SMALL UNIFACIAL PEBBLE CORES FROM FRASER ISLAND, SOUTHEAST QUEENSLAND

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During the 1970's Lauer (1977, 1978) identified and collected numerous surface scatters of stone artefacts from Fraser Island in an attempt to reconstruct prehistoric Aboriginal activities. The assemblages which he recovered displayed a wide range of artefact forms, including some which had not previously been described. One class of artefact, which Lauer (1978:65-6) termed the "pebblescraper", has a distinctive morphology which he interpreted as a reflection of a woodworking function. In this paper we argue that many of these artefacts are cores made on small, thin pebbles, and that their morphology reflects an attempt by prehistoric knappers to effectively work small pieces of stone.

Lauer (1978) collected 66 artefacts which he recognised as pebblescrapers. All were found on the east coast of Fraser Island, with the vast majority being recovered from sandblows in large dunes along the central portion of the coast-line. Here extensive deflation has positioned surface scatters of artefacts at the base of the sandblows, leaving them in undateable contexts. Nevertheless, Lauer (1978:56) has argued that these artefact scatters are probably contemporary with nearby late Holocene shell middens.

Re-analysis of these pebblescrapers reveals that they are a heterogeneous class, containing both retouched flakes and cores. Of the 66 specimens Lauer collected, 48 are cores. It is those cores with which we are concerned. All retain smooth cortex typical of river-rolled pebbles. Since each has been unifacially flaked, cortex usually covers one hemisphere (Figure 1). The cortical face is flat or slightly convex, and blows were applied to this surface to remove flakes from the opposite side. We infer that the cores were hand-held and that blows were directed into the mass of the object to remove flakes which extended across the face (Figure 1). In this way relatively large flakes were struck from small cores. The entire perimeter of this cortical platform was flaked, often giving the core a circular or oval shape. Flaking around the perimeter of the pebble was probably an effective means of removing unwanted features from the core face and thereby facilitating further reduction. On 18 (38%) specimens, knappers failed to strip all cortex from the flaked face, leaving isolated areas of cortex at the base of the core (Figure 1 a, b, d). Since these remnant areas of cortex are flat and parallel to the unflaked face it is clear that the pebbles selected for knapping were tabular in shape.

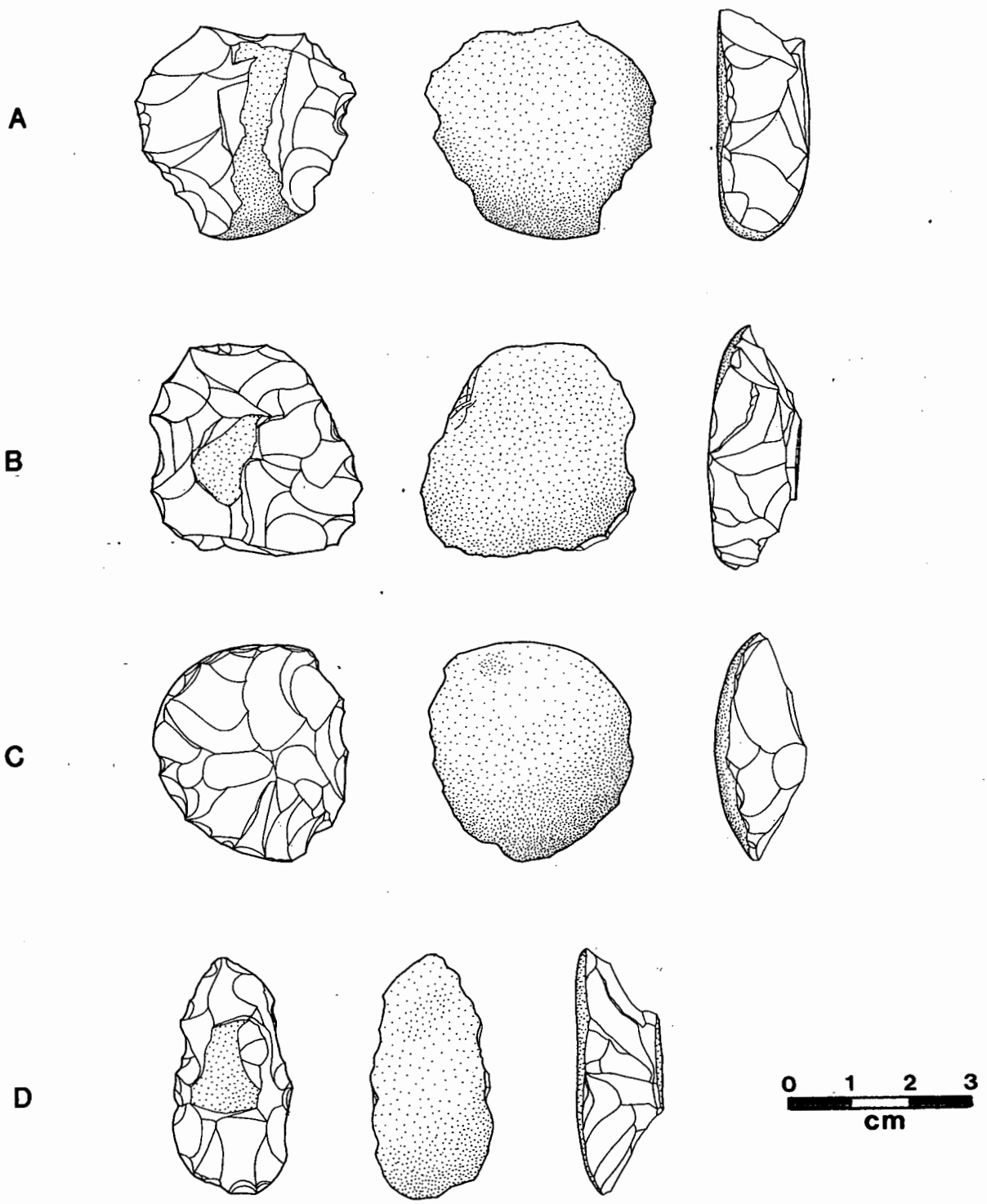

Figure 1. Four examples of the small unifacial pebble cores from Fraser Island. (Artefact identification numbers are as follows: A = L.855, B = L.280, C = L.905, D = L.898).

These unifacial pebble cores are uniformly small (Table 1). All specimens were less than 4.8 cm long, 3.1 cm wide and 1.5 cm thick. The average dimensions of specimens with remnants of cortex on the flaked face are slightly larger than those which had the cortex removed, indicating that they may be less reduced (Table 1). Many have large numbers of step terminating flake scars making further unifacial flaking difficult. It is the presence of step terminations which probably prevented the removal of cortex from the flaking face of some cores. Even those specimens without remnants of cortex on the flaked surface contain a series of step terminations which have formed ridges protruding from the base of the core. These features would have made it virtually impossible to continue reduction without employing a different knapping strategy. A small number of cores (19%) exhibit limited bifacial flaking. In all cases the flaking of the second face began only after step terminations prevented continued unifacial reduction. Flakes struck from the second face were usually step terminated, and reduction ceased after only a few flakes had been removed. No evidence of any other changes in reduction strategy, such as the use of a bipolar technique, are found on the cores. Indeed, bipolar knapping is not known from Fraser Island, and in the absence of such practices it was probably impossible for the prehistoric knappers to further reduce the small unifacial cores.

Table 1. Dimensions of the cores from Fraser Island.

	Cortex on one face	Cortex on both faces	All Specimens
LENGTH (cm)			
Mean	3.60	3.78	3.67
Std.	0.54	0.48	0.52
Minimum	2.7	3.0	2.7
Maximum	4.8	4.7	4.8
WIDTH (cm)			
Mean	2.00	2.29	2.10
Std.	0.42	0.46	0.45
Minimum	1.3	1.6	1.3
Maximum	3.1	3.1	3.1
THICKNESS (cm)			
Mean	1.04	1.12	1.07
Std.	0.18	0.15	0.17
Minimum	0.8	0.9	0.8
Maximum	1.5	1.5	1.5
WEIGHT (cm)			
Mean	8.68	11.01	9.55
Std.	3.81	3.18	3.73
Minimum	3.6	6.8	3.6
Maximum	21.2	16.6	21.2
N	30	18	48

Unifacial pebble cores were manufactured from a range of siliceous rock types, including quartz, quartzite, silcrete and chert (Table 2). Extensive sandblasting of many specimens prevented a description of the rock type beyond Fine-grained Siliceous (FGS). Descriptive statistics presented in Table 3 demonstrate that core size is very similar for each of the raw material types. We conclude from these data that differences in raw material fracture properties had a minimal affect on the size of discarded cores.

Table 2. Raw materials.

	N	%
Quartz	12	25.0
Quartzite	7	14.6
Silcrete	1	2.1
Chert	7	14.6
FGS	21	43.8

Table 3. Mean and standard deviation of dimensions for each raw material type.

	Quartz	Quartzite	Chert	FGS
Length (cm)	3.58±0.64	3.49±0.32	3.64±0.57	3.78±0.49
Width (cm)	2.03±0.56	2.20±0.47	2.13±0.20	2.07±0.45
Thickness (cm)	1.13±0.18	1.03±0.15	1.00±0.07	1.07±0.19
Weight (cm)	9.87±4.58	8.71±2.70	8.93±2.51	9.52±3.75
N	12	7	7	21

Siliceous sedimentary rocks used to make these unifacial cores do not crop out on Fraser Island and must have been procured elsewhere. Lauer (1978:68) suggested that the adjacent mainland and/or Big Woody Island, situated in the passage between Fraser Island and the mainland, were likely source areas. Thus, procuring these rocks involved a journey of at least 20-30 km, including a water crossing. The rarity of good quality flakeable stone on the east coast of Fraser Island, and the difficulty of obtaining such rocks from inaccessible sources, would have encouraged knappers to make effective use of available stone materials. In these circumstances it is worthwhile to exploit even stone materials which are difficult to work, such as small pebbles. We conclude that the unifacial knapping strategy, the occasional attempts to work cores bifacially, and the high incidence of stepping are all characteristics which suggest extensive reduction of the pebbles. The size and morphology of small unifacial pebble cores on Fraser Island can therefore be seen as a response by prehistoric knappers to shortages of stone material. Consequently, we see no need to conclude that the

morphology of these artefacts is an indicator of their function as woodworking tools, or indeed as tools of any kind. Heavy sandblasting of these artefacts limits their potential for usewear investigations, and the propositions we have put forward can only be tested when undamaged specimens are recovered by excavation.

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