dates for member EE are only slightly younger . The older Wilton levels were at the top of the now well-resolved early-Holocene stratigraphy (Döckel 1998). Presumably the younger deposits had slumped in the years since the original excavation and been lost.

Willemien Döckel and Hilary Deacon recognized 215 stratigraphic units from their apex cutting. These units varied from localized occurrences only a few millimeters thick to some 50 millimeter units, which extended over the entire sampled area. These were grouped into members: Top Shell Midden, Lower Shelly Loam, and Member EE.

Member EE came from an additional area of excavation at the walkway entrance of the rock shelter. It was the youngest member with dates of 4615±20 to 5720±70 (Pta 6877 and Pta 6917). EE was a 600 mm thick midden layer that contained loosely compacted ash and shell lenses. It was not well described in Döckel's thesis, and it is not clear how this material fits into the new picture of the site.

Top Shell Midden was located at the top of the apex, and was further sub-divided into members TSM-L and TSM-W. The uppermost member, TSM-W, was 961 mm thick and was defined based on the occurrence of small convex scrapers. The TSM-W deposits were composed of brown humic soils, somewhat compacted shell lenses and discrete ash features. Near the top of this member two units contained remains of *Zostera capensis*, a sea grass used for bedding. Uncalibrated dates put this unit between 6720±25 and 7010±80 B.P. (Pta-6811 and Pta-6691).

Member TSM-W most likely represents the earlier Wilton. This is based on the presence of microlithic artifacts, including eight small scrapers, and a few non-lithic artifacts recovered. This constituted a "five-fold increase in formal tools in top members" (Döckel 1998:47). Döckel's material was not included in this study. It does not, however, significantly increase the sample size from Matjes River Rock Shelter.

TSM-L was the member just below TSM-W, and was 1037 mm thick. This matrix was also composed of loosely compacted shell lenses, brown humic soils and discrete ash lenses. These units dated to between 7400±30 B.P. and 7920±100 B.P. (Pta-6823 and Pta-6687). TSM-L yielded one formal tool, an adze made on chalcedony, and one

bone point. There is no real necessity to propose an industrial tag here, but TSM-L may represent a Wilton/Albany transition time period, similar to unit RB in Nelson Bay Cave.

Before TSM-L was laid down, there had been an apparent hiatus of occupation at the site of 1500 years or more (Pta-6687 7900±340, and Pta-6686 9610±170). The underlying Lower Shelly Loam (LSL) member yielded cultural material that would be described as Albany if one were to apply an industrial tag to it. LSL was composed of the same matrix of loose shell lenses, brown humic soils and ash features almost to its base, near bedrock.

Interestingly, Janette Deacon noted that a similar occupational hiatus may have occurred at nearly the same time at Nelson Bay Cave. Based on apparent radiocarbon gaps between units RA and RB and the transitional character of the artifact assemblage in unit RB, she wrote "The longer time breaks in the buildup of the occupation deposits (i.e. between GSL and BSL and between RA and RB) do tend to accentuate the differences between the industries, but it should be also remembered that, after assessing the inter-assemblage differences and similarities, only the Albany/Wilton coincides with a significant time break, and even then the change from large to smaller scrapers is already apparent in RB and returns in a more developed form in RA some 2000 years later" (1978:101). She tentatively put forth this idea, but it's worth considering why both sites contain an apparent hiatus so coincident with major technological change. These nearly contemporary hiatuses at Matjes River and Nelson Bay Cave further indicate that Layer C at Matjes River, and units 64-148, IC, BSC, and RA are indeed very comparable. Coupled with the technological changes previously documented it seems likely that there may be some issues with radiocarbon dating in this time-frame that are worth looking into.

Overall, the sequence at Nelson Bay Cave coincides very well with that of Matjes River. Matjes River Layer B is broadly similar to units younger than 64 from Ray Inskeep's excavations (Pta 2910 3350±60). Matjes River Layer C, the Wilton layer, is broadly contemporary with, and composed of elements similar to Inskeep's units 65-148 from Nelson Bay, together with Klein's IC, BSC and RA. Differences in the sample sizes recovered from the two sites may somewhat limit comparisons, but the temporal windows are squared up. In that respect no accommodations were necessary.

2.3 The Isotopic Evidence

The basis for this study arose out of stable isotopic work on Holocene skeletons from the southern Cape. Specifically, $\delta^{15}N$ values for archaeological human skeletons recovered from the Robberg/Plettenberg Bay area were significantly elevated compared with measurements of individuals buried at Matjes River Rock Shelter, only about 14 kilometres away. This distinction was clear in skeletons dated to between 3500 and 2000 years B.P., but disappeared in individuals dating to within the last 2000 years. This means that, between 3500 and 2000 B.P., people at Robberg/Plettenberg Bay ate more high trophic level marine protein, over a long period of their lives (Sealy and Pfeiffer 2000). Essentially this showed "economic differences between adjacent groups of hunter-gatherers and, we believe, evidence for territorial boundaries in the past" (Sealy and Pfeiffer 2000:654). More recent, but as yet unpublished results show that the isotopic separation between Robberg/Plettenberg Bay and Matjes River probably began about 4500 B.P. and lasted until 2000 B.P. (Sealy n.d.). This work is the basis for this thesis: if in fact there was an economic, and hence a social boundary between the two areas, can we see it expressed in material cultural differences between Nelson Bay (as the best-known site in the Robberg/Plettenberg Bay area) and Matjes River Rock Shelter? In the following chapter, the excavated assemblages from the two sites will be re-examined with this goal in mind. The focus will be on the period from 4500 to 2000 B.P.

Chapter 3
Examination of Material

3.1 Introduction

In February and March 2003 the Nelson Bay Cave collection, curated at Iziko Museums in Cape Town was studied. In March 2003 Dr. Sealy assisted with initial identification, and sorting of material, after which the author carried out all examinations. The Nelson Bay collection was visited again in January 2004 to clarify uncertainties, and to take photographs.

For the second part of the analysis I was able to access the collection of the Matjes River Rock Shelter in the National Museum in Bloemfontein from the 5th to the 17th of May 2003. Dr. Sealy was present for the first week, and provided much needed focus and direction with such an overwhelming collection. The Matjes River collection had many artifacts not found in Nelson Bay and this, as noted above, is most likely a product of overall quantity of excavated deposit combined with the large number of burials within the midden.

Artifacts examined were as follows: pendants of any material and form, *Nassa kraussianus,* cowrie, *Pelomedusa subrufra,* ostrich eggshell, and bone were examined and measured. Some un-perforated shell discs made from various species of *Patella,* and *Turbo sarmaticus* were treated likewise. Shell crescents made from *Perna perna* were examined. Perforated shells of *Glycymeris* species and *Donax serra* were also counted and considered as part of the material cultural repertoire at least in as far as they were actively collected, and almost certainly utilized for personal ornamentation. Bone points and awls as well as bone dressing tools, bone rings, 'arrow link-shafts' and bone tubes were measured, and examined for incisions, ochre staining or any other unusual characteristics. OES beads were not analyzed in this study.

Selected information was recorded for certain categories of stone artifacts, taking original measurements for the Matjes River material, and relying on data from Deacon (Deacon 1982, 1984) and Inskeep (1987) for the Nelson Bay assemblage. Some types of Wilton era microliths proved to be most informative, and are discussed, and analyzed

below. Stone 'sinkers' (Inskeep 1987:391-407 Appendix 21, 41 0-411 Appendix 24) were also examined at both sites, as well as shale palettes, of which some were perforated. Quartz crystals were recorded, and integrated into discussions.

Artifacts were chosen for inclusion in this study for a number of reasons. With the good chronological control at Nelson Bay cave clear patterns can be seen in artifact preferences over time (Inskeep 1987:273). OES beads occurred throughout the sequence but OES and marine shell pendants occurred in fairly narrow time ranges. In some cases several artifact types or artifact attributes appear or disappear from the assemblage contemporaneously, particularly at c. 5300, 4500, and 3300 B.P. This time restriction of artifact types and attributes, which were often decorative, offer some promise that they may have expressed personal or group "style" (Sealy personal comm.). The timing of these shifts as they are reflected in the assemblage, and their relationship to stable isotope analyses (Sealy and Pfeiffer 2000) was a major impetus for this study.

The Matjes River assemblage was examined for the same categories of artifacts to see how types and distributions would compare with those found in the Nelson Bay Cave assemblage. Chronological provenance for Matjes River site can be obtained only at a very coarse level. However, there do seem to be broad similarities between time-restricted artifacts at the sites. These artifacts are described here, and their patterning through the respective sequences discussed. The patterns will be interpreted in later chapters.

3.2 Stone Artifacts

Selected features of the stone assemblages were chosen for study in this project (see Chapter 1). Discussion of Nelson Bay Cave is based on analyses of Deacon's and Inskeep's data (Deacon 1984:132 Figure 72,73, 135, Figure 76, 188 Table 13, 218 Table 36, 219 Table 37, 223 Table 41, 228 Table 50, Inskeep 1987:391-407 Appendix 21, 410-411 Appendix 24). The lithic assemblage from Nelson Bay Cave was not re-examined for this thesis. In May 2003 the Matjes River stone assemblage was examined, and figures presented here are based on this analysis. A very simple approach was undertaken to compare the formal lithic component of these assemblages. The main concern was to make the assemblages from the two sites directly comparable. In order to do this a number of artifacts of interest (backed/double scrapers, segments) were compared with

the total number of scrapers from the same levels of each site. This approach allowed comparison of the assemblages even though they differ greatly in size. All artifacts must be curated in order for this approach to be valid. At Nelson Bay Cave this was certainly true. At Matjes River too, this seems to have been the case, judging from the existing assemblages. There is no indication that selection has taken place for any particular lithic components.

Methodological Considerations

For some levels at Nelson Bay Cave it was not possible to determine the raw material for backed/double scrapers due to the manner in which the data was summarized (Deacon 1984). It is necessary to further elaborate on some of the accommodation made to the data for this study. Janette Deacon's data was presented in such a manner as to include all scrapers, and so it was necessary to do some extrapolation to ensure metric parameters of both assemblages were equal. To do this medium scrapers up to 30mm in any dimension were recorded from Matjes River and Ray Inskeep's records were used to find scrapers up to 30 mm in maximum dimension. The counts provided in the table above include scrapers over 30mm. It was determined with Janette Deacon's data (1984:132 Figures 72 and 73) how many scraper elements were over 30mm in either length or width for units IC, BSC and RA. The highest number of elements from either dimension was then subtracted from the total count. In Layer IC no scrapers were over 30mm in maximum dimension. In Layers BSC, and RA respectively three and four scrapers were removed from the count for being over 30mm in length.

In addition since Janette Deacon's scrapers with 'position 11 retouch' were considered as 'backed/double scrapers', (Janette Deacon personal communication) they were also removed from the total scraper count from Nelson Bay Cave. 16 backed/double scrapers were subtracted from unit IC, one from BSC, and two from RA. It is possible scrapers were counted and removed twice, but this is unlikely considering

Formal Tools	Nelson Bay Cave Post-Wilton (units 22-64)	Matjes River Layer B Post Wilton (~2000-3300 B.P.)	Nelson Bay Cave Wilton (units 64-148, IC, BSC, RA)	Matjes River Layer C Wilton (~3300-8000 B.P.)
Small scrapers	**(<20 mm excl.**	**backed)**		
CCS	0	1	325	614
Quartz	1	3	156	56
Silcrete	1	0	31	2
Shale	0	0	0	1
Quartzite	0	0	14	1
Medium scrapers	**(20-30 mm)**			
CCS	1	0	12	12
Quartz	1	0	1	1
Silcrete	0	1	0	2
Quartzite	0	0	1	0
Shale	0	1	0	1
Total	2	2	13	16
Small and medium Scrapers	4	6	540	690
Scrapers without NBCs large, and backed elements	4	6	516	690
Segments				
CCS	0	0	40	73
Quartz	0	0	28	13
Silcrete	0	0	3	3
Quartzite	0	0	2	0
Total	0	0	73	89
Backed/double	**scrapers**			
CCS	0	0	7	139
Quartz	0	0	1	7
Silcrete	0	0	?	1
Unknown	0	0	19	0
Total	0	0	27	147

Table 3.1: Numbers of small and medium scrapers and segments at both sites.

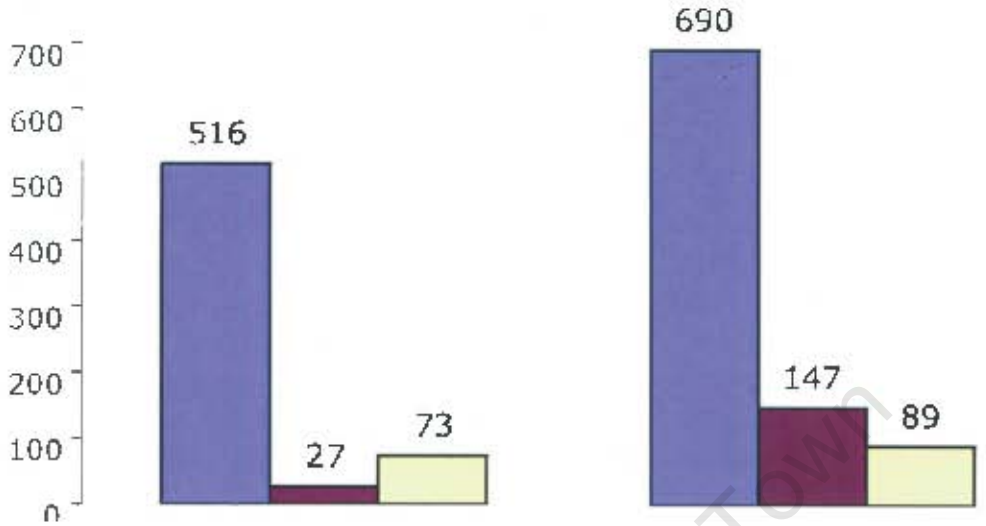

Figure 3.1 Numbers of scrapers on the left, backed/double scrapers in the middle, and segments on the right. Nelson Bay Cave units 64-148, IC, BSC, and RA inclusive on the three left columns, and Matjes River Rock Shelter Layer C on the three right columns.

that the overwhelming majority of backed/double scrapers are small scrapers. This accommodation would be unlikely to 'double count' more than one or two artifacts, if any, and so does not significantly affect the analysis which follows.

Table 3.1 shows the numbers of small and medium backed and un-backed scrapers and segments at the two sites.

Backed/Double Scrapers

Backing is a form of steep retouch found on some Wilton microliths such as backed bladelets, segments and scrapers. For analysis of the Matjes River material, lithics with a retouch platform angle very near or equal to 90 degrees were catalogued as backed items. This was a strict, and rigorously scrutinized process, which Dr. Judy Sealy and the author were both involved. It was common to encounter artifacts in the Matjes River assemblage with scraper retouch on one margin and backing retouch on the opposing margin. These were all less than 20mm in maximum dimension and thus are classified as small scrapers.

Distinguishing steep scraper retouch from backing is sometimes problematic, and in some cases tools had scraper retouch along two opposing margins (double scrapers). Janette Deacon's 'retouch position 11' (1984 page 405 Fig. A2.2.) is such an artifact class which included both 'double scrapers' and 'backed scrapers', because "Sometimes it is difficult to decide if they are double scrapers or backed..."(personal communication). Nineteen examples of 'position 11' retouch are present in the Klein/Deacon sample from Nelson Bay Cave (Deacon 1984:135 Figure 76). On the basis of the data presented by Deacon, it was not possible to determine from what raw material these 19 scrapers were made. This is the reason for the 'unknown' category in Table 3.1 above. Where information on raw materials is available, it seems that there was a preference for crypto-crystalline silicates (CCS) over quartz for backed scrapers at both sites (further discussion below). This is also true of small and medium scrapers in general.

Interestingly 16 of the 19 backed/double scrapers from the Klein/Deacon sample came from layer IC, which represents part of the 'climax phase' of the Wilton in this assemblage, a time period when a greater variety and number of formal tools were manufactured. This layer dated to 4860±65 (UW-21 7) based on shell *(Patella* sp.) from square B5 in Midden Ivan. Marine shells are known to give radiocarbon dates that are a few hundred years older than those from charcoal (Vogel 1970; Klein 1972a).

Ray Inskeep recovered eight backed scrapers from his excavations. He noted that: "Of the eight specimens recovered one (from unit 65) is from the filling of a grave which cut into units 80 and 81 and therefore almost certainly is derived from these lower units. Thus, all the specimens come from a group of five units closely related in time. If the specimen from unit 77 came from the lower interface it is possible that all eight specimens derive form two units 78 and 80, or even from one single unit 80..." (Inskeep 1987:125).

Inskeep's unit 78 dated to 4520±60 (Pta 2916) radiocarbon years based on a charcoal sample from square 3 in layer Paul (78). Units from Inskeep's excavations are spatially distinct from Klein's unit IC as near as the author can tell, and IC was partially truncated by disturbed units Joe, Ben, and Grey Ash under Ben (Deacon 1984). Therefore it is possible that backed scrapers found in units excavated by Inskeep and

Klein are very close in age. This does not presume that these levels are contemporary, yet it does indicate that at Nelson Bay, the backed/double scraper is a 'fossil' artifact with a distribution tightly clustered around 4500 B.P. or slightly older.

Matjes River contained 147 backed scrapers, only in Layer C. The dominant raw material for making this item was CCS, as 139 of the artifacts occur from this medium. Of the remaining artifacts, seven are on quartz, and one on silcrete. From raw numbers this item seems to be relatively more common at Matjes. It is unfortunately, not possible to reconstruct the distribution of the assemblage of backed scrapers within Layer C. Currently there is no way of knowing if they were time restricted within the Wilton, as appears to have been the case at Nelson Bay Cave.

Segments

Another example of the wide variety of formal tools in the Wilton era is the segment. Segments are a time-restricted artifact found over nearly the whole of southern Africa (J. Deacon 1972). Segments are shaped like a section from an orange, and are backed on the curved margin, while the straight margin, known as the cord, is not retouched and preserves the fresh, sharp edge of a flake. They are generally found in mid to late Holocene levels between 6-4 000 B.P. Wilton segments are generally about half a centimeter across at the widest. In length Wilton segments have been shown to vary between sites, with means from 12 to 17 mm (Wurz 1999).

Klein's excavations at Nelson Bay Cave yielded 33 segments. In Layer IC the number of segments (25) is over triple the number of that found in the underlying BSC (7), with only one from RA. Ray Inskeep's excavations at Nelson Bay yielded 35 complete and 5 broken segments. Two segments were made on quartzite, nine on quartz and 29 on ccs. Segments were relatively evenly distributed in units 146-1 06, but were not nearly as well represented in layers younger than 105 (5320±220 B.P.). There are two from units 66-79 (~3300-4500 B.P.), and one between unit 80 and 105. The rest were recovered from units 106 and older. 22 segments were found between 106 and 129 (5860±70) and 15 between 130 and 148 (5890±70). Apparently segments were not consistently manufactured at Nelson Bay Cave during the classic Wilton. While those

from Klein's excavations were derived primarily from IC, dating to around 4500 B.P., Inskeep's segments are mainly from layers that date to 5300 years and older.

Also note from Table 3.2 below that there was a preference for manufacturing segments on quartz in the Inskeep sample, while in the material excavated by Klein, people preferred ccs. It is unclear whether this difference is principally due to the time difference between the two samples, or whether other factors may be involved.

NBC Segments by Layer	Raw Material	Number of specimens
Inskeep's excavations Units 66-79 (3300-4500 B.P.)	Quartz	2
Units 80-1 05 (4500-5300 B.P.)	CCS	1
Units 106-129	Quartzite	1
(5300-5800 B.P.)	Quartz	5
	CCS	16
Units130-148	Quartzite	1
(5800-5900 B.P.)	Quartz	2
	CCS	12
Klein s excavations IC	Silcrete	3
(4800-6000 B.P.)	Quartz	16
	CCS	6
BSC	Quartz	3
(5800-6000 B.P.)	CCS	4
RA (6000-8000 B.P.)	CCS	1

Table 3.2. Raw material of segments by layer for Nelson Bay Cave

At Matjes River all 89 segments came from Layer C (Wilton layer). This sample shows a clear preference for CCS over quartz for raw material in a ratio of almost 6:1 (Table 3.3). The lack of detailed provenance masks any possible shifts in raw material preference over the long period that Layer C represents.

Matjes River Segments (Layer C)	Number
Silcrete	3
Quartz	13
CCS	73

Table 3.3. Raw material of segments at Matjes River Rock Shelter

Small Scrapers as a formal tool and an indexical artifact

By far the most common formal tool element of the Wilton is the small scraper. Any flake showing scraper retouch along one or more margins in which the retouch shapes the working margin, has a platform angle that is less than 90 degrees (that is to say not backing type retouch), and is less than 20 millimeters in all dimensions can be considered a small scraper.

Small/medium scrapers, as the most common formal tools, can be used as the basis of an index for inter-site comparison. Dividing by the number of small/medium scrapers should then normalize the assemblages to small scrapers. This will be referred to as the 'small scraper index', which, as described above, in this instance included a small number of medium scrapers in order to accommodate the available data. This should help to eliminate some of the bias created by [unknown] differences in excavated volume at Matjes River compared with Nelson Bay.

Example: At NBC

(27 backed scrapers / 510 non-backed scrapers) x 100 = 5.3'Backed Scraper Index'

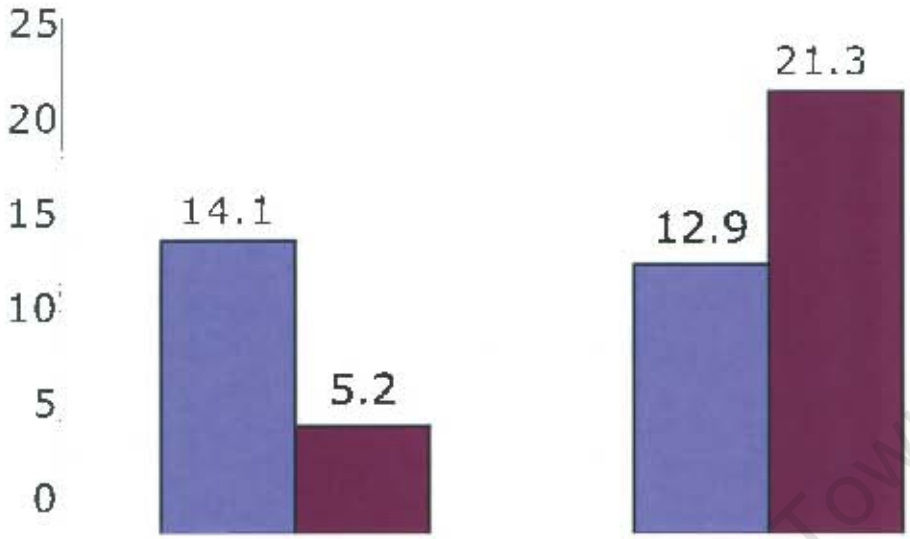

Figure 3.2: Scraper indexes for Nelson Bay Cave on the left cluster, and Matjes River on the right cluster. The left column in each side represent (segments / non-backed scrapers) x 100, and the right columns represent (backed scrapers / non-backed scrapers) x 100.

This approach clearly shows that there are differences between the sites in terms of backed tools. Backing of scrapers is much more common at Matjes River. Figure 3.2 shows that after dividing out by the number of small scrapers (thus mitigating differential deposit volumes), the frequency of backed scrapers from the Matjes River Layer C (21.3) is over 4 times that Nelson Bay Cave's Wilton levels (5.2). The frequency of segments is, however, nearly the same at both sites (12.9 compared with14.1). The difference, therefore, is not related to the overall degree to which backing is present in the two assemblages. It relates specifically to scrapers, and shows that over a lasting period of time people occupying Matjes River Rock Shelter were more regularly backing scrapers.

The reasons behind this are not explicit, but it seems unlikely that a functional answer alone would fully account for this phenomenon. There are no studies available that bear on the mechanical efficiency of backing or not backing Wilton microliths for hafting. There would have to be a significant mechanical advantage to justify this

pattern from a purely functional stance (Sackett 1982; 1986b). It could be that the inhabitants of Matjes River rejuvenated scraper edges more times before the artifacts were discarded, and needed more secure purchase for microliths in their compound tools. Nonetheless it is very likely that this pattern relates to a degree of social distance between respective groups. This stylistic trait should be regarded as unconscious and not overt. It indicates how people who, broadly speaking, participated in the same cultural set, showed preference, and how ideas guiding artifact manufacture became locally embedded for a time.

Raw material

The nearly complete lack of silcrete in most levels of both assemblages is surprising, given its presence in many other LSA assemblages. The dearth of this raw material is interesting because it suggests restricted access to areas that bear this stone (such as the Bokkeveld shales some 15km inland). This would be a strong indicator of limited smaller territories (Henshilwood pers. comm.). The fact that these assemblages almost completely lack silcrete makes this an interesting notion. Certainly only the layer IC at NBC contained any significant amount of this raw material. It shows no marked presence in Nelson Bay between IC and layer GSL, which represents the Robberg/Albany transition. This pattern likely stems in part from restricted occupation of the narrow band of land between the Cape Fold Belt and the coast in that portion of the southern Cape.

The most preferred material in the absence of silcrete is highly variable CCS, (including chalcedony) which is difficult to discern geologically, and would most certainly have been selected by hunter-gatherers using non-geological criteria. The occupants of Matjes River and Nelson Bay Cave selected CCS preferentially during the Wilton for the formal tools examined. Relative to quartz (the next most common raw material for formal tools at both sites) the inhabitants of Matjes River showed a much stronger preference for CCS. Figure 3.3 demonstrates this well. For counts of the three selected formal tool types the histograms retain the same general shape, but there is evidence of stronger selection for CCS in all three types of tool in the Matjes River assemblage.

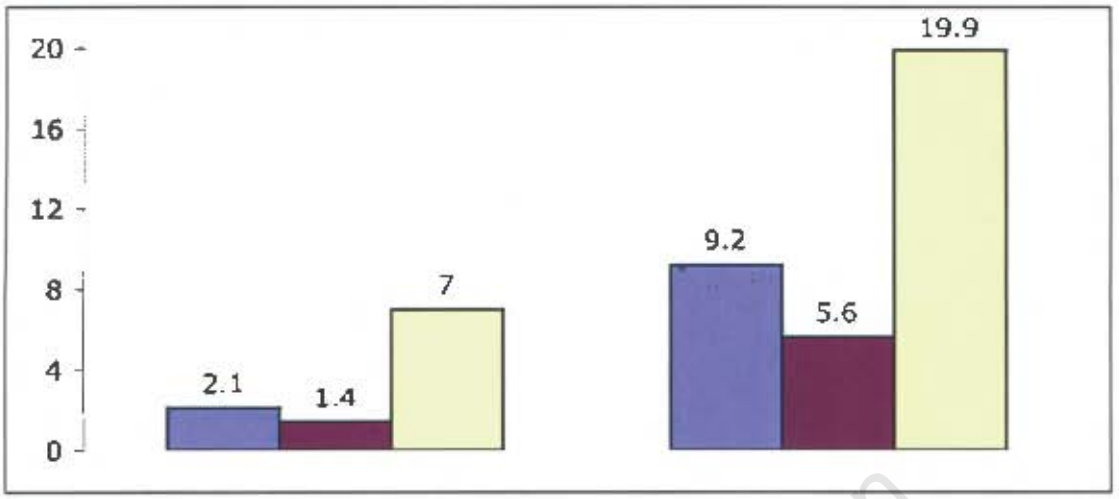

Figure 3.3. Nelson Bay Cave on the left cluster, Matjes River on the right cluster. Shows ratios of CCS to quartz for three types of formal tools in Wilton levels. Small and medium scrapers are on the left, segments are in the middle, and backed/double scrapers are on the right.

No further information on Matjes River is available, but at Nelson Bay Cave CCS, quartzite and quartz all fluctuate significantly through the levels. For scrapers "a marked predominance of chalcedony characterised units 134 to 64" (Inskeep 1987:108), although thereafter the typical un-diagnostic coastal post-Wilton was implemented at the site in units younger than 63 (sterile for stone tools). In the post-Wilton, quartzite was used for 91% of all scrapers and the few formal tools (1987:273 figure 81, see also 1987:59 table 6).

Simon Hall also noted Wilton era raw material fluctuations in his work in the Fish River Basin. One notable difference was that silcrete was present in the sites he studied, especially after 5500 B.P. (Hall 1990). This is remarkable, since silcrete had to be brought in from over 40 km away, and it largely replaced locally available hornfels. No physical property could be found that would give silcrete an advantage over hornfels. Hall interpreted this as people expressing and mediating a regional identity with messages delivered by artifacts (1990). While Nelson Bay Cave and Matjes River were on the border or outside the influence of these changes, the choices in raw material frequencies at these sites may well have been governed by similar factors.

At Matjes River only CCS and quartz were used for formal tools and microliths in layer C (Louw 1960 pg120), but CCS was much more common (Fig. 3.3). Thereafter at

Matjes River almost no CCS, and much less quartz was found in the assemblage. In Layer B an industry based almost entirely on quartzite was implemented. In this case the same interpretation is offered. People were selecting raw material according to a set of beliefs or criteria. This was done in order to participate in some type of cultural set. Over time these ideas or concepts changed to accommodate different people with different orientations and social structures. In younger post-Wilton levels stone was apparently not important for such social mediation and other media were favored.

Shale sinkers

Figure 3.4. Shale sinkers from Matjes River. The top three are from Layer B, and the smaller two at the bottom are from Layer A. Scale is in millimeters.

Shale sinkers (Fig. 3.4) are small weights likely used on fishing lines. The Nelson Bay Cave examples are typical: round and weighing approximately four grams. Shale sinkers bear a circumferential groove that provided purchase for a fishing line to be tied.

Ray Inskeep reported (1 987:41 8) 138 specimens, from units between 22 and 76. The sinkers are not, however evenly distributed, as all but five (n=1 33) were found between units 30 and 66 inclusive. This considerably narrows the distribution, and bears on chronological divisions within the sequence. The lower limit of their distribution (unit 76) was around 4500 B.P., but only in levels aged around 3500 B.P. and younger did

they become common. Janette Deacon reported no shale sinkers from Klein's excavations at Nelson Bay Cave. It was previously thought that this technology had preceded major increases in the quantity of fish remains in levels younger than 3500 B.P. If one looks at the pattern of abundance of these artefacts, rather than simply looking at presence/absence, there is a better correlation between use of sinkers and increase in fish bone.

Matjes River remains one of the few southern Cape sites, besides Nelson Bay Cave, to produce these artifacts. Louw reported two from Layer A. During examination of the Matjes River collection for this study five were identified. All five bear unambiguous circumferential grooving. The two from Layer A are like those from Nelson Bay Cave in size and shape, while the other three are larger. These three probably served the same purpose, but weighed down heavier lines for deeper water fishing.

Louw (1960) also reported 14 'stone beads' from Layer C of Matjes River. These were not described further, but in Figure 53:5 of his monograph he illustrated an object from Layer A that he labeled 'stone bead', although it is clearly one of the sinkers mentioned above. This raised the possibility that the 'stone beads' from Layer C might also in fact be sinkers. On re-examination of the collection 10 whole, two broken, and miscellaneous fragments of burnt OES beads were found in a small box labeled 'Wilton ss, s1, s2 Leiklipkrale kat. 5232' 'Leiklipkrale' is the Afrikaans term for 'shale beads'. These are almost certainly the same 'stone beads' to which Louw referred, but they are in fact burned OES beads. Apart from being grey in color, they bear no resemblance to the shale sinkers from Layer A or Nelson Bay Cave. There were no shale sinkers in Layer C, and these items were not common at any stage of the history of Matjes River.

Other Lithic Artifacts

Of the other categories of stone objects recovered from Matjes River and Nelson Bay Cave, two will be discussed briefly here. Shale palettes and quartz crystals were probably both grave goods, and as such are relevant to questions about belief systems. The incidence of these items at Nelson Bay Cave and Matjes River will be discussed, although more detailed investigation of these items such as micro-wear analysis was beyond the scope of this study.

Shale Palettes

Figure 3.5. Two shale palettes and bone 'woer-woer' (center) from Matjes River, Layer C.

Shale palettes are highly worked, flat pieces of shale that are ground at the edges to make them roughly rounded. Often they bear one or two perforations near the edge. They have been found at both sites, but there are complete specimens only from Matjes River. There are ten similar palettes from the Spitzkop assemblage, which may have been used exclusively for burial (Hall 2000). This is probably why there are complete specimens only from Matjes River, as these artifacts were likely placed in graves there as well.

Six fragments of shale that may have been parts of one or more palettes were found in Nelson Bay Cave. One was from unit 31, one from unit 137 and four from unit 138. All came from Inskeep's excavations. These bear portions of intentionally worked flat surfaces, such as score marks that are sometimes light, sometimes more pronounced. Only two pieces bore enough attributes to convince Ray Inskeep that they were undoubtedly palette fragments.

Five palettes from Matjes River were examined for this study. All were made from shale, were complete, flat specimens with rounded edges, and varied in shape from oval to nearly circular. All of these items were from Layer C, and four were on display in the National Museum, Bloemfontein in May 2003. Two of the display items (illustrated in Fig. 3.5) are approximately circular, and are perforated twice in close proximity to the margin. The other two display items are larger, more oval, and are not perforated. The remaining shale palette is circular, smaller, and not perforated.

Quartz Crystals

Matjes River yielded these items in significant numbers (n=35) and all are from Layer C. They are seemingly randomly collected pieces of crystal quartz. They vary in size, form, matrix, and structure. Some are nearly clear, and some have yellow or red-brown oxide inclusions. These items have been interpreted as 'shaman tools' (Bleek and Lloyd 1911, Hall 1990, Wadley 1997) and are likely to have been placed in graves, or served some other abstract, ritual function.

Quartz crystals were recovered at Nelson Bay Cave, derived in context from Burial Five. They were also found as grave goods at Oakhurst. (Goodwin 1938, Wadley 1997). These provide good evidence for believing that many of the quartz crystals from Layer C at Matjes River, which is contemporary, were used similarly as grave goods. It is possible that other quartz crystals were found in Nelson Bay Cave deposits as well, but if they were not flaked they may not have been reported as artifacts. Investigation of this would require re-examination of the Nelson Bay Cave stone assemblage.

3.3 Bone artifacts

During the Later Stone Age bone was used for diverse tasks and purposes in the southern Cape. Capturing some of the spectrum of behavior, and ideas reflected in these artifacts proved worthwhile, but was not easy. As a researcher one must use discretion and not hastily partition artifacts. In the past study of bone artifacts particularly, has been compromised by with misguided typologies. Since bone is a relatively plastic material, it is difficult to develop typologies for bone artifacts that do not have significant overlap between the categories and at the same time reliably and usefully account for this spectrum of artifacts with varied life histories. This confusion, and the variable life history

of many artifacts lead the author to the conclusion that archaeologists have a general lack of understanding in this respect. In this light it may be wise to view bone as a raw material, first and foremost, keeping the plasticity of bone at the front of the mind during analysis.

In addition; finding consistency between Ray Inskeep's records, and the actual museum collection also proved difficult. This further complicated efforts at quantification and analysis. Nonetheless some useful information could be gleaned from the examination of bone artifacts.

Bone/Ivory Palettes

Both sites yielded a small number of palettes manufactured on bone. They were flat, and solid, likely from large rib fragments, massive bovid long bones, or perhaps cetacean bone (Inskeep 1987:159).

The single example from Nelson Bay Cave derived from unit 104. It is approximately 7 centimeters by just less than 4 cm, rectangular with rounded edges, and one corner is missing, having been broken diagonally (Fig. 3.6). It is highly worked and bears many random deep grooves, but overall is very smooth. It is likely this artifact was manufactured from cetacean bone (Inskeep 1987:159)

Two specimens were recovered from Matjes River Layer C. One is oval, 55mm in long by 32 mm wide (Fig. 3.7), and is nicked at regular intervals around approximately 20 mm of one margin. This example is made from the bone of a large bovid. The other specimen from Layer C is made of ivory, and is much larger. It is nearly square, with rounded edges, and is possibly an apron decoration of some kind. It is approximately 80 mm by 80-90 mm. Unfortunately due to its fragmented state, could not be removed from the display to be measured and examined closely.

Figure 3.6. Bone palette from unit 104 square 6 at Nelson Bay Cave. Approx. 70 mm long.

Figure 3.7. Nicked bone palette from Layer C at Matjes River. 55 mm long.

Bone Awls

Awls are bone artifacts, pointed and worked on one end. They are asymmetrical, and lack working of the non-functional end, unlike points, which have overall symmetry. Awls are believed to have functioned as perforating tools for hide working, or other puncturing tasks. Most awls in both the Nelson Bay Cave and Matjes River collections

were made on mid-shaft fragments of long bones, or epiphyseal and near-epiphyseal sections of canon bones. In describing awls, Ray Inskeep wrote "...Pieces of bone worked to a point at one or possibly both ends, generally showing signs of use (polish), which are sufficiently asymmetrical, in one or both axes, to preclude them from identification as bone arrow-heads or fore-shafts (link-shafts)" (1987:156).

Inskeep recovered 69 awls from Nelson Bay deposits relevant to this study. Inskeep listed 50 from units 22-62, 11 from units 64-1 04, and eight from units 105-148. During examination of the collection for this thesis only 44 specimens from these levels could be located, examined, and classified as awls based on the criteria above (see Appendix 1). Inskeep noted that there was a greater range of awl morphology and a preference for manufacturing awls on bird bone in units 22-62, whereas the older units seem to have yielded awls on mammal and bird bone in more even numbers (1 987:158 table 48). There seems to be a trend toward more awls in more recent levels, but this could be due to proximity to the front of the cave, and/or to more deposit having been removed in these levels. Taphonomic considerations aside, this prevalence of awls could relate to more intense production and maintenance of clothing or other accessories.

The assemblage examined from Layers B and C at Matjes River contained 78 awls, with 10 from Layer B, and 68 from Layer C. This is seemingly the opposite of the trend in Nelson Bay Cave. However, the assemblage from earlier Wilton layers at Nelson Bay Cave was small, and came from further back in the cave, an area that may not have been favored for leather working, or other activities associated with awls. Thus in the early Wilton bone assemblage awls could be somewhat underrepresented in the Nelson Bay Cave collection. The volumes of deposit at Matjes River are enormous, and if people preferred to carry out activities such as working leather at the mouth of shelters, then the shallow overhang of Matjes River would have provided much more living area suitable for this. If this were the case, it is logical that Matjes River has produced more such artifacts.

Bone Points and Link-Shaft

Bone points and link-shafts are slender, symmetrical artifacts, which are "identified by analogy with surviving ethnographic specimens from the Cape or the Kalahari. They tend to be finely made and well finished, symmetrical and of round or oval cross-section.

They generally taper to a fine point at the distal end, and to a square-cut or rounded base at the other..." (Inskeep 1987:164). Many excavated examples are incomplete, so they are classified with these criteria in mind, but need not have all of them to be included. Examples varied in length with finished examples up to 134mm. These are well represented at both sites throughout the levels with some minor episodic trends in the later examples from Nelson Bay Cave.

There were two types of bone point: the solid points described above, and hollow bone points. Hollow points were fashioned from the shafts of slender, hollow bones, and cut/snapped and ground obliquely at the tips to create a teardrop shape in the cavity at the pointed end.

According to Ray Inskeep's monograph Nelson Bay yielded 29 bone points of all types (Fig. 3.8, see also Inskeep 1987 plate13). 11 solid points were reported in units 22-62, 12 in units 64-1 34, and 2 in units 135-148. There were also three hollow points in units 22-62, and one in units 63-134. There were only two link-shafts, both from units 22-62. On re-examination of the collection in 2003 for this study, 25 solid bone points and 4 hollow bone points were identified, both above and below Unit 64. The Matjes River collection contains 29 bone points. 23 are solid type with 20 from Layer C, and three from Layer B. Of the hollow points four are from Layer C, and 2 from Layer B. In addition there are four bone link-shafts from Layer C. Hollow and solid bone points occur in pre- and post 3300 B.P. layers at Nelson Bay, and Layers B and C at Matjes River. They are less common in Layer B at Matjes River than in the post-3300 B.P. Nelson Bay Cave assemblage, but due to the inherent collection bias no significance can be attributed to this. The rare link-shafts are differently distributed at the sites. The two from Nelson Bay are from post-3300 levels, while the four examples from Matjes River are from Layer C. Due to the small sample this is attributed to chance.

Bone Point/Awl Tips:

It was not possible to distinguish between fragments of broken bone points and broken bone awl tips. To avoid classifying artifacts incorrectly the category point/awl tips is used. Bone artifacts worked to pointed ends but which are not complete and therefore could not be unambiguously distinguished, and are less than 40mm in length are recorded here. 13 bone point/awl tips came from Nelson Bay Cave, and were distributed randomly from units 29 through 145. Two point/awl tips were identified in Layer C of Matjes River. The scarcity of these items in the Matjes River assemblage very likely reflects the difficulty of recognizing these small items, especially in the context of the crude excavation and recovery procedures used at Matjes River.

In addition, Janette Deacon reported points and awls from Klein's excavations together. Little information can be added here. These bone artifacts were not discussed in detail, and only isolated examples were illustrated. Illustrated examples indicate that the typologies used by the authors of the respective monographs were not entirely consistent.

Discussion of Bone Points and Awls

None of the bone points from Matjes River or Nelson Bay Cave was decorated. Several appeared to have been rubbed with ochre, but this was not clearly demonstrable in any case, and could be post-depositional, and therefore accidental. The high degree of uniformity between collections made points from both sites almost indistinguishable if one were not already familiar with the collection. This was partially due to the relatively sparse distribution of bone points in the respective collections. Disappointingly, these artifacts yielded little patterned variation in shape, size or style. It is unlikely that we will be able to infer information about the makers' identities in any form.

Figure 3.8. Bone points from Nelson Bay Cave. From the bottom, from units 38, 44, 44, 28, 41, 43, and 19 (Burial One). Scale bar marked in 10 mm divisions.

No specific quantifiable trends occur in the bone point assemblage, but some subjective comments can be made about the respective collections. The Nelson Bay collection of bone points contains examples that seem noticeably thinner in layers post-dating 3000 B.P. as in the top artifact in the picture above. This is interesting because the example from Burial One may not have been a projectile point; Inskeep noted that it "may have been used to close a skin covering around the corpse" (1 987:185/6). The Matjes River points are relatively diverse, and generally defy quantification.

Bone Tubes

Bone tubes were fashioned from long bones, usually bird bones. Specimens included in the category 'bone tubes' must show evidence of having been modified, intentionally cut and snapped at one or both ends. The bones were notched and often incised repeatedly along their lengths. Eventually they were snapped after the notches were deep enough to facilitate a clean break. In several cases the notches are still present along the length of the bone tube. In some cases it is unclear if the notches were meant as decoration, or if the piece was intended to be snapped into shorter lengths, but was abandoned before its completion.

Bone tubes from Inskeep's excavation at Nelson Bay Cave were all recovered from units 61 and younger. Janette Deacon reported ten 'polished bone shafts', and one 'polished bone tube' from Klein's excavations (1974). From Deacon's sample two 'polished bone shafts' are from IC, five from BSC and three from RA. The 'polished bone tube' she reported is from IC. Some of the bone tubes are illustrated in her "Guide to Southern Cape Archaeological Sites" (Deacon 1979:59 Fig. 9a). Inskeep reported eight bone tubes from Nelson Bay Cave. These varied in length from 11 to 76mm, and were all between 5 and 9mm in external diameter. An additional four specimens were encountered during analysis of the collection for this thesis. They are from younger levels and lack decoration. The unreported tubes (see table 3.4) are much like those previously reported. The two from unit Garth, and David respectively may in fact represent the ends from which a tube was removed, and can be regarded as *debitage*. The other two are simply long bones with notch snapping on one or both ends. Possibly Inskeep did not consider these specimens to be convincing enough for inclusion as tubes. The average length of the nine tubes that retained two finished ends was found to be 46.3 mm, although without the 11 mm outlier the mean rose to 50.8 mm. Data on widths were not obtained for the sample from Inskeep's collection.

Unit	Square	Dimensions	Description	Date
49 Garth	B-II	?	Waste from stage in tube manufacture	1/1 5/71
43 David	Y-II	43 x ?	Bird bone, ring snapped, near epiphyseal	1/12/71
10	E III	46 x ?	Complete undecorated tube	1964/1 965
4	E IV	33 x ?	Complete undecorated tube	12/30/64

Table 3.4 Bone tubes found in 2003 re-examination

Three bone tubes from Inskeep's excavations examined for this study were decorated. One was from unit 10, one from 30 and one from unit 61 (Inskeep 1987:Plate 14). Additionally there were two 'tube like' decorated bone artifacts from unit 43 (Inskeep 1987:Plate 15).

The Matjes River assemblage contained one bone tube from Layer B and 40 from Layer C. The total sample was found to have an average length of just over 42mm, and external diameter of just over 6mm. Generally these tubes clustered heavily in the range of 4-7 mm thick, and 20-50 mm in length with 25 specimens falling in this range for length, and 29 for width (see Appendix 1). As nearly all the specimens in the Matjes River collection were complete, this is a fairly good index of the size desired by the makers of these artifacts.

The Matjes River assemblage yielded only one tube from Layer B, 67mm by 7mm and highly decorated (Fig. 3.9). This artifact bears multiple design motifs, and possibly represents an early version of an entopic charm device.

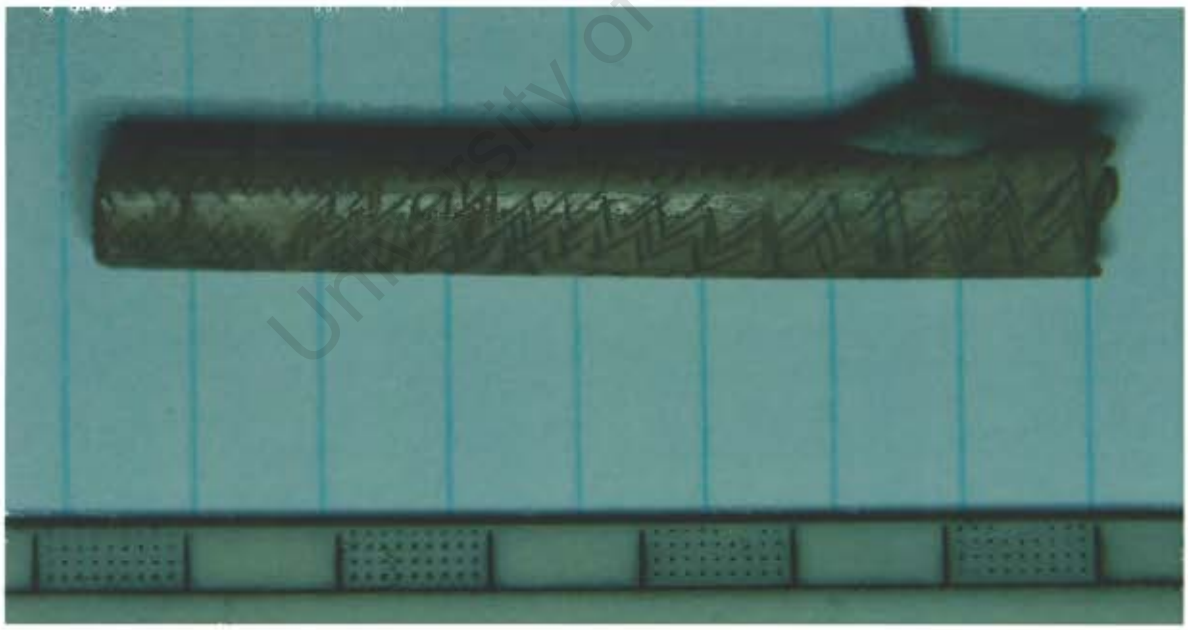

Figure 3.9. The single bone tube from Matjes River Layer B. Also pictured in Louw's monograph (1960:119). Scale is in cm.

Part of the variation in bone tubes can be attributed to stages of manufacture being represented in the collection. The term 'bone tube' describes the shape of the artifact, but does not address the intended uses. Bone tubes have been described in literature as linkshafts (Schrire 1962), decorations or pendants (Inskeep 1987), and even entopic charms (Lewis-Williams et. al. 1988, 2004) Their makers may have used bone tubes and similar bone artifacts in multiple contexts.

There does seem to be a locus of bone tubes and engraved bone around unit 43 at Nelson Bay. Three engraved pieces, and one tube were removed from this unit, as well as a hollow bone point in square Y-V, five bone spatulae, and four awls. While there is not tight spatial control on artifacts one would like at Nelson Bay, it is more than reasonable to assume this layer was deposited in the wake of some intense bone working episodes. Even when the greater volume of deposit in younger layers is accounted for, it is clear that above unit 64 bone was manipulated more intensely in making a number of different artifact types.

Bone Rings

Bone rings were found only in Nelson Bay Cave. Inskeep's report numbered 11, but only nine could be located and examined. They came from units between 18 and 66. The specimens examined varied in outside diameter from 10 to 17 mm. Most were made on bone apart from one found in unit 66, which is ivory, and two from 42 and 44 manufactured on turtle carapace. The specimen reported by Inskeep as coming from unit 42 could not be re-located to verify that it is in fact on turtle carapace. Styles vary, but the sample is too small to interpret this variation. It is likely, though, that the distribution through time is not a product of smaller areas excavated in levels older than unit 63 (Inskeep 1987), and that this artifact can be added to the list of bone items introduced after 3500 B.P.

Decorated Bone

From Nelson Bay Cave 11 pieces of bone were recovered which bear engraved patterns, and hatching. These included two bone tubes, two awls, and seven fragments that could not be attributed to an artifact class. All come from the younger units dated to post 3300 B.P.

Three pieces of decorated bone were encountered from the Matjes River assemblage. Two decorated bone tubes were examined: one from Layer B and one rom Layer C. In addition, there is the edge-nicked palette/pendant from Layer C described above, and illustrated in Fig. 3.7.

Matjes River	**Nelson Bay Cave**
3 Palettes Layer C	1 Palette Pre-3300 B.P.
10 Awls Layer B 68 Awls Layer C	50 Awls Post-3300 B.P. 19 Awls Pre-3300 B.P. more variability in younger awls
5 Points Layer B 24 Points Layer C	20 Points Post 3300 B.P. 9 points Pre-3300 B.P.
1 Tube Layer B 40 Tubes Layer C Layer C tubes are highly standardized	12 Tubes Post-3300 B.P. 11 Tubes Pre-3300 B.P. All Pre-3300 B.P. Tubes from Klein's Excavations
1 decorated tube Layer B 1 Decorated pendant Layer C	11 Decorated pieces Post-3300 B.P.
No Bone rings	9 Bone Rings all Post-3300 B.P.

Table 3.5: Bone artifact distributions

Nelson Bay Cave Turtle Carapace Pendants:

There is a small cluster of 9 perforated and partially perforated turtle carapace fragments between units 28 and 53 at Nelson Bay Cave, one each from units 28 (Bob 2560±60), and 29 (Brett/Bonnie 1930±60), four from unit 43 (David 2970±60), one from unit 44 (Edward), and one from unit 53 (Jill). There is another possibly perforated example from unit Heather. This unit is not listed in Inskeep's Table 2 (1987:35) but should fit in at approximately unit 50, around 3000 B.P.

Figure 3.10. Turtle carapace pendant from unit 29 of Nelson Bay Cave (also Inskeep 1987:Plate 16). Approximately 22mm wide and 15mm in height.

Matjes River Turtle Carapace:

The Matjes River assemblage lacks any fragments of tortoise or turtle carapace bearing evidence of perforation, with the exception of the two examples illustrated by Louw (1960:Fig 53:123) from Layer A. Layer A is too recent to be of much relevance to this study, but it may be comparable to Inskeep's uppermost units at Nelson Bay Cave. One could argue that poor excavation at Matjes River filtered out these small more fragile items, though the author does not think this is likely. The Matjes River collection holds an amazing variety of decorative pendants, made on a range of materials. All turtle shell in the Matjes River collection from Layers B & C (n~140) was examined under a fluorescent-lit table lens, without finding a single piece with evidence of drilling or perforation.

Turtle Carapace Discussion

The turtle shell pendants are very intriguing. Inskeep referred to them as tortoise shell, meaning terrestrial tortoise, and noted that, since terrestrial tortoises occur rarely, if at all, in the area around Nelson Bay Cave, tortoise shell would have had to have

been imported from a considerable distance away. In fact, the shape of the carapace-thin, with only slight curvature – makes it identifiable as carapace from the fresh-water turtle *Pelomedusa subrufra*, which probably came from the Piesang River or the Keurbooms/Bietou estuary (Yates personal comm.) They were not likely traded for, or brought from a long distance. It seems likely that people at Nelson Bay and Matjes River would have had equal access to *Pelomedusa* shells as raw material, however, only at Nelson Bay Cave are any recovered pendants made on turtle shell. This is one artifact type that defies the trend of Matjes River having more variable decorative items.

3.4. Ostrich eggshell artifacts

Ostrich eggshell pendants

Only seven OES pendants were found and examined during the course of this study. Five were from Nelson Bay, and two were from Matjes River.

Figure 3.11. Two ostrich eggshell pendants from Nelson Bay Cave. 'Cedric' is unit 34, and 'DIV/4' is unit 20. Scale in 10 mm increments.

OES pendants occurred only in units 37 and younger of Nelson Bay Cave. One was from unit 37, two from 34, one from 33 and one from unit 20. All are younger than 3000 B.P. The example from unit 33 and one from 34 are of the 'shield' shape, and that from 34 (illustrated in Fig. 3.11) is edge nicked. Both 'shield shape' examples are broken, and this may be why they were abandoned. The circular specimen from unit 20

is also broken. The example from unit 37 is smaller, edge nicked, and finely worked around the perforations, which created a very tiny bead-like object. This is the only pendant from Nelson Bay Cave with nicking of a type that could be considered invasive, like that on the shaped pendants from Matjes River. This pendant is, however, small and seems to have been reduced to an extreme degree; the perforations are well worn. Possibly this item was curated for a considerable time, in which case it might have had a different life history from those of Matjes River.

Only two pendants manufactured on OES were found at Matjes River, one from Layer B and one from Layer C (Fig. 3.12). The example from Layer B is oval, and 28mm long by 21 mm wide. The specimen is broken, and neither edge nicked, nor perforated. It is stained brown. The specimen from Layer C is twice perforated, not edge nicked, and trapezoidal in shape. It is 21 mm wide at the end nearest the perforations, 11mm at the other, and 28 mm in length.

Figure 3.12. Two ostrich eggshell pendants from Matjes River pictured here with a *Patella cochlear* pendant. Scale is in 1 and 5 mm increments.

3.5 Marine Shell Artifacts

Marine shell artifacts were found in both assemblages in many forms throughout the respective sequences. Many of these artifacts were from grave contexts, and others

were seemingly derived from the contexts in which they were manufactured, or discarded. Careful consideration of context is necessary, and attention has been given to this to extract the most meaningful interpretation.

Shell Crescents

Shell crescents are segment shaped artifacts made on *Perna perna* shells (Fig. 3.13). They have been found at several coastal and near-coastal sites along the southern Cape, mostly in layers dating from early mid Holocene up to very recent times. There has been some debate about their artefactual status (see below), but a significant amount of time appears to have been invested in their manufacture. They are very homogeneous in their general shape. They were certainly made with some shape, and aesthetic in mind.

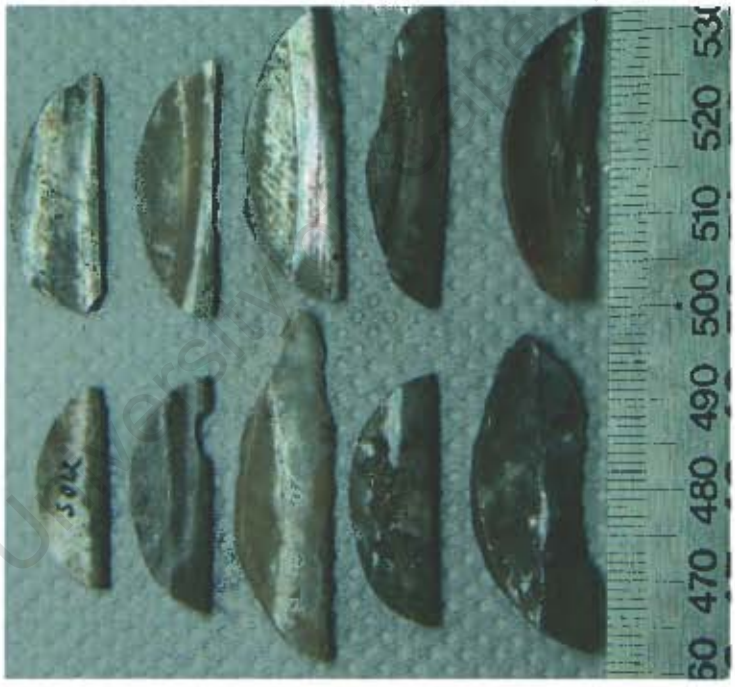

Figure 3.13. Shell crescents from Matjes River Layer C. Scale is in 10 mm increments.

The author has found reports of these artifacts at Oakhurst, Glentyre (Goodwin 1938, Fagan 1960, Schrire 1962), Byneskranskop (Schweitzer & Wilson 1982), Matjes River Rock Shelter (Louw 1960), and Die Kelders (Schweitzer 1979). They were

recovered at Nelson Bay Cave in significant numbers with good stratigraphic information, although through some oversight Inskeep included no discussion or description of them in his 1987 monograph. Shell crescents from Nelson Bay Cave will therefore be reported for the first time below.

The condition of the shell crescents from both sites has been compromised during curation. The Nelson Bay sample has been stored in glass tubes for the last twenty plus years. The artifacts were free to rattle about, and it is the author's opinion that this damaged quite a few specimens. The margins have suffered damage, and it is unlikely that a search for use-wear would yield much information on these specimens. The crescents have now been transferred to glassine envelopes, which will hopefully keep them safe in the future. Assemblages from the other sites mentioned above may possibly be in better condition, and such a study could be attempted in the future.

There are 240 shell crescents in the Nelson Bay Cave assemblage. The provenance of these artefacts, and metric observations are tabulated in Appendix 2. 63 crescents derive from midden Betty, and 17 from midden Bill (a tenuously dated layer that has given dates of 455 B.P. as well as 1500 B.P.) Either way these items lie outside the time period of most interest in this study. Most of the crescents in the collection (141) lay between units 28 and 53 which date to ~2560-3020 B.P.

Another 10 shell crescents were recovered between units 66 and 83 (~3300-4500 B.P.) They are absent from units 84-1 25, and 9 crescents were recovered in units 126-1 39 (~5800 B.P.). These are most likely around 5800 years in age, and certainly seem different. It is unclear if the sample from older levels is smaller because a smaller volume of deposit was excavated in deeper layers. Inskeep did not report data on volumes.

Matjes River has also yielded shell crescents. Of the 153 crescents in the collection at the National Museum, 147 are from Layer C, and 6 are from Layer B. The specimens from layer B are in fact the largest, but this could be random variation due to the small sample size.

Figure 3.14 shows that shell crescents are more common in levels post-dating 3300 B.P. in Nelson Bay Cave, while at Matjes River the bulk of specimens derived from Layer C, pre-3300 B.P within the microlithic period. The lack of stratigraphic control at

Matjes River masks any further patterning, but Nelson Bay contains time-distinct pulses where this artifact is present, then absent. After 3300 B.P. the artifact is present even in youngest layers, which are less securely dated, but have yielded dates as young as 455±30 B.P. (Pta-1361). Layer A at Matjes River, which is contemporary with the youngest units at Nelson Bay Cave did not contain any shell crescents.

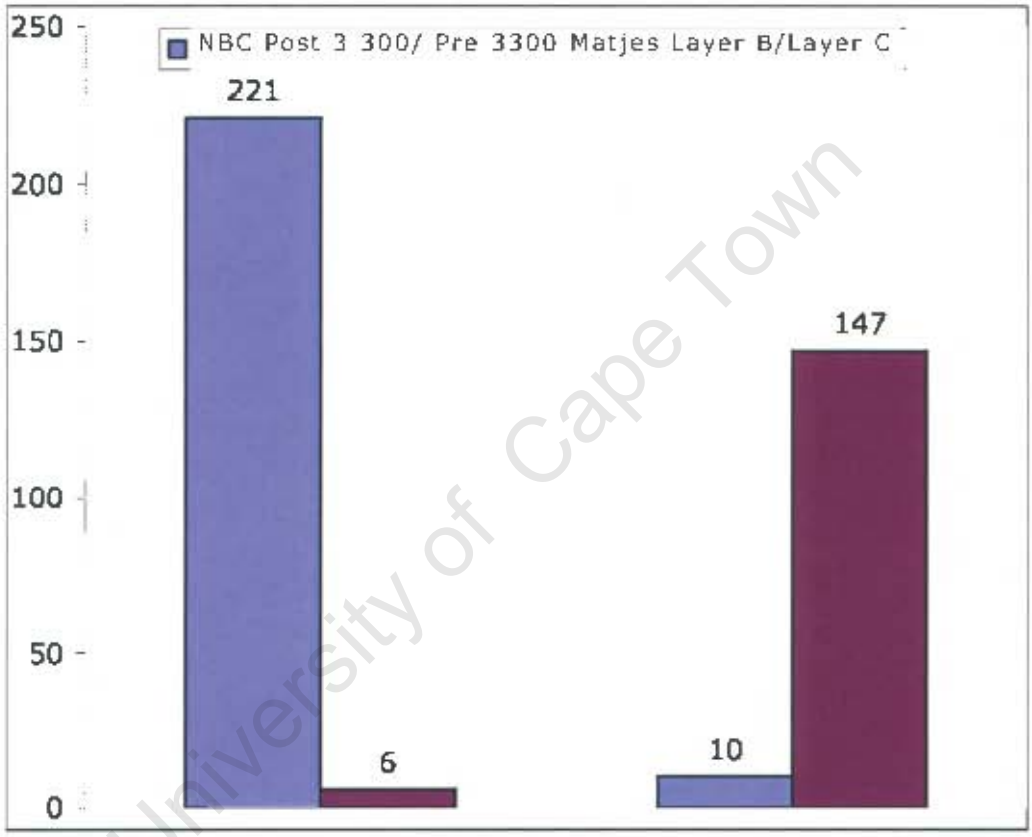

Figure 3.14: Comparison of the abundance of shell crescents in the Wilton and post-Wilton at Nelson Bay Cave and Matjes River. Post-Wilton (3300 B.P. and later/Layer B) on left versus Wilton/Layer C on right.

Shell Crescent Discussion

Some researchers have gone so far as to doubt whether shell crescents are in fact artifacts, or are simply naturally occurring broken shell fragments. Schweitzer, in his analysis of Die Kelders, was unsure of the artifactual status of shell crescents, and chose not to include them in his report (1979). At Nelson Bay Cave, however, their

presence in some levels but not others lends weight to the argument that they were intentionally manufactured. They are also relatively standardized in size and shape. The 141 shell crescents from units 28-53 of Nelson Bay Cave had a mean length of 26.88mm, and standard of deviation of 7.98mm. Thus the coefficient of variation is 29.7 (Table 3.4). For comparison, the coefficient of variation for backed stone artifacts from Wilton Large Rock Shelter is 25, for Melkhoutboom it is 24, and for Uniondale it is19 (Wurz 1999). This set of shell crescents is therefore almost as standardized as these assemblages of backed stone tools, strongly supporting the hypothesis that the crescents are indeed artifacts. Shell crescents from units 66-139 at Nelson Bay are rather less standardized, with a coefficient of variation of 41.2. In both Layers B & C of the Matjes River assemblage, shell crescents are very standardized, with coefficients of variation of 18.8 and 26.2.The dimensions of these artifacts may be standardized on episodic levels. The rigor with which standards were applied varied, but groups isolated to a particular time or space may be more standardized. Proving this becomes a difficult task because such divisions reduce sample size, which can produce the same result. This is a topic for further research.

	Number	Mean Length	Standard deviation Length	Coefficient variation Length	Mean Width	Standard deviation Width	CV Width
Nelson Bay Cave Units 28-53	141	26.88	7.98	29.7	10.26	2.47	24.1
Nelson Bay Cave Units 66-139	19	22.64	9.35	41.2	8.66	1.43	16.5
Matjes River Layer B	6	35.8	6.73	18.8	10.5	1.38	13.1
Matjes River Layer C	147	28.02	7.35	26.2	10.02	2.74	27.3

Backed stone artifacts	Number	Mean length	Coefficient of Variation
Melkhoutboom	101	11.96	24
Wilton Large Rock Shelter	54	15.44	25
Uniondale	178	17.06	19

Table 3.6. Summary statistics for shell crescents from Nelson Bay Cave and Matjes River, compared with backed artifacts from Melkhoutboom, Wilton Large Rock Shelter and Uniondale. Data for stone artifacts from Wurz (1999).

Shell crescents are difficult to interpret for two reasons. One is that their function is unknown. Louw suggested they were used on fishing lines (Louw 1960:111), but this would not account for their abundance at Oakhurst. Fagan and Schrire have suggested they were utilitarian scraping tools(Fagan 1960; Schrire 1962). Even pristine specimens bear marks on both curved and straight margins, so that, even if they are utilitarian tools, one still cannot assert conclusively which is the functional edge! The other problem is that crescents seem very impractical for personal ornamentation. It is foolish to assume that personal ornamentation requires some perforation for suspension, but no apparent mode of fixation suggests itself here. The deteriorated state of all the crescents examined made attempts to identify mastic or pitch traces futile. The friable nature of the shells made them very vulnerable to damage during their years of curation.

The size differences can probably be explained by personal preference. It seems likely that, within the set, the same individual made many of the crescents at the same

time. Crescents may have been hafted and used in composite tools, in which case their makers would have tailored them to their hafts. Personal aesthetic is surely a better explanation for variance, rather than culturally mandated parameters or symbol and style. Still the most plausible conclusion as to their function is some sort of utilitarian scraping *tool*. This may be another example of diversifying solutions for common or novel tasks.

Glycymeris Pendants

Glycymeris is a genus of bivalve mollusks that inhabits sandy and gravelly shores along the southern and eastern shores of South Africa. They live offshore, at depths of 20-100 m (Kilburn & Rippey 1982), but empty valves are frequently washed up on the beach. Often they have holes drilled at their apex by a carnivorous gastropod, essentially creating a ready-made pendant. Two species are described by Kilburn & Rippey (1982): *G. queketti* which inhabits the coast from Port Alfred to Mozambique, and *G. connollyi* which can be found from Table Bay to Natal. Ray Inskeep classified the Nelson Bay Cave *Glycymeris* shells as *G. queketti.* On distributional grounds, and on the basis of descriptions provided by Kilburn & Rippey, this collection is probably in fact made up of *G. connollyi.*

Prehistoric southern Cape inhabitants collected these items for use as pendants, as they are found in many Holocene deposits in the area. This was demonstrated by their recovery in a probable burial necklace in Die Kelders (Schweitzer 1979), and also informally several decades earlier from a burial found on the sandy shores of Robberg Peninsula close to Nelson Bay Cave by a Knysna resident (Inskeep 1987). *Glycymeris* can reach sizes of up to 60 millimeters, but most examples in the collection are around 25mm in diameter.

Ray Inskeep recorded 189 specimens of *Glycymeris* pendants in the Nelson Bay collection (1987) but upon re-examination 202 *Glycymeris* shells were found, of which 176 were perforated. In both studies, nearly all specimens were found to come from unit 43 (dated to 2970±60 Pta-291 3) and above. Ray Inskeep reported 97.8%, and this study found nearly 99%, to occur in unit 43 and those that are younger.

In total 44 perforated *Glycymeris* pendants were encountered during analysis of the Matjes River collection. In addition there were six fragmentary shell pendants, of

which only the apices were preserved. It could not be ascertained whether these were *Glycymeris* or other species. Layer B yielded 13 of the 44 specimens, and the remaining 31 derived from Layer C. All six fragmentary pieces were from layer C. It appears that these items are regularly represented in both layers, but no greater detail can be reasonably asserted.

Species	Layer	# of specimens
Glycymeris connollyi	B	13
Glycymeris connollyi	C	31
Cf Glycymeris (apices only)	C	6

Table 3.7. Incidence of *Glycymeris* pendants in the Matjes River assemblage

Shaped Shell Pendants

Commonly made on fragments of nacreous shell from *Turbo sarmaticus,* and in some cases possibly *Oxystele sinensis* (Inskeep 1987), these pendants come in a variety of shapes ranging from nearly circular to 'shield' or 'teardrop' in shape. They are often perforated twice, but some have one, three, or even four perforations. The edges of the nacreous face may be nicked in one of two distinct manners. Ray Inskeep described three types from his excavations at Nelson Bay Cave.

Nelson Bay Cave Shaped Shell Pendants:

Type 1 shaped pendants: These are almost all edge-nicked (Inskeep 1987 plate 18), and include examples with a 'shield-like' shape (Fig. 3.15). They were made from fragments of larger shells, judging from the shallow curvature, and there are five examples made on ostrich eggshell, which will be described below. These pendants all occurred in the younger levels, and a distinct cluster is derived from Burial Four in unit 65. Their provenance is described by Inskeep (1987:190) "... a shell pendant of our type 1... was found resting on the inner margin of the right half of the mandible. Three other loose specimens were found further back on the neck, and a group of twenty-eight lying, stacked, one against the other, like a pack of cards, at the back of, and almost under the skull, close to the cervical vertebrae. This latter group gave the impression of having slid

together on a thread, or threads, and their position suggested strongly that they had been strung one behind the other on two cords, rather than side by side on a single cord." 18 other type 1 specimens were found, all between units 22-62, in addition to those examples from Burial Four. Although Burial Four is associated with unit 65, it is considered sufficiently close to be included with the upper block of units (63-22) (Inskeep 1987:178). It is worth noting that this cluster of pendants shows less metrical variation than do Type 1 pendants overall. This may be because they were manufactured as a set, rather than having been produced at different times by different makers, as the other Type 1 pendants must have been.

Figure 3.15. Type 1 shaped shell pendants from Nelson Bay Cave. A partial recreation of Plate 18 (Inskeep 1987). Scale bar marked in 10 mm divisions.

Fourteen specimens examined bear edge nicking, and fourteen bear at least one perforation, although only nine have both of these characteristics. Contrary to Inskeep's more general description of the type 1 shaped shell pendants from the younger units (1987:178, and above Chapter 2:5) many are indeed circular, and they are some of the most 'complete' specimens of the entire assemblage. This pattern can partly be attributed

to the inclusion of 32 specimens from Burial Four.

Type 2 pendants: These differ from type 1 pendants in that they are oval in shape, and tend to have a deeper concavity. There are two varieties defined by Inskeep, 'a' and 'b', which differ only in that the former have nicked margins, and the latter don't. There are only twelve Type 2 specimens, which occur in units 90-1 43 (ca 5000-6000 B.P.), or 90-131 if one were to exclude the example from unit 143, which is the only unbroken specimen bearing a single perforation. This pendant may be better classified as Type 3, demonstrating the subjectivity of this categorization (discussed further below).

Type 3 pendants: These shell pendants seem to have derived from thinner, more friable shell, and may have been manufactured not on *Turbo* fragments, but from *Oxystele sinensis.* Many were likely to have been broken while perforations were being drilled. Type 3 pendants are the most common of Inskeep's three types of pendants, and occur in units 105 and older, but 63 of the total 66 came from unit 120 or older (i.e. between 5300 and 6000 B.P.). "Type 3" pendants are not edge-nicked, and for the most part perforated examples are dually so. Measuring the width of these specimens across these perforations and length perpendicular to them shows that complete specimens are wider than they are long. A cluster of 33 of these pendants comes from unit 120, and is made up almost entirely of broken pre-forms, cracked across one perforation (see Inskeep 1987 plate 19/1 20).

NBC Units	Type 1 Perforated	Type 1 Unperforated	Type 2 a	Type 2 b	Type 3 Finished	Type 3 Unfinished
28-64	10	8	0	0	0	0
64-78	32 (unit 65 Burial 4)	0	0	0	0	0
79-105	0	0	0	1	3	1
106-129	0	0	6	2	13	66 (of which 33 in unit 120)
130-148	0	0	0	3	9	14

Table 3.8. Incidence of types 1, 2, and 3 shell pendants from different levels within Inskeep's excavations at Nelson Bay Cave.

Other Shaped Shell Pendants

There are four pendants from Nelson Bay Cave, from units 64, 79, 84, and 148, which are unique and defy attempts at grouping. These were all manufactured on nacreous shell (Inskeep 1987 plate 20). The artifact from unit 64 (~3300 B.P.) is rectangular in shape, nicked along the two parallel margins of the longer sides, and perforated twice. Two artifacts from units 79 and 84 are very similar in form. These are both approximately square, and perforated four times. They are most likely just over 4500 years old. The remaining specimen is circular and broken across two of its four perforations. It is approximately contemporary with the basal date of ~5900 years for unit 148.

Matjes River Shaped Shell Pendants

The Matjes Rivers assemblage has yielded 84 shaped shell pendants, all from Layer C. 40 of these were perforated, and of those three are perforated once, and 37 perforated twice. Four specimens show evidence of edge nicking, and another two probably do; these are incomplete or damaged. None of the edge nicked specimens are singly perforated: two are twice perforated, and four are unperforated.

Shaped Shell pendant discussion

The typology of Type 1, 2, and 3 shaped shell pendants is problematic. Inskeep used metrical data as the basis of his grouping of shaped shell pendants into types. His approach is summarized in Fig. 56 of his monograph on Nelson Bay Cave, reproduced as Fig. 3.16 below.

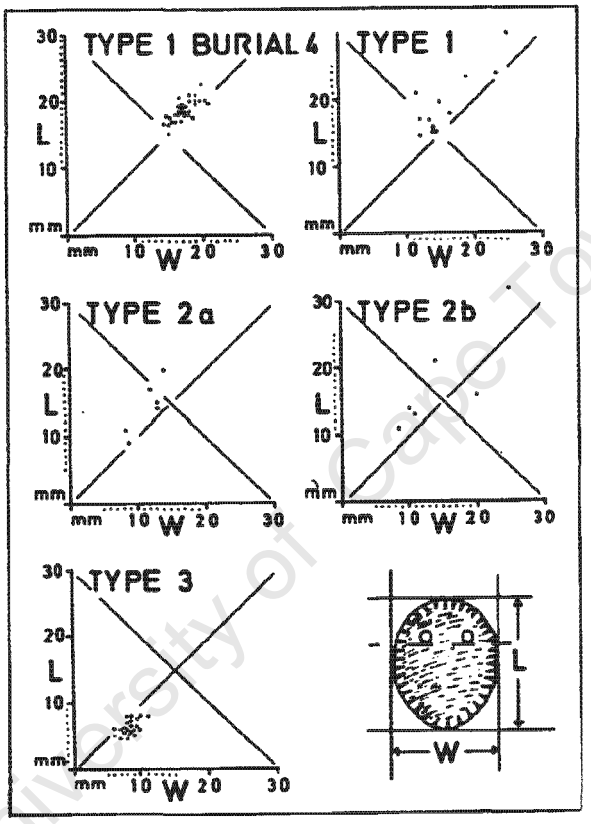

Figure 3.16. Inskeep's scattergrams of the lengths and widths of his Type 1, 2 and 3 shaped shell pendants (1987:177, Fig. 56).

A critical examination of this figure shows four Type 2a examples near the cross of the 'X' in his figure. These fall within within the Type 1 pendants that did not derive from Burial Four. One Type 2b pendant also plots near or within the Type 1 distribution. The three smallest Type 2b pendants and the two smallest Type 2a pendants lie at the top of the Type 3 distribution. Based on dimensional data, these types are not discrete. The categories are confusing as they attempt to make too much of the variability in a relatively small sample in which the principal association is with radiocarbon date. What is

apparent is that there is a continuum of artifact change here, varying on more than one axis, and it has clear directionality over time.

Unfortunately not all of the pendants reported by Inskeep could be re-located for examination for this study, so that new data cannot be presented here. It is worth noting, however, that shaped shell pendants from Nelson Bay Cave date either to 5000-6000 B.P., or 3300 B.P. and younger. In units 78-65, dating between 5000 and 3300 B.P. no shaped shell pendants were found. The presence of these artifacts in layers post-dating 3300 B.P. constitutes a clear difference between Nelson Bay Cave and Matjes River, where shaped shell pendants were restricted to Layer C. Once again, lack of detailed stratigraphic provenance within Layer C confounds closer comparison.

Interestingly, edge nicking seems much more common in the Nelson Bay Cave collection. Out of 41 shaped shell pendants from Nelson Bay, 17 (41.4%) were edge nicked. The Matjes River sample yielded only 6 out 84 (7%) edge nicked specimens, including those associated with graves, perforated, and unperforated. This may be a time-related phenomenon, since most edge-nicked specimens from Nelson Bay were from levels post-dating 3300 B.P. whereas the examples from Matjes River were all from Layer C.

Another attribute of edge nicking was that the specimens bearing these marks at Matjes River seemed to have a more invasive type of nicking, which cut through the specimen creating a saw-edged appearance. Three of the six specimens bore this type of decoration. Two examples had margins too badly worn to tell what type of edge nicking the piece had. Only one of the six had clearly superficial edge nicking, like nearly all the nicked Nelson Bay Cave pendants. The edge nicking of artifacts from Nelson Bay Cave was superficial and did not change the shape, merely the look of the pieces. It is interesting to note here that Louw considered the 'saw edged microlith' a particular Matjes River variant in the stone tool assemblage. While this was not a common element, there were five definite 'saw edged' microlithic elements in the Matjes River assemblage, all derived from Layer C. This evidence is scant, but seems that there may have been some aesthetic (though short-lived) experimentation occurring through these media, but without more detailed information speculation must halt.

The unperforated shaped shell artifacts in the display case at the National

Museum in May 2003 were labeled as "? grave goods". These items are quite clearly shaped, but have no means of suspension, or traces of mastic that would allow fixation to clothing or the like. This artifact type has also been documented at Oakhurst (Goodwin 1938). They were considered complete for the purposes of this study, but the term 'complete' is a loaded one when making assertions about extinct cultural systems. These artifacts could indeed be blanks for intended pendant manufacture. Without spatial information and associated debitage from such a pendant-manufacturing episode it cannot be deciphered further. Whether the makers considered them complete, or blanks, or imbued them with any other values, was not something that could be deduced.

Figure 3.17 below plots length against width for all pendants from Matjes River, which were sufficiently complete to obtain values for both. There is a tendency for the unperforated pendants from Matjes River to be larger than the perforated specimens. The Matjes River pendants are almost all larger than Type 3 pendants from Nelson Bay Cave, with which they are at least partly contemporary. Their dimensions are similar to those of Type 2 pendants from Nelson Bay, which also date to ca. 5000 – 6000 B.P. The trend is towards larger sizes, like Type 1 pendants, which of course are later (post-3300 B.P.). There were also two very large outliers. The two biggest complete pendants from Matjes River measured 31.1 mm by 18.4 mm, and 35.4 mm by 20.6 mm respectively. They were not included in Fig. 3.17 in order to facilitate comparison with Fig. 3.16 (Inskeep's Fig. 56, 1987:177).

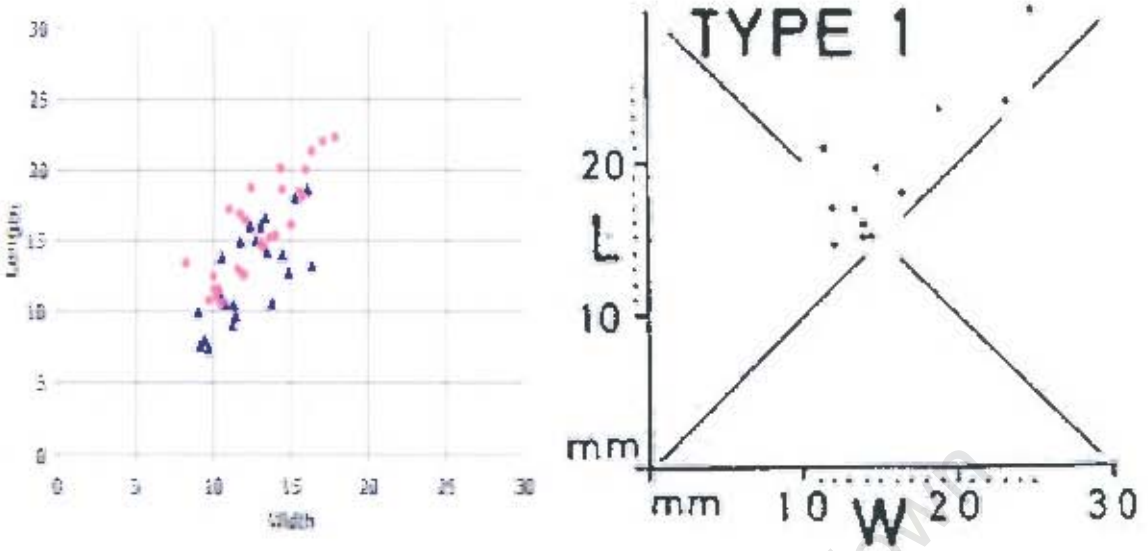

Figure 3.17a Scatter-gram of lengths and widths of Matjes River shaped shell pendants on left. Circles represent un-perforated pendants, and triangles represent perforated pendants. Scattergram of Nelson Bay Cave Type 1 shaped shell pendants on right.

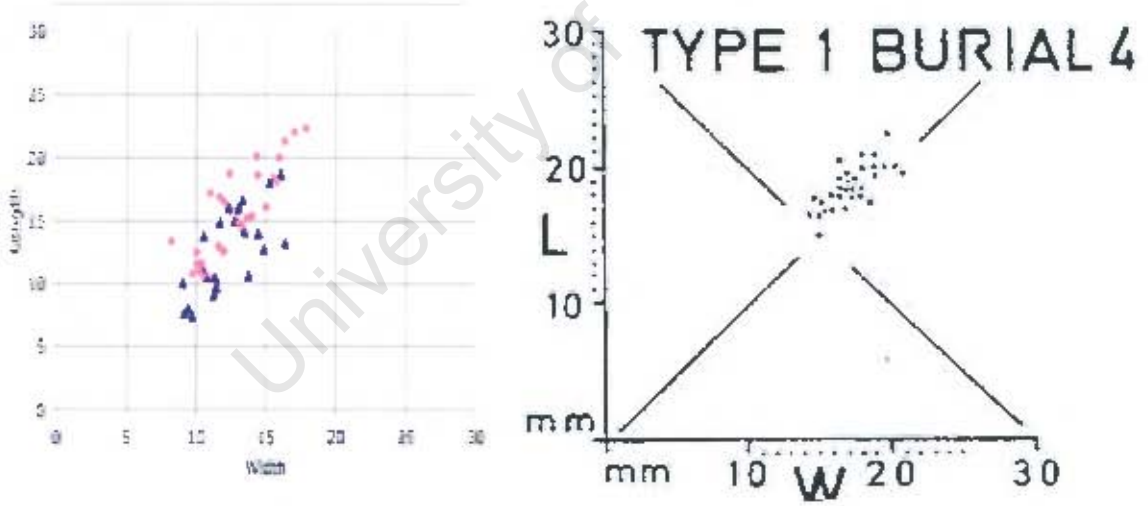

Figure 3.17b Scattergram comparing Matjes River pendants to Nelson Bay Cave Type 1 shaped shell pendants from Burial 4.

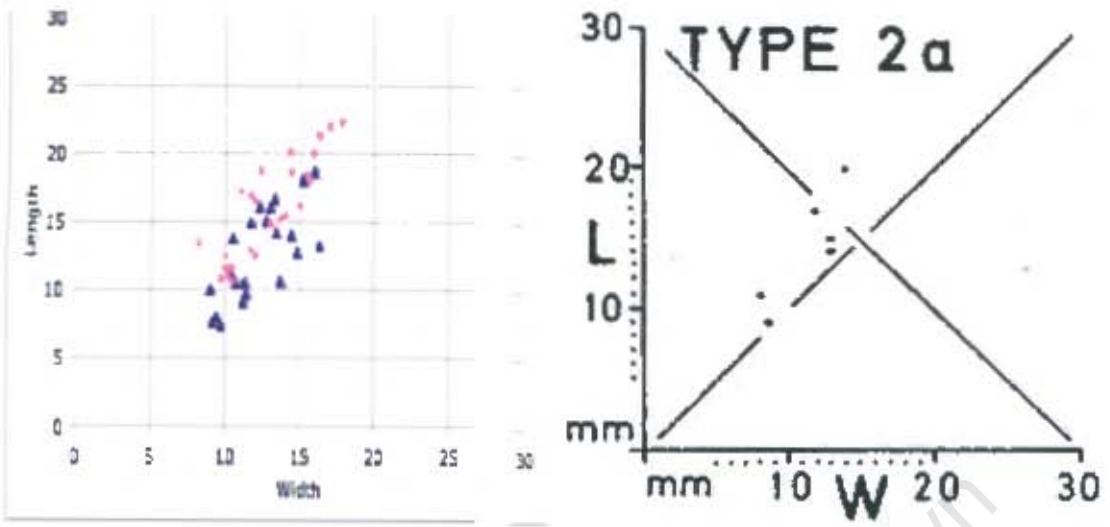

Figure 3.17c Scattergram comparing Matjes River shaped shell pendants to Nelson Bay Cave Type 2a shaped shell pendants.

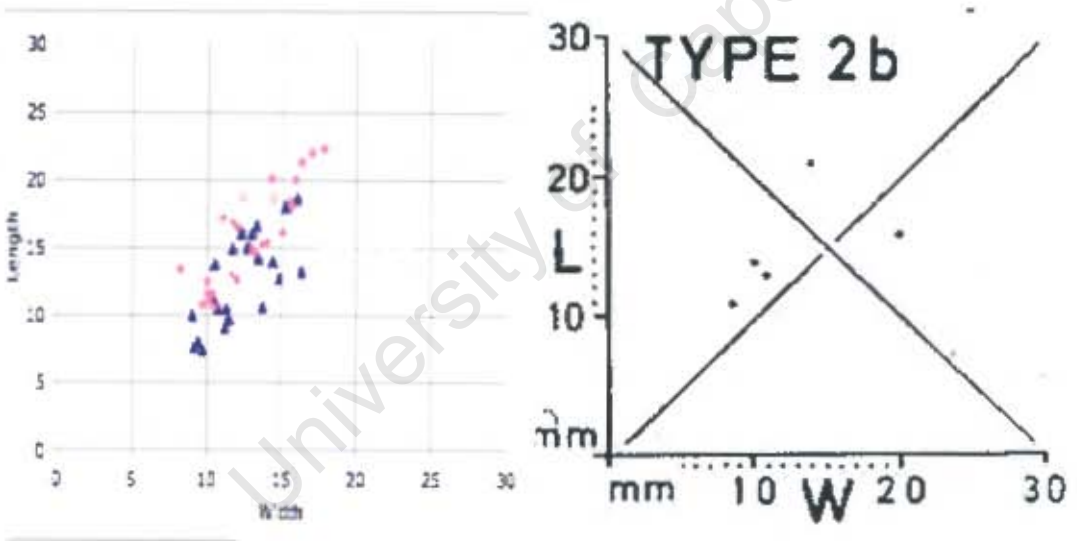

Figure 3.17d Scattergram comparing Matjes River shaped shell pendants to Nelson Bay Cave Type 2b shaped shell pendants.

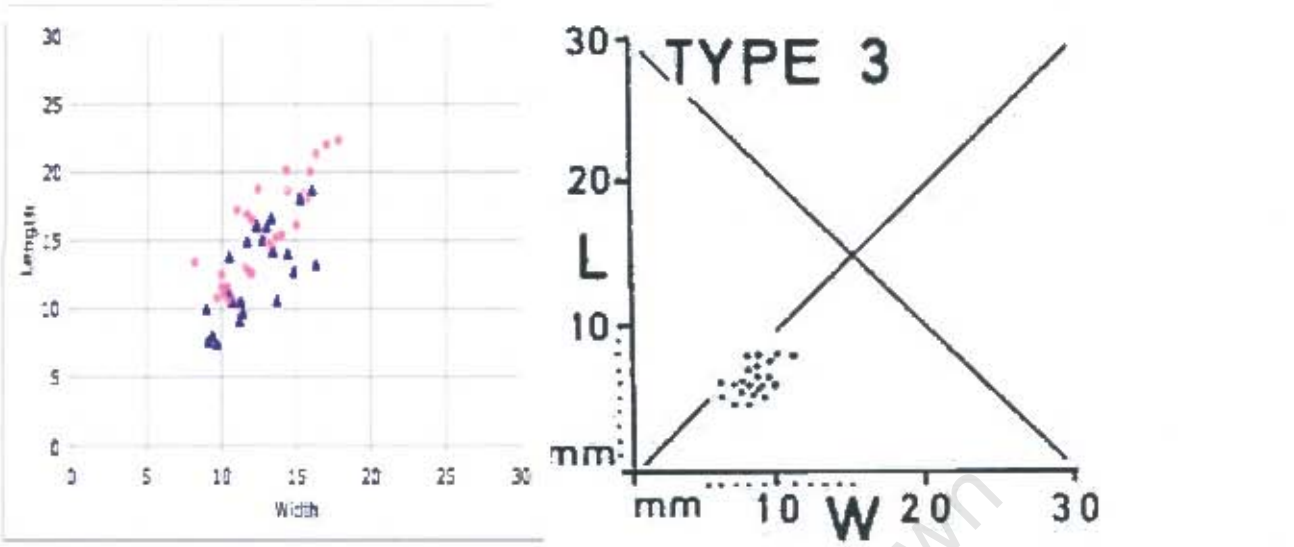

Figure 3.17e Scattergram comparing Matjes River shaped shell pendants to Nelson Bay Cave Type 3 shaped shell pendants.

NBC Whole Shell Pendants

Species	Unit	Age	Number of specimens
Patella sp.	16	2450±60 to 2540±50	1 + another probably from unit 16
Conus sp.	18, 36	2450±50 and 2950±80	2
Trivia aperta	48	3020±35	1
Patella sp.	78	4520+60	1
Patella sp.	87	4520+60 to 5320+220	1
Nassa kraussiana	118-130	5320±220 to 5860±70	6
Patella cochlear	120	5320±220 to 5860±70	1
Patella sp.	129	5860±70	1
Littorina knysnaensis	135	5860±70 to 5890±70	1
Pecten sulcicostatus	140	5860±70 to 5890±70	1
Patella sp.	143	5860±70 to 5890±70	1

Table 3.9 Manually perforated whole marine shells from Nelson Bay Cave.

Inskeep reported a total of 11 intentionally perforated shells other than *Patella* from Nelson Bay Cave (Table 3.8). These were re-examined for this study. These shells were probably used as pendants. *Nassa* shells were the most common, and dated to between 5300-5800 B.P. The few isolated specimens were generally punctured or sawn in order to produce their perforations. Only one perforated *Patella*, a pendant on a *Patella cochlear*, has been previously documented in the Nelson Bay sequence. It comes from unit 120 (see Inskeep 1987 Plate 20). It was sawn on the narrow end, and dates to between ca. 5300-5800 B.P. (Table 3.8). While analyzing the perforated *Donax serra* from Nelson Bay Cave for this study, six additional perforated *Patella* were encountered. From Table 3.8, it is clear that examples are present within each group of units.

Matjes River Rock Shelter Whole Shell Pendants

Species	Layer	# and location
P. cochlear	B	1 Box 322 Pictured on page 28
Conus sp.	C	21
Cowrie sp.	C	3
Bullia sp.	C	2
Nassa kraussiana	C	10
Cypraea edentulata	C	2
Marginella sp.	C	2
Trivia aperta	C	1
Phalium sp.	C	1

Patella sp.	C	1 juvenile
Patella sp.	C	1 juvenile large perforation Box 332 artifact # 5174
P. tabularis	C	10 mm perforation, large may not be pendant
P. oculus	C  C	From grave goods in display (5/03)
Patella cochlear ?		Box 333 artifact # 5175 33 x 25mm. Pear-shaped
Patella cochlear ?	C	Box 333 artifact # 5175 43 x 28 mm incomplete; would be ca. 38mm wide. Pear-shaped.

Table 3.10 Manually perforated whole marine shells from Matjes River.

Perforated *Donax serra*

Perforated *Donax serra* "...are shells into which a hole has been punched, from the inside, fairly close to the apex of the shell. The hole is commonly in the order of 15 mm in diameter, and is approximately circular." (Inskeep 1987:180 and Plate 20). The edges are not neat circles as in the pendants discussed above: the margins of this perforation tend to be rougher.

Nelson Bay Cave Perforated *Donax serra:*

In total Nelson Bay yielded 195 perforated *D. serra* reported by Inskeep and re-examined for this study (Table 3.11). There is distinct clustering in older layers, with 78% of the sample derived from units 106-148. Unit 78 produced the largest number (11 examples) from a single unit (Inskeep 1987:447 Appendix 40). Perforated *D. serra* had sporadic, yet fading popularity in younger layers, but interestingly there appear to be none between units 68 and 20, suggesting a hiatus from just before 3300 B.P. to around 2700 B.P.

Units/Layers	Number of items	Approximate Age
NBC 2-20	6	< 2700 B.P.
NBC 68-78	12 (11 in 78)	3300-4500 B.P.
NBC 79-1 05	24	4500-5300 B.P.
NBC 106-129	66	5300-5800 B.P.
NBC 130-148	87	5800-5900 B.P.
Matjes Layer B	3	2000-3500 B.P.
Matjes Layer C	12	3500-7900 B.P.

Table 3.11 Perforated *Donax serra* from Nelson Bay Cave and Matjes River by unit and layer.

Matjes River Rock Shelter Perforated *Donax serra:*

It appears that worked *Donax serra* were not recognized as artifacts by the earlier excavators of this collection. Neither perforated shells, nor *Donax* scrapers were reported in Louw's monograph (1960). The few specimens encountered during this study were likely collected simply as examples of "food waste", and as such, most would have been discarded. Once again this leaves a serious dearth of information here, which would have been very useful to this study.

Of the 15 perforated *D. serra* found in the collection in the National Museum,12 came from Layer C, and the other 3 from Layer B. Such a small biased sample does not allow meaningful conclusions to be made, apart from noting that these artifacts were derived from both layers B & C. The relative numbers are probably not representative of actual frequencies. Hoffman noted that *D. serra* was especially common among the food refuse at the site (1958:346). In the sample recovered in the 1990s by Deacon and Döckel, Döckel (1998) noted their occurrence "in small numbers in members TSM-L and LSL-U". The upper of these two members, TSM-L, dates to between 7400 B.P. and 7920 B.P. (Döckel 1998:39). Most specimens in Döckel's sample had perforations around 15mm, while most in the old Matjes River collection bear larger perforations, between 20-22 mm. This is broadly similar to the dimensions of perforations at Nelson Bay Cave.

Perforated *Donax* discussion:

The proposed function for these items comes from ethnographic accounts, and it

has been suggested that they were personal ornaments in the form of ankle rattles or necklaces (Inskeep 1987, Bleek and Lloyd 1911). It is worth noting, however, that a few perforated *Donax* from Nelson Bay do bear scraper margins, as well as perforation. John Parkington found *Donax serra* scrapers on the west coast at Elands Bay (Parkington pers. comm.) These few specimens bore perforations, and scraper retouch. In these instances the perforation probably functioned as a grip or thumbhole. Specimens used as scrapers could still have functioned as parts of rattles or necklaces. Since only a few specimens show scraper retouch, personal ornamentation was probably the most likely purpose. Perforated *Donax serra* could thus represent one facet of the material repertoire exploited for expression of identity.

3.6 Grave Goods

The surviving assemblage from Matjes River Rock Shelter includes a great variety of artifacts that are rare or unique, many of which may derive from grave contexts. Matjes River has yielded the remains of over 120 individuals, and the site was certainly a sacred one within the landscape of the area, a burial ground for thousands of years. Nelson Bay Cave yielded only six graves, so the sample is very small by comparison, although the excavation of the Nelson Bay Cave burials was vastly more thorough. All of the graves from Nelson Bay Cave are well documented stratigraphically, and have detailed accounts of person, postural position, and artefactual associations Table 3.10 (Inskeep 1986; 1987).

Nelson Bay Cave Burials

Burial # and date B.P.	Age at death in years	Sex	Large stones	OES beads and position	Shell pendants	Other grave goods
1 ~2660±150	9-10	N	Y	N	N	Bone point, shellfish
2 ~2500-3000	32-53	F	?	N	N	N
3 ~3000	1.5-2	N	Y	64 neck, 186 waist, 5 other	1?	N

4 ~3300	~40	M	N	245 Neck	32	2 Bird carpometacarpals, 2 fish dentaries
6 ~5500	Infant	N	N	N	1?	N
5 ~5800	13-16	N	N	146 skull, 674 other	N	Quartz crystals, beadstone, hammerstone, *P .perna* shells, turtle shell bowl, ochre pencil

Table 3.12 Burial data from Nelson Bay Cave (from Inskeep 1987:185 Table 54).

From 3300 B.P. burials were more common at Nelson Bay Cave, and individuals of all ages and both sexes were interred during this time. Curiously no burials were recovered from the time period between 3300 B.P., and 5500 B.P. Nelson Bay Cave has, however, been the victim of an unknown number of unauthorized excavations in the first half of the twentieth century. One of the main motives for these excavations was to obtain human remains, so it is possible that older skeletons have been removed, particularly near the back of the cave.

Matjes River Burials

Little information is available on the graves from Matjes River, since the excavators collected very little stratigraphic or spatial information. A plethora of items indicated as having been grave goods are in the assemblage curated at the National Museum. Their status as grave goods can be validated somewhat by analogy with other southern African graves that are well documented, and by ethnographic analogy. A survey of some of the items that are likely to be grave goods follows here.

Figure 3.18. Shaped oyster 'palette' from Matjes River Layer B. This artifact measures approximately 8 cm in length.

Palettes of several different types were indicated as having come from Layer C. They were manufactured on shale, bone, and ivory as discussed above, but also on oyster shells. Nine oyster palettes or shell pendants from Layer C were examined for this study. They vary in shape from teardrop to oval, to almost hexagonal. All are intentionally shaped along all margins, but it seems probable that the original shape of the object bore heavily on the final form, which was likely placed in an interment.

A large painted stone from Layer C is in the collection (Fig. 3.19). Painted stones are rare, though well-known artifacts sometimes associated with graves in the mid- to late Holocene. This example depicts two red figures covered by an amorphous black shape. Possibly these figures are in trance, as David Lewis-Williams has suggested (Lewis-Williams 1984). Again this stone was produced and placed by the living, so some type of connection is being reiterated by this gesture. Most likely participation in the burial re-affirmed the living person's relationship with the deceased, and by proxy: the land (Parker Pearson 2000, Hall 1990).

Figure 3.19. Painted stone from Matjes River Layer C. Figures on right are a re-drawing of the faint image on the stone.

Four fragments of decorated ostrich eggshell were on display in May 2003, and were indicated as having been recovered from within a grave shaft. These were very likely pieces of a decorated ostrich eggshell flask.

Two boar tusks were on display at the time of analysis, and were also labeled as having been recovered from a grave. One was perforated on the root end, while the other was broken on that end (Fig. 3.20).

Four very interesting, and similar pendants were recovered from Layer C, and reported as grave goods (Fig. 3.20). They are made of bone, and are oval or teardrop shaped. Two are complete, and two are broken. Of the broken ones, one looks almost complete, and the other is missing a section from its lower ("distal") margin. The end bearing the single perforation in each specimen will be referred to as the "proximal" margin. All of these perforations are precise, and neat.

Figure 3.20. Four pendants from Matjes River Layer C, and a single boar tusk broken at the root. All reportedly grave goods.

The left-hand specimen is 98 by 26mm, and is almost teardrop shaped. It is relatively dark and blackened toward the distal end, like the third example (described below). The perforation is 3mm in diameter, and only 5mm from the proximal margin. There are two distinct notches on the proximal margin. This piece is also heavily striated all over, presumably as a result of the manufacturing process.

The second example is a complete ivory colored bone pendant. It measures 72 by 14mm. The perforation is 8mm from the end, and is just over 3mm in diameter. This specimen is edge nicked around most of the margin, except the proximal section.

The third piece is complete yet in the worst condition of the four. It has been broken into five pieces, and glued together. This is unfortunate, because it now appears to be slightly asymmetrical, but this could be due to imperfect reconstruction. It is the most oval shaped of the four, and it has a length of 56mm, and a maximum width of 18mm. The perforation is 5mm across and nearly circular. The piece is flat, very thin, and darkened on the distal section that was displayed.

The right-hand pendant in Fig. 3.20 is 39 mm long (although it has been snapped – see above) and 15mm wide at the distal end. The perforation averages 4mm in

diameter, is almost perfectly circular, and lies 7 mm from the proximal margin. The pendant is a little wider toward the distal end, perfectly smooth, and dark: possibly rubbed with colouring material, or burnt. It is snapped at the distal end.

Figure 3.21. Ivory beads from Layer C at Matjes River. Left-hand specimen is 35 mm in diameter.

Three large ivory beads were also recovered from graves in Layer C (Fig. 3.21). Dreyer first reported these (1933), but classified them as wood. Dreyer did note, however, that "The wood is of a particularly satiny texture, and splits readily along exceedingly smooth planes. If immersed in water, or washed, it splits into thin plates. If ignited for a long period in a gas-flame it does not powder, but retains its shape (and apparently size) and becomes hard and brittle - the residue being $CaCO_3$. The wood must therefore be heavily mineralized with lime." (1933:194). Dreyer reported that all three beads were found in close proximity to a Layer C skull, along with six bored and incised oyster shell ornaments, two ivory palettes and a bored stone (Dreyer 1933:194 all on display May 2003). These ivory beads are highly unusual: unlike any other item found anywhere in the southern Cape. They certainly required significant investment of time and effort to manufacture, before being included in a burial. No other information about their context was published.

Another unique artifact is the 'bull roarer' or 'woer woer' found in Layer C, and also apparently from a grave. This is a flat, oval bone with pointed ends, bearing two perforations, each about 3.5 mm in diameter (Louw 1960:109, and Fig. 3.5 above). This is another fascinating and unique artifact. By analogy with similar objects from other

parts of the world, it may have been threaded on a string, and swung about to create a high-pitched noise.

3.7 Summary and Conclusion:

Overall, there are a number of differences between the two assemblages in terms of artifact composition and style. Examination of the microlithic stone tool assemblage from Matjes River showed that people who inhabited this site backed their scrapers more frequently than those at Nelson Bay Cave, although the frequency of segments in the two assemblages was approximately the same. People at Matjes River also showed a greater preference for CCS as a raw material compared with those who occupied Nelson Bay Cave.

Nelson Bay Cave has yielded grooved shale fishing sinkers dating back to 4500 B.P., although the vast majority (133 out of 138 specimens) came from units dating to ca. 3500 B.P. and younger. By comparison, only three crude examples of these artifacts were found in Layer B at Matjes River, and two in the overlying Layer A. Shale palettes and quartz crystals were more common at Matjes River. These items may have been grave goods, so this difference could relate to the abundance of graves within the Matjes River midden.

Bone tools from both sites were examined. Quantification of attributes proved to be difficult in many respects, especially because sample sizes were limited, and it was difficult to develop a robust typology. No consistent differences could be seen in the numbers, distribution or styles of bone points and awls from the two sites. The Matjes River assemblage contained more bone tubes: 40 from Layer C, and one from Layer B. Nelson Bay, on the other hand, yielded only 13 bone tubes, most of which came from levels comparable in age to Layer B, rather than Layer C. Nelson Bay Cave yielded 11 fragments of decorated bone, compared with only three from Matjes River. Bone rings were found only at Nelson Bay. Turtle carapace was recovered from both sites, but the Nelson Bay Cave assemblage included nine perforated pieces, while the Matjes River assemblage contained only one, in Layer A.

Comparison of shell artefacts from the two sites was extremely interesting. Shell crescents were produced at both sites in significant numbers, but in different millennia. The overwhelming majority of shell crescents at Matjes River (147/1 53) occurred in Layer

C. Comparatively few (19/240) examples from Nelson Bay Cave derive from the Wilton units. Six specimens were recovered from Matjes River Layer B, while 221 came from contemporary units (post-3300 B.P.) of Nelson Bay Cave. This is a sufficiently strong pattern, based on a relatively large sample, that it is likely to be a reliable observation of difference between the two sites.

Glycymeris pendants, too, were found at both sites, but unfortunately the collection biases imposed on the Matjes River collection, including the fact that most of the shells were discarded, do not allow detailed assessment of the occurrence of this particular item at the two sites. It should, however, be noted that 31 of the total of 44 reliably identified *Glycymeris* pendants from Matjes River came from Layer C. At Nelson Bay Cave, on the other hand, almost all the *Glycymeris* were from levels younger than 3000 B.P., and thus contemporary with Matjes River Layer B rather than Layer C. It is difficult to know how reliable this observation is. Some of the *Glycymeris* from Layer C at Matjes River may have come from graves cut into this layer from the overlying Layer B. Even allowing for this possibility, we should note that the pattern here is the same as that reported above for bone tubes and shell crescents, where both these items occurred in significant numbers at Matjes River in Layer C, but not at Nelson Bay Cave until after 3300 B.P.

Very significant variation was found between the shaped shell pendants in the respective assemblages. Eighty-four shaped shell pendants from Matjes River all derived from Layer C. At Nelson Bay, Inskeep's "Type 3" shaped shell pendants occurred in units 106-1 48, but mostly in units 120-148 (ca. 5300 to 6000 B.P.). Figure 3.17 shows that the Matjes River pendants are larger than the approximately contemporary Type 3; their dimensions are more similar to Type 2 (which also date to ca 5000-6000 B.P.), and many overlap in size with Type 1 from NBC, which occur only after 3300 B.P. (if we follow Inskeep in considering Burial 4 to be associated with this upper block of units). There is no comparable artefact in Layer B at Matjes River. There were also differences between the two sites in the decoration of pendants. Edge-nicking was the most obvious and easily quantifiable aspect. Matjes River had fewer edge-nicked pieces, and those that there were, were invasively modified. This changed the shape of the piece. Since there were no shaped shell pendants from Layer B at Matjes River, the examples found derive from the Wilton. Edge-nicked shaped shell pendants at Nelson Bay Cave came mostly from the post-Wilton units, and the nicking was much more superficial, so that it did not change the outline of the piece.

Perforated *Donax serra* were a component of both assemblages, but again collection bias compromises meaningful interpretation. Perforated *Donax* were unevenly distributed through the sequence at Nelson Bay Cave. They occurred in all groups of units, but were most common between about 5300 and 5900 B.P. At Matjes River, three specimens were retained from Layer B and twelve from Layer C.

The artifacts documented in this chapter demonstrated clear patterning. Taken individually, each nuance seems fortuitous. When read as a whole, and considered in the context of other work certain interpretations are more plausible than others. Once current research, and favored interpretations are briefly discussed and reviewed this work can be woven in, and its contribution evaluated. The next chapter is dedicated to interpreting the patterning of data collected, and presented above.

Chapter 4
Interpreting the differences

4.1 Style and communication

What can material culture tell us about those who produced it? What can we reasonably infer and what is simply speculation? What attributes of the collections of artifacts reported in the previous chapter offer fodder for interpretation? The goal of this chapter is to move from the artifacts, their style, and history to meaningful interpretation. I will try to explore the possible implications of the patterns found, carefully consider them and offer the most plausible interpretation. Considering previous work on style is a logical way to start.

Throughout the 1960s and into the 1970s functionalist interpretations of artifact assemblages prevailed (Binford 1962; 1965). Binford's early work on style was a step forward but it was really only an exploratory inquiry. Mainly Binford proposed an artifact style/function gradient, to allow for the ways in which artifacts served different purposes in different contexts. He classified artefacts as technomic, sociotechnic, or ideotechnic. Technomic artifacts bear on the utilitarian function of an artifact, how an artifact articulates with the physical environment and consequently relates to production. Socio-technic refers to an artifact's functions as an 'extrasomatic means' (1962:219) of mediating self with others. Under the heading 'socio-technic' Binford does not distinguish between in-group and out of group mediation, as do Wiessner,(1983, 1984) and Wobst (1977). Socio-technic artifact attributes will change through time in response to different stimuli than technomic ones. Essentially one would expect technomic artifact attributes to change in response to environmental change, and socio-technic attributes to change in response to cultural change, such as major immigration episodes. Socio-technic style can be likened to Wobst's intermediate distance, where people encountered regularly others of similar ethnicity or group with whom they were not acquainted. In these situations they used personal artifacts (i.e. ornaments) to imply commentary about social status and identity. It is in these situations, where regularized repeated interactions occur with people of intermediate distance (those who are not known directly to ego but are not entirely alien to the social system being practiced),

where message delivery becomes especially necessary and thus induces regularized artifact performances. Wobst (1974, 1977) argued that in these situations, a certain level of efficiency was reached whereby it becomes advantageous to use artifacts to communicate social status. Ideotechnic artifact attributes are "items which signify and symbolize the ideological rationalizations for the social system and further provide the symbolic milieu in which individuals are enculturated, a necessity if they are to take their place as functional participants in the social system" (1962:219/220). Binford argued that finding changes in ideo-technic artifacts would reflect changes in the structure of the society in question.

Thinking about artifacts in this way Binford clearly broke from normative culture historical approaches and their rigorous typologies. In addition to the three categories above, he also considered that artefacts could have formal qualities that do not vary according to the processes that control change in the technomic, socio-technic and ideotechnic realms. He called these qualities 'stylistic' or 'symbolic'. "Promoting group solidarity and serving as a basis for group awareness and identity... a basis for the recognition of social distinctiveness"(1962:220). Three years later, Binford defined style as: "formal attributes which vary with the social context of manufacture exclusive of the variability related to the use of the item" (1965:208). In other words, style was thought to consist of what remained unexplained after all utilitarian functional aspects of an artifact were accounted for. It was thought that ethnicity could be found in the quirks of artifacts, such as notches or cross-hatching, and the distribution of such attributes. He viewed style as adaptive and optimized, probably due to influence of cultural ecology.

Sackett was one of the first to respond to Binford's essays (1962, 1965 etc.) and came to develop the isochrestic theory of style.(Sackett 1977; 1982; 1985; 1986a 1986b; 1991). Essentially Sackett's isochrestic theory postulated that in the past, people chose between multiple, near-equivalent, yet varying artifacts to complete various tasks. They chose from alternative techniques of artifact manufacture that they learned from those in their immediate social surroundings as well as from outside influences. Sackett denied any true functional equivalence (isochrestism) in the sense that two variants of an artifact intended for the same purpose will almost never have identical mechanical properties. A wide array of gestures and techniques may be applied equally (or nearly

so) to a particular task with different style artifacts. Additionally stylistic attributes are acknowledged as having functional impact on task performance. His isochrestic theory basically considers alternative styles as functionally equivalent but symbolically different. In practice the symbolic role of an artifact can outweigh the functional, rendering it adaptive even when it poorly fulfills utilitarian requirements. One critical contribution of the studies of Sackett was the removal of the style/function dichotomy; Sackett emphasized that stylistic and functional aspects of artefacts are inseparable.

Isochrestic variation is not unlike what Binford has referred to as 'cultural drift' (1965). Sometimes this variation can be the result of 'imperfect copying' (Hodder 1982). These three are not the same thing but there is overlap between the concepts. Sackett saw socio-technic and ideotechnic style as being very similar. He noted that in both "the emphasis lies more upon the meaning than the physical reality of the object" (1977:372). Sackett's theory of style also allows for manifestations of ethnicity to reside in different loci of artifact production, mannerisms, posture, or even butchery technique (1991).

So Binford seemed to view style as something that was actively manipulated for social purposes and indicating affiliation, but did not actually state this explicitly. On the other hand Sackett's overall view proposed that style was passive and sub-conscious. In his view these same concepts could be communicated, but style was "latent" (1982, 1985). In his debate with Wiessner, he noted this when comparing archaeologists and ethnographers. "The basic point of divergence among them is the question of whether style symbolizes ethnicity because it is intended by artisans to do just that, or because it just happens to do so for other, perhaps less purposeful, reasons" (1985:154).

Style, artifact attributes, and their role in interpersonal information exchange came to be a focus of research in the 1970s. Wobst offered a good working definition of style: "that part of the formal variability in material culture that can be related to participation of artifacts in processes of information exchange" (Wobst 1977). In addition, Wobst made the very important point that artifact visibility was an important factor in delivering messages about boundaries. Artifacts that deliver messages need to stand out enough to be seen by people of intermediate social distance, and be properly interpreted by the receiver. An artifact must repeatedly and consistently deliver its

message in order to serve an abstract purpose efficiently. In most cases the artifact must 'pay off' the energy invested in its manufacture. Wiessner similarly highlighted the role of information exchange and identity, defining style as "formal variation in material culture that transmits information about personal and social identity" (Wiessner 1983). She also described style as a means of conferring adaptive advantages and argued that it was employed flexibly on many levels to negotiate personal and group identity (Wiessner 1984, 1985, 1989, 1998). Among other things it could be applied to disrupt, alter or to bond social existence. She viewed style as multi-faceted, not necessarily fixed to any one function. Style was applied plastically, depending on context. At its simplest Wiessner's work suggested that style exists in two major divisions. Emblemic style refers to those aspects of style bearing messages about group identity and affiliation for a specific target audience.

Assertive style contains messages used to negotiate personal individual identity. Wiessner argued that emblemic style will be more standardized, focused on group norms, and fostering what Binford referred to as 'solidarity'. She proposed that specific strategies were consciously employed to govern emblemic style. These resulted in the distributions of artifacts relating to social boundaries. Assertive style, on the other hand, would be expected to vary much more, and thus might muddle archaeologically visible boundaries. Sackett's stance was at odds with this. He argued that style was not consciously manipulated, though he was forced to concede that his viewpoint was likely to be conservative because he was studying style in the European Upper Paleolithic, "in the particularly recalcitrant idiom of stone tools" (1977:360). He lacked first-hand data from informants, of the type collected by Wiessner, and noted that in these circumstances, "to speak of ethnic investment, information signaling, target populations and so forth without reference to solid confirmatory data is simply to assert tautologically what one has already assumed" (1985:159).

In rare case studies the ethnographic and archaeological merge. Careful consideration of the Bleek and Lloyd collection coupled with rigorous field archaeology characterize Janette Deacon's study of the Northern Cape (1996). She and others attempted to find the locales occupied by San informants who were interviewed by W.H.I. Bleek and Lucy Lloyd between 1870 and 1884. One of these locales, on the farm

Arbeidsvreugd, was then excavated to test the accuracy of the information recorded and glean insights into site layout and distribution of artifacts, food remains, and huts. This site was probably formerly occupied by Flat Bushmen.

Deacon found that taphonomic processes affected distributions, particularly for smaller items. OES beads and fragments, potsherds, glass beads, stone tools, metal fragments, and bone were certainly subject to disturbance. The distributions were patchy, but not Deacon thought that there were too many factors governing the dispersion of small items. Unfortunately due to disturbances it was deemed that specific testimony about discard by the site's occupants was un-testable. It could confidently be asserted that 'often but not invariably' accumulations had occurred around hearths. Clear associations of grindstones with hearths showed that presumably women worked near their huts. Anvils, on the other hand, were randomly distributed, as expected, since both men and women used anvils for a variety of tasks performed at various locations. The remote location of Arbeidsvreugd also held commentary, indicating that these people wanted to be out of the way, avoid notice, yet stay informed on activity in the area.

The case for ceramics was a bit puzzling. Deacon had hypothesized that they would find entire or the overwhelming majority of individual pots. In reality partial pieces of pots were either recycled by the former occupants of both sites or had simply disintegrated. It was not clear which was the case, but it was likely a combination of the two. The complete lack of decoration on any recovered pot sherds was curious, but there were a variety of tempers employed to stabilize the ceramics. Deacon concluded that the Flat and Grass Bushmen used temper in lieu of decoration for expressing regional identity.

One major interesting finding pertained to /Han≠kass'o's statement that Flat Bushmen made no OES beads themselves, but traded for them. The Arbeidsvreugd site yielded relatively low numbers of beads, and no bead making debris, unfinished bead pre-forms or stone borers used for making the apertures. This corroborated the testimony of /Han≠kass'o.

In addition, the San informant //Kabbo had explained that white stone was used by Grass Bushmen for stone knives and arrow tips, as opposed to metal used by the

Flat Bushmen. It was assumed by Lloyd that //Kabbo was referring to quartz. According to Deacon's analysis the Grass Bushmen most likely tipped their arrows with a distinct type of white chalcedony that was found at the Gifvlei site. This is very significant as it dispels a rather well accepted premise and reminds the researcher that even the most simple assumption cannot be taken for granted

Particulars aside, for this study the most relevant observation offered was that "Beliefs are more enduring than technology." (1996:247) Material culture did indeed change in the northern Cape while language and beliefs remained intact and intermarriage between neighboring groups occurred. Deacon argued that in this case the change material culture indicated that new interactions occurred between people bearing different technologies. This insight pertains to this thesis in that the changes and differences in the material record documented here indicate social change due to the related isotope studies, and not simply because they were demonstrated.

Studies of style alone do not bear on all aspects of this thesis. What was actually being sought out for this study were material correlates of social boundaries. There are very few studies on how artifacts could have been used to mediate social boundaries, but luckily those that do exist proved to be thorough and appropriate. The work of Fredrick Barth (1969) was highly regarded by archaeologists for showing how material culture was manipulated to negotiate ethnic identity, and thus social boundaries, in a number of real world situations. Barth concluded that those cultural criteria used to negotiate boundaries were of paramount importance, and set the platform for judging people within groups. In the same vein when interactions occurred between groups ethnic identity was employed to attempt to assert power over other groups or provide the framework for interaction.

Nearly a decade later, Ian Hodder published his fieldwork specifically investigating material culture, its relationship with social identity, and ethnically based boundary maintenance (Hodder 1977, 1979, 1982). He found that, in the Lake Baringo district of Kenya, only certain ethnic groups (Tugen, Kokwa, Njemp, Pokot) employed certain items of dress and display for example earrings, necklaces or shields, and certain domestic items such as pots. Hodder found the Kokwa and Tugen used pots that were variable and quantifiably different to the point that the difference was easily

decipherable. He noted that often people would obtain pots made by (i.e. in the style of) their own group, even when a potter from another group existed closer with cheaper pots. Relatively sharp stylistic boundaries were documented for some artifacts such as pots while other items or styles more easily crossed boundaries. For example, in this study two neighboring groups used similar milk jugs. Hodder commented that this case was in an area where there was low economic competition. At that time he found that overall despite clear interactions between members of different tribes material culture in the Lake Baringo district was actively manipulated in a fairly rigorous manner. According to Hodder's research these distinctions were even more stringently adhered to in times of resource stress due to drought or other pressures.

Hodder concluded that material expression of group identity was more strictly adhered to in situations of greater economic competition between groups occupying the same area. Where the adjoining groups were practicing similar subsistence strategies and thus exploiting the same resource base, group affiliations could be used to assert power and justify denial of access to resources. As documented in the works of Hall and Mazel discussed below, this situation is a likely analogue for the research area that was investigated for this thesis. One of the major assumptions that Hodder's work dispelled was the widely held belief that similarities and differences between assemblages always held information about the respective degree of interaction or isolation of neighboring groups. If it was not the case ethnographically, what basis do archaeologists have for applying this tenet to prehistory?

These situations are clearly much more complex, with different items/categories of objects applied at the individual's discretion to assert affiliation or distinction. Objects and their morphology can bear social messages directed within a group or to those outside of it. Due in large part to these ethno-archaeological studies, we now know that much more careful consideration is required when comparing and contrasting assemblages, styles and artifact distributions. "The multidimensional nature of ethnicity may result in a complex pattern of overlapping material culture distributions related to the repeated realization and transformation of ethnicity in different social contexts, rather than a discrete monolithic cultural entity" (Jones 1997:124).

The patterns produced by analysis of archaeological data can in fact indicate the nature of social action and human agency in the past. Following Bourdieu, Jones argued that "Social practices and social relations are structured by cultural schemes of meaning which mediate social relations and social action" (1997:117). That is to say that archaeological data can have relevance to reconstructing these concepts. Tools "become part of an individual's self at an early age...these cultural dispositions structure people's decisions and actions but often lie beyond their ability to describe, and thus formalize" (Jones 1997:117). According to these concepts, tools are dialectical: used both to structure social practice, and structured by it. Thinking about ethnicity and culture in this manner avoids the static mechanistic conceptions of some previous explanations. In addition, it allows for the vastness, contradictions, and temporal depth that are inherent in all human existence.

4.2 Previous work on style and social boundaries in South African archaeology

The relationship between the archaeological record and social groupings has long been of interest to archaeologists in South Africa, though few studies have taken it as their focus. As long ago as 1929, Goodwin and van Riet Lowe suggested that the Wilton and the Smithfield were made by different groups of people. At a more detailed level, Hilary Deacon suggested that differences in the types of backed tools at Melkhoutboom and Highlands "reflect some measure of social distance" (1976:169) and that the inhabitants may have belonged to different linguistic groupings. He drew some of the inspiration for this from an ethnographic study published by L.F. Maingard (1931). Maingard had compiled information about language, and ethnicity from informants in the Cape. Here Deacon attempted to make use of all the emerging data from Later Stone Age sites, and tentatively correlated them with some findings of Maingard's ethnographic study.

Following Deacon's argument that this greater biotic diversity of Cape Fold Belt area would have made it a 'first rank' habitat (1976) Simon Hall proposed three broad periods for a basal understanding of the Later Stone Age occupation of the Fish River Basin (1990, 2000). Stage one ran from 10000 to 6000 B.P. and was characterized by occupation of only the fringe areas of the Cape Fold Belt area that had the Fynbos

habitat at sites such as Melkhoutboom, Wilton and Uniondale. From his research no significant occupation of the rock shelters of the Fish River Basin could be demonstrated. In stage two from 6000 to 4600 B.P. Hall felt that there was more intense occupation of shelters in the CFB area and it appeared to Hall that population densities were rising. He argued based on a date of 4560±70 that was over the burial complex the first use of Welgeluk as a burial ground was around 6000 B.P. (Hall & Binneman1987) In 2000 he argued that "the incorporation of the Fish River Basin into regional LSA strategies may reflect one way in which a tension between population levels and the availability of resources and space was resolved" (2000:138/9). The third stage ran from 4600 to 2000 B.P. It was characterised by a shift in the function of Welgeluk shelter from burial to camp. This he based on the highly increased frequency of formal stone artifacts, worked bone, and OES beads, and bead-forms as well as increases in ochre, and charcoal stained rocks. Additionally documented was increased use of smaller food parcels in high biomass patches from 4000 B.P. as well as delayed return seed storage pits from 3000 B.P.

Simon Hall argued people at Edgehill starting around 5000 B.P. actively manipulated raw material as style. This argument was coupled to his examination of a burial complex found during excavations at Welgeluk. He then combined this evidence with a critical examination of San ethnography and the use of environment (especially animals) to articulate beliefs and mores (2000). The range of burial associated artifacts, raw material usage, and the presence of a greater breadth of food items led Hall to argue for increased length of site occupation and emerging belief systems that were designed to reaffirm land use rights. Important in Hall's analysis was the dual role of the burial complex first as an unoccupied sacred place and later as a camp (Hall 2000). He provided further evidence of territorial restriction in the increased frequency of smaller food parcels, such as fresh water mussels and fish (1990). Based on the changes in raw material, subsistence refuse, and change from burial site, to domicile at Welgeluk, Hall later argued that "These relate specifically to the development of stable hunter-gatherer communities in the Fish River Basin, particularly in relation to the decreasing effectiveness of mobility as an economic and social strategy" (2000:137).

Hall applied a contextual approach, and noted the climatic differences of his research area as opposed to the "greater biotic diversity" (Hall 2000:138) Cape Fold Belt area. The CFB is part of the Fynbos biome and provides a rain shadow effect causing the Fish river Basin to have vegetation composed of a much less productive thorny sub-tropical thicket.

At roughly the same time Aron Mazel identified similar trends in the Thukela basin from 7000 to 2000 B.P. (1989a & 1989b). Mazel documented variations in the distribution, frequency and style of artefacts he regarded as 'social markers': stone raw materials, types of backed tools, including backed scrapers, adze morphology, scraper dimensions, density and type of worked bone and other collected items that he associated with hxaro exchange such as ochre and OES. He argued that the patterns he documented indicated formation of alliance networks that he termed 'social entities' which he regarded as "biological and social self-perpetuating units in which a number of bands are linked through social and economic ties" (1989a:81).

Like Hall, Mazel's dating evidence led him to divide his reconstruction of the Holocene of the Thukela Basin into three phases. From when archaeological visibility became much greater around 7000 to 6000 B.P. he documented very homogenous material culture assemblages and he suggested that these represented a single cultural region and an open, egalitarian society. The second phase ran from 6000 to about 4500 or 4000 B.P. and Mazel thought this represented a transitional phase in which some material elements remained consistent across the area, while others started to differentiate into distinct 'social entities'. Regarding this phase Mazel remarked "Examples of uniformity include the more or less contemporary appearance of Type 1 backed scrapers at Gehle and Nkupe Shelter shortly after 6000 B.P. consistent adze mean lengths and ground stone and ochre densities. However, the composition of the backed piece, backed scraper and worked bone assemblages and the scraper mean length display divergence, and as before OES pieces and beads are absent south of the Thukela River" (1989a:103) Mazel argued that these regions were established during the third phase between 4500 and 4000 B.P.; from that time the three regions he called Toleni (the northernmost region) Ndaka (central) and Injasuthi (southern) continued to show material distinction until encroachment from farming communities around 2000

B.P. Like Hall, Mazel also documented a shift towards smaller food parcels in more recent deposits, and linked this to population growth.

Several problems limited acceptance of Mazel's interpretations. One was that, despite the fact that he sampled many locales, some of which had stratigraphic depth, many of the deposits were rather ephemeral in nature or at least not what one would call 'archaeologically dense'. He has also been criticized for over-interpretation of his data and somewhat loose theoretical framework (Barham 1992).

It is, however, remarkable that both Hall's and Mazel's research identified approximately synchronous mid-Holocene signals, which both researchers have interpreted as due to increasing population density and greater territoriality seems to coincide with this interpretation. At more or less the same time, we see the establishment of a territorial boundary between Robberg/Plettenberg Bay and Matjes River (Sealy 2005) It is now believed this emerging pattern may have extended over much of the coastal southern sub-continent account for the low archaeological visibility in the interior from 8000-4000 B.P.

Deacon and Thackeray have argued (1984) for two separate late-Pleistocene/Holocene population expansions occurring from 15000 B.P. to 9000 B.P., and another beginning around 4000 B.P. Their argument also included evidence for use of resources from smaller parcels such as river fish and fresh water mussels and early evidence for seed storage pits. Additionally they noted a period of very low archaeological visibility for the interior areas between 9500 B.P. to 4000 B.P (see also Deacon, 1974). While the purpose of this thesis is not to address how populations fluctuated and relocated, it is important to realize that even with a lower carrying capacity, people did not simply disappear. It seems evident that around the time of the Albany/Wilton transition there was crowding, and pressure in the coastal areas.

Deacon and Lancaster (1988) indicated that a year-round rainfall regime in the southern Cape was important for the process of population expansion and extension of the length of coastal occupations. Further evidence can be found in paleo-climatic studies. Carbon isotope analyses have shown that a mixture of C_3 and C_4 grasses was established during the terminal Pleistocene and continued through the Holocene (Sealy 1996). This means that a year-round rainfall regime, important for establishing a less

mobile foraging strategy, was established at least as early as the Last Glacial Maximum.

Before moving on to a discussion of the artefacts described in Chapter 3, it is necessary to consider the limitations of this material, and particularly how poor excavation practice at Matjes River may have compromised this study. Clearly, the standards of excavation and recording were very poor. From this analysis and Louw's notes it does seem, however, that the interface between Layers B and C was properly identified, and is a legitimate cultural break: the microlithic Wilton tradition of Layer C was replaced by the quartzite dominated post-Wilton lithic tradition of Layer B. There is no noticeable mixing of lithic components between these layers. There are very few microliths provenanced from Layer B in the collection, and hundreds from Layer C. Based on this observation, it seems reasonable to assume the non-lithic constituents of the Matjes River assemblage are also properly provenanced, at least to the level of Layer C or Layer B. As discussed in Chapter 2, the layer C/B interface is likely to date to c. 3500 B.P. There is only a little material from Layer A, which will not make a significant difference to the arguments developed here. This thesis is not concerned with Layer D.

Artifacts from the Nelson Bay Cave assemblage on the other hand are very specifically provenanced. It is unfortunate for this study that this careful excavation cannot be fully utilized to glean further information about shorter-lived cultural changes. To accommodate the crude subdivisions of the Matjes River assemblage, Nelson Bay Cave artifacts have been grouped into similar categories of either Wilton or post-Wilton. This will enable direct comparison of the two sites.

Further, having only two sites limits our ability to draw conclusions distinguishing style from ordinary variability. Cultural drift (Binford 1965) or imperfect copying (Hodder 1982) can be invoked to explain many variations in the archaeological record. Quantifying and isolating style can prove difficult. The approach advocated here entails examining all aspects without becoming reliant on typologies to justify variation. Understanding stems from an examination of the nuances of artifact production, which was a socially transmitted process, while considering all the available evidence of unique contexts.

For the reasons stated above it would be imprudent, at this juncture, to speculate on the types of style the artifacts in this study may have been imbued with (isochrestic, emblemic etc.). Where it is argued that differences are stylistic, these are lumped into one generic style category. In a few cases it is possible to comment on the likelihood that particular categories of artefacts or stylistic traits may have had the capacity to indicate assertive or iconic style, but no more than that.

Finding the roles artifacts might have played in mediating boundaries is usually difficult or impossible. In some cases they bear subtle signatures that indicate social distinction, rather than overt or easily recognizable ones. In many situations this type of evaluation would be altogether untenable. Three distinct strands of evidence provide the framework for analysis later in this chapter. The first, and most important is the stable isotopic work on human skeletons, which provided the initial indication of a possible social boundary (Sealy and Pfeiffer 2000, Muller 2002, Sealy in prep.). Between 4500 and 2000 B.P. $\delta^{15}N$ values of skeletons recovered from Robberg/Plettenberg Bay were significantly higher than those of individuals from Matjes River Rock Shelter. These two groups ate different diets and were therefore economically distinct. People at Robberg/Plettenberg Bay ate more high trophic level marine foods, probably including seals from the seal colony on Robberg. The implication was that the two groups were also socially separated. If this was the case one might expect to see differences in material culture between the two areas.

There is also additional environmental evidence to help explain proposed changes that occurred during the Holocene. The southern Cape of South Africa may have inherited its year-round rainfall regime during the Holocene, and likely extending back close to the last glacial maximum (~17000 B.P. Sealy 1996). This probably made people tend to focus on this area because of its more reliable precipitation. This factor should be viewed as a 'table setter' or parameter for the developments, which happened mostly of human accord.

4.3 Differences between the artefact assemblages from Nelson Bay Cave and Matjes River

4.3.1 Stone artefacts

Chapter 3 documented several differences between the stone artefact assemblages from Nelson Bay Cave and Matjes River Rock Shelter. The first was in the proportions of backed scrapers, which were four times more common in Layer C at Matjes River than in the Wilton levels at Nelson Bay Cave (as shown in Fig. 3.2, which effectively corrects for the different sizes of the two assemblages). As discussed in Chapter 3, the backed scrapers from Nelson Bay, from both Inskeep's and Klein's excavations, clustered around 4500 B.P.

Backing was presumably practiced to facilitate hafting but there is no reason to suppose that there were significant functional differences between backed and non-backed scrapers. Mazel (1989a & b) considered the frequency of backed scrapers to be a stylistic marker, one of the criteria for distinguishing different social regions in the Thukela River Valley. Traditions of scraper manufacture during the mid-Holocene were clearly different at Nelson Bay and Matjes River. At Matjes River this preference for backing scrapers became socially imbedded and was passed on through time. This gesture, or motor behavior, was the 'right way' to finish microliths for those at Matjes River. This observation is consistent with the hypothesis that the occupants of the two sites were members of different social groups. If the backed edges were buried in the hafts, this difference would not have been readily visible when the artifacts were in use. Being hidden, this backing style would not be readily copied. It is, therefore, unlikely to be a purposeful signal of group affiliation ('iconic' style), but it does indicate a degree of separation.

The fact that the small number of backed scrapers from Nelson Bay Cave cluster around 4500 B.P. is interesting, because this was the time that the territorial separation between Robberg/Plettenberg Bay and Matjes River became established (Sealy n.d.). It may be that these artifacts in fact pre-date the separation. Alternatively, this may have been a period of experimentation before the two traditions of scraper manufacture took hold.

The Layer C assemblage at Matjes River also showed a greater proportion of artefacts in CCS, compared with the Wilton levels at Nelson Bay Cave. Figure 3.3 showed that at Matjes River, the ratio of CCS to quartz was 9.2:1 for small and medium scrapers, 5.6:1 for segments, and 19.9:1 for backed scrapers. At Nelson Bay Cave, it was 2.1:1 for small/medium scrapers, 1.4:1 for segments, and 7:1 for backed scrapers. Thus the ratio of CCS to quartz is three to four times as high at Matjes River as at Nelson Bay Cave. Clearly people at both sites preferred CCS, probably in part for its finer grained structure and more predictable flaking properties, but at Matjes River these ideas were even more strongly ingrained in the collective aesthetic. The fact that this pattern is repeated across several artifact types strengthens the likelihood that this is a significant difference. It can be argued that this is a further stylistic difference between the mid-Holocene assemblages at Matjes River and Nelson Bay Cave

Selection of raw material, as the first step in the *chaine operatoire*, can be viewed as style (Hall 1990, 2000). Hall's study in the Eastern Cape (1990, 2000) argued that raw material choice was in fact stylistic expression. "By 5000 B.P... at Edgehill there is a dramatic raw material shift away from the immediately available local hornfels and towards an almost exclusive use of exotic silcrete" (2000:142). This shift happened synchronously at other sites in the Cape Fold Belt such as Uniondale, Melkhoutboom and Wilton Large Rock Shelter (Deacon 1972; Deacon 1976; Leslie-Brooker 1987). As Hall argued, this choice was not economical: silcrete was more difficult to obtain and offered no functional advantage over other locally sourced raw material. He proposed that silcrete was "stylistically active" and that it was used to signal identity (see Wiessner 1984 for further consideration).

4.3.2 Bone artefacts

The post-3300 B.P. layers at Nelson Bay Cave yielded a great array of bone artifacts. Bone points, awls and spatulae were found in greater numbers in these later layers than in the Wilton, and a number of artifact types such as bone tubes, bone rings, and engraved bones were found only in these layers. The majority of bone artifacts from Matjes River, by contrast, were from Layer C (Table 3.??). Because of the relative plasticity of bone as a raw material and the range of bone artifacts reported from these

sites, it was initially hoped that bone might be a medium for stylistic messaging. Unfortunately the somewhat sparse occurrence of most types of bone artifacts means that there is not enough data for clear assessment of this possibility.

Polly Wiessner showed clear stylistic variation in metal arrow-tips in her ethnographic work in the Kalahari (1983, 1985). By contrast, in her survey of historic and ethnographic bone-tipped arrows, Janette Deacon (1992) found no consistent differences between arrows produced by different language groups. She concluded that the stylistic variation reported by Wiessner is likely to be a relatively recent innovation, probably facilitated by the adoption of metal for making the points. The absence of significant detectable differences between the bone points from Nelson Bay Cave and Matjes River Rock Shelter is consistent with Janette Deacon's findings.

Awls are markedly more prevalent in post-3300 B.P. levels at Nelson Bay Cave and may indicate more intense working of hides during these times. In addition, Inskeep noted that the awls in these levels tended to be manufactured on bird bones (1987:158). On the other hand, at Matjes River, 68 out of 78 awls recovered were from Layer C. Bone tubes, similarly, were almost all found in units 61 and younger at Nelson Bay Cave, while at Matjes River all bar one were from Layer C. There is the possibility that there is a spatial/activity area component to this pattern, however, a growing trend is emerging in which artifacts common in post-3300 B.P. units of Nelson Bay Cave are more common in Layer C of the Matjes River assemblage.

The discovery that fragments of worked turtle carapace at both sites were in fact from *Pelomedusa subrufa* was surprising. *P. subrufa* is found locally in the nearby Keurbooms/Bietou estuary. Occupants of both sites had access to this resource and these carapaces are unlikely to have been traded in from some distance away, as was previously proposed when they were thought to be from land tortoises (Inskeep 1987). Interestingly, though, only Nelson Bay Cave has yielded turtle carapace pendants and fragments that bear evidence of drilling, all of which date to between 2500 and 3000 B.P. This is a significant difference that is very likely a reflection of some form of distinction by the occupants of Nelson Bay Cave.

4.3.3 Shell artefacts

There were differences between Nelson Bay Cave and Matjes River in several types of shell artifacts. Shell crescents, *Glycymeris* pendants, Type 1 shaped shell pendants and perforated *Donax serra* all occur mostly in post 3300 B.P. levels at NBC but are more common in Layer C than in Layer B at Matjes River. Some of these artifact types may have suffered collection bias at Matjes River; in particular, some *Glycymeris* and especially perforated *Donax* may have been discarded with the bulk of the shellfish remains. Nevertheless, the fact that those that have been retained show the same distribution pattern as the shell crescents and shaped shell pendants is suggestive. This precocious trend at Matjes River echoes that reported above for the bone awls and tubes. At Nelson Bay Cave shell crescents, *Glycymeris* pendants, Type 1 shell pendants and perforated *Donax* occurred overwhelmingly in levels where shale sinkers first became more common, the weight of fish bone per square foot doubled, and young seal remains increased sharply (Inskeep 1987). There was clearly a shift in the economic base, as well as in the artifact assemblage. It has been suggested that shell crescents were lures, and thus functioned in obtaining fish, but this explanation is clearly untenable in the case of the pendants.

In terms of shaped shell pendants, there is a difference between the two sites in the edge nicking. Matjes River produced only 6 edge-nicked examples out of a total of 84 specimens. At Nelson Bay Cave 53 of the shaped shell pendants (47 Type 1, and 6 Type 2a) were edge-nicked. All were from layers younger than 3300 B.P. The nicked edges at Nelson Bay Cave were superficial, producing grooves on the edge of the piece, but leaving its shape unaltered. The few nicked pendants from Matjes River showed a different approach to nicking, in which the decoration was invasive and changed the shape of the piece. This small but significant difference is not just an example of imperfect copying or cultural drift (Binford 1965; Sackett 1973; Hodder 1982) but of a different aesthetic executed by the people who manufactured the artifacts.

Is it possible that edge-nicking is a temporal trend rather than an indication of a cultural difference between the two sites? All the pendants from Matjes River were from Layer C, and edge-nicking was rare, as it was in the Wilton levels at Nelson Bay Cave, where only six out of 118 shaped shell pendants (Inskeep's 'Type 2a') were edge-

nicked. Edge-nicking became common at Nelson Bay Cave only after 3300 B.P. More evidence from additional sites is required to resolve these two possibilities.

The major overall pattern is the transition from pre- to post-3300 B.P. between the two sites. The Layer C assemblage at Matjes River is much richer in bone tubes and awls, shell crescents, shaped shell pendants, *Glycymeris* pendants and perforated *Donax* than the corresponding Wilton levels at Nelson Bay Cave. All of these become less common, or even disappear altogether in Layer B. Remarkably, the same items become more common in post-3300 B.P. levels at Nelson Bay Cave. This is a surprising finding. Given the way in which this pattern repeats itself across different artifact types, however, it seems to be robust. Within each site, the differences are time-related. When one compares the two sites, additional factors are clearly involved.

Most studies of style and ethnicity in archaeology point to a few major factors governing use and display of material items. These generally have to do with the physical limits of our own senses (primarily sight) in distinguishing between the choices made and maintained by individuals for varying purposes (Wobst 1977, Hodder 1982, Schiffer 1999). Personal ornaments,such as shell pendants would naturally be loci for such stylistic variation. Shell pendants would have been highly conspicuous when worn in everyday settings. Some are derived from graves, e.g. the 32 Type 1 shell pendants found with Burial 4 at Nelson Bay Cave. Many items from Matjes River are also likely to have been associated with burials. It cannot be assumed that grave goods were literally transferred into the living realm, but it is highly likely that some components were used to visually imply social messages. Any person with a shared or at least similar habitus (Jones 1997 reading of Bourdieu) would likely perceive and read the messages implied by subtle distinctions in the constitution of artifacts: nuances such as the manner in which a shaped shell pendant was edge-nicked (or not). Choices about which species of mollusk to perforate and adorn oneself with also might also have borne similar messages.

The use of turtle carapace for manufacturing pendants, or abstention there from would more likely have to do with common shared dispositions toward the material. It is thus perfectly acceptable to conclude that at least some of the variation documented between decorative items such as pendants at the two sites can be attributed to

conscious manipulation of style for personal and group identity, and not entirely attributed to temporal variation. Overall though "a complex pattern of overlapping material culture distributions related to the repeated realization and transformation of ethnicity in different social contexts" (Jones 1997:124) most aptly describes this pattern.

Chapter 5
Conclusions

The basis for this thesis was established when a significant long-term dietary difference was found between skeletons buried on the Robberg Peninsula and at Plettenberg Bay, compared with those buried at Matjes River Rock Shelter in the southern Cape (Sealy and Pfeiffer 2000, Muller 2002, Sealy n.d.). Such unequivocal economic separation, it was reasoned, must surely have corresponded with a social separation. Was this reflected in material cultural differences between the two sites? Material culture distinctions have been used to argue for social structures since the inception of archaeology. This thesis set out to investigate this question. In Chapters 3 and 4, several differences have been outlined and interpreted as material cultural correlates of the economic – and hence social – separation outlined above.

In the southern African context, the southern Cape offers an unusual environmental setting. Consideration of the environment should not be perceived as mechanistic or one dimensional, but rather as setting the parameters of possibility. By the middle Holocene, the area comprised a mosaic of vegetation types and the same year-round rainfall regime as exists today. Compared with the early Holocene, fewer migratory grazing bovids were occupying the area, and smaller solitary territorial browsing bovids took their place (Klein 1974). A dynamic transhumant foraging strategy may have emerged in the area (Inskeep 1987). As populations increased, and competition for land and other resources grew, ethnicity and social identity became important for negotiating and allocating resources (cf Mazel 1989 a & b; Hall 1990). This process was visibly manifested in the material record. A significant shift occurred around 4500 B.P., when people living on the Robberg Peninsula (including Nelson Bay Cave) and Plettenberg Bay began to focus more intensively on high trophic level marine protein resources, among which seals were likely one of the most important items. These animals also yield fat, a critical resource for hunter-gatherers who may have had limited carbohydrate foods. Rich, reliable resources such as a seal colony would have become increasingly important as people extended their stays at localities and reduced their home ranges. Energy packages that had previously not been exploited may have

warranted increased attention. The reasons for favouring a certain resource could be practical or cultural choice. The explanation put forth here is that ethnicity was a tool that emerged to negotiate an increasingly competitive landscape. The artefactual transitions described by Inskeep at 4500 B.P. are probably linked to this economic re-orientation, resulting in higher $\delta^{15}N$ values recorded from human skeletal material.

This connection between physical signatures and the remaining material reality is an important step forward for archaeological science. That is why it is so important to critically, and tentatively assess our conclusions, which are deeply contextualized. Poor excavation and curation of the finds from Matjes River Rock Shelter have served to limit interpretation. The site was excavated in a rather cavalier and hurried manner, which resulted in the loss of much stratigraphic information and spatial patterning. Before guarded interpretations can be offered it must be clear that the author is aware of the limitations imposed by the compromises made by past excavators.

With that in mind some interpretations based on the comparison with Nelson Bay Cave are possible. The Nelson Bay Cave assemblage provided glimpses at micro-trends within that sequence. While this facilitates comparison, and allows for interpretation it should also serve as a reminder of the kind of information that has been lost at Matjes River and give heed to caution.

The Matjes River Rock Shelter lies about 15 kilometers to the east of the Robberg Peninsula and about 100 meters inland up the Matjes River. Stylistic comparisons were observed and documented in the material repertoire of the respective assemblages. These differences changed through time but seemed more pronounced and after 4500 B.P. peaked at 3300 B.P. No environmental explanation could be found for this clear pattern. Inhabitants of both Nelson Bay Cave and Matjes River would have been subject to nearly identical external forces and had the same foraging opportunities. The one major difference that can be drawn from the record is the high frequency of seal bones recovered at Nelson Bay Cave. This difference is not inconsequential and is viewed as the basis of our explanation for the changes in dietary composition and artifact content in the two areas.

From these analyses a general proliferation of material culture is apparent, particularly around and after 3300 B.P. at Nelson Bay Cave. The Matjes River site on

the other hand was shown to be archaeologically richer in Layer C. However, it still holds a rich tradition in the more recently deposited Layer B. Representing the Wilton tool tradition, Layer C became so artifactually enriched due in large part to the graves placed within it. The increased importance of this particular part of the landscape in the Wilton era may have led to shifting strategies being employed in the area. Mobility may have become a less effective means of reducing risk. Additionally, sites previously used for burial and only burial may have been used as a domicile (Hall 2000). It is worth further noting that a similar shift in organization on the landscape, and change of the meanings of sites and places may have taken place between Matjes River, and Nelson Bay Cave at this time. This may have compounded the developments that were already occurring, and led to the formation of what is likely one of the most prolific Stone Age assemblages in southern Africa.

The distinct character of the microlithic assemblages offers additional plausibility to the argument proposed here. It was shown that the respective assemblages were constituted differently. The clear preference for backing scrapers at Matjes River during the Wilton was possibly the result of a socially embedded aesthetic. Although it is impossible to say where in the sequence the backed scrapers from Matjes River occurred it is clear that backing was applied to lithics much more often. Occupants at Nelson Bay only occasionally used this technique in their manufacture and probably only during a short and distinct period. Raw material was actively selected at both sites, likely people at both viewed finer grained CCS as advantageous and more desirable. Those at Matjes River clearly attached greater significance to this selection and practiced it stringently.

Problematically, with both microliths and shaped shell pendants often the pattern of display more than the artifact itself is what mediates the communication (Wiessner 1984). This makes it difficult to say more than that. These un-perforated pendants from Matjes River were likely candidates for ethnic mediation if it was occurring, but without patterning these are left to the same interpretation as individual OES beads. What Wiessner found (1984) was that the message of a beaded headband is conveyed in the pattern on display. The text of the message is lost when only loose items are recovered. Excavated graves containing these items as they may have been interred would shed

light on this situation. This is the case with Burial Four from Nelson Bay Cave, in which the pattern indicates that the individual had been wearing the 245 recovered ostrich eggshell beads around the neck on a string. This individual also was interred with 32 Type 1 pendants which were again placed in such a manner around the cervical vertebrae as to indicate they had been strung together on one or two strings (remember type 1 pendants generally have two perforations) in a front to back manner, and not side by side (Inskeep 1987:190). As of yet though, there is no direct burial evidence for the context of these larger un-perforated pendants from Matjes River.

In this case the sample size is larger and sufficiently dispersed throughout layers to warrant more careful consideration. To the author this is evidence for isolation arguing for distinct groups without the kind of intimate contact while manufacturing these items to culturally transmit this specific stylistic cue. This type of contact would be common in close-knit band-level Hunter Gatherer ethnic groups. It must be noted though that this does not indicate a lack of contact between the respective groups, but that they were adhering to certain unconscious rules for artifact manufacture as a product of participating in a certain emerging ethnic group.

Another major, but not immediately obvious, issue was that of occupation intensity. The episodic pulsing nature of the Archaeological record is pertinent (Parkington 1980). Indeed the scheduling of different tasks on a seasonal round as the sea levels change would seriously affect the content of any assemblage. Excavated volume is much greater at Matjes and quite possibly it was occupied for longer periods. It is our belief that the length of stays was becoming greater all around the southern Cape, as well as other areas around 4500 B.P. Expansion into less productive secondary niches has also been documented in this timeframe (Hall 1987, 1990). This would account for densities of artifacts, the deposit volume and the increased number of sites. Where comparisons between assemblages were drawn, efforts to normalize the frequencies to each other were made to accommodate these differential factors. Straight comparisons were not attempted and it is assumed that the occupants were equally affected by external factors (except for the eventual influence of seals). When eliminating these factors and considering the evidence, it becomes more and more apparent that a dynamic social explanation is most acceptable.

Recently the concept of intensification has been stressed for most areas of coastal southern Africa (Sealy, and Pfeiffer 2000, Hall 1987, 1990 Mazel, 1989 a & b Deacon, H.J., 1976 Deacon, J., 1972, Parkington 1980). As sea levels rose after the last glacial maxima, the shrinking available land-space in the southern Cape would have contributed in putting pressure on open social structures. Additionally the modern bi-modal rainfall regime was established in the southern Cape (Sealy 1996). Over several thousand years the signature looks highly variable and innovative. In fact development, and changes of systems happens on peripheries where they meet other systems; not in the center where they are insulated from outside influences. This is indicated in the work of Simon Hall (1990), and Aron Mazel (1989 a & b), where they both noted expansion into secondary environments in the middle and Later Holocene. As the landscape shrank, people were increasingly finding themselves unable to avoid these peripheral interactions. What ultimately occurred was adjustment of social institutions, cultural mores, and that is reflected in the material and physical record.

Researchers realize the dynamic and fluctuating circumstances of mid-Holocene southern Cape societies, and this very intriguing avenue merits further pursuit. Another major, but not immediately obvious, issue was that of occupation intensity. The episodic pulsing nature of the Archaeological record is pertinent (Parkington 1980). Indeed the scheduling of different tasks on a seasonal round as the sea levels change would seriously effect the content of any assemblage. Excavated volume is much greater at Matjes and quite possibly it was occupied for longer periods. The Nelson Bay Cave assemblage also shows a character consistent with increased duration stays for layers dating from the mid-Holocene onwards, where most of the recovered material comes from Ray Inskeeps excavations around the front of the cave, and have the character of a midden rather than a cave.

Other researchers have noted a similar trend of increased hxaro related items in most areas of southern Africa from the mid Holocene onwards, especially in areas with greater access to water and more abundant resources (Hall 1990, Mazel 1990, Jerardino 1996). It seems likely that these items were at first manipulated as measures of inclusion. Over time as demographic factors changed so did the ideas people perceived to be associated with them, and they became a measure of exclusion.

Overall one can assert fairly confidently that changing material culture was a result of changing interactions between groups, and the need to clearly distinguish in times of social stress from environmental change, increasing population density or simply competition for resources. In times of less competition between groups one may see more sharing, or a relaxation of the use of distinguishing material items, with more liberal borrowings between groups. If a period of competition arises, groups will often adopt new variations of material cultural items, to re-establish the original group affinity (Hodder 1982). In the Plettenberg Bay region of the southern cape it seems that one group mitigated this competition by maintaining exclusive access to a critical resource. This process can also be recognized in the material record to some extent. Considering the isotopic evidence (Sealy & Pfeiffer 2000) this interpretation of these aspects of the dynamic mid- to late Holocene material record in the southern Cape seems most plausible.

It is our belief that the length of stays was becoming greater all around the southern Cape, as well as other areas around 4500 B.P. Expansion into less productive secondary niches has also been documented in this timeframe (Hall 1987, 1990). This would account for densities of artifacts, the deposit volume and the increased number of sites. Where comparisons between assemblages were drawn, efforts to normalize the frequencies to each other were made to accommodate these differential factors. Straight comparisons were not attempted and any external factors were assumed to have been felt equally by occupants of both sites. When eliminating these factors and considering the evidence, it becomes more and more apparent that a dynamic social explanation is most acceptable.

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Appendix 1

Bone Artifacts; (see also Inskeep '87 appendix 33 on page430, and Table 2 page 35 for chronology)

Bone points;

Nelson Bay Cave Unit, Square, Length, Thickness, Description, Date:

28 Bob BII 81 millimeters long x 5 millimeters thick. Worked point, polish, dark burnt base. 'Bob,BII.JPG', 'Plate 13top.JPG', 'Plate13,2top.JPG.' 12/20/65

2 EIII 10mm x 2mm Base snapped off. This point specimen was compromised, as Inskeep lists it as 50mm. 64/65

2 EIII 38mm x 6mm Broken point, high degree of polish. 64/65

2 EIV 34mm x 5mm Medial point Fragment, high polish, traces of grinding. ? *

19 EIV 33mm x? M-shaft fragment with faint criss-cross markings. 64/65**

19 DIV 110mm x 4mm Burial 1 point. Complete. Inskeep has it listed as 120mm but not snapped. See plate 13, and 'Burial1point.JPG' 12/21/64

31 AII Midden next to Bert 55mm x 4.5 Hollow. Scratched, ground, at tip. Broken at tip 12/21/65

37 Chris B8 Fish Gorge (not considered a point for this study) 70/71 **

38 Clara AII 62mm x 5mm Complete with oblique scratches along body, squarish at base. See 'Clara,AII.JPG', and plate 13. 65/66

41 Carmel BIII 97mm x 3.5mm Complete thin, worked, scratched. See 'Carmel,BIII.JPG', and plate 13. 1/14/66

43 David A-III 100mm x 3.5 Thin polished, squarish toward base. 1/13/71

43 Talus top David Y-III 73mm x 4mm Hollow, split on one end finely ground at tip, uniformly round in cross-section. See plate 13 11/1/71 ***

44 Edward BII 67mm x 5mm Complete, worked polished, scratches evident. See 'Edward,BII.JPG' , and plate 13. 11/1/71

44 Edward CIII 74mm x 5mm Complete polished, worked at base. See 'Edward,CIII.JPG' and plate 13. 11/1/71

61 Loius 3 51mm x 4mm Highly polished, ochre stained? See plate 13. 31/1/79

69 Muriel 2 16mm x 5mm Cut off. Base of arrowhead. 5/2/79

69 Muriel 2 No data. Never found. *

79 Peggy 1 No data. Never found *

98 Unwin 5 72mm x 5mm Arrowhead tapered, light striae. See plate 13. 2/15/79

111 Van 5 13mm x 5 mm Cut off base. Burnt. 2/15/79

120 5 No data. *

120 5 No data. *

120 7 No data. *

124 Veda 5 110mm x 6mm Complete. Perfect. Tapering, thicker at base. See plate 13, '124-Veda-5.JPG', and 'Veda-5.JPG'. 2/15/79

124-6 Veda 5 53mm x 5mm Flat, scratched, burnt base. 2/19/79

125 Winnie 7 83mm x ? Worked and abraded 4 fragments, burnt. 2/20/79

132 Wheeler/Wade 6 Complete 74mm x 6mm Base V-shaped. For this study specimen included in Awls. 2/20/79 **

151 Rice A Fish gorge. 1971 **

153 Rice C 34mm Near-epiphyseal fragment. 1971 **

Nelson Bay Cave Point/Awls:

29 Brett/Bonnie YI 25mm x 3.5 Distal tip of hollow point. See plate 13. 1966

5 3 25mm Tip of point. 1970 **

71 Nel 3 28mm x 5mm Hollow tip. 5/2/79

138 Willey 7 12mm x 4mm Doubtful. 2/23/79

145 Wittering 8 12mm x 3mm Tip 2/23/79

Matjes River Unit, Length, Thickness, Description:

B 81mm x 4mm Symetrical, polished, base obliquely truncated. May not be original butt.

B 65mm x 4mm Point tip, smooth.

B 40mm x 5mm Flat cross section, broken on both ends. Transverse striations.

B 55mm x 4mm hollow tipped. Broken at base. Many random striae.

B 81mm x 4mm Hollow tipped. Polished, blackening around snapped base.

C 62mm x 3mm Hollow tipped. Notched and snapped at base. Oblique striations.

C 98mm x 6mm Hollow tipped. Perfectly straight, end even. Broken at base.

C 71mm x ? Hollow tipped point, white, snapped at base, polished.

C 41mm x 7mm Hollow tipped point, long bone fragment, snapped at base. ^ Points lvl C.JPG

C 85mm x ? Complete, white, curved at base, oblique striations run along length.

C 59mm x ? Complete, thin, white, worked lightly at base.

C 73mm x 6mm Complete, thick, snapped at base. Polished.

C 40mm x ? Complete, thin, yellowish, worked at base, not straight.

C 35mm x ? Brown snapped off at base.

C 85mm x 7mm Complete. Even rounded base. Display item May 2003.

C 91mm x 6mm Complete. Widest 3 cm from base, tapers to tip, flat butt, highly polished. ^ Point LayerC.b.JPG

C 60mm x 4mm White broken base.

C 61mm x 5mm Smooth, broken at base.

C 63mm x 3mm Smooth, black, broken base.

C 59 mm x 4mm Broken base, even.

C 54mm x 4mm Broken, residue on shaft.

C 50mm x 4mm Snapped at base, evenly tapered.

C 68mm x 7mm Broken at base. Tapering to point which is also broken.

C 55mm x 3mm Complete Double pointed, fish gorge type object. Tapers evenly from middle.

C 50mm x 4mm Complete Double pointed, fish gorge type object. Tapers evenly from middle. Burnt

C 48mm x 3mm Complete Double pointed, fish gorge type object. Tapers evenly from middle. Very thin.

C 42mm x 3mm Complete Double pointed, fish gorge type object. Tapers evenly from middle.

C 134mm x 8mm Snapped at base, very even, polished Burnt.

C 65mm x 7mm Point tip, slightly blunted, worn, base snapped. Possibly a linkshaft. ^

C 56mm x 8mm Even taper from middle, flat butt, fairly blunted point. Possibly a linkshaft. ^ Torpedo points.a.JPG, Points lvl C.JPG

C 52mm x 8mm Even taper from middle, flat butt, tip truncated smoothed, grooved. Possibly a linkshaft. ^

C 33mm x 10mm Flat butt, tip rounded or cut, smoothed, biconical bead-like object. Possibly a linkshaft . ^

Matjes River Rock Shelter Point/Awls:

C 33mm x ? Hollow, brown tip, snapped.

C 16mm x 3mm Dark tip fragment. Could possibly be an awl.

* From RI's record could not be located for examination in this study
** From this study. Not mentioned in RI's monograph
*** Inconsistency between Mine and RI's record
Most instances where I disagree with RI's measurements is smaller. May have to do with curation. Also cannot validly assess metric data due to incomplete state of specimens, save possibly for thickness index.

Linkshafts;

30 Bonnie Y-I 71mm x 5mm Asymmetrical point like a very large fish gorge See Inskeep fig 54d 5/1/71

16 EIV6 86mm x 5mm Double ended point, fish gorge-like. Possibly ochre rubbed. See Plate 13. ?

Bone Tubes and Decorated Bone:

Nelson Bay Cave; Unit, Square, Length, Thickness, Description, Date:

1? EIIIa 132mm x ? Very large bird radius, cut/snapped. 64/65

1/2? EV 27mm x ? Bird bone awl made on engraved fragment. See 'EV1engr.awl/dent..JPG'. 64/65?

2 EIII 60mm x 8mm Undecorated, Ring snapping on one, possibly both ends. From Inskeep's 'Deep sounding'. See plate 14, DS6R65.1.JPG, and DS6R65,2.JPG. 64/65

4 EIV 33mm x ? Complete undecorated tube. 12/30/64

10 EIII 46mm x ? Tube. 64/65

10 EIII 53mm x ? Decorated tube. Criss crossing all around whole length 3 rows. 64/65

27 Brett YI 11mm x 5mm Undecorated, ring snapped at both ends. Inskeep notes "bone is burred outwards as if the bone was very 'green' when cut". 1966

28 Bob AII Shaft fragment from small bird long bone. Engraved,with criss cross. Preserves approximately 1/2 of marrow cavity. See plate 14. 65/66

30 Bonnie Y-I Cut bone tube. 77mm x 8mm Tube with random notching. See 'Bonnie,Y-IJPG' and plate 14. 5/1/71

34 Cedric A-I 53mm x ? Two rows notching, whole bone decorated. Fine small bird radius. See 'Cedric,A-1,2.JPG', 'Cedric,A-I.JPG', and plate 15. ?

43 David Y-V 51mm x 5mm Cut bird bone tube. One end cut/snapped, other appears unfinished. Undecorated.

43 David Y-II 43mm x ? Ring snapped bird bone. Near epiphyseal fragment. 12/1/71

43 David Y-III 52mm x ? Criss cross notching. See David,Y-III.JPG, and plate 15 1st labeled 43. ?

43 David Y-IV 52mm x ? Decorated bird bone fragment. 5 rows barb-wire bands around fragment. See 'David,Y-IV2.JPG', 'David,Y-IV.JPG', and plate 14 2nd labeled 43. ?

43 David Y-III 54mm x ? Decorated partial tube with 7 "diamond lozenges", then two rows of criss-crossing, four oblique notches in between as well. See 'David,Y-III3.JPG', 'David,Y-III2.JPG', and plate 15 3rd labeled 43. ?

49 GarthB-II ? x ? Ulna, cut and snapped at one end. Possibly a stage in tube production. 1/15/71

61 Louis EIII 52mm x 9mm Decorated tube, somewhat crusted. See plate 14. ?

61 Louis EIV 34mm x 7mm Undecorated tube, with ring/snapping on one, possibly both ends. ?

Matjes River Rock Shelter; Layer, Length, Width, Comment:

Also see Bone tubes C .JPG, Bone tubes lvl C.JPG

B 67mm x 7mm Bears a number of design elements. Ring-snapped on both ends. One end however was not snapped neatly. See; Louw 1960 pg. 119, Ult pend 4 C.JPG, Ult pend 3 C.JPG, Ult pend 1 C.JPG, Ult dec'd tube lvl C 3.JPG, Ult. dec'd tube lvl C 2.JPG, Ultimate dec'd tube lvlC.JPG,

C 18 x 7 Display. Bears two rows of transverse paralell striations/incisions. The first row has about 12 nothces, and the second row located about 1/3 of the way around has about 23, which are much more ragged. It is cut/snapped on both ends. There is also a third notch in the middle of the piece in between the two rows of notches. There is also some blackening around the middle of the piece on the side bearing the single notch, which is also deeper. See lower right in; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 19 x 6 Display. It is cut/snapped as well. It bears several transverse incisions, as well. These look of the character associated wit the cut/snapping process. See bottom centrer in; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 21 x 11 Display. Not in fact a tube at all. Cut/snapped on one end, but the other end is strangely notched, yet remained closed. The open end is also bearing transverse striations, presumably from the cut/snapping process, but doubt grows as to this explanation. Thick on the open end, tapering to only 9mm on the closed end. It is the one bearing '5X4' in the pic. See bottom left; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 26 x 6 Display. More uniform, and round than the others. Cut/snapped like the others but the ends were rounded, as if sanded. The middle bears some light incisions,

obscured by a dark band of color. It is unclear how the piece became marked like this. See top right in; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 27 x 10 Display. Regular, and presumably nice but for the fact that itis severely burnt, compromising the usefulness See top middle in; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 29 x 6 Display. Very thin appearance due to it's length, apparently undecorated. It was much the worse for wear. this example may have at one point been polished. See top left in; Bone tubes layerC pic2.JPG, Bone tubes layerC pic1.JPG

C 55 x 8 Display. Bore light striations, oblique, opposing, and running around the circumference. This was light, and messy but visible under a desk lens. Ring-snapped on one end, and broken on the other. See right; otherpic.1.jpg

C 76 x 8 Display. Long straight bone tube bearing 18-20 transverse notches in one evenly spaced row. A-circular, yet round length. See second right; otherpic.1.jpg

C 73 x 11 Display. Straight and uniform, possibly polished, and ring-snapped on both ends. Bears a small set of closely spaced shallow paralell striations about 3 cm form one end, not visible in the photo. See second left; otherpic.1.jpg

C 46 x 5 Display. Hollow shaft of bird most likely. It is straight, and smooth.
See left; otherpic.1.jpg

C 22 x 5 Display. Even diameter throughout, ring-snapped on both ends. No marks visible under lens. See right; otherpic.2.JPG, otherpic.3.JPG

C 40 x 7 Display. Ring-snapped on one end broken on the other. No visible decoration. See second right; otherpic.2.JPG, otherpic.3.JPG

C 41 x 7 Display. Not actually open on boith ends. May have been the end of another bead. Ring-snapped on one end, but undecorated. Dark, may have been burned. See second left; otherpic.2.JPG, otherpic.3.JPG

C 49 x 4 Display. Even, and straight tube, undecorated ring-snapped both ends. Very thin. Hollow throughout. See left; otherpic.2.JPG, otherpic.3.JPG

C 166 x 9 None, Bone tube bearing a few transverse striations. The chops are seemingly random, but sometimes paired along the length of the shaft. As if it was intended form many bone tubes. See; Long dec'e tube lvlC 3 3rd.JPG, long dec'd tube 2nd.JPG, Long dec'd tube whole.JPG, Long dec'd tube lvl C.JPG,

C 97 x 7 Display. Bore criss-crossing along its one margin. Ring-snapped on both ends, more neatly than above decorated item. See; Nice criss cross C.JPG, Cr cr pend 2 C.JPG

C 31 x 11 Former Display item.
C 17 x 7 Former Display item.
C 50 x ? None
C 23 x 5 No marks
C 29 x 5 Polished
C 29 x 5 Polished
C 27 x 6 None
C 19 x 7 None
C 54 x 6 None
C 34 x 5 None
C 40 x 5 None
C 23 x 5 Finished
C 36 x 4 None
C 40 x 6 None
C 26 x 7 None

C 51 x 3 None

C 22 x 6 None

C 49 x 6 None

C 22 x 4 None

C 18 x 4 None

C 93 x 7 None

C 35 x 5 None

C 36 x 4 None

Bone rings:

Nelson Bay Cave

Material		Diameter		Complete		Date	sq	Level	Level #	Note
Bone	12	n	64/65	4	DIV	20	over 1/2 circumference			
Bone	?	n	66	Y I	Bonnie	30	fragment. Notched?			
Bone	11	n	65/66	B III	Bert	31	over 1/2 circumference			
Bone	17	y?	65/66	B III	Dan	42	Crude finished			
Bone	10	n	65/66	A I	David	43	3/4 circumference			
Bone	?	n	12/1/71		B -I	Edward	44	with burial crude type		
Bone	13	y	8/1/71	C II	Edward	44	3fragments complete very thin			
ivory	13	y	2/2/79	4	Mary	66	Finished			
Bone	13	y	5/2/79	2	Mary	66	Finished			

Modified Turtle Carapace.

Nelson Bay Cave

Part	Date	Layer		utll?	Note	
Carap. fr.		15/1/1971		Gina	A -II	n
Carap. fr.		16/1/1971		Garth	Y -I	n
Carap. fr.		16/1/1971		Garth	Y -I	n
Shell	09/1/1971		Cedric	Y O	n	
shell fr.	09/1/1971		Cedric	A -II	n	
Carap. fr.		15/1/1971		Garth	B -II	n
Carap. fr.		15/1/1971		Garth	B -II	n
Carap. fr.		15/1/1971		Garth	B -II	n
Carap. fr.		14/1/1971		David	Y -V	n
CC	?	EV/II	?	n		
sh. fr.	12/1/71		Edward	A -II	n	rounded lip fr.
sh. fr.	12/1/71		Edward	A -II	n	
Carap. fr.		18/1/1971		Jill	A IV	n
Carap. fr.		12/1/71		David	Y -II	n
Carap. fr.		12/1/71		David	Y -II	n Poss. 2 perf.
Carap. fr.		15/1/1971		Gertie	Y -I	n scratched

Carap. fr.	15/1/1971	Gertie	Y -I	n	bone??	
Sh fr.	12/1/71	Graham	D III	n	fr.	
Sh fr.	12/1/71	Graham	D III	n	fr.	
Sh fr.	12/1/71	Graham	D III	n	fr.	
Sh fr.	12/1/71	Graham	D III	n	fr.	
Sh fr.	12/1/71	Graham	D III	n	fr.	
Sh fr.	12/1/71	Graham	D III	n	fr.	
fr.	5/1/666	Bob	A O	y	2 holes	
fr.	16/1/1971	Heather	D V	y	scratched/drilled?	
fr.	13/1/1971	David	Y -IV	y	part. drilled bone?	
Carap. fr.	15/1/1971	Gina	Y O	y	polished	
fr	?	David	Y III	y	util. ?	
Carap. fr.	28/12/1970	Bert	C I	y	util.	
fr	1965/1966	Dan	B III	y	polished	
fr	66	Brett/Bonnie	YI	y	2 perf. pendant	
fr	13/1/1971	David	A -IV	y	util.	
fr	65/66	David	A I	y	broken perf.	
fr	1965/1966	David	Y II	y	part drilled	
fr	18/1/1971	Jill	A IV	y	scratched	
Carap. fr.	05/1/1966	Brett	A O	y	worn bowl lip	
fr	09/1/1971	David	Y O	y	poss.bowl fr.	
fr	09/1/1971	David	Y O	y	poss. bowl fr.	
fr	19/1/1971	Geoff	DIII	y	part bowl	
Sh. fr.	14/1/1971	Edward	Y -III	y	part drilled	
Sh. fr.	14/1/1971	Edward	Y -III	y		
Sh. fr.	14/1/1971	Edward	Y -III	y		
Sh. fr.	14/1/1971	Edward	Y -III	y		
Sh. fr.	14/1/1971	Edward	Y -III	y		
Carap. fr.	16/1/1971	Heather	D V	y	worn, poss drilling	
Carap. fr.	?	Dan	Y I	y	Part bowl	
Carap. fr.	?	Dan	Y I	y	Part bowl	
Carap. fr.	?	Dan	Y I	y	Part bowl	
ç	11/01/1971	Cedric/Talus	Y -III	?	Poliseed lip	
ç	11/01/1971	Cedric/Talus	Y -III	?	scratched	
ç	11/01/1971	Cedric/Talus	Y -III	?		
ç	11/01/1971	Cedric/Talus	Y -III	?		
ç	11/01/1971	Cedric/Talus	Y -III	?		
ç	11/01/1971	Cedric/Talus	Y -III	?		
Carap. fr.	1965/1966	Bert	A II	?	big spatula	
fr	12/01/1971	Dan	Y -III	?		
fr	12/01/1971	Dan	Y -III	?		
fr	12/01/1971	Dan	Y -III	?		
fr	08/1/1971	Edward	C II	y	4 fr. bowl	
fr	08/1/1971	Edward	C II	y	4 fr. bowl	
fr	08/1/1971	Edward	C II	y	4 fr. bowl	
fr	08/1/1971	Edward	C II	y	4 fr. bowl	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.	

sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.			
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.			
sh fr.	12/1/71	Flora	C O	n	poss. bowl fr.			
sh fr.	12/1/71	Flora	C O	y	Worn lip fr.			
sh fr.	12/1/71	Flora	C O	y	worked to point			
Carap. fr.	12/1/71	Garth	C II	?	Near burial	some black stuff	poss bowl	
Carap. fr.	12/1/71	Garth	C II	?	Near burial	some black stuff	poss bowl	
Carap. fr.	12/1/71	Garth	C II	?	Near burial	all 3 refit	poss bowl	
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial	2 more refits		
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial	1 conjoin		
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			
Carap. fr.	12/1/71	Garth	C II	?	Near burial			

Matjes River; No data

Appendix 2

Shell Crescents:

Matjes River Layer C:

Width, Length

16	52
14/	
9	42
10	46
13	41
12/	
12	44
11	41
20	44
12/	
11	29
10/	
10/	
10	32
9	30
/	31
7	22
13/	
10/	
18/	
12	34
10	28
12/	
12/	
10	31
10	34
12/	
12/	
12	33
10	33
10	31
11/	
12/	
12	41
11	40
15/	
8	32
10	37

20/
12 34
11/
8 25
8 25
12 35
16 33
9 25
16 30
13 30
12 34
10 35
15/
11/
11 26
9 27
8 20
9 26
7 21
9 27
12 37
9 29
11 26
10/
11 30
9 30
/ /
13/
9 28
15 31
11/
7 24
9 24
10 27
11 40
10 29
14/
11 27
10 29
12 33
9 34
11 33
11 30
9/

7	22
11	31
11	27
14	27
9	27
9	28
10	22
6	11
8	24
8	27
8	30
9/	
11/	
9	27
6	21
6	25
7	21
10	30
14/	
12/	
10/	
9	27
9	21
7	22
9	24
10	33
8	25
6	21
13	22
10/	
5	22
9	23
11/	
10	24
7	17
9/	
9/	
6	21
7/	
11/	
10/	
8/	
6/	
6	18

8/	
7	19
8	24
8/	
6	18
6	17
5	17
9	21
9	17
6	17
8	16
6/	
6/	
12	35
10	34
8	17
8	25
6	21
8/	
8	24
13/	

Layer B:

Width, Length

11	40
10/	
8	23
12	41
12	40
10	35

Nelson Bay Cave:

Width	Length	Layer	Unit	Sq.	Date
8.5	25	EV	3	2?	64/65
13	/	EV	3	2?	64/65
8.5	11	E IV/2	6	?	64/65
11.5	35.3	E V 11	9	?	64/65
8	23	EV/12	11	?	64/65
13	35	EV/12	11	?	64/65
7	19	EV/12	11	?	64/65
8.5	29	EV/12	11	?	64/65
12.5	34	EV/12	11	?	64/65
9.5	/	EV/12	11	?	64/65
13	/	EV/12	11	?	64/65

10	/	EV/12	11	?	64/65
7	24.5	E IV 5	15	?	64/65
9	21.5	E V 16	16	?	64/65
15	36	E V 16	16	?	64/65
9.5	26	E V 16	16	?	64/65
15	/	E V 16	16	?	64/65
13	/	E V 16	16	?	64/65
14	/	E V 16	16	?	64/65
13.5	/	E V 16	16	?	64/65
/	/	E V 16	16	?	64/65
11.5	/	E IV/6	16	?	64/65
4.5	/	E IV/6	16	?	64/65
10	/	E IV/7	17	?	64/65
13	/	E IV/7	17	?	64/65
11	/	E IV/7	17	?	64/65
12	/	E IV/7	17	?	64/65
10.5	/	E IV/7	17	?	64/65
12	35	E IV/7	17	?	64/65
10	32	E IV/7	17	?	64/65
12.5	35	E IV/7	17	?	64/65
11.5	37.5	E IV/7	17	?	64/65
9	22	E IV/7	17	?	64/65
11	38	E IV/7	17	?	64/65
10	29	E IV/7	17	?	64/65
9.5	32	E IV/7	17	?	64/65
13.5	/	E IV 8	18	?	64/65
10	38	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
6	9	Betty	22	A I	65/66
7	30	Betty	22	A I	65/66
8	18	Betty	22	A I	65/66
5	11	Betty	22	A I	65/66
5	13.5	Betty	22	A I	65/66
5	15	Betty	22	A I	65/66
5.5	15	Betty	22	A I	65/66

9.5	/	Betty	22	A I	65/66
12	/	Betty	22	A I	65/66
11	/	Betty	22	A I	65/66
8	/	Betty	22	A I	65/66
10	/	Betty	22	A I	65/66
10	/	Betty	22	A I	65/66
9	/	Betty	22	A I	65/66
/	/	Betty	22	A I	65/66
12	/	Betty	22	A I	65/66
13	/	Betty	22	A I	65/66
8	/	Betty	22	A I	65/66
7.5	/	Betty	22	A I	65/66
7.5	/	Betty	22	A I	65/66
11	/	Betty	22	A I	65/66
10	/	Betty	22	A I	65/66
7	/	Betty	22	A I	65/66
9	/	Betty	22	A I	65/66
9	/	Betty	22	A I	65/66
7.5	/	Betty	22	A I	65/66
14	/	Betty	22	YO	65/66
11	/	Betty	22	YO	65/66
8	/	Betty	22	YO	65/66
9	/	Betty	22	YO	65/66
13	/	Betty	22	YO	65/66
8.5	18	Betty	22	YO	65/66
9	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
/	/	Betty	22	YO	65/66
10.5	/	Bill	23	AI	65/66
7.5	/	Bill	23	AI	65/66
10	/	Bill	23	AI	65/66
10.5	/	Bill	23	AI	65/66
7.5	/	Bill	23	AI	65/66
9	/	Bill	23	AI	65/66
10	/	Bill	23	AI	65/66
9	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
10.5	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
4.5	7.5	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66
/	/	Bill	23	AI	65/66

13.5	30	Bob	28	B II	20/12/65
12.5	/	Bert	31	All	65/66
9.5	/	Bert	31	All	65/66
9	/	Bert	31	All	65/66
5	15.5	Bert	31	All	65/66
8	/	Bert	31	All	65/66
/	/	Bert	31	All	65/66
/	/	Bert	31	All	65/66
11.5	/	Bert	31	C II	28/12/70
8.5	16	Bert	31	C II	28/12/70
12	37.5	Bert	31	B II	20/12/65
8	25.5	Bert	31	B II	20/12/65
12	/	Bert	31	B II	20/12/65
14	/	Bert	31	B II	20/12/65
10.5	30	Bert	31	B II	20/12/65
9	/	Bert	31	B II	20/12/65
11	/	Bert	31	C III	65/66
9.5	31	Bert	31	C III	65/66
6.5	/	Bert	31	C III	65/66
8.5	/	Bert	31	C III	65/66
13.5	/	Bert	31	C III	65/66
4	11	Bert	31	B II	65/66
12	40	Bert	31	B II	65/66
10	31	Bert	31	B II	65/66
10	31	Bert	31	B II	65/66
10.5	39	Bert	31	B II	65/66
8	23	Bert	31	B II	65/66
9.5	30	Bert	31	B II	65/66
10	/	Bert	31	B II	65/66
10.5	/	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
12	/	Bert	31	B II	65/66
11.5	38	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
13	/	Bert	31	B II	65/66
12	/	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
/	/	Bert	31	B II	65/66
9	/	Chris	37	CIII	65/66
/	/	Chris	37	CIII	65/66
12.5	/	Chris	37	CIII	65/66
11	32	Chris	37	CIII	65/66
10	28	Chris	37	CIII	65/66
15	/	Carmel	41	B III	65/66
9.5	19	Carmel	41	B III	65/66
11	17	Carmel	41	B III	65/66
11	/	Carmel	41	B III	65/66
10	/	Carmel	41	B III	65/66
8.5	/	Carmel	41	B III	65/66
6	/	Carmel	41	B III	65/66
8.5	/	Carmel	41	B III	65/66

/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
11	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
11	/	Carmel	41	B III	65/66
7.5	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
13	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
8.5		Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B III	65/66
/	/	Carmel	41	B II	65/66
19	/	Carmel	41	B II	65/66
9	27	R. Dan	42	AII	n/a
15	/	R. Dan	42	AII	n/a
5	/	R. Dan	42	AII	n/a
/	/	R. Dan	42	AII	n/a
/	/	R. Dan	42	AII	n/a
/	/	R. Dan	42	AII	n/a
/	/	R. Dan	42	AII	n/a
9	24	R. Dan	42	BIII	n/a
12	/	R. Dan	42	BII	n/a
11	/	R. Dan	42	BII	n/a
9.5	/	R. Dan	42	BII	n/a
8	23	Dan	42	BI	66
11	/	Dan	42	BI	66
11.5	/	Dan	42	BI	66
10	29.5	Dan	42	BI	66
9.5	6	Dan	42	BI	66
9	27	Dan	42	B II	65/66
7	29	Dan	42	B II	65/66
10	/	Dan	42	B II	65/66
5	/	Dan	42	B III	65/66
9	28	Dan	42	B III	65/66
5.5	17	Dan	42	B III	65/66
7.5	7.5	Dan	42	A I	65/66
11	/	David	43	C II	?
11	/	David	43	C II	?
8.5	/	David	43	C II	?
10	30	David	43	B II	65/66
10	27	David	43	B II	65/66
7	21	David	43	B II	65/66
9.5	28	David	43	A I	65/66
9.5	23	David	43	Y III	?
12	/	Ida	53	B II	18/1/71
8.5	34	E IV/14	61	?	30/12/64
9	25	E IV/14	61	?	30/12/64

8	21	E IV	66	15?	64/65
10	/	E IV	66	15?	64/65
7.5	11	E IV	66	15?	64/65
9.5	/	E IV	66	15?	64/65
/	/	E IV	66	15?	64/65
/	/	E IV	66	15?	64/65
8	/	E IV	66	15?	64/65
12	44	Ron	83	1	8/2/79
7	10	Wilma	126	7	21/2/79
6	18	Wheeler	132	7	21/2/79
7	19	Wheeler	132	7	21/2/79
9	31	Willey	138	7	23/2/79
/	10	Willey	138	7	23/2/79
10	16.5	Wotan	139	8	23/2/79
10	26.5	Wotan	139	8	23/2/79
9	26	Wotan	139	8	23/2/79
8	25	Wotan	139	8	23/2/79