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PA EXCAVATIONS AT OTAKANINI, SOUTH KAIPARA AND  
LAKE MANGAKAWARE, WAIKATO

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The following are provisional reports of two excavations carried out in 1968 by the author with members of the Auckland University Archaeological Society. Full reports on both sites are in preparation, and will be published in 1969.

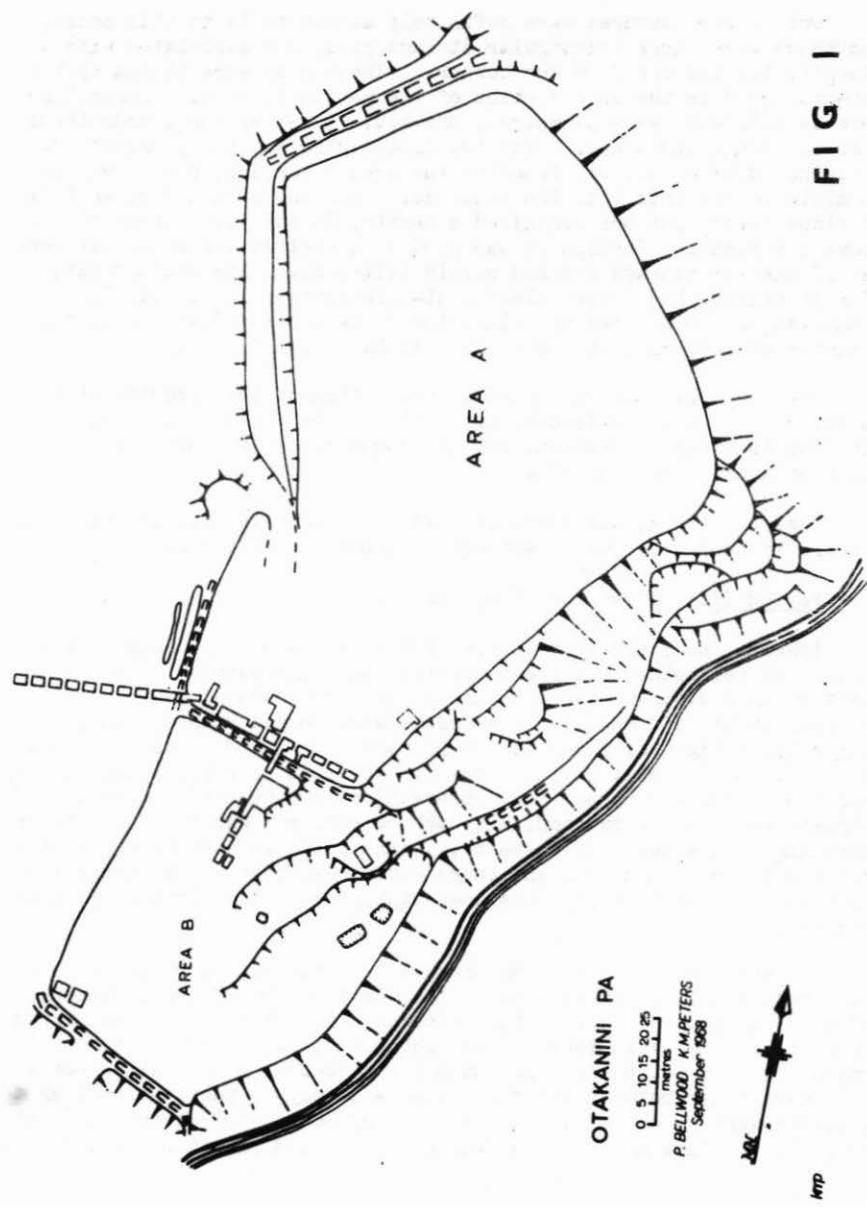
OTAKANINI PA, SOUTH KAIPARA. N37/37 924868.

This, an important pa of the Ngatiwhata tribe in the 18th and 19th Centuries (Smith, 1895; 41-47), is situated on a small island in the South Kaipara Harbour, separated from the mainland by swamp; and having a tidal creek on the harbour side. The pa is of ring-ditch type, with an outer annexe (Fig. 1). In April 1968, excavations were commenced by Mr L. M. Groube, and continued by the author until July. The two chief excavated areas were (a) along the top of the southern defence of area A, with sections through the ditch, and (b) the extensive upper terrace in area B. Over 300 square metres were fully excavated, to a depth of up to  $2\frac{1}{2}$  metres along the defences. The bedrock is a Pleistocene sand, with a fairly high clay content.

The Basic Sequence

Period I

No evidence was found of defences for this phase. The terraces extending along the east side of the site and into area B are undated, but could belong to this phase. Certainly, the ring-ditch fortification is the latest earthwork on the site, and the terraces are clearly not an integrated element of this defence. Kauri Point provides an analogy here, since the terraces there were found to predate the later pa (Golson, 1961; 52-3), but, unfortunately, on the Otakanini terraces, due to the absence of stratified deposits, it proved impossible to tie them in with the basic sequence as defined by the excavations along the area A bank.



Only three features were definitely attributable to this phase, and these were three rectangular storage pits, one associated with a bin-pit, leading off from one corner. These pits were filled by the material used in the construction of the period II bank. Dimensions were as follows:  $4\frac{1}{2} \times 3\frac{1}{2}$  metres, drained; 5 metres long, undrained; 3 metres long, undrained. The two latter were not fully excavated. A further drained pit was found on the area B terrace, but it was not possible to tie this into the sequence. All the pits had clean fill to floor level, but one contained a hearth, in the fill, about 10 cms above its floor. Perhaps it was used as a shelter after the pit went out of use for storage and had partly silted up. The drained pit,  $4\frac{1}{2} \times 3\frac{1}{2}$  metres, had a very clear post-hole pattern in its floor, consisting of three rows of holes, the deepest being down the centre. A number of very shallow post-holes may have been for racking.

One very deep pit was found at the bottom of the deposits at the corner of the area A defences, but could not be fully excavated. Its function must remain unknown, but its contours as recovered were not those of a palisade post-pit.

Period I, then, was characterised by rectangular storage pits, and perhaps by terraces, but is without evidence for defences.

#### Period II. First fortified period.

Towards the south-west corner of the area A defence eight massive post-holes belonging to a fighting-stage were excavated. The posts of the forward row were two-three metres deep, and the rear about 1.50 metres. The posts were in two rows of four, thus supporting a fighting-stage some nine metres long and  $2\frac{1}{2}$  metres wide. Crozet (in Roth, 1891; 33), for the Bay of Islands, records such a stage near the entrance of a pa (this observation is supported by evidence from Mangakaware - see below) and, although no entrance was found at Otakanini, there might have been one close by, as the stage was set back a little from the top of the ditch, and there could have been a path along the front at one time (the area has been disturbed on the surface by recent gardening).

The stage was set on a low bank, behind the ditch, which was one metre deep and 1.80 metres wide. The total height of the earthwork defences was four metres, as the defences were cut into sloping ground. The posts of the stage were all dug out purposefully before the commencement of period III, presumably for re-use. No smaller post-holes were found between the major ones - it may be that the smaller palisades were supported at ground level by horizontal stringers (Best, 1927; 66). Similar sized post-holes were found on either side of the

stage, 3-4 metres apart, continuing the palisade line to the south-west corner of area A.

No other structures, besides the palisades, were found belonging to period II.

Period III. Second fortified period.

With the removal of the period II stage and palisades, the ditch on the south side of area A was cleaned out, and that on the west side re-cut on a slightly different line. The bank was raised by about 30 cms, and, even in its final stage, was not over one metre high (the slope of the ground added an extra metre to the height of the defences). Functionally, the bank seems to have been subsidiary to the ditch and palisades, which together would have provided most of the opposition to an enemy. On the west side, much of the spoil from the ditch was used to construct a terrace outside the ditch. On this terrace was constructed a latrine, shielded from the pa by a fence. When the latrine went out of use, the terrace was covered by a thick mantle of shell midden - mainly cockle, with some scallop, mussel, and even toheroa.

For some unaccountable reason, soon after its cutting, the west ditch just behind the latrine was filled in with clean natural sand. Clearly, the ditch was considered unnecessary for defence, and may have been filled to aid access to the latrine. It is difficult to think of any other explanation for this circumstance.

The main posts of the period III palisade were about  $3\frac{1}{2}$  metres apart, and 1-1.50 metres deep. Numerous small stake holes were situated in between, many showing the marks of the KO in their sides. Others, narrow and deep, must have been dug by the matarau method (Best, 1927; 61). Two fighting stages were constructed towards the south-west corner, both straddling the defences and clearly of the puwhara type (Best, 1927; 78). These were, in length, 4 and 5 metres, and in width, 2 and  $1\frac{1}{2}$  metres respectively. They were separated by an interval of 9 metres (see Fig. 2).

Smith (1895) recorded that the pa defences were partly rebuilt around 1840, and it could be that some of the numerous small post-holes attributed to period III do in fact belong to this phase. However, modern gardening has truncated the post-holes to some degree, and it is no longer possible to isolate traces of the 1840 rebuilding. It may not have been in this part of the site anyway.

It is interesting to note how the defences of period III correlate with those recorded by Banks for a pa in Mercury Bay. I quote from Morrell (1958; 76):

"..... the whole was inclosed by a Pallisade about 10 feet high made of strong Pales bound together with the weak side next the hill had also a Ditch, the face of which next the Pallisade we measured to be  $20\frac{1}{2}$  feet in depth, besides this over the Pallisade was built a fighting stage which they call Porava which is a flat stage covered with Boughs of Trees upon which they stand to throw darts or stones at their assailants out of danger of their Weapons, the dimensions of it were thus, the hight from the ground  $20\frac{1}{2}$  feet, breadth 6ft 6, the length 43 feet, upon it were laid bundles of Darts and heaps of Stones ready in case of an attack."

It is instructive to note that Banks says that the stage was over the palisades - this type of puwhara stage must have appeared quite different from the type affixed to the palisade, as at Mangakaware (below).

#### Further information from the Otakanini excavations

One single line of flimsy post-holes was excavated along the top of the ditch at the south end of area B. Area B seems to be an annexe to area A, but no stratigraphical evidence was found to place it with either period I or period II of the main defences. At Kauri Point, it was found that the fortified area was later reduced in size (Ambrose, 1962; 64), but this may not necessarily be the case for Otakanini. Area A was certainly the main "citadel", and appears to have been artificially levelled. No excavations were carried out within area A, which anyway has been much disturbed by recent gardening activity.

One period III post-hole contained two unbroken 2B adzes, another a flake knife, and one of the stage post-holes contained two large stones, which may have been for packing. Nevertheless, the deposition of the adzes may have ritual implications (see Best, 1927; 109).

The excavated terrace in area B also contained two bell-shaped rua, and a number of post-holes, probably for raised whata. The absence of a hearth implies that they do not belong to a house.

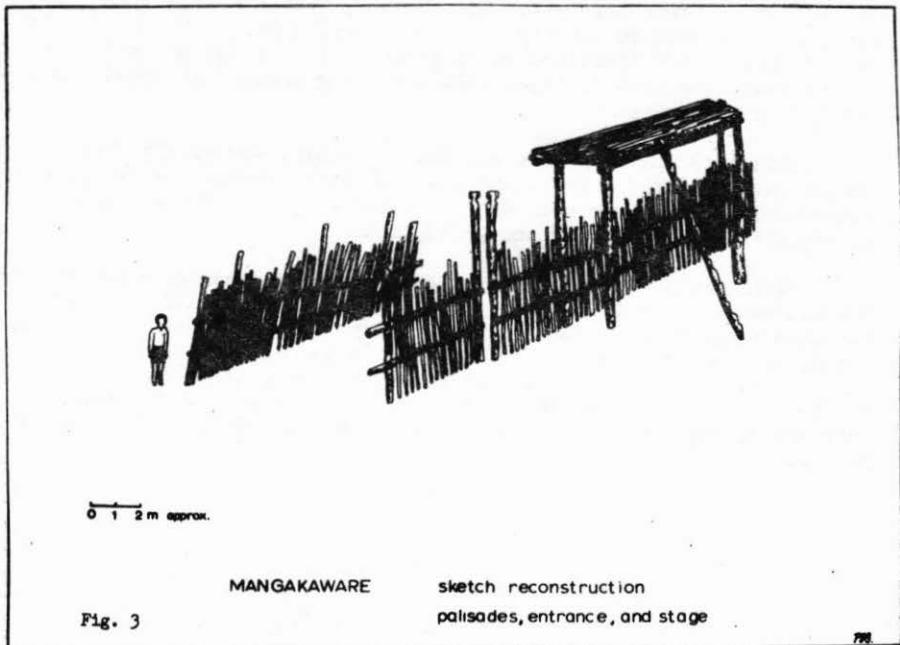
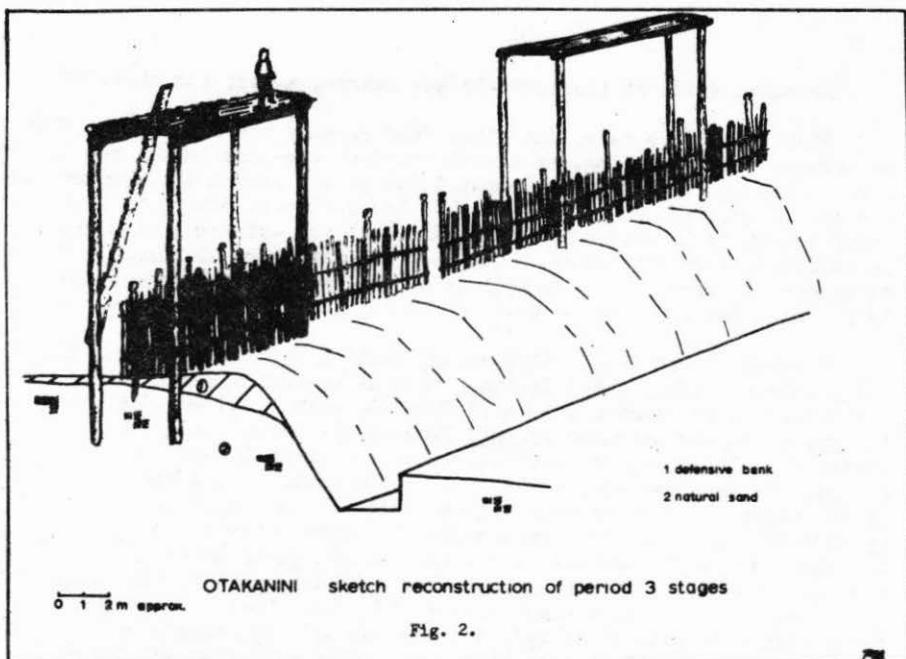
Economic evidence (zoological) was scarce, except for shellfish.

Fish bones were rare, and other food remains non-existent. This is perhaps not surprising, as the excavations were not in the habitation area of the pa. Hangis were constructed on and around the defences in periods II and III, which gave samples for carbon-14 dating. There is insufficient zoological evidence to document the existence of sedentary or semi-sedentary settlement (but note that with more abundant food remains, W. Shawcross, in Proceedings of the Prehistoric Society for 1967, has shown the results that can be obtained from this approach).

However, as an interesting aside, Smith (1895; 43) records that a Ngatiwhataua chief, named Tauhia, lived at Otakanini about 1800. On one occasion, an enemy chief named Takurua, with 1,000 men, attacked the pa, which was defended by only Tauhia, his mother, and six comrades. The enemy was slaughtered to a man, a circumstance which may tax the imagination somewhat, but there could be a grain of truth in the legend. For instance, why were there only eight people in the pa when it was attacked? Apparently the other inhabitants were too far away to come to Tauhia's aid - they don't appear to have fled from the pa. Perhaps, then, this story could lend support to the hypothesis of a semi-permanent settlement pattern (Groube, 1964; 106 refers to 'spasmodic utilisation' of pa), and the author's interpretation of the term "semi-permanent" in this case would tally with that of Shawcross for Ngaroto (Shawcross, 1968; 25-6), i.e., that the site itself was never fully abandoned for any long period and simply left to rot, but rather that it was inhabited by different sized groups at various times of the year, the rest of the population being engaged in subsistence activities elsewhere.

Finds from the site were all Classic Maori, and mainly from period III deposits. These include 7 2B adzes (three complete), chert flake-tools, one broken patu with a ribbed grip, one dog-tooth point of a composite fish-hook, and one grindstone.

Smith (1895) relates that the Ngatiwhataua conquered Otakanini from the Wai-o-hua about 1690-1700. Since periods II and III both relate to the same ring-ditch defence, it may perhaps be that these two periods belong to the Ngatiwhataua occupation. Therefore, the terraces (if in fact earlier) would belong to the Wai-o-hua, and, since the Ngatiwhataua had to attack a pa site, defences for period I must exist somewhere. This matter may be clarified when carbon-14 dates are obtained in the future.



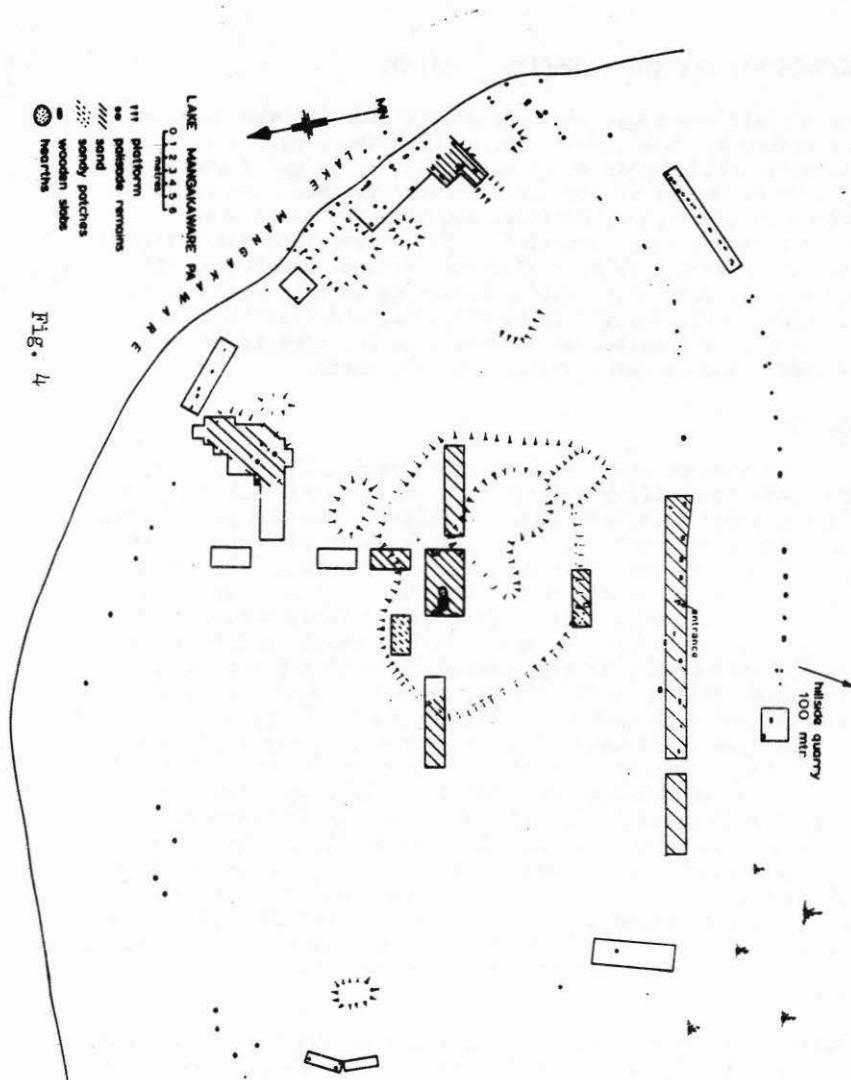
LAKE MANGAKAWARE PA, WAIKATO N65/35 731293

This is a small swamp pa, on the opposite side of Lake Mangakaware to the pa described by Pick (1968; 30). Both these pa, in size and defensive layout, would appear to be identical. The pa excavated was discovered by Mr K. Gorbev during aerial reconnaissance, and surveyed by the Hamilton Archaeological Society, who also recovered several palisade butts from the swamp deposits. The excavations were carried out for one week in August 1968. From the evidence recovered, the author would like to point out that small lake pa such as this are of inestimable value to New Zealand archaeologists, and that their preservation should be a matter of extreme concern, especially in areas where swamp land is being brought in for farming.

#### The Excavations

The defended area of the site is roughly oval, 70 x 50 metres, and is surrounded, one half by swamp, the other by lake. Within the defences, living areas have been slightly raised above the swamp level by the deposition of sand brought from a hillside quarry, about 100 metres away. There are two palisade rows. The outer, with small posts 30 cms to one metre apart, slopes inwards about 15 degrees from the vertical (see Best, 1927; 63). The inner defence consists of much heavier posts, set two metres apart, one of which, pulled out by the Hamilton Archaeological Society, proved to be 18 x 9 inches in cross-section, and sunk ten feet into the ground. One post still stands to a height of nine feet above the ground in the pa on the other side of the lake, and many of the sturdier ones may have been considerably higher. Many of these posts have fire-hardened and pointed feet, to aid in driving them into the swamp, and many have a kind of shaped "foot" below a deep groove cut across the timber, presumably added to make the post all the more difficult for an enemy to pull from the ground. The inner and outer palisades are separated by about six metres. A group of four posts set out into the lake would appear to have belonged to a canoe stage. Part of a dugout hull still exists in one part of the lake, and a canoe-strake, perforated for lashing, was found near the lake edge (but not near the site) by one of the excavators.

The entrance, apparently of ngutu type (Best, 1927; 66), was only 40 cms wide (see Fig. 3), and flanked by two stout palisade posts. Behind, and just to one side of the entrance, was a fighting stage, four metres long, attached to the back of the palisades. This stage would appear to have been of the kotaretare type (Best, 1927; 81). Many of the artefacts discovered were found just inside the entrance -



seven broken pieces of bird-spears, five patu pieces included two finely ribbed handles, one 2B adze and one chip, and a small piece of red ochre. 2 2B adzes were found in a cache close to the entrance, both of the slender Waikato type.

For some reason, it was impossible to locate the defensive lines on the east side of the enclosure, and perhaps the post butts have here sunk down into the peat. Owing to the abundance of occupation evidence within the pa, one is hardly justified in assuming that it remained unfinished.

Within the defences, a central area was raised by the deposition of up to 40 cms of sand (see Fig. 4). Numerous hearths were found in the middle of this area, but a part of it seems to have been destroyed by the uprooting of a large tree. No house walls were found in this central area, except for one post, which may have belonged to a raised store-place (whata). Apparently this area corresponds to the 'parade ground' noted by Crozet at a pa in the Bay of Islands (Roth, 1891; 32).

Outside this central area, house floors were clearly defined by rectangular low mounds, which on excavation were shown to be composed of sand floors interstratified with occupation layers of dark soil and charcoal, with open hearths in places. Two house-mounds were excavated, one fully. This house was  $6 \times 2\frac{1}{2}$  metres in size (see Fig. 5), and, as it was by far the largest on the site, the others being on average  $4 \times 3$  metres, it may well have belonged to the chief of the settlement. Cook records house sizes ranging from 10 to about 20 or 30 feet in length (Reed, 1951; 147). These, then, correspond quite closely with the sizes apparent at Mangakaware, although this cannot be called a direct correlation, since Cook never made observations in the Waikato. One of the long walls of this house was built of discontinuous thin planks of wood, one of these planks being 40 cms wide, and clearly cut with considerable effort from the heart of a trunk (cf. Roux in McNab, vol. II, 1914; 363). The centre-post and one of the end-posts of the house survived, and the other long wall, and presumably the end walls, were constructed of single posts set at intervals, of which only two survived. Presumably these three sides, and also sections of the plank wall, were filled in by flax bundles. A tiny mound to the side of the main mound may have been for the cooking house.

One corner of the second house was excavated, which was approximately two metres wide, and apparently some three metres long. Most of the other mounds probably contained houses of this size. The walls of the second house were of posts and narrow planks set apart -

the construction was far less elaborate than that of the other house.

Both houses had at least four separate floors, with several minor repatchings, all of the sand from the nearby quarry, which can still be seen in the hillside. The occupation levels, despite their thickness and the amount of charcoal, contained no artefacts, except for a two-pronged implement which seems to be a chisel, carved from a human radius, found in the smaller house.

From the number of mounds observable on the site (excluding some of the smallest which may have been associated cookhouses) an estimate of eight dwelling units for the pa would seem to be reasonable. The excavation of areas without mounds showed that these had never been occupied, but clearly more excavation would be desirable to show whether or not all the mounds are in fact houses. Given eight houses, and assuming 4-5 inhabitants for each, the author would estimate a population of not over 50 persons for the settlement. Quite clearly, Mangakaware pa (and its partner) is a minor example of the Ngaroto type of site, but one in which the shallowness of the deposits has led to excellent preservation, since at Ngaroto the great height of the mound meant that most of the deposits were raised beyond the range of ground water.

Concerning the economy of the lake inhabitants, eel-beaters, fern root beaters, and bird-spears give obvious hints. No evidence was found of kumara cultivation, but store-pits would not have been dug inside the damp pa anyway. No definite examples of ko were found, but the inhabitants presumably had them for the lifting of fern-root.

As at Otakanini, food refuse was almost non-existent, except for a few pipi shells, apparently imported from the Raglan area. This absence is most puzzling, as one would expect to find bone, and even other organic food remains, in quantity in a swamp deposit such as this. The peat has not yet been analysed, so it may be, however, that soil conditions are responsible. So again, as with Otakanini, it is not possible to reconstruct the economy from the point of view of seasonality or otherwise. Shawcross's conclusions for Ngaroto have been mentioned above, namely, that the pa was inhabited permanently for a number of years, although the whole population would not necessarily have been in continuous residence, since subsistence activities must have been carried out over fair distances. However, one could argue that the mere existence of a stronghold such as this would imply unsettled conditions in the area, and perhaps the inhabitants were forced to range in close proximity to the pa, for reasons for self-defence. The author has already made this point in a forthcoming book review (Journal of the Polynesian Society, June 1968).

No traditional evidence seems to have survived for Mangakaware, but the material culture is unequivocally Classic Maori, and the absence of European material gives a useful terminus ante quem for the occupation.

#### ACKNOWLEDGMENTS

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