

The Stone Age at Delta: the evidence of artefacts

Introduction

In this chapter I discuss the prehistoric material recovered from the various excavations at Delta. Almost all the finds are stone artefacts, predominantly dating to the Later Stone Age, but a few fragments of indigenous pottery are also included. Our original program of shovel test excavations around the homestead and old wine cellar indicated that most of the artefacts were heavily concentrated in one particular area. This suggests that, although much disturbed, we can still identify the vicinity that was favoured for occupation during prehistoric times. Only one other test hole yielded a sufficient quantity of artefacts to suggest the possibility of a second site, or perhaps even an extension of the first – this was just south of the rear wing of the homestead.

Although many artefacts were found during the shovel test program and the excavations of the old ruin, this chapter will focus on the collection recovered from a small controlled excavation in the area where the greatest density of stone artefacts was present. As necessary though, reference will be made to material found elsewhere on the farm. The excavation also yielded significant numbers of historical artefacts and this is no doubt due to its position immediately adjacent to the foundations of the old ruin (chapter ref). The relationship between the historic and prehistoric finds is also considered below.

Context and setting

The area of high artefact concentration lies between the manor house and the old wine cellar on the highest point of the berm immediately above the wide river terrace (Figure 1) at 33° 51' 49.2" S 18° 59' 24.1" E. Underlying both the terrace and the berm is a bed of heavily rounded river cobbles that relates to a time when the river was substantially larger. Rejuvenation of the river has resulted in downcutting of the stream bed and the deposition of large quantities of alluvium over the terrace during flood events (see Compton (this volume) for more details). Prior to the advent of farming, this floodplain would quite likely have supported an extension of the current riparian forest that fringes the Dwars River.

This particular point on the landscape atop the berm has been well used in the past. In addition to the historic ruin and associated colonial period artefacts, we have also found material pertaining to all three of the Stone Ages. Unfortunately the earliest material, that dating to the Early (ESA) and Middle (MSA) Stone Ages, is poorly represented and is probably all in a secondary context associated with the river terrace.

It is no doubt for similar reasons that both prehistoric and historic people were drawn to the fertile alluvial terrace at Delta. The need for life-giving water is clearly the foremost motive with the waters of the Dwars River having served early and modern humans alike throughout prehistory. The natural vegetation of the valley would have provided good grazing, initially for wild animals which were hunted for food, and more recently also for the herds and flocks of indigenous pastoralists who frequented the area. In historic times colonial farmers used the terrace and water for agriculture

and, on a wider scale, it is around the well-watered fertility of the Franschhoek valley that the town of that name was founded.

The LSA stone artefact assemblage discussed below comes from a small excavation of just 2 m² but in which the finds were very dense. The excavation was conducted in 50 cm by 50 cm quadrants and vertical control was maintained by means of 5 cm spits. Owing to the humic nature of the soil, wet sieving had to be employed and this was done through a 1.5 mm mesh. The brown humic soil was found to be approximately 45 cm deep with a further 15 cm of riverine sand and cobbles overlying the solid cobble terrace. The excavation showed the soil to be considerably churned with artefacts of all ages distributed throughout the 60 cm depth (Figure 2). Although there was no evidence of stratification, it was clear that most historical artefacts occurred in the upper spits, while the majority of Stone Age material was found in the lower levels. ESA and MSA artefacts were not very common but were noted most frequently in the lower reaches of the excavation, predominantly in and just above the river sand that overlies the cobble terrace. The fact that historical material occurs throughout the deposit supports a high degree of disturbance but, as expected, this material is still more frequent in the upper levels. Numerically, LSA artefacts are by far the most common with ESA and MSA pieces being relatively rare (Figure 3). Although the source of the Early and Middle Stone Age material cannot be determined, both the Later Stone Age and historical artefacts are likely to be in their original location but now in a secondary context as a result of disturbance from three centuries of farming and gardening activities. The historical material may have been dumped there from people living in the ruin, while the LSA artefacts pertain to an area occupied in the past by hunter-gatherers and more recently herders.

At this point a brief note on dating is required. Over the years LSA archaeologists have tended to refer to radiocarbon years BP but in recent times it has become more acceptable to calibrate these dates such that an age in actual calendar years can be given. This age can be expressed as a date BC or AD or simply as calibrated years before the present (cal BP). In this chapter I have followed the former of these options. Radiocarbon dating is the most frequently employed method of dating but its application only extends back some 40 to 50 000 years making it of no use for the ESA and MSA. Other methods are available to cover those periods but they offer far less accurate approximations. I now turn to a description of the artefacts found during the course of archaeological work at Delta.

Early Stone Age

Unfortunately the ESA is rather poorly represented at Delta with only sporadic artefacts having been found. ESA material associated with river terraces, such as that at Delta, has been widely reported in the Boland with finds being especially common in the belt from Somerset West in the south, through Stellenbosch and Paarl, to Malmesbury in the north. This material is all in a secondary context having been reworked, or washed, into the terraces during flood events post-dating their formation. During the early years of archaeological research in South Africa, ESA artefacts were noted in numbers in the vicinity of Stellenbosch thus leading researchers to assign the name “Stellenbosch Culture” to their finds (Péringuey 1911; Péringuey & Corstophine 1900).

The ESA is now divided into two main industries, the Oldowan and the Acheulean with the latter including the “Stellenbosch Culture”. All Western Cape ESA occurrences are likely to fall within the latter period which dates between approximately 1.4 and 0.2 million years ago (Asfaw *et al.* 1992; Kuman & Clarke 2000; Szabo & Butzer 1979). Typical artefacts include hand-axes and cleavers, which are the characteristic forms of the Acheulean industry, but a variety of cores, flakes and chunks are also usually encountered (Mitchell 2002). Goodwin describes many finds of ESA material belonging to the “Stellenbosch Culture” from all along the western edge of the Cape Fold Belt as well as other locations across South Africa (Goodwin & Van Riet Lowe 1929). He notes that two methods of manufacture occur with axes made either on large flakes or fashioned directly from river cobbles. The latter would then be termed core tools.

Thus far two hand-axes and one core have been located at Delta (Figure 4) and a few other artefacts recovered from the excavations, all flakes and chunks, are also likely to date to the ESA. In terms of the scheme outlined by Isaac (1977, Appendix C), both hand-axes are probably best seen as sub-classic, although one (Figure 4A) might be regarded as a pick-like axe. They are heavily weathered and measure about 17 and 23 cm long respectively, but with the latter having lost its tip. Artefacts from this period are typically made on raw materials easily available in large preforms with river cobbles being particularly frequently used. As is to be expected, all the Delta ESA pieces are made on quartzite or sandstone with the material probably all having been sourced from the river terrace. Both hand-axes from Delta display cobble cortex.

Middle Stone Age

The MSA is even less well represented at Delta than the ESA with no strongly diagnostic MSA pieces having yet been found there. MSA occupation sites are, however, far more widespread and many *in situ* occurrences have been excavated in recent years (e.g. Halkett *et al.* 2003; Klein *et al.* 2004; Henshilwood *et al.* 2001; Wadley & Jacobs 2004). Volman (1984) divided the MSA into four main periods termed, from oldest to youngest, MSA 1, MSA 2, Howieson’s Poort and MSA 3. The South African MSA and the Howieson’s Poort in particular are currently attracting much interest from researchers the world over as people search for the origins of modern human behaviour (e.g. d’Errico *et al.* 2005; Poggenpoel *et al.* 2005; Mackay 2006).

The MSA probably began about 200 000 years ago but the date of transition to the LSA is still uncertain. Following Thackeray (1992:400), it is best to consider the transition to have occurred between about 30 000 and 20 000 years ago with the date being variable according to location. Raw materials were more variable than during the ESA although quartzite was still the most frequently employed rock. Other materials, such as silcrete, were now also used more regularly and we start to see other rocks being tried, albeit usually in very small quantities.

In general, many larger flakes, particularly from the earlier parts of the MSA, could easily be confused with ESA artefacts, while later, and particularly during the Howieson’s Poort phase of the MSA when smaller flakes were more commonly made, some overlap in flake size occurs with the LSA. For these reasons, it is often not possible to recognise isolated MSA flakes, although certain types, notably

triangular flakes, long blades and those with faceted platforms, are very characteristic of this period. None of these clear diagnostic types were observed at Delta, although a few possible candidates do exist. The most likely is a silcrete artefact with small retouch scars around its perimeter which do not appear to shape the tool, but rather just serve to modify the edge, perhaps for use in some particular activity (Figure 5). Comparison with artefacts illustrated in Volman (1984, figs 7-11) suggest the Delta piece may date to the latest period of the MSA post-dating about 50 000 years ago.

Later Stone Age

By far the vast majority of stone age artefacts found at Delta date to the LSA, a period spanning approximately the last 20 000 years of South African prehistory. Although the deposits are mixed and no *in situ* organic material allowing us to obtain a radiocarbon date was recovered, we can get an idea of the dates of occupation by virtue of comparing specific diagnostic artefacts present in the assemblage with similar items from dated sites elsewhere. This is known as relative dating and is based on the idea that artefact forms changed through time as people manufactured different tools, perhaps for different functions or even according to current styles. In this regard certain types of artefacts can be regarded as what Steward (1954:54) refers to as 'historical-index' types. These are artefact types that are prominent in assemblages dating to particular well defined periods. The historical-index types from Delta indicate LSA occupations during two broad periods.

The first of these is during the mid- to late mid-Holocene and is evidenced by the simultaneous occurrence of three particular retouched stone tool types: segments, backed bladelets and backed scrapers. Together, the temporal occurrence of these three types spans some 4500 years, but the period of most probable overlap occurs between about 3600 BC and 1200 BC in terms of west coast trends and perhaps slightly earlier in terms of the patterns evident on the south coast. It is possible, of course, that multiple occupations occurred during that time and that different types of artefacts were left behind during each occupation. With the subsequent churning of the deposits, though, it is no longer possible to tell whether this might have been the case. The second major occupation occurred during the late Holocene and is indicated by the presence of indigenous pottery, a significant historical-index type first appearing in south-western Africa some 2000 years ago. Overall, the artefact and raw material frequencies and the minimal occurrence of pottery suggest that the earlier occupation was more significant in terms of duration of occupation and quantity of archaeological artefacts deposited. It is unfortunately impossible to further narrow down the dates of occupation and, of course, it is equally impossible to assign each and every artefact to one of these two broad periods. Given these constraints though, it is still possible to explore the two periods from a more general perspective and, in doing this, I describe the archaeology and artefacts that would be expected to occur with each and show how the Delta assemblage fits into local prehistory. With the acidic, TMS-derived soils present at Delta, preservation of organic material has not occurred with those few fragments that were recovered probably being very recent, if not even historical, in age. The discussion must therefore focus on lithic artefacts. In the sections that follow I briefly discuss the stone raw materials present in the LSA assemblage from the spit excavation and, since the individual temporal components cannot be distinguished from one another, I provide a broad characterisation of the whole assemblage. The chapter is drawn to a close with a general discussion of mid-

to late mid- Holocene archaeology in the region which helps to place the Delta assemblage into a regional context.

Raw materials

Numerically, silcrete dominates the assemblage comprising just over half the total number of artefacts ([Table 1](#)). This material was commonly used in South Africa during both the MSA and LSA and, in the latter period, due to its fine grain size and good flaking properties, it was particularly favoured for the manufacture of retouched tools. This was especially the case in areas where good raw materials were relatively scarce. At Delta, however, there must have been a good source of silcrete nearby thus allowing people to be more liberal in its use. The earlier LSA occupation undoubtedly realised most of the silcrete artefacts in the assemblage since it is this material from which the majority of formal tools were made. It is interesting to note that visual examination revealed two different types of silcrete, probably from different sources. The lack of retouched tools on the slightly coarser-grained silcrete may suggest that this latter type was only introduced to the site during the more recent occupation of the last 2000 years or simply that it was recognised as being slightly inferior.

Quartz is the second most frequent material at Delta. In the western and south-western parts of South Africa, and particularly along the west coast, it strongly dominates assemblages dating during the last two millennia when people showed less concern for the acquisition of high quality raw material and usually made relatively fewer formal tools than was the case during preceding millennia (e.g. Orton 2006, 2007a, 2007b; Orton & Halkett 2001, 2005, 2006; Sadr *et al.* 2003; Sealy *et al.* 2002; Schweitzer & Wilson 1982). The pattern is completely different at sites on the south coast where quartzite cobbles that are common on the rocky shores are used throughout the last 4000 or more years at many sites with quartz and fine-grained materials being more common before that time (e.g. Binneman 2001; Deacon 1984; Halkett & Orton 2006; Inskeep 1987; Schweitzer 1979; Smith 1981;). Byneskranskop 1, located some 5 km from the coast near Gansbaai, contains lithics more in keeping with inland sites (Schweitzer & Wilson 1982). There, quartz frequencies are lowest between 5300 and 2300 cal BP, with silcrete being the material used most frequently at that time. Quartz dominates Layer 1 which spans the last 3400 years. Although there is no way to be certain, based on the above evidence I suggest that a good proportion of the quartz at Delta may relate to the later occupation.

All other raw materials are relatively poorly represented at Delta. Quartzite and sandstone are ever-present components of most lithic assemblages but almost always occur in small quantities due to their poorer fracture qualities which usually do not allow precision flaking. The two materials are sometimes difficult to tell apart in the small pieces found in archaeological assemblages and, since they are relatively infrequent here, they have been listed together. Cryptocrystalline silica (CCS) is a very high quality raw material that, in areas where it was readily available, was highly sought after for the manufacture of retouched tools. It is unlikely to have been easily available in the local Franschhoek landscape since it forms only a negligible proportion of the Delta assemblage. There are always a few items whose raw material either cannot be identified or is extremely rare. These can include igneous rocks and shales and are listed as 'other'.

Table 1. Raw materials in the Delta LSA assemblage.

Raw material	n	%
Quartz	1982	37.8
Silcrete (type 1)	2729	52.1
Silcrete (type 2)	171	3.3
Cryptocrystalline silica	10	0.2
Quartzite / sandstone	331	6.3
Other	14	0.3

Quartz, quartzite and sandstone would all have been readily available in the surrounding mountains and the latter two are also present in cobble form in the rivers. The silcrete is presumed to have been sourced from formations occurring within the alluvial sands of the valley and it is not uncommon to find rafts of silcrete ploughed to the edges of agricultural fields in the Western Cape. Although Roberts (2003:Fig. 4.2a) does not map any in the immediate vicinity of Franchhoek, many occurrences do occur in the region suggesting that other small outcrops may be present near Delta. The availability of silcrete could change as a result of exposure and reburial of outcrops during flood events which would obviously impact on its use by prehistoric people. In other parts of the country people deliberately decided to use certain materials and not others. The most obvious such decision is illustrated by the lack of silcrete in LSA assemblages along the Namaqualand coastline when copious quantities of it are available within a few kilometres of the sea (Orton & Halkett 2007; Roberts 2003). We will never know from the Delta assemblage, however, whether availability or choice dictated the raw materials used or, indeed, when they were each used most frequently. Occasional CCS pebbles can be found within conglomerate bands in the Table Mountain Sandstone but it is impossible to say from where this material might have been sourced. The CCS in the Delta assemblage could even have been brought from some distance away.

General description of the LSA lithic assemblage

Flaked stone artefacts are divided into four major categories. These are listed and described here and then discussed from the point of view of the Delta assemblage.

- ‘Cores’ are those pieces from which flakes were deliberately detached.
- ‘Debitage’ are those flakes and other fragments showing no macroscopic (visible) signs of retouch or use. Microwear (e.g. Binneman 1984) and residue analyses (e.g. Schafer & Holloway 1979; Williamson 1997) have shown that many such artefacts were used, however, and that we should not regard all these items as having been discarded immediately after flaking.
- ‘Edge-damaged’ artefacts are those pieces with visible physical damage to their edges indicating their use in some activity such as cutting or scraping. This damage will invariably consist of tiny flake scars imposed onto sharp edges.
- ‘Formal tools’ are those flakes that have been specifically selected for further shaping and retouched to particular desired shapes. These shapes are regularly and intentionally repeated but some are spatially and/or temporally limited in their distribution. Two primary categories of tools, backed artefacts and

scrapers, are recognised in the LSA, although several other types of tools also occur.

Table 2 lists all the LSA flaked stone artefacts recovered from the Delta excavation. The composition of the assemblage demonstrates strong affinities with the Holocene microlithic tradition which was prevalent throughout southern Africa after about 8000 years ago. The cores are of three different types with these being the most commonly encountered forms in LSA assemblages. The predominance of bipolar cores among the quartz assemblage is expected, since quartz usually occurs in small nodules that are relatively difficult to work via any other method. Silcrete is easier to flake and it is usual to find other types of cores prevailing in this material. In bipolar flaking the core is rested and held on a stone, the anvil, and hit from above. In this way flakes are detached from both ends of the core simultaneously but control of the shape and size of these flakes is very limited. Although other core types may also have been rested on anvils, the various methods of flaking allow one to choose that part of the core to strike which would result in flakes of desirable shape and size being detached. Far more control is possible with these methods and it is not surprising that the majority of formal tools are made on materials flaked in this way, since flakes of particular and regular sizes and shapes are usually required for the various tool types present in the LSA.

Table 2: Inventory of all flaked stone artefacts recovered from the spit excavations at Delta.

	Quartz	CCS	Silcrete (type 1)	Silcrete (type 2)	Quartzite / Sandstone	Other
Cores						
Bipolar	10		2	1		
Single platform	3		4	1		
Irregular	1		4			
Debitage						
Blade						
Bladelet	9		26	1	1	
Flake	164	2	469	58	134	5
Chunk	140		139	32	50	4
Chip	1647	8	1984	74	146	5
Edge-damaged						
Flake			26	4		
Chunk						
Chip			1			
Formal tools – Scrapers						
Scraper fragment			6			
Miscellaneous scraper	2		5			
Miscellaneous backed scraper						
Sidescraper	2		6			
Thumbnail scraper	1		4			
Endscraper	1		3			
Double endscraper	1					
Side-endscraper			1			
Backed scraper			10			
Formal tools – Backed						
Backed piece fragment			10			

Backed flake	1
Backed bladelet	1
Truncated bladelet	1
Truncated backed bladelet	1
Backed point	1
Backed point fragment	4
Backed bladelet fragment	5
Curve-backed bladelet	1
Segment	3
Truncated segment	2
Triangle	1
Borer	1
Miscellaneous backed piece	4
Formal tools – Others	
Adze	
Notched piece	
Miscellaneous retouched piece	4

Among the debitage, chips include all pieces smaller than 10 mm maximum dimension. A very high artefact recovery rate was achieved through careful sorting of material retained in a 1.5 mm screen, but, with chip frequencies still being higher than those obtained in a controlled experimental context (Orton 2004, Appendix 1), it may be that some sort of mechanical process has resulted in the breakage of artefacts. This is supported by a reasonably high number of broken formal tools and also by a high frequency of diminutive historical artefacts. It is unfortunately impossible to determine what this process might have been, although it may have been linked to farming. Bladelets are not very common at Delta but some are always to be expected in any typical Holocene microlithic assemblage. The lack of the larger blades (≥ 25 mm maximum dimension) is not entirely unexpected since the artefact makers would have been focussing their efforts on the production of smaller blanks suitable for retouching into the types of tools found in the Delta assemblage.

Edge-damaged flakes are never very common since much of the edge-damage caused during use of flakes will be microscopic. Most edge-damaged pieces are usually flakes, rather than chunks, since these items would have the best edge characteristics for use. Similarly, fine-grained raw materials would be favoured and this is well demonstrated by the Delta collection. Many of these flakes probably related to food processing and the maintenance of wooden or bone tools, although without microwear analyses this is impossible to confirm.

Although this discussion focuses on the assemblage recovered from the controlled excavation, the full list of retouched formal tools found in all contexts is shown in Table 3 such that a more complete picture of the types present can be obtained. The collection contains a large variety of tool classes with backed forms being particularly well represented. In common with many other Western Cape LSA sites (e.g. Orton 2006; own data; Smith *et al.* 1991) fine-grained rocks, in this case silcrete, were used most intensively for the manufacture of retouched tools. Most of the quartz at Delta is vein quartz and its poorer quality is less well suited to the manufacture of formal tools. It seems that for this reason people chose to use silcrete for almost all their retouched tools with just a few being made of quartz (Table 2). These latter are

predominantly scrapers which can usually be made on somewhat cruder flakes than can backed tools.

Table 3: Inventory of formal tools recovered so far from all excavations and collections at Delta.

Type	Quartz	Silcrete (1)	Other
Scrapers			
Scraper fragment	2	12	
Miscellaneous scraper	4	9	
Miscellaneous backed scraper		1	
Sidescraper	3	8	1
Thumbnail scraper	4	7	
Endscraper	3	9	
Double endscraper	1		
Side-endscraper		1	
Backed scraper		16	
Backed tools			
Backed piece fragment		17	
Backed flake	1	2	
Backed bladelet		4	
Truncated bladelet	1	1	
Truncated backed bladelet		1	
Backed point		2	
Backed point fragment		5	
Backed bladelet fragment		6	
Curve-backed bladelet		1	
Segment	1	9	
Truncated segment		2	
Triangle		1	
Borer		1	
Miscellaneous backed piece	1	6	
Others			
Adze		3	
Notched piece		1	
Miscellaneous retouched piece		13	

A diverse mixture of scrapers is present at Delta with no less than four different types being particularly well represented. One would not normally expect such a distribution and it may well be an indication of long-term occupation of the site with different types being made at different times. Backed scrapers dominate but with sidescrapers, endscrapers and thumbnail scrapers also being common. While backed scrapers are fairly restricted in their temporal occurrence, the other types occur more widely during much of the Holocene microlithic period. An even wider selection of backed tools is present with several unusual forms included. Segments are the most common backed tools at Delta and are routinely encountered in assemblages dating throughout much of the mid- to late mid-Holocene. Other geometric types are generally rare in South Africa and the single triangle and two truncated segments are most unusual. Adzes, generally acknowledged to be wood-working tools, occur through much of the LSA but are far more common in areas where more woody trees are available. This pattern has been well demonstrated in the far western part of the Western Cape where adzes are rare at coastal sites like EBC (Orton 2006) and more common further inland (Parkington 1980) and on the Cape Peninsula (Rudner & Rudner 1954). The same pattern occurs in the southern Cape (J. Deacon 1984). The relative scarcity of adzes at Delta is thus somewhat surprising.

Contextualising Delta: mid- to late -Holocene archaeology in the south-western Cape

Many archaeological sites are known from this period in the south-western Cape, and indeed from southern Africa more generally. Relatively recent sites are far more common and, although this may be ascribed largely to higher population densities, there is no doubt that many older sites have simply been covered over or destroyed naturally with the greater amount of elapsed time since their original deposition. In the Western Cape province most studied sites are either located near the coast or in the northern part of the fold mountains flanking the coastal plain. This distribution is very much an expression of the areas that have been researched over the years and should not be seen to reflect the favoured areas of occupation of prehistoric people. Many other areas would certainly have been occupied, but these have either never been searched or, as is the case over large tracts of arable land, the sites have long since been destroyed through centuries of farming. In more recent decades development has also resulted in the destruction of large numbers of sites and it is only now, since the advent of the National Heritage Resources Act (1999), that greater control is being exerted and the impacts of modern development are being moderated to some degree through archaeological surveys and mitigation programs. While the context of the site at Delta has effectively been destroyed by agriculture and other natural processes, the stone artefacts and occasional potsherds still remain as testimony to the lives of those who once camped there.

Cave or rock shelter sites are often regarded as being more significant than open sites due to the long sequences that may be preserved within their deposits. Enhanced preservation of both the archaeological material and its context results in these sites yielding quite complex assemblages with many different types of cultural and subsistence remains. Archaeologists use these long sequence sites to determine the progression of events as they unfolded in the creation of the prehistoric record. This is useful, since even with the excavation and recording of many open, short occupation sites, we can still be left with large gaps in the overall sequence. Unfortunately no deep sequence sites have been excavated from anywhere in the Boland region and surrounds with Delta being the first LSA site, besides the rock art at nearby Wemmershoek (Manhire & Yates 1994), to be investigated. The dearth of data from the area is due partly to the long history of agriculture but also to the lack of research carried out. The local geology is not conducive to the formation of rock shelters but, while sites that might provide long sequences are few and far between, I have visited two rock shelters, in Du Toits Kloof and at Paarl Rock respectively, that might provide good sequences.

It is thus necessary to place the Delta assemblage within a far wider context, comparing it to others excavated from around the province. There are several examples of mid-Holocene assemblages that demonstrate highly developed lithic industries and contain a wide range of tools. In the Western Cape Province coastal assemblages tend to be remarkably different to those from near-coastal or inland sites and, within the former grouping west and south coast sites are remarkably different from one another. In general, coastal sites tend to have less standardised assemblages with those occurring away from the coast containing more typical Holocene microlithic assemblages. At Elands Bay Cave, just a few hundred meters from the sea, historical-index tools typical of the mid-Holocene are present, but these tend to be

somewhat less formalised and the general scruffiness of the assemblage is evidenced by the very high frequency of miscellaneous types within the artefact inventories (Orton 2006). Similarly, south coast sites from the Cape Peninsula eastwards and dating within the latter half of the Holocene tend to contain collections of very crude quartzite and sandstone artefacts made from the locally abundant cobbles that occur so commonly along that coastline (e.g. Binneman 2001; Halkett & Orton 2006; Inskeep 1987; Maggs & Speed 1967; Poggenpoel & Robertshaw 1981; Van Noten 1974). These, it would appear, were quite likely made opportunistically in an environment where better quality materials were scarce and where conservation of quartz and finer-grained rocks sourced further away was critical. At Delta access to fine-grained rock in the form of silcrete was clearly not a problem and large numbers of finely crafted and well standardised silcrete tools were disposed of at the site. These constraints pertaining to coastal occurrences thus make comparison with inland sites most meaningful. Although some small sites have been excavated in the Swartland area (Smith *et al.* 1991), there is only one non-coastal deep sequence, Byneskranskop 1, excavated in the south-western Cape.

Five kilometres from the coast, Byneskranskop 1 (Schweitzer & Wilson 1982) is thus the best available sequence with which the Delta assemblage might be compared, although Steenbokfontein Cave, some 2 km inland near Lamberts Bay (Jerardino & Yates 1996), and Melkhoutboom in the Eastern Cape interior (H. Deacon 1976) are also useful to some extent. The stratigraphy at Byneskranskop 1 is reported to have been poor and evidence of modern rodent activity was present to considerable depth (Schweitzer & Wilson 1986:21). This suggests that some degree of mixing must have occurred and this is evident from the range of depths from which certain historical-index types were recovered (Schweitzer & Wilson 1986, table 7). However, a consideration of where the most dense clusters of each type occur does still present a reasonable picture. At Steenbokfontein no mention is made of any recent disturbance of the complex stratigraphy within the excavated area. The two most important historical-index types at both sites are the backed scraper and the segment.

At Byneskranskop 1 backed scrapers occur throughout Layers 1 to 10 but with 92.8 % being in Layers 7 to 4. The radiocarbon dates from the site (Schweitzer & Wilson 1986, table 1) suggest these layers to fall between about 3700 BC and 2200 BC. The almost exclusive use of silcrete for these artefacts at Byneskranskop 1 (96.8 %) is in agreement with the 100 % silcrete use at Delta. At Steenbokfontein and other sites near Elands Bay backed scrapers occur in assemblages dating between about 2900 BC and 400 BC and are made on a wider variety of raw materials (Jerardino & Yates 1996; Orton 2006). They do occur somewhat earlier further to the north with the oldest dated examples in Namaqualand being about 3650 BC (Dewar 2007). Backed scrapers are not present at Melkhoutboom (H. Deacon 1976).

Segments are present more widely at Byneskranskop 1 and, with the exception of four outliers near the base of the sequence, all lie between Layers 1 and 12 (Schweitzer & Wilson 1986). An anomalously large frequency occur in Layer 1 (10.4 %) but the majority lie in Layers 10 to 4 (86.0 %) which must date around 5400 to 2200 BC. While quartz is more commonly used for segments on the west coast, silcrete is favoured at both Byneskranskop 1 (71.0 %) and Delta (90.0 %). At Steenbokfontein segments are restricted to layers dating between 4900 and 1700 BC (Jerardino and Yates 1996) while at Elands Bay sites they occur between 4800 and 1900 BC (Orton

2006; Orton & Compton 2006). At Melkhoutboom segments are most common between about 5800 BC and 4700 BC and are mostly made in CCS (H. Deacon 1976).

Backed bladelets are less important as temporal markers and are generally infrequent in Western Cape sites, including Delta. Of the few that are present at Byneskranskop 1, most fall between Layers 9 and 4. Aside from the recent assemblage from Dunefield Midden 1 (Orton 2002, 2006), backed bladelets are generally infrequent at Elands Bay but do occur in very small numbers throughout the last 6700 years (Orton 2006; Orton & Compton 2006). A similar pattern occurs at Melkhoutboom (H. Deacon 1976).

Several less common types are also present at Delta. Triangles are very rare in South Africa having only been reported at two sites, both of them at Jakkalsberg on the Orange River (Orton 2007a; Orton & Halkett, in prep.). The Jakkalsberg sites are dated between 2900 and 1500 BC and the triangles are linked to LSA sites from further north in Africa where small geometric tools are far more common (e.g. Clark 1950, 1954; Sampson 1974; Willoughby 2001). Triangles are essentially a straight-sided variant of segments and I suspect that more are probably present in South African assemblages than have been reported. Schweitzer (1979), for example, notes and illustrates variation in his segment class from regular crescent-shaped forms to more triangular examples but still considers all to be segments. The example from Delta is thus surprising given the site's location in the far south-western corner of South Africa and provides evidence of some continuity through the African LSA, evidence of which is generally not present in South African sites (see Orton 2007a). Truncated forms are also rare but do occur in several sites. BNK 1 contains an unusually large number with most being truncated at both ends (Schweitzer & Wilson 1986, fig. 23). A truncated bladelet is also present at Kasteelberg C in deposits more than 2000 years old (Smith 2006). As expected, these are primarily restricted to the mid-Holocene layers dating between about 5300 and 2200 BC. Occasionally one finds an obviously intentionally shaped tool which does not conform to any other type commonly known. The truncated segments from Delta are quite unique and the fact that there are two of them shows that they were deliberately made for some purpose.

The people occupying the Western Cape before 2000 years ago were all hunter-gatherers but after this time large scale organisational and subsistence changes began occurring with the gradual introduction of pottery and sheep to the local economy. Due to the seemingly low visibility of herder sites, these changes are not yet fully understood. Presently it is considered likely that sheep were introduced through diffusion and trade (e.g. Kinahan 1995; Sadr 1998, 2004), rather than by a migrating people as was often thought in the past (Cooke 1965; Elphick 1985; Stow 1905), and that pottery was present slightly earlier than sheep (Sealy & Yates 1994; Orton 2006).

The few sherds of prehistoric pottery that have been found at Delta indicate that people did camp there during the last 2000 years but, as before, it is impossible to determine when exactly this might have been. The earliest pottery in the Elands Bay region dates to about AD 330 (Orton 2006) and on the Vredenburg Peninsula to about AD 230 (Smith 2006; Smith *et al.* 1991). At Die Kelders, a site with a massive pottery assemblage, the majority lies within Layer 12 which is dated around AD 100 but all in all the pottery bearing layers span the first 640 years of the first millennium (Schweitzer 1979). Unfortunately the stratigraphic resolution at Byneskranskop was

too poor to draw adequate conclusions on the temporal span of pottery at the site. Further east at Blombos there is pottery in a layer dating to at least the second century AD and a sheep bone has been directly dated to AD 90 (Henshilwood 1996). Throughout the Western Cape pottery is found on sites dating right up until the immediate pre-colonial period so the later occupation at Delta might have occurred at any time between about AD 100 and the late 17th century when the farm was established. The first land grants in the Drakenstein Valley were in 1687 and by 1700 the entire valley was being farmed by white farmers (De Wet 1987). This precludes an 18th century date for the Stone Age archaeology, since it is unlikely that indigenous occupation would have occurred immediately alongside the cottage after its construction. Certain diagnostic elements of potsherds, such as decorations, lugs, spouts and lip forms, can help to more precisely date pottery assemblages. Unfortunately the Delta collection is far too small and no diagnostic elements are present.

We also have no way to determine who the latest occupants of the site were. We know that both hunter-gatherers and herders made and used pottery (Bollong *et al.* 1997), so either group could have lived at Delta. The first sheep present in the south-western Cape were probably owned by San hunter-gatherers with the Khoekhoe only appearing late in the first millennium AD. Either way, it seems likely that this occupation was relatively short or of low intensity, since not many remains seem to belong to this period. This might signal a more recent herder occupation since people with reasonable numbers of stock would have been constantly on the move in search of fresh pastures.

Late Holocene lithic assemblages dating within the last 2000 years are often very informal in character with retouched artefacts being scarce. As described above, quartz usually dominates these assemblages. In the south-western Cape formal tools are still made during this period (e.g. Orton 2006; Smith *et al.* 1991), but they tend to be relatively less frequent and lack historical index types. This makes it impossible to meaningfully discuss aspects of the Delta assemblage that might pertain to this time. Generally though, we would expect more mobile groups of stock-owning people setting up temporary camps to take advantage of seasonal vegetation growth along the river floodplains. San hunter-gatherers would probably have left behind more complex remains than Khoekhoe herders and, although it remains to be proven, it might be possible to distinguish the two people based on the very different cultural signatures found at two sites on the coast north of Cape Town that both contain material dating within the last 2000 years. Just south of Yzerfontein the site of Bakoond shows a distinct change from silcrete-rich to quartz-dominated immediately prior to the first appearance of pottery (Orton 2007b). In the older levels formal tools are almost all in silcrete with the post-pottery assemblage containing exclusively quartz tools but in far lower frequencies than before. Closer to Cape Town, at Atlantic Beach, we see a highly informal assemblage comprising chips, chunks and flakes with just two formal tools found on three sites. Sheep bones are also present in some numbers there (Sealy *et al.* 2004). If these two examples represent the remains left behind by San and Khoekhoe groups respectively, then with so few quartz formal tools at Delta, it may be possible to hypothesize that Khoekhoe herders lived at Delta leaving behind a scatter of quartz and a few potsherds as well as organic debris that has long since disappeared through the action of the acidic soils.

Concluding summary

Archaeological excavations at Delta have produced an interesting collection of finds dating to both the Stone Age and historical periods. The Stone Age artefacts are largely from the LSA with only occasional earlier finds being present. Unfortunately the context of the material has not allowed the kind of detailed analysis that would usually have been conducted, although comparison of the material with artefacts recovered from other sites around the Western Cape has resulted in some interpretation being possible. Specifically, two broad occupational periods distinguished on the basis of particular types of stone tools and of pottery respectively, have been identified.

The first LSA occupation most likely occurred between about 3750 BC and 2250 BC. This age is based on the presence at other sites in western South Africa of various types of retouched stone tools that were made at certain times only (Figure xx). The diversity of tool types might indicate several occupations during each of which different tools may have been left behind. The people would have been Bushmen (San) hunter-gatherers who would quite likely have moved around the landscape using the Delta site at certain times of the year.

A later occupation occurred during the last 2000 years, a time when pottery came into use. Only a very small number of potsherds were found but the possibility exists that much of the quartz present on the site is derived from this later occupation. It is unfortunately not possible to further refine this occupation but it is unlikely to have occurred after establishment of the farm in the late 17th century.

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Figure 1 – schematic cross-section through river, terrace and berm.

Figure 2 – Frequency distribution of artefacts by spit.

Figure 3 – Numerical distribution of artefacts by spit.

Figure 4 – Early Stone Age artefacts from Delta. A and B are hand-axes, while C is a core.

Figure 5 – MSA retouched piece from spit excavation.

LSA figures...

Figure x – Temporal distribution of various artefacts in western South Africa.

Table 1 – LSA Raw material frequencies.

Table 2 – Typology of excavated finds.

Table 3 – Total formal tool counts from all excavations.

	BC																				AD										
Approx. age (x 1000 years)	5.5	5.25	5	4.75	4.5	4.25	4	3.75	3.5	3.25	3	2.75	2.5	2.25	2	1.75	1.5	1.25	1	0.75	0.5	0.25	0	0.25	0.5	0.75	1	1.25	1.5	1.75	
Segments BNK 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X																	
Segments far WC			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X														
Segments Namaqualand								X	X	X	X	X	X	X	X	X	X														
Backed Bladelets BNK 1		X	X	X	X	X	X	X	X	X	X	X	X	X																	
Backed bladelets Namaqualand								X	X	X	X	X	X	X	X	X															
Backed Scrapers BNK 1								X	X	X	X	X	X	X																	
Backed scrapers far WC											X	X	X	X	X	X	X	X	X	X	X										
Backed scrapers Namaqualand								X	X	X	X	X	X	X	X	X	X	X													
Triangles JKB											X						X														
Truncated tools BNK 1		X	X	X	X	X	X	X	X	X	X	X	X	X																	
Pottery DK																							X	X	X	X					
Pottery far WC																								X	X	X	X	X	X	X	
Pottery southern WC (Blombos)																							X	X							
Delta probable occupations						?	?	X	X	X	X	X	X	X	?	?	?								?	?	?	?	?	?	?

What else can I add?