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## EXCAVATION OF TERRACES AT TITAHİ BAY, PORIRUA

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Elsdon Best's writings on the archaeology of the Wellington area make frequent reference to artificial terraces (Best 1914; 1923). He thought that the terraces were either cultivations or house sites. His interpretations were based on surface evidence and were not tested by excavation. Walton (1986) questioned his conclusions and noted the need for excavation to resolve the problems of interpretation.

The New Zealand Archaeological Association Site Recording Scheme contains the records of 78 terrace sites in the Wellington area. Middens or pits are found, along with terraces, at 24 of these sites. In 1989 the Wellington Archaeological Society (Archaeology Section, Wellington Branch of the Royal Society of New Zealand) began a project to investigate the terraces. The project aimed to investigate eight terraces selected from at least two sites.

For each excavated terrace I asked:

1. Is it natural or artificial?
2. If artificial, how was it formed, when, and for what purpose?
3. If natural, was it occupied, and if so, when, and for what purpose?

This paper discusses the results of an excavation of five terraces at R27/136, and the implications for the interpretation of other terrace sites in the Wellington area.

### THE SITE

The Titahi Bay site (R27/136, grid reference 636094) was first reported by Elsdon Best (1914) who wrote that 'at Koanga-umu, the hill above the rocky beach at the south end of Titahi Bay, are seen many small artificial terraces on the hill slopes above the bluffs; the purpose of these ...[is] left an open question.' The site is, however, marked as a 'village' with the name 'Koanga-umu' alongside on the map 'Wellington Country District shewing Native Names' (published in 1916 by the Department of Lands and Survey, and compiled largely from information supplied by Best and McLeod). The site now lies mostly within Stuart Park, a recreational reserve administered by the Porirua City Council.

The site is typical of many terrace sites in the Wellington area, particularly those on the nearby Whitireia Peninsula (Fig. 1). The terraces are found all over the north-facing slopes of the hillside and occur both singly and in flights. There is no obvious pattern to their distribution. Geological explanations of the terraces at Titahi Bay and on Whitireia Peninsula were proposed at one stage but were considered less satisfactory than an archaeological explanation (Ongley 1931).

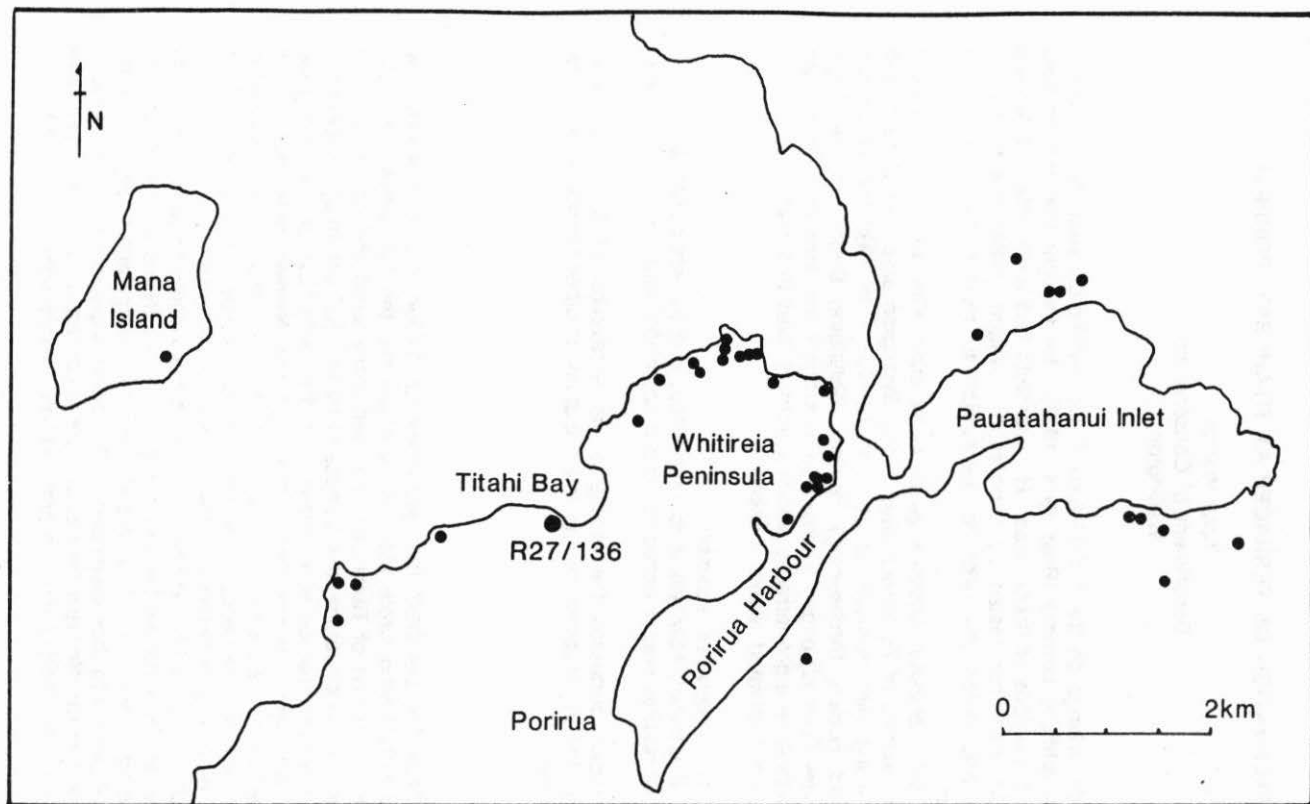


Fig. 1. Porirua area showing the location of R27/136. Solid circles are terrace sites ( $n = 36$ ).

## METHOD

Two and a half days (25-27 March) were spent on excavations at the site over Easter 1989. Five terraces were investigated by hand in three different parts of the site (Fig. 2A). In Areas A and B a 3 x 3 m square was excavated and a trench cut to create a section from the top of one riser, across the tread, and down the next riser (Fig. 2B). In Area C a 17.6 m long trench was cut through a set of three terraces.

Trenching was used to look for evidence of terrace construction and possible cultivation of the terrace soils. Cultivation can deepen a topsoil, disturb the zone between the topsoil and the subsoil, or incorporate charcoal or foreign sand or gravels in the soil. Absence of such evidence, however, does not rule out cultivation since some forms of cultivation may leave few tangible traces and these traces may be obliterated by subsequent earthworm activity or other soil processes.

Area excavation was used to look for structural evidence, particularly evidence of houses. Excavation was continued well down into the subsoil to give the best possible chance of detecting any features. Absence of such evidence, however, would not rule out habitation since flimsy structures would not necessarily leave much evidence, and this would be easy to miss.

## RESULTS

### (1) Soils

A 2 m high section along the vehicle track has an apparently unmodified soil profile as follows (soil colours according to Oyama and Takehara 1967):

0 - 50 mm	10YR 4/3-4/4 dull yellowish-brown to brown silt loam. Very fine to medium crumb structure. Many roots. Soft. Boundary indistinct.
50 - 230 mm	10YR 4/3 dull yellowish-brown silt loam with occasional rounded greywacke gravels. Fine to medium granular structure. Few roots. Slightly hard. Boundary indistinct.
230 - 780+ mm	10YR 6/3 dull yellow orange silty clay with abundant fine and medium distinct 10YR 7/8 (yellow orange) mottles (derived from weathered angular greywacke parent material). Fine to coarse blocky structure. Very few roots. Hard.

The underlying bedrock is weathered greywacke. Across the site the greywacke may be at the surface, close to the surface, or buried by loess and greywacke drift of varying thickness. Two of the three areas investigated (Areas B and C) reproduced the above standard soil profile exactly, with no indication of human modification. In Area A the greywacke was close to the ground surface and the

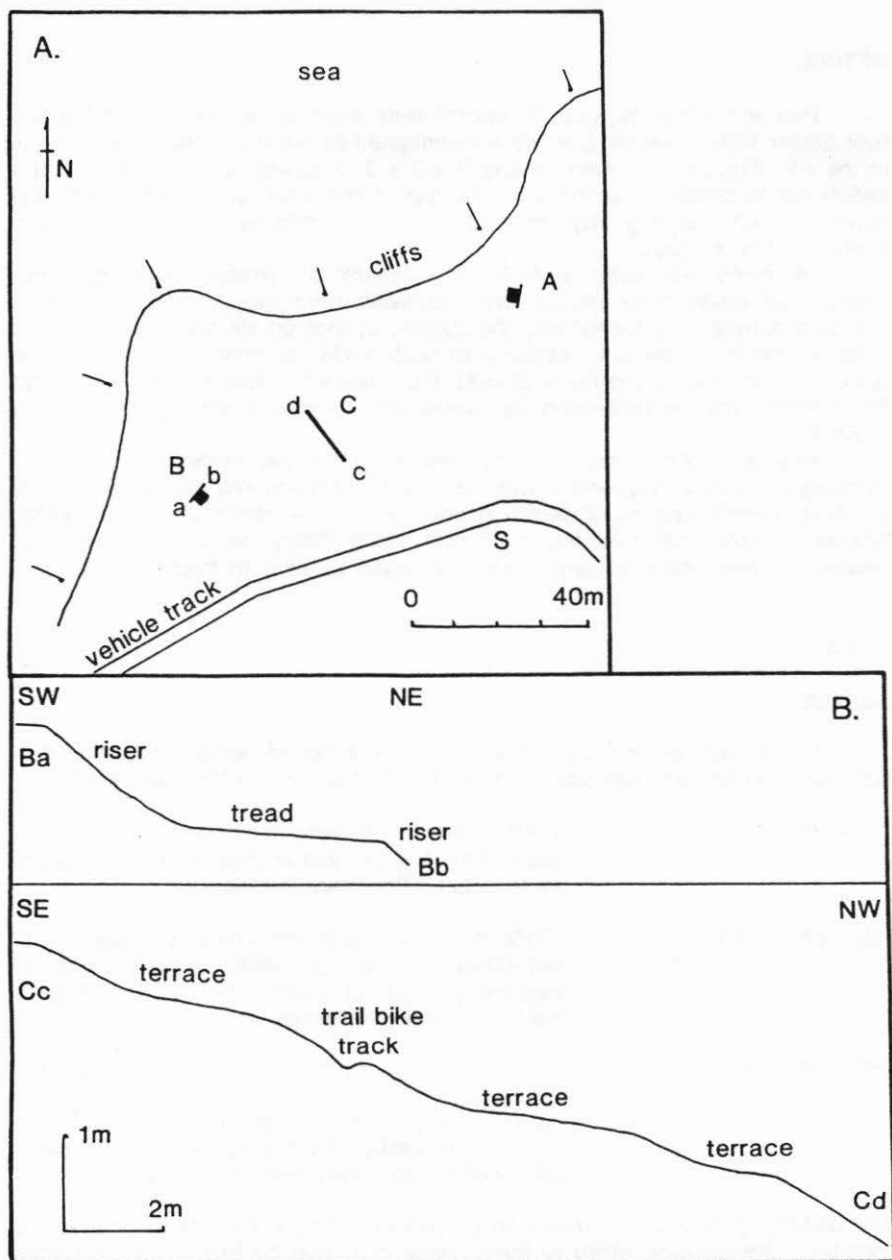


Fig. 2. Site R27/136. A: Plan of excavated areas A, B, and C. Soil profile description at S. B: Sections Ba-Bb, Cc-Cd.

soil profile differed only in having a shallower topsoil and subsoil, each containing many angular pieces of greywacke. There was no evidence of human modification.

A detailed inspection was made of all exposed surfaces and sections across the site. No sign of occupation (charcoal, ovenstones, midden, artefacts, disturbed soil profiles, etc.) was found.

## (2) Pebbles

A sparse scatter of pebbles was found on all exposed surfaces and in the topsoil and subsoil in most sections across the site. Pebbles in soil develop a weathering rind which may be used to determine how long they have been in the soil. Dr Paul Froggatt, Department of Geology, Victoria University of Wellington, examined the pebbles from Areas B and C and gave the following assessment:

### Area B

'87 pebbles: 4 quartz, remainder sandstone or argillite. Size: 8-63 mm long axis. Most pebbles are well rounded. 4 quartz [pebbles] only poorly rounded. 3 sandstone are angular to slightly rounded. 90% are blade or disk shaped. This is typical of open coast pebble beaches. Distinct (1-1.5 mm) weathering rind on coarse sandstone, but no obvious rind on fine argillite.'

### Area C

'26 pebbles: 1 quartz, 25 greywacke sandstone. Size: 12-60 mm. 3 pebbles very poorly rounded, the rest are well rounded. About half are blade or disk, the rest are rollers. Typical of coastal beach. Weathering rinds up to 1.5 mm prominent on coarse sandstone pebbles.'

Dr Froggatt concluded that all the pebbles were derived from the local beach. Weathering rinds suggested that some had been in the soil for a while, possibly a few hundred years.

While some pebbles were small enough to have been blown up the cliffs in storms, some were probably too large. The possibility that the pebbles were derived from beach deposits dating to the last interglacial was ruled out because they were not weathered enough. The pebbles also lacked the patina typical of moa crop stones. Human transportation is, therefore, one possible explanation for their occurrence.

The widespread distribution of pebbles in coastal areas around Wellington, however, counts against human agency being a significant factor. In addition, while some of the pebbles are probably hundreds of years old, others are probably very much younger, suggesting a steady accretion in the soil over a long period.

## DISCUSSION

Best's suggestion that the site was a village is not confirmed by the excavation. No evidence of terrace construction was found, indicating that natural processes of formation should be reconsidered.

No traces of houses were found, although it could be argued that the houses were too insubstantial to be detected or that the excavations were too limited to find them. Traces of midden or ovens are easier to detect but none were found in the excavations themselves, in exposed sections, or on the extensive bare surfaces created by trail bikes.

No evidence of cultivation was found, but here the problem of detectability is significant. Best usually regarded terraces as having been used for cultivation if foreign water-worn pebbles were present in the soil, or if there was no evidence of habitation (Walton 1986). While human transportation of the pebbles cannot be ruled out, the number and spread of water-worn pebbles at R27/136 does not suggest cultivation.

## CONCLUSIONS

The terraces at R27/136 are probably of natural origin. No evidence of human construction or occupation was found. The origin of the pebbles found in the soils is unresolved, but human transportation seems unlikely.

Insofar as R27/136 is similar to other terrace sites in the Wellington area, the results of the excavation are relevant to the interpretation of other sites. Terraces must now be regarded as doubtful places of human occupation in the absence of other features. The interpretation of the most prominent set of terraces (R26/115) on the Whitireia Peninsula (Macnab 1969) also warrants re-examination.

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