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THE EXCAVATION OF A PREHISTORIC ROCKSHELTER
AT NENTHORN, OTAGO

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This article reports on the preliminary findings of the excavation of a prehistoric rockshelter at Nenthorn, Otago. The locality of Nenthorn was hailed as "The up-country city of Otago", when gold-bearing quartz was discovered in the area late last century. A large township grew rapidly on the site, but within a few years was abandoned as it became clear that payable deposits of gold were not widespread. At the site today are extensive remains of the town, including the eroded walls of more than fifty sod dwellings, as well as numerous relics of gold-mining activities in the surrounding hills and valleys. In 1983 the historic remains at Nenthorne became threatened by farm development and by renewed prospecting for gold. In response, a survey of the area was made by the authors while working for the Lands and Survey Department, Dunedin, in order to record the nature and extent of the historic remains and to assess their value for interpretation and preservation. During the course of this investigation, a prehistoric rockshelter was discovered, with pieces of moa bone and silcrete artefacts visible on the surface.

As a result of the archaeological survey, a proposal was made to preserve as much as possible of the Nenthorn town-site and the adjacent gold-workings, as part of the Otago Goldfields Park. The probability that the area would become open to the public led to the decision to excavate the rockshelter. The reasons were twofold. Firstly, the shelter lies very close to one of the major historic attractions of Nenthorn, and could therefore become subject to unintentional disturbance or deliberate fossicking. Secondly, the existence of a prehistoric site within the proposed reserve was seen as providing an ideal opportunity to interpret an aspect of New Zealand's archaeology to the public. An excavation was therefore necessary to obtain information on the prehistoric use of the shelter and to allow it to be placed in context within the prehistory of Otago as a whole.

The Nenthorn area is already known archaeologically from the presence of silcrete quarries which lie between four and six kilometres north-west of the rockshelter site. The stone sources were first reported in 1961 by Michael Trotter, who carried out a small excavation at one of them (S145/1). However, the quarries have yet to be fully mapped or investigated in any detail. Trotter notes that "Maori ovens may be seen on the nearby hills" (1961:32). These sites have not been located recently and are not recorded on N.Z.A.A. files.

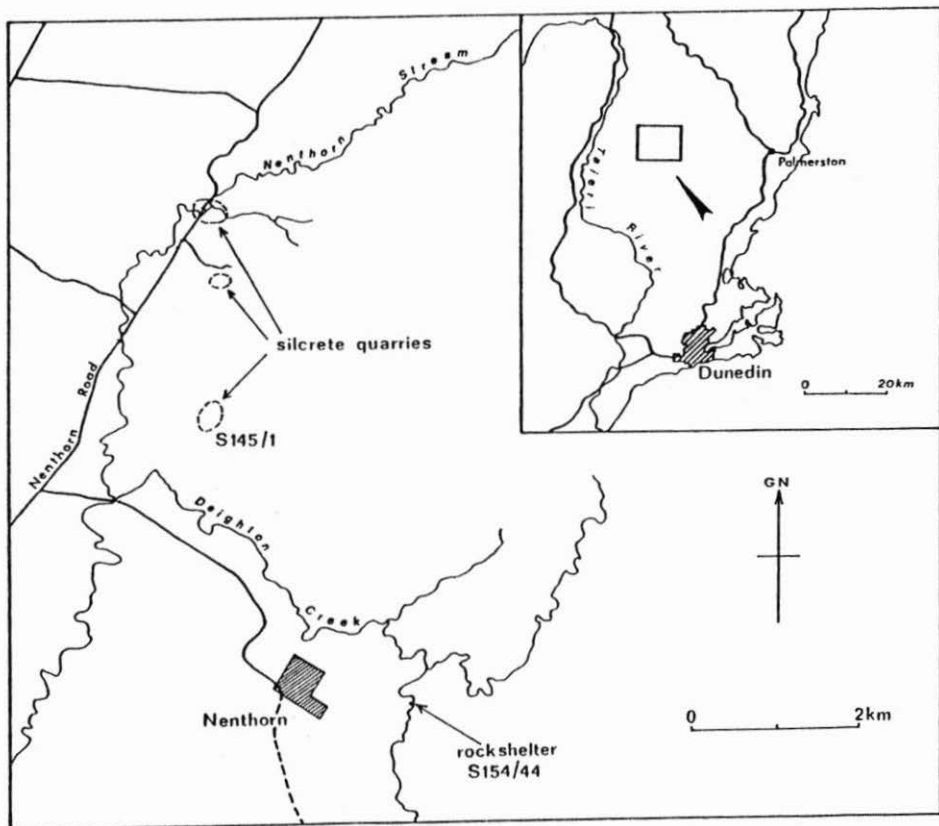


FIGURE 1. Map showing location of Nenthorn and S154/44.



Figure 2. Deighton Creek and rockshelter, looking north. Camp beyond.

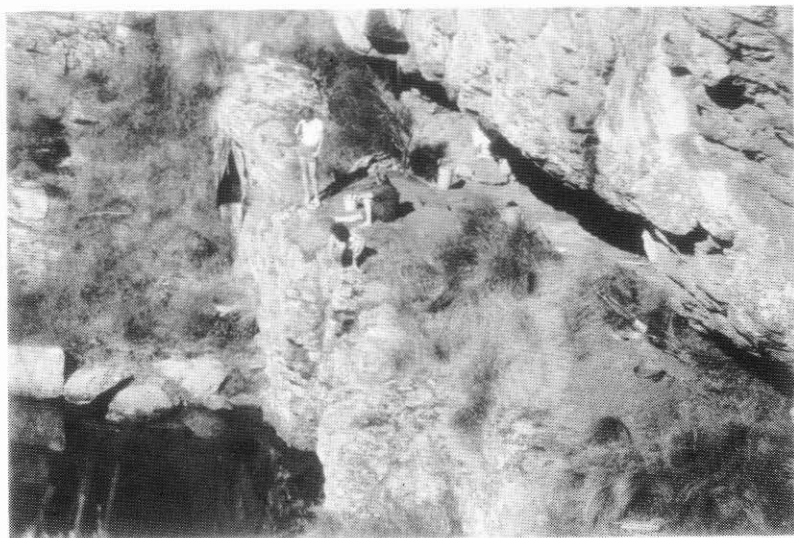


Figure 3. The site occupies a narrow shelf above the creek.

The setting

Nenthorn lies approximately 30 km inland from Palmerston near the settlement of Macraes Flat (see Fig.1). The landscape is typical of Central Otago with rolling tussock-covered hills dotted with numerous outcrops of schist rock and dissected by streams, often running through narrow rocky gorges. The abandoned town site and rockshelter are situated at an altitude of about 400 m on the western side of a range of hills marking the boundary between the inland and coastal catchments. The present vegetation consists mostly of tussock and grasses, with occasional patches of bracken, matagouri and other low vegetation. The only sizeable trees in the vicinity are those planted around settlements, and isolated self sown pines. On the broad ridgetops are several ponds and swamps at which numbers of birds, particularly ducks and geese, congregate.

The rockshelter (S154/44) is at the base of a 30 m rock bluff in a narrow gorge formed by Deighton Creek (Figs 2 and 3). The opening faces east and is well sheltered by steep hillsides to the south, east and west. An area of about 6 x 4 m is protected from the weather by the rock overhang, although the ceiling is low over much of this area. In addition, a usable space of about 10 m continues outside the shelter before the ground falls away abruptly to a pool in the creek four metres below. At the south end, the shelter may be entered from the level of the pool via a short tunnel under a fallen section of the bluff. From the north, access is along a narrow path leading from a more open area downstream. This open area was test pitted, but no cultural material was found.

The excavation - stratigraphy and features

Excavation of the rockshelter took place in January 1985. A total excavation of the occupied part of the shelter was made, eventually opening an area of 35 m² (Figs 4 and 5). The stratigraphy of the site proved to be simple and quite shallow. On the surface were several centimetres of loose dusty material (Layer 1) containing a few silcrete artefacts and fragments of moa bone, but also bottle glass, many domestic animal bones, and pieces of leather and wire. The overhang had clearly been used during the 19th century occupation of the area and, most recently, as a shelter by stock. Most of the prehistoric material came from Layer 2, in a more firmly packed, gritty matrix which appeared undisturbed. Within this layer were a number of charcoal and ash lenses. At the northern end of the shelter, where water seeped from the back, a third layer of brown charcoal stained soil was excavated to a depth of 30 cm. Elsewhere, the main cultural deposit was only 10-15 cm deep, lying on a sterile yellow base.

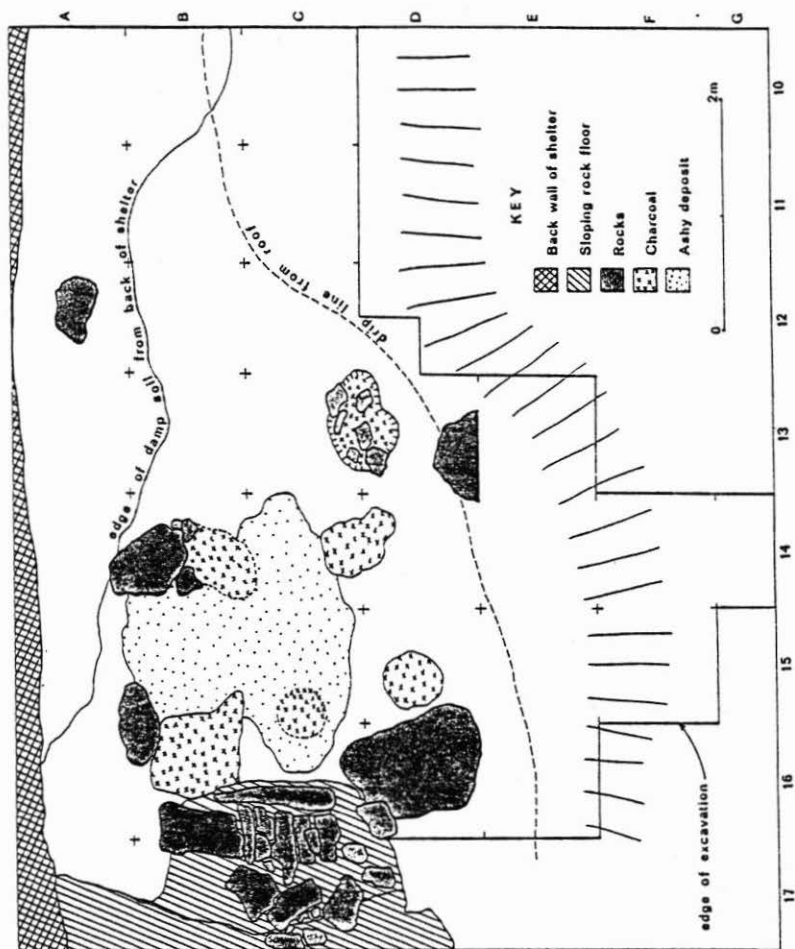


FIGURE 4. Plan of excavated area.



Figure 5. Site at completion of excavation

Before the excavation commenced a large number of schist rocks of varying size were removed from the surface. These appeared to be scattered where they had fallen from the ceiling of the overhang. The only above-surface feature was a stone structure at the south end of the shelter. This consisted of an upright slab of schist with smaller stones placed behind it forming a small platform against the sloping rock floor (see Fig.4). The purpose of this feature was not apparent as the surface prepared was both small in size and not particularly level. Removal of the smaller stones showed that the slab had originally been used as the back of a fireplace, and still contained burnt bone, charcoal, wood chips and unburnt wood, and some wire hooks. It was clear that the feature related to the historic use of the shelter.

At the edge of the shelter, just within the drip line from the roof, a scoop hearth was excavated. Contained within the hearth were pieces of schist, fragments of moa bone and a large quantity of charcoal. Five other concentrations of charcoal, two of them in shallow scoops were also found on the floor of the shelter (see Figure 4).

Faunal material

Analysis of the moa bone recovered from the site (by Brian Kooyman, Otago University) has shown that all of the pieces found may have come from a single bird. From the larger fragments it could be determined that the moa was of medium size, probably *Euryapteryx geranoides*. Most of the identifiable pieces are parts of the pelvis or leg bones, suggesting that

the moa had been brought to the site as a butchered unit, with the neck, head and feet discarded elsewhere. The larger pieces of leg bone had been broken while fresh, presumably to extract the marrow. Some evidence of working in the form of cut marks (other than butchering) can be seen on some of the bones, and several pieces exhibit some degree of polish on the inner surface. Several fragments of moa egg shell were also found.

Bones of small birds were common throughout the site, but unfortunately many are shaft fragments and therefore not diagnostic as to species. Other pieces await identification from more extensive comparative collections available at the National Museum, Wellington. Analysis completed to date (by Rick McGovern-Wilson, Otago University) has produced the following information. Amongst the Layer 1 material, single examples of the New Zealand quail and weka were identified. These suggest that the country around Nenthorn was also relatively open in the past, but their association with the prehistoric remains is not secure and they may be considerably more recent. An unexpected result of the analysis of the Layer 2 material was that only sea birds were identified. A minimum number of seven birds comprised: two diving petrels (Pelecyanoides u. urinatrix), one mottled petrel (Pterodroma inexpectata), one fluttering shearwater (Puffinus gavia) and three other petrel species. At present these species are not known to have an inland distribution and it is unlikely that this was so in the past. It seems most probable that the birds were brought to the site as preserved food.

Several rat bones were found during the excavation, as well as those of at least one dog, which can probably be considered juvenile on the basis of size. More recent remains of rabbit, sheep and pig were noted amongst the surface finds.

Several freshwater mussel shells were found scattered throughout the shelter, mostly in a poor state of preservation.

In general it may be concluded that the faunal remains reflect the hunting and gathering of a range of foodstuffs. Although moa clearly represent the greatest meat weight at the site, no particular emphasis or specialisation is apparent. Some of the items were probably obtained from the surrounding area, such as the moa, freshwater mussel and perhaps also the quail and weka. Both eel and freshwater crayfish were seen in Deighton Creek during the excavation, but their presence in the site has not been established by the analysis completed to date. In addition some plant foods would probably have been available in the vicinity of the shelter. Other items, including the sea-birds and dog, are most likely to have been brought in from the coast. The use of preserved food may have been both to ensure an adequate food supply while on an inland expedition and to minimise time spent on subsistence activities.

The artefacts

With the exception of the worked moa bone and a single very small fragment of obsidian (grey), all of the artefactual material is silcrete. Most was found within the undisturbed Layer 2 deposit. Areal distribution was in two concentrations, one 'inside' and one 'outside' the shelter (see Fig.4). This could be seen to represent a natural division of activities according to the weather. Such a pattern would also tend to occur as the result of people moving along the edge of the shelter, where headroom is greatest, and kicking material aside.

Because of the small number of pieces of silcrete found, and the confined nature of the site, reconstruction of artefacts proved a worthwhile exercise. Of a total of 224 pieces, 139 could be fitted to at least one other piece and sometimes as many as 10 to 15 could be fitted together. These, taken together with the intact artefacts, represent 80% by weight of the total silcrete assemblage. An interesting outcome of the reconstruction was that the surface appearance of the stone was often highly variable between different fragments of the same artefact. Colours ranging from honey to pale pink, deep pink, grey and speckled grey and white could be found in the same artefact, with sharp contrasts at the breaks. Some of the colour variation is almost certainly due to burning, but discolouration through weathering and chemical agents is also possible. The degree to which colour may have been altered is an important consideration where attempts are made to characterise a source on the basis of colour. Reconstruction was also useful in testing assumptions concerning incomplete artefacts. Fragments on their own can be very misleading and our perceptions altered as additional pieces were fitted together.

Analysis of the stone material is progressing, but some preliminary observations may be made. It appears that little working of stone was done at the site. There were no cores found and few percussion waste flakes. Following reconstruction it became evident that most of the larger silcrete artefacts would be considered either tools or broken portions of tools. At most of the matched edges breakage had occurred by snapping rather than flaking, leaving vertical edges. Generally it is concluded that most of the silcrete was brought to the site in the form of discrete tools, including blades and other pieces, previously selected (at the quarry) for their suitability for certain tasks. This impression is further reinforced by observed differences in the texture and flaking quality of the stone which indicate that many of the artefacts are not very closely related in terms of a parent block of stone.

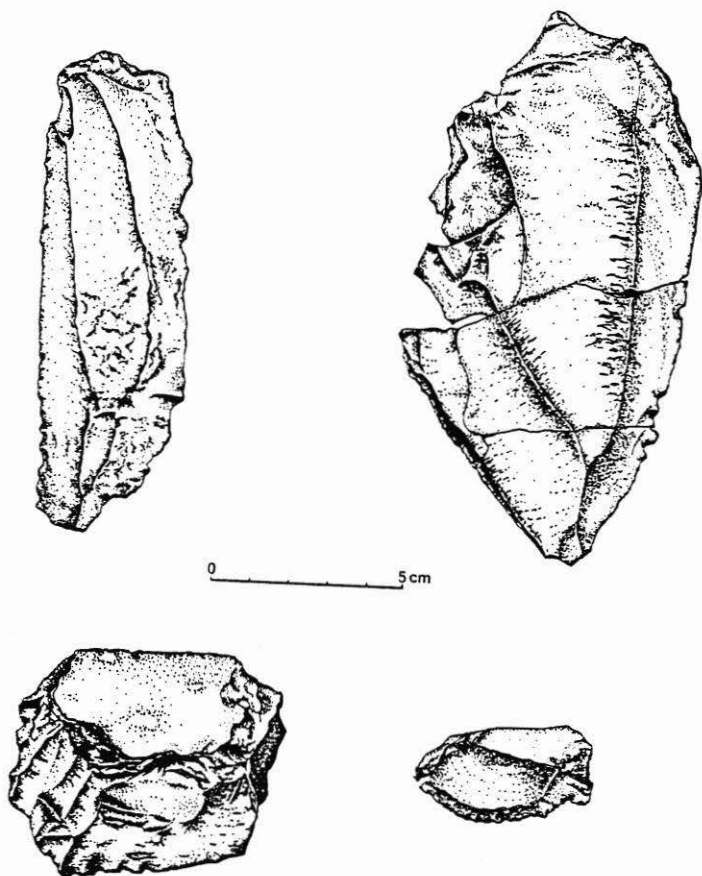


FIGURE 6. Silcrete artefacts.

The silcrete tools vary considerably in form, including large and small blades, heavy chopping/cutting tools, and scrapers (see Fig.6). Notable are several artefacts with a small group of notches formed to serrate part of the cutting edge (see Fig.6, upper and lower left). Most edge modification is unifacial. The functions of the various tools need to be more fully investigated but it can be surmised that butchering and working of bone and wood were among tasks carried out at the shelter.

Discussion and conclusions

The prehistoric environment of the Nenthorn district is not known in detail. Current evidence indicates "that forest was largely restricted to a zone lying between 300 and 1100 metres (above sea level) ... while immediately below it and in the shady gullies extending down to the river gorges, were mixed shrublands..." (Anderson, 1983:34). It is not clear when the area became open tussock grassland but the following quotation indicates that it was not in the too-distant past.

"Nenthorn Antiquities

During my rambles through the wilds of Nenthorn I came across what was evidently once a Maori kitchen midden, in the neighbourhood of which was discovered the left tusk of a boar which must have been of formidable proportions. The tusk was partly decayed, and judging from its appearance it must have been separated from its owner before the advent of white men in these parts. These relics of the past, read together with the remains of burnt wood now rather thinly scattered all over the undulating hills of Nenthorn, point to a time when bush covered these parts, and which was inhabited by pigs and 'other indigenous birds' which the natives came to hunt, feast and grow fat upon."

(Otago Witness, 29 Aug 1889)

This description may be a somewhat eccentric view of prehistoric Maori occupation of the Nenthorn area, but the reference to burnt wood at this time is worth noting. Examination of charcoal and other plant material from the site will provide additional information about the prehistoric environment of Nenthorn.

The choice of the rockshelter site as a habitation is at one level obvious. The rock overhang provides an ideal shelter, well protected from the weather, with a water supply immediately at hand, not to mention a swimming hole. However, the use of the site must be seen in the wider context of the exploitation of the interior as a whole. Hunting of moa has been considered the major subsistence focus of inland activities in the archaic period (Anderson, 1982:66).

Activities which brought people inland would also have included specialist tasks such as procurement of tools and/or raw materials, and birding. Favoured routes to the interior would also involve transient occupations. The use of small shelters for short periods of time might be associated with any of these activities. However the Nenthorn rockshelter does not lie particularly close to any known inland routes, and there is no evidence to suggest that the proximity of the nearby wetlands was a factor in the location of the site.

The existence of the silcrete sources must therefore be seen as the most significant attraction to the area.

At present little is known of when, how or by whom the Nenthorn silcrete quarries were used. Such questions as the eventual destination of the quarried material, whether coastal or inland; whether it was taken in conjunction with moa hunting expeditions or on separate occasions; and how long and during which part of the year people stayed in the area, must be addressed. There is also a need for better knowledge of the distribution and age of various site types in the Nenthorn district in order to assess more fully the role of such small rockshelter sites in this district.

Acknowledgements

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