



NEW ZEALAND
ARCHAEOLOGICAL
ASSOCIATION

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION MONOGRAPH 14:

Susan Bulmer, Garry Law and Douglas Sutton (eds), *A Lot of Spadework to be Done: Essays in Honour of Lady Aileen Fox*



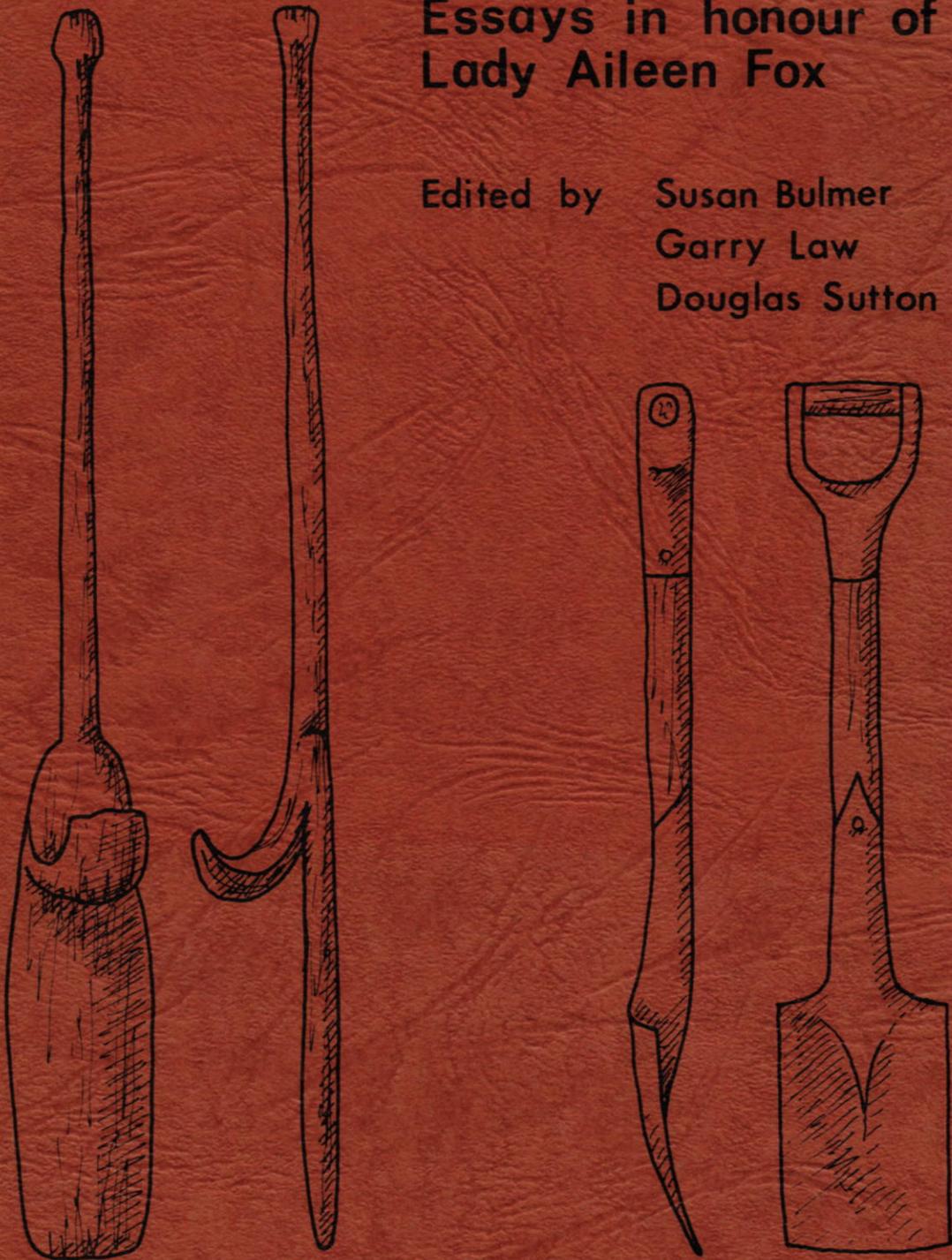
This document is made available by The New Zealand Archaeological Association under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

To view a copy of this license, visit
<http://creativecommons.org/licenses/by-nc-sa/4.0/>

A LOT OF SPADEWORK TO BE DONE

Essays in honour of
Lady Aileen Fox

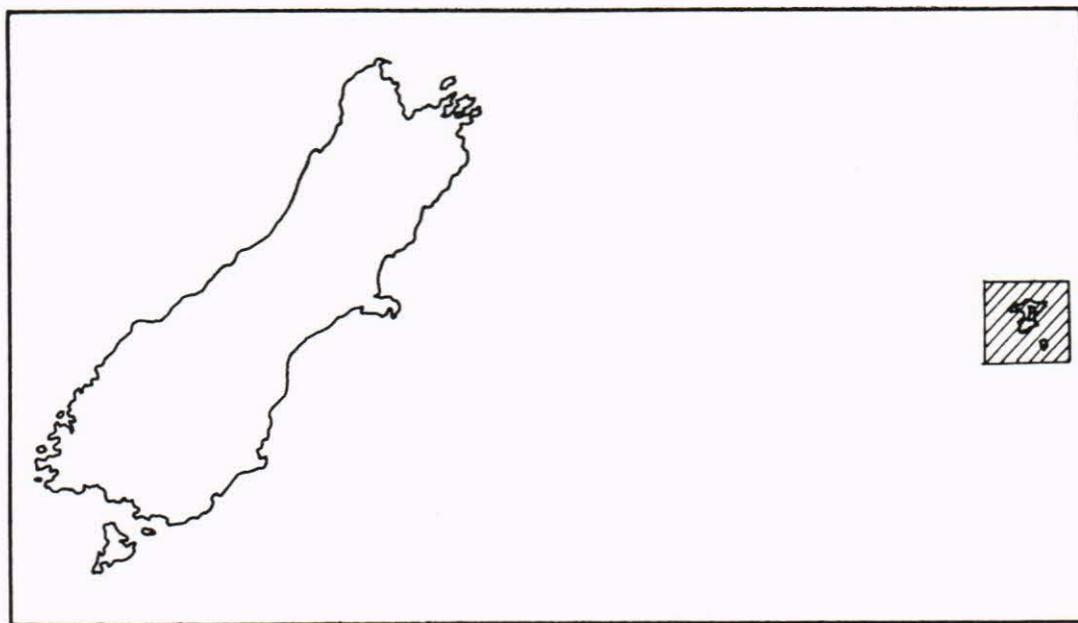
Edited by Susan Bulmer
Garry Law
Douglas Sutton



HUTS HOVELS OR HOUSES: A CLARIFICATION OF PREHISTORIC MORIORI SETTLEMENT PATTERNS

Douglas Sutton

Anthropology Department
Auckland University



Introduction

Recent archaeological research in the Chatham Islands (Figure 1) has resulted in the formulation of a culture history of the islands and a tentative explanation of the course and causes of culture change which occurred there (Sutton 1980, 1982, 1982a). This change involves

some simplification of socio-political organisation and material culture from the earlier or Archaic phase of the sequence to the Moriori phase. The Archaic phase lasted from initial settlement which occurred sometime in the interval 800-1000 A.D. until 1500 A.D. The Moriori phase began about 1500 A.D. and ended in 1800 A.D., soon after European discovery of the Chathams. These conclusions are very different from an earlier view in which the Moriori people were seen as the descendants of the earliest occupants of New Zealand who were supposed to be Melanesian or of mixed Melanesian-Polynesian origins. These people were said to have been forced to leave New Zealand after the arrival here of Polynesians in the Great Fleet of about 1350 A.D.

Moriiori culture developed in the Chatham Islands. The evidence available at present indicates that the islands were first settled from New Zealand in a drift voyage. Moriiori culture has been seriously misunderstood in several respects. This paper is an attempt to clarify Moriiori settlement patterns for the period of the 16th century. It focuses on evidence of living structures. Several late 19th century sources described and characterised the Moriiori people as wanderers who moved from food source to food source as necessity required. Archaeological and historical evidence is used below to counter this image.

The view of the Moriiori as a simple wandering people is drawn from a few late observers who saw the Moriiori after they were colonised by Europeans and Maori groups and decimated by introduced diseases to which they had little immunity.

Historic Evidence of Moriiori Living Structures

European visitors to the Chatham Islands saw the Moriiori decline in numbers and finally die out. The earliest visitors stayed only a very short time. The sealers who came later were sometimes illiterate and generally secretive about their whereabouts so that the ships' logs would not reveal the locations of good sealing grounds

to their competitors. The whalers were seldom ashore and for the most part their interest in the Chatham Islands came after the Morioris had been conquered by the Maori people from North Taranaki in 1835. There were however, some people who described the Moriori carefully. Their papers comprise the few primary historic sources which exist. The Chathams attracted a lot of scholarly and popular interest in the nineteenth and early twentieth centuries and a mass of descriptions of the Moriori developed, which were based often indirectly and inaccurately upon the few primary descriptions.

The historic sources contained descriptions of, or at least statements about, five types of living structures said to have been used by the Moriori. These are summarised here and used as an aid to the interpretation of archaeological evidence presented in Section 2. Each is expected to be present in the archaeological remains of each of these five types of living structures as mentioned in the text and summarised in Figure 2.

The five recorded types:

1. arbours
2. single-screen windbreaks
3. circular huts
4. inverted v-shaped structures
5. roofed and walled rectangular houses.

The arbours were seen by Broughton at Kaingaroa in November 1791. He wrote "The woods were in many places formed into arbours by bending the branches while young and enclosing them with small trees" (quoted in Vancouver 1792:87; see also Johnson quoted in McNab 1914: 505). Archaeological identification of arbours would be very difficult because they would leave no postholes. Jefferson (1955) believed that dendroglyphs in the mixed broadleaf forest on the north and east of Chatham Islands were carved around arbours but this was not proved either by her survey or by Simmons' excavations in the area

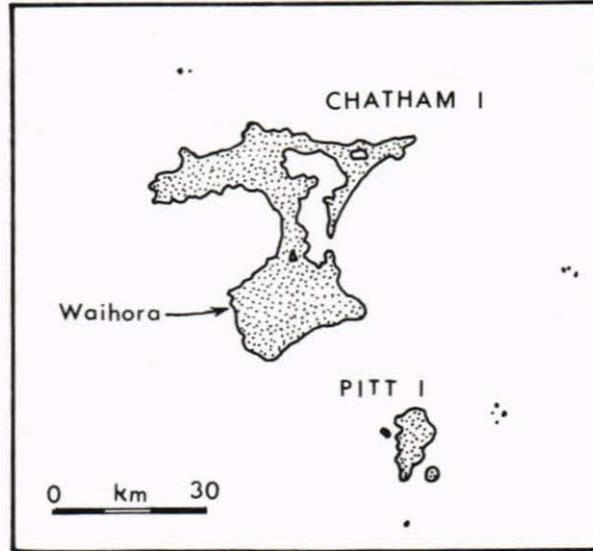


Fig.1 Location of the Chatham Islands.

Figure 3: Field Evidence of Rectangular Houses from Simmons (1964)

<u>Site No.</u>	<u>Location</u>	<u>Depressions</u>
50	Kaiara	"four or five... 6" x 5' x 6"..."
51	Te Matarae	"about 5...8' x 5' x 6" and 5' x 5' x 6"..."
80	Matangi-nui	"three...are rectangular 8' x 5' x 6", one...rounded of 12' diameter."

Figure 2: Archaeological Evidence of Known Habitation Types

Type of Structure

	Circle of sapling roots	Circular shallow depression	Rectangular shallow depression	Single or paired postholes	Circle of oblique post or stake holes	Rows of oblique post or stake holes	Rows of vertical centre-line postholes	Rows of vertical post or stake holes
Arbours	X	-	-	-	-	-	-	-
Single Screen Windbreaks	-	-	-	X	-	X 1 row	-	-
Circular Huts	-	X	-		X	-	-	-
Inverted U-shaped Structures	-	-	X /_	X /_	-	X 2rows	X /_	-
Porched and Rectangular Houses	-	-	-	-	-	-	X	X

X /_
X
-

Present, but not in all cases

Present in all cases

Absent in all cases

(Simmons Ms. 1963-1964).

Single-screen windbreaks were seen in use by Parker who visited the Chatham Islands between August-September and November 1833. They, "consisted merely of a few posts set in the ground with the intermediate spaces filled up with fern or dry grass forming a kind of screen to keep off the wind with half a roof like a thatch" (Parker Ms. 1833).

These structures would be represented archaeologically by a single line of small and well-spaced vertical or oblique postholes.

Two types of circular huts are described. The first is mentioned in Taylor's (1870:17) Te Ika a Maui which is not a primary source. Taylor's description of the circular huts appears to be influenced by a late and negative view of the Morioris. He wrote that, "formerly...their house, if they could be called that, were made by a few poles reared together over a circular pit, two or three feet deep, covered with sods, thus forming a cone-shaped hut with a small hole in the north side just large enough for a man to creep in, which was closed by a bundle of sedge or other substance. Probably this was the simplest form of habitation we are acquainted with...in these miserable holes they sat huddled together with their children between their knees for warmth".

Travers (1877:21) reported his son's description of a similar structure more simply. It was a, "rough shelter, conical shaped, (which) comprises...a circle of poles drawn together at the top and then thatched...a trench was dug to carry off the rainwater." This type of structure would be represented archaeologically by a circle of oblique postholes, a few metres in diameter, with an external shallow depression left after filling in of the drain.

The inverted V-shaped structures described in the historic records may be divided into two types on the basis of size and degree of permanency. The smaller of these is described by several authors

including Welch and Davis (1870), Koche (1873) and Skinner and Baucke (1928). The description by Welch and Davis (1870:xcvii) is the most succinct. Both Koche and Baucke summarised things that they had seen many years before the date at which they wrote and their descriptions therefore may be less reliable.

Welch and Davis said that, "their only dwelling place consisted of two poles stuck in the ground and a cross-piece one to the other, against which a few branches of trees were placed in sloping position with some flax leaves to form a shelter". Another example of the smaller V-shaped structure was documented by H.D. Skinner (1923:75) who presented a sketch of a rectangular structure without either corner posts or upright walls which was apparently built over a shallow depression. The sketch was made by Skinner on the basis of evidence given to him by Mr. R. McClurg who was an elderly resident of Te Roto during Skinner's visit to the Chatham Islands.

Alexander Shand (1911) mentioned significantly larger V-shaped structures. Williams (1898:344) was told of, "Inverted V-shaped huts constructed of tree ferns and toi-toi grass, often sufficiently large to accommodate 20 odd to 30 people." However, he did not see any of them.

The young Travers (1877:21) took a set of carved planks off a disused Moriori house of the inverted V-shaped form. The carvings were sent to the National Museum in Wellington. They are very similar to known pre-European artwork from the Chatham Islands so the house in question was most probably made and used by the Moriori people at or before the time of European contact. Richards (n.d.) has stated that two of the carvings were sawn with metal tools. If this assertion is accurate then the house was probably made after about 1805 A.D., although it may have been made earlier and then later modified or dismantled with European tools. Richards (n.d.) estimated from the lengths and abutment angles of the carvings that the house

was less than 5ft wide at its base. Skinner had earlier examined the carvings in order to assess the size of the house and his results were very similar. He too assumed, presumably on the basis of the McClurg information, that the ends of the carved planks were set below ground level. This point is not mentioned in the Travers publications (H.H. Travers 1868, 1868a; W.T.L. Travers 1865, 1871, 1877) but it is critical to the reconstruction of size which was made by both Skinner and Richards. Enigmatically Skinner refers to this apparently small structure as a "social hall" (1923:76).

The known types of the inverted V-shaped structure would be represented archaeologically as follows: (1) After Welch and Davis (1870:xcvii): 2 vertical postholes, probably similar in diameter and depth, separated by a distance of about 2 metres. (2) After the McClurg drawing (Skinner 1923:75) a line of substantial posts and 2 parallel lines of oblique stake holes equally distant from the centre line. The structure was built over a shallow depression which might be apparent archaeologically as a shallow rectangular pit. (3) After the Skinner/Richards reconstruction of the Travers house: a series of centre line posts and 2 parallel lines of oblique stake holes would be expected. These smaller holes would be separated by approximately 1.5 metres or 1.25 metres each side of the centre line.

Johann Engst left a description of a large rectangular house. He was one of the very few literate Europeans who lived in the islands prior to 1870. However, very little of his writing is available. Rhys Richards (n.d.) has translated a manuscript held in the Florance Collection in which Engst as an old man recalled how, "There has also been shown to me by some Morioris, a place where they had a very large house, whether for winter lodging or for a place of assembly I cannot say; but how it was built was minutely pointed out to me;...the ground plan is rectangular, twice as long as broad, the uprights were put in the ground - (shaped or staked) of

the hardest durable material which grows there and the roof parts are fastened on the uprights with flax string; then the whole is overlaid with bark of the Ake Ake tree; at the last all is covered, sides and roof, with the water flax which grows in the Whanga (lagoon). On the one side of the gable is the door, and both sides of the door is a large hall as broad as the whole building. I speak here of the time when neither Maori nor any other foreigner was amongst them." (Engst Ms., 1900).

An abbreviated version of this account was given to Schauinsland by Engst in the Chatham Islands soon after 1897. It was published by Weiss (1901) and recently translated into English by Dennison (1976). It is said in this source that, "their large houses like a great barn, had a door in the gable side, giving an entrance into a great room; above and both sides of the door there were 3 windows. The uprights were prepared from Ake Ake a very durable hardwood (which) was simply dug into the earth. The bark of this tree overlaid with long flax or grass, thickly covered the walls and roof."

There are however major differences between this statement and Engst's manuscript. We will probably never know whether they are due to Engst or whether they are changes made to his description by Schauinsland and/or Weiss. In any event the structures being referred to are the largest and most elaborate of the 5 types described.

A large rectangular house of the type mentioned by Engst would be represented archaeologically by three parallel rows of vertical postholes. Those in the centre row would be largest in diameter and depth. Those on the walls would be smaller but more numerous. The "hall before the gable" which is evidently a verandah would be a conspicuous feature of the sheltered end of this house type.

Surface evidence of a very large rectangular structure may have been found at Tennant's Lake by Skinner. He found, "a large

rectangular depression marking the site of a very large house, 72 feet in length and 12 feet wide" (Skinner 1923:76). The author attempted to relocate this site and several oblong depressions were found but they all proved to be the results of erosion in the underlying limestone around Tennant's Lake. Simmons (1964:57) reported three "Prehistoric Villages" on the Chatham Islands and said that rectangular depressions were visible on the surface in each of them. The data is summarised in Figure 3. The Matangi-Nui site (N.Z. Archaeological Site Number C240/54) was visited by the author and test pitted. The depressions there are natural. The two other locations mentioned by Simmons were not revisited. Richards (1972) claims that one of them, Te Mataarae, was a Moriori village in early historic times (Richards 1972). The location of a large Moriori site at Kaiara was confirmed by Mr. Regnault, the former landowner (Begg 1977). However, the known surface evidence is not sufficient to confirm or negate the presence of large rectangular houses at that location. Although there are some apparently cultural depressions there these are ovoid rather than rectangular and somewhat smaller than expected from the Engst description.

SECTION 2. Archaeological Evidence of Living Structures at the Waihora Site.

It is interesting that the largest and most elaborate living structures noted in the historic sources are the least frequently mentioned and that the only record we have of the big rectangular houses comes from someone who arrived in the Chatham Islands as a literate adult early in the historic period. Engst got to the Chathams when there were still several hundred Moriori alive, presumably including some who recalled or had been told about the pre-European lifestyle. The evidence Engst recalled being shown was

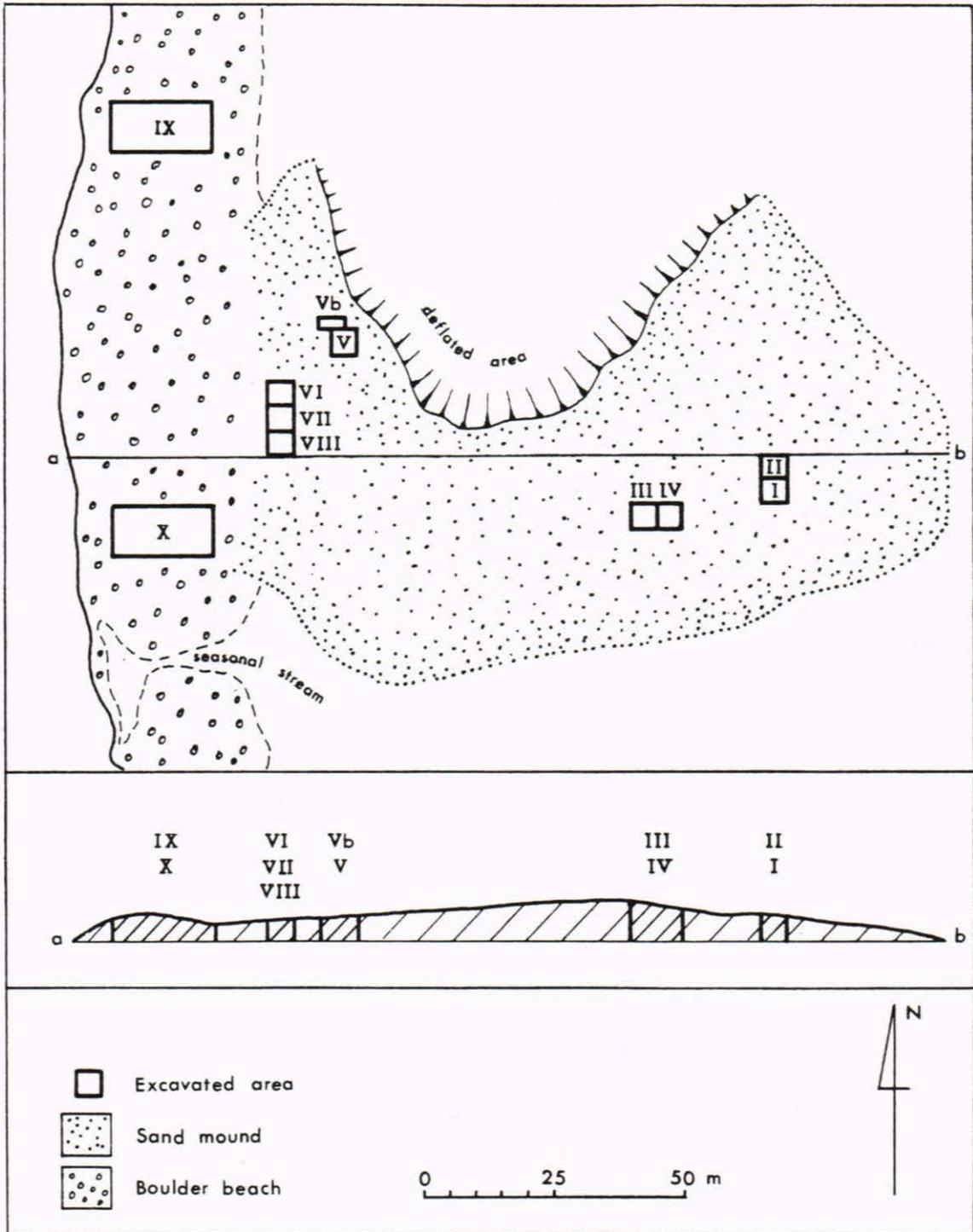


Fig.4 Areas excavated on the Waihora Site.

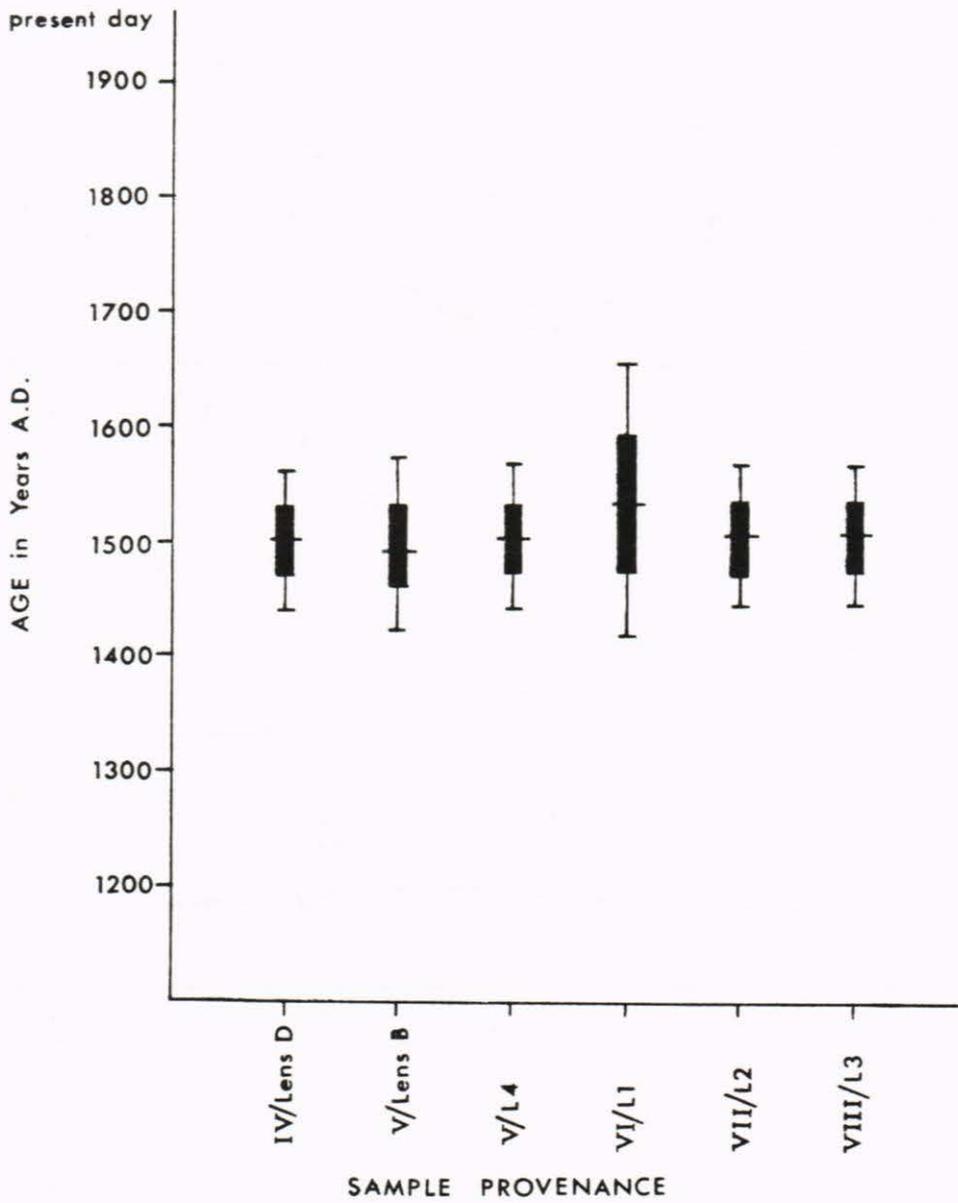


Fig.5 Radiocarbon Dates from Waihora.

apparently pre-European and well understood by his informant.

This historic evidence may therefore suggest that the large rectangular houses were used by Morioris but that they were not built after about 1820 and that after this date smaller and less permanent structures were used exclusively. This change parallels a rapid reduction in the total Moriori population, reduced community or normal social group size, and increased mobility which are known to have occurred after 1820. The last two of these factors may have been caused by the European extermination of Fur Seals which occurred between 1805 and 1835. The present author has shown elsewhere (Sutton 1979) that the Fur Seal formed the principle resource upon which the Moriori relied. The smaller and less permanent living structures described above may have considerable antiquity in the Chatham Islands but they were used to accommodate small and short-term hunting or gathering parties which moved out from permanent settlements containing large rectangular houses in order to undertake special activities at some distance from their home base.

This suggestion is supported by archaeological evidence from the Waihora site (Figure 1). This site was first recorded by Simmons during his extensive surveys in the Chatham Islands in 1963 to 1964. When the author first visited the site in 1973 a winnowed cultural surface approximately 120 metres in diameter was exposed due to recent over-grazing. A small but very interesting collection of artefacts which had been picked up by the landowner from the site and including many of the Moriori tool types illustrated by Skinner (1923). These included Mataa, schist clubs, distinctive Moriori adzes, and bone points. The surface evidence at the site included a number of human burials along the seaward margins of the sites, stone-lined hearths which were scattered over an intermediate area of some 20 metres from the sea, a large central area covered with heat fractured

stones thought to indicate cooking and finally a series of at least three middens which were arranged around the north-east, leeward margin of the site. This was the strongest evidence found of a prehistoric 'village' during extensive surveys on Chatham and Pitt Island undertaken by the author and others from 1973 through until 1977. An extensive excavation was laid out on the various "activity areas" which were exposed on the surface of Waihora site (Figure 4). Areas I and II covered a bird and seal bone midden. Areas III and IV included a shellfish midden at the edge of a cooking area. Areas V and Vb covered a large and thick fishbone midden. Areas VI, VII and VIII were positioned so that each contained a hearth and so that each hearth was in a different quarter of one of these three 5 x 5 metre square areas. Finally Areas IX and X were laid out across the burial area and excavated to recover human bones which were later analysed by Houghton (1976). The areas excavated are shown in Figure 4. All the dateable areas proved to be contemporary (see Figure 5). This was a Moriori "village" or "hamlet" settlement which was occupied in or about the 16th century A.D. No structural evidence was found in Areas I or II. In Areas III and IV there were 2 semi-circular windbreaks each of which surrounded a shallow fire scoop. In areas V and Vb there were a total of 16 postholes and in the smaller area, Area Vb these postholes formed a single oblique line which may represent either the edge of a windbreak or the eastern wall of a house of the inverted V-shaped form described by Skinner and others. The structural evidence found in Areas VI, VII and VIII is of the greatest interest. As elsewhere on the site stratigraphy in these areas was shallow (see Figure 6) and the cultural material was found in a single horizon. A total of 59 postholes, and 3 hearths and 7 lenses were identified in Areas VI, VII and VIII. These are shown in plan view in Figure 7. A pattern of alignment is clearly

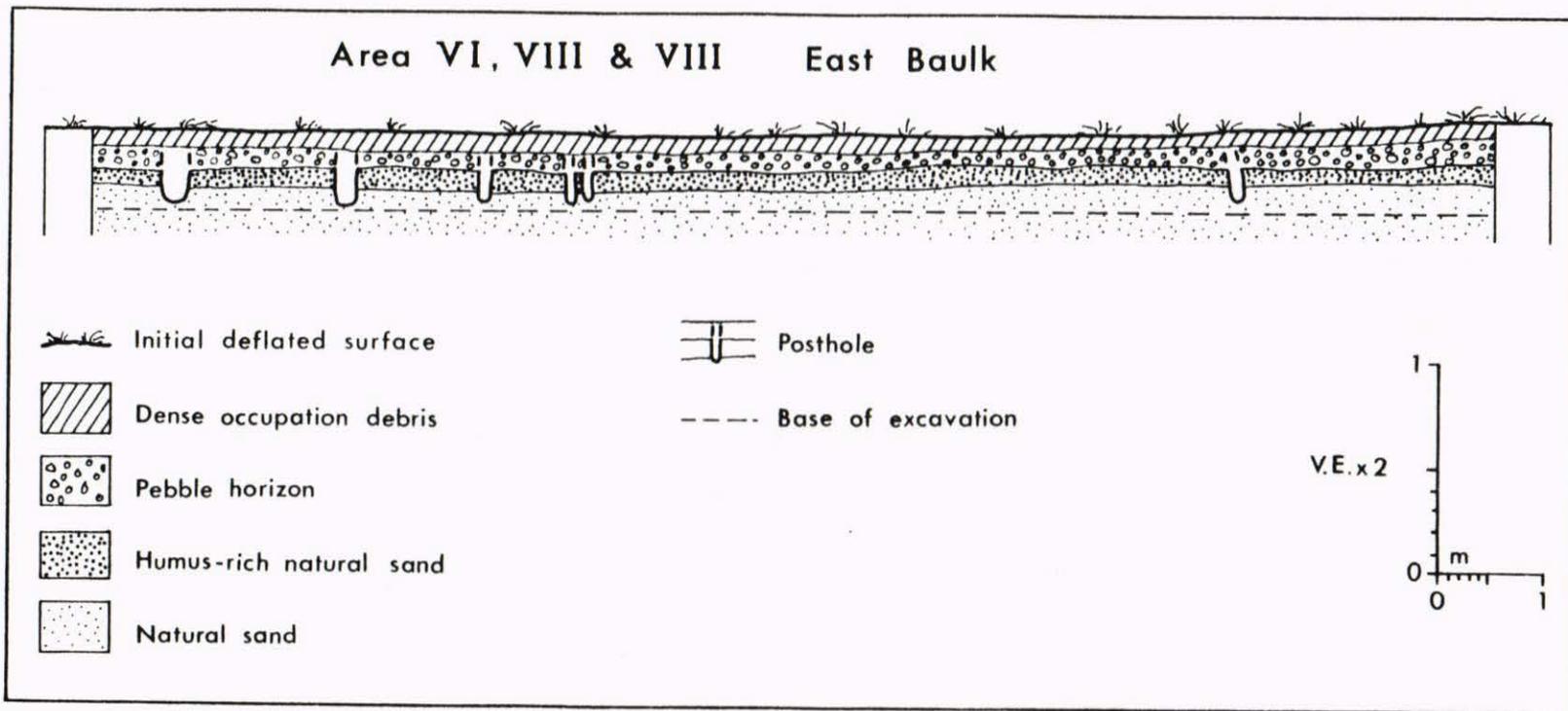


Fig.6

Section of Areas VI, VII and VIII.

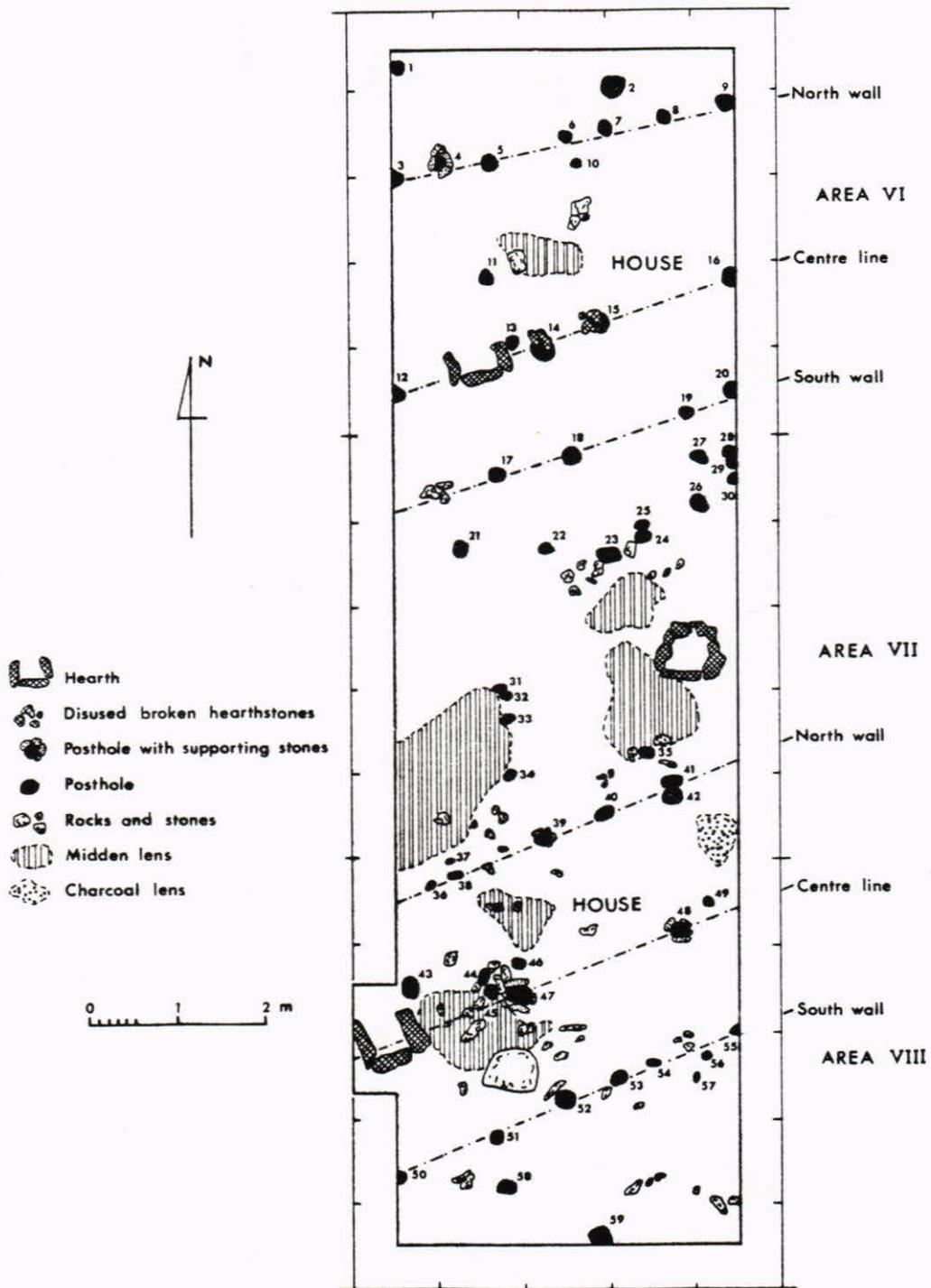


Fig.7

Plan of Areas VI, VII and VIII.

evident. It is first suggested by the parallel orientation of the hearths in Areas VI and VIII. Further, 6 major lines of postholes are evident in the posthole distribution. Each of them is lined along the same axis as the hearths in Areas VI and VII; that is, south-west to north-east. These rows of postholes form two groups of three and there is a stone-lined hearth in the centre row of each group. Postholes in the centre row are larger in size and fewer in number than those in the side rows. All of the postholes are vertical and some particularly, the two major postholes in each central line, are supported by water-rolled fire-fractured stones which were packed into the sand around the posts. The stones around the postholes 14 and 15 in Area VI (see Figure 7) were fire-fractured hearth stones. Three large cobbles, representing a complete disused hearth were formed when the pieces of stone in each of these postholes were matched and glued back together.

The posthole pattern presented in Areas VI and VIII matches the one expected for rectangular houses on the basis of the Engst manuscript account. The presence of two of these patterns is suggested. The structure represented by postholes in Area VI measures at least 5.2 metres by 3.5. The Area VIII structure measured more than 5.5 metres by 2.7. The posthole pattern in Area VII is less clear. The presence of three midden lenses and a concentration of over 300 stone flakes in a single square metre adjacent to the hearth in Area VII suggests that this area was used for some food preparation and the manufacture and use of artefacts. Domestic activities such as hook and net making, skin and fibre work and the manufacture of stone tools may all be represented by the artefacts found in Area VII, as well as within the two house structures, (see Sutton 1979: Chapter 5). The curved line of postholes (numbered 31 to 34 around the leeward perimeter of lens C Area VII suggests a low fence designed to stop midden being blown across the settlement by the prevailing

wind. The group of postholes in the north-east of Area VII includes two straight lines. These are from 30 to 23 and 23 to 21 (see Figure 7). However no specific interpretation is possible at present. It is important to note that these postholes are smaller and shallower as a group than postholes in the centre lines in Areas VI and VIII.

A speculative reconstruction of the above ground portion of the houses represented in Areas VI and VIII is now possible. A rectangular ground plan is assumed (see Figure 8). Light stakes were placed at short and fairly regular intervals to form the walls. Flax and fern may have been interwoven around these stakes to form a low but windproof vertical wall. These walls must have been low to withstand the strong prevailing winds. They are shown to be 40 cm high in Figure 8. The gable on these structures may also have been low. It is shown to be 1.5 metres high. It is known to have been supported by at least two major posts. A single beam is suggested for the apex of the gable. The roofing material may have consisted of four elements as shown in Figure 8. In view of the strong cold winds which are characteristic of this region a continuous layer of ponga (*Cyathea* sp. or *Dicksonia* sp.) beams may have been used on the low outside walls and roof. These would have then been covered by fern or flax to make the roof rain and wind proof. Strips of Ake Ake bark would very probably have formed the outer surface of the roof. These strips can be up to 40 cm wide and could be overlapped to form a sound roof. Light rails may have been lain along the outside of the roof and bound to its inner structure with strong cord, presumably a flax fibre. This would serve the essential function of holding the roof on and together despite the wind. The reconstruction applies equally to the structure represented in Area VI. Alternatively, the framework may have been covered with Ake Ake bark and then "waterflax" as Engst suggested (Engst Ms., 1900 quoted above). However it seems very likely that relatively light roofing described

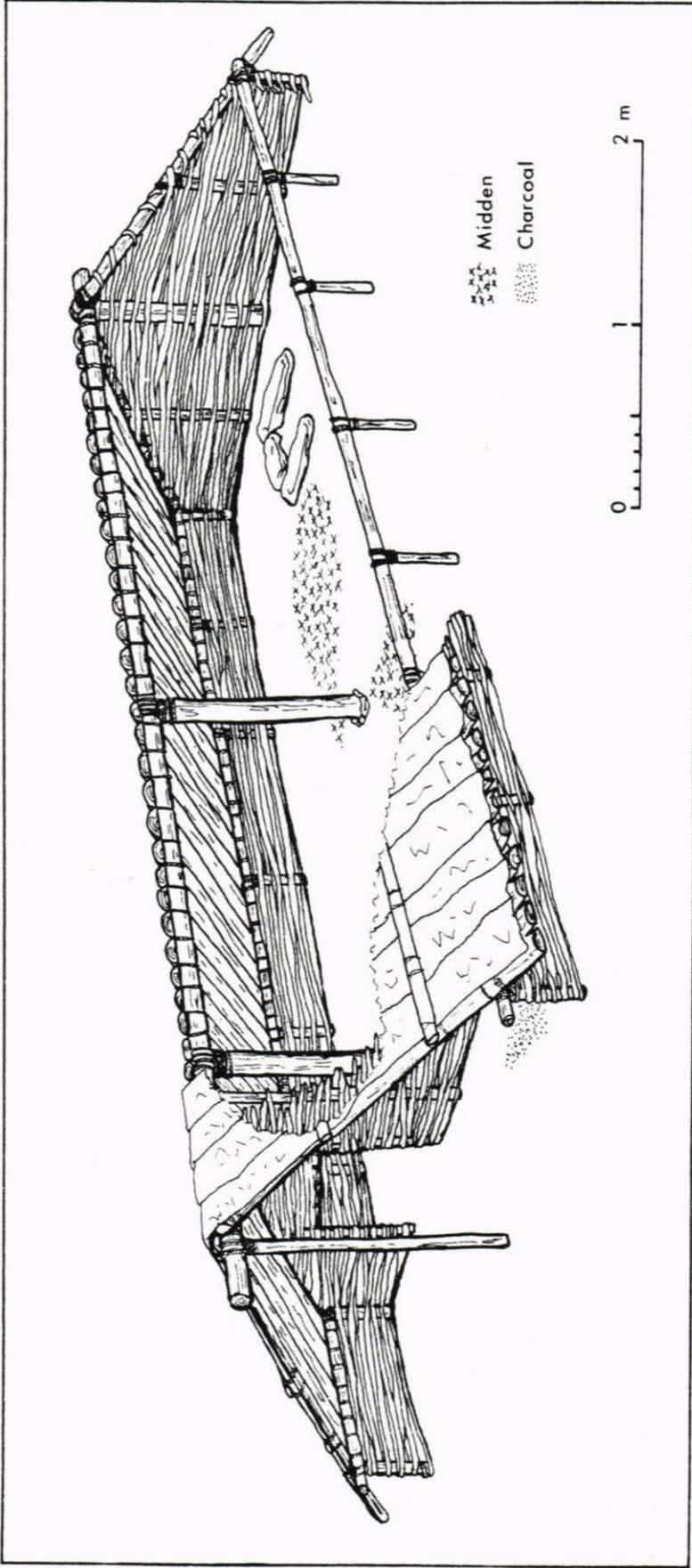


Fig. 8 Oblique View of Reconstructed House.

was more suitable to a sheltered area of the island rather than to the south west coast where the Waihora site is located.

The issue of whether a verandah was present on either or both of these houses must remain open. However, it is possible that the sheltered end of the Area VIII house is represented by a line through posthole 42, 49 and 55 and that the charcoal lens beside this line represents a fire which was inside a porch or verandah. This possibility is assumed in Figure 8.

Conclusion

Sizeable rectangular houses are shown to have been used in the prehistoric period by the Moriori. The site in which they are shown to have existed consisted of a series of synchronic and functionally interrelated activity areas. These form an integrated village plan. The activity areas are: the burial area, houses, food preparation areas and the middens. The burials were consistently placed in a narrow strip of land between the houses and the sea. There was very little cultural material in this zone other than the burials. It was apparently set aside as a tapu area and therefore certain rules evidently restricted its use.

The number of houses which stood on the Waihora site at any one time cannot yet be established beyond doubt. However the distribution and maximum possible number of houses on the site can be assessed. Eleven complete or broken stone-lined hearths were found within a crescentic area on the west and particularly south-west of the mound. The distances between the hearths are small suggesting that the houses were either tightly packed or that some succeeded others. Alternatively there may have been more than one hearth per house. It is important to note here that clusters of fire-fractured stones similar to those found around postholes 14 and 15 in Area VI would have been recognised and counted in the search for hearths

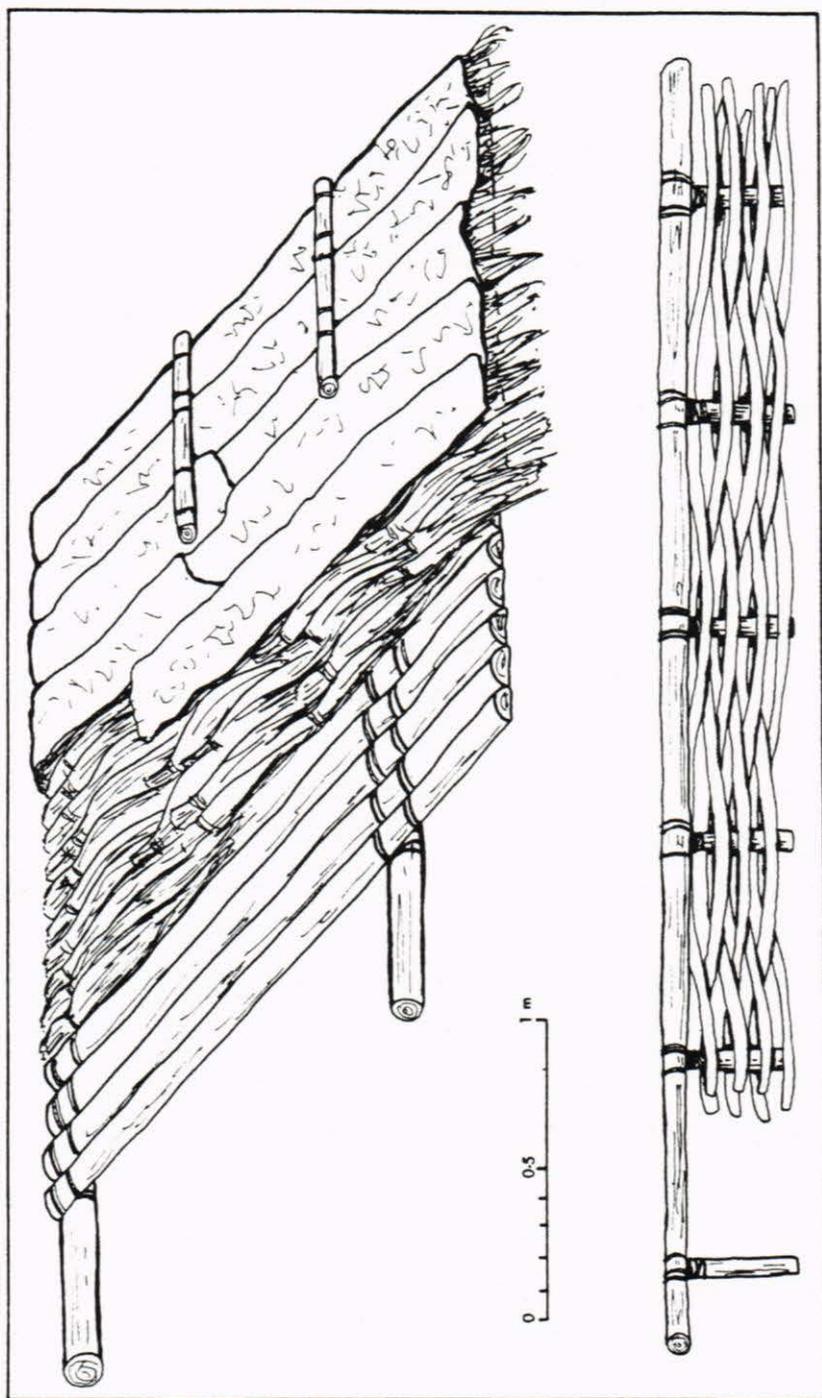


Fig.9 Reconstruction of House Roof.

outside the excavated area. Those in the Area VI represented former hearths from within that house which had become unsuitable for use. This indicates that at least that house was used for a considerable time.

The orientation of the excavated houses is significant. It would minimise resistance to winds from the south west quarter which are the prevailing and strongest winds on this coast (see Figure 2:5 in Sutton 1979). Similarly the deployment of the houses within an arc on the windward side of the mound is not without method, it would have created a sheltered area in the middle of the site. No hearths or midden were present in that part of the site. It was test-pitted at several points and found to be covered only by a very thin cultural layer. The open area bears a striking similarity to the Maori marae except for the evident absence of a wharenuī (meeting house). The proximity of domestic houses to the open area is another feature which is dissimilar to the plan of the Maori marae form. The author takes the view that the open areas on the Waihora site was not a marae but rather that it consisted of two zones. The first, which was adjacent to the house, was used for shelter, some food preparation and a range of domestic activities. The second zone is an interval of physical and social space, (see Prickett 1974 for a discussion of the concept in relation to spatial relationship with Maori house) which separated the houses and the burials together from the opposite, profane, side of the site and the activities which were carried on there.

The middens in the Waihora site were small, separate and quite numerous. They also occurred within an arc, although in this case it was the direct opposite of the one formed by the distribution of the houses. It included the northern and western flanks of the mound and a small area on its crest. Each of the excavated middens has very different composition in terms of the relative frequency of shellfish, fish, seals and birds present (see Sutton 1979 Appendix 5:3, 5:2 and Table 5:15). No simple explanation of this difference in composition

is available. It does not appear to be of seasonal effect, nor are the resources being cooked at that point on the mound which is closest to the area from which they are taken. Finally in view of the specialisation of some of the middens it is unlikely that each one represents the cooking activity of a separate family.

The cooking structures within the site are all in intermediate positions, perhaps not unexpectedly. That is, they separate the middens from the houses and the burials. Waihora was a planned settlement. The plan is rather more than the result of a strategy to maximise comfort or to minimise energy output. It is an intriguing possibility that the layout represents a series of oppositions between sacred and profane aspects of Moriori culture; for instance, burials on one hand and midden on the other. The availability of a detailed plan of the Waihora site makes possible the comparison with archaeologically and ethnographically known villages from other parts of Polynesia including New Zealand, however such a study is beyond the scope of this paper.

The conclusion emphasised here is that large rectangular houses were used by the Moriori but that they were probably not built after about 1820. This change would seem to have occurred because the on-shore Fur Seal breeding colonies were either exterminated or badly reduced in size and so the economic basis of sedentary Moriori settlement patterns was gone.

Secondly, introduced disease and some deliberate killings caused a rapid and catastrophic reduction of the Moriori population. As a consequence the Moriori communities were smaller than they had ever been before and of necessity they moved more frequently than in the past. The smaller and less permanent structures which were seen by early and other European visitors to the Chatham Islands may however have considerable antiquity in the Chatham Islands. The reconstruction of Moriori settlement patterns and subsistence economics

in the area around the Waihora site during the 16th century which has been offered elsewhere by the author (Sutton 1982) shows that Waihora was the central base for a group of 30-50 people who lived in that immediate area. At certain seasons of the year and for short periods of a day or two at most the people who lived at Waihora went out to fish or to gether or to kill breeding petrels which were nesting in burrows nearby. At these sites they may well have built more bivouacs or light windbreaks of the sort reported in the historic period and falsely thought to be characteristic of the Moriori. However, most of the time these people lived in large rectangular houses.

REFERENCES

- Begg, A. 1977. Development of the Otonga Land Block, Southwest Coast, Chatham Island. Working Papers in Chatham Islands Archaeology 17. Anthropology Department, University of Otago.
- Dennison, K.J. 1976. More than Fifty Years on Chatham Island. Working Papers in Chatham Island Archaeology 5. Anthropology Department, University of Otago.
- Engst, J. 1900. Manuscript, Florance Collection. Canterbury Museum Library, Christchurch.
- Houghton, P. 1976. The Human Skeletal Material from Waihora (CH 283). Working Papers in Chatham Islands Archaeology 4. Anthropology Department, University of Otago.
- Jefferson, C. 1955. The Dendroglyphs of the Chatham Islands. Journal of the Polynesian Society 64(4):367-441.
- Koche, 1873. Koche: King of Pitt Island. The Catholic World (July, 1873).
- Parker, M. 1833. Journal Extract of A Voyage to the Chatham Islands. Grey New Zealand Manuscript 16, Auckland Public Library.
- Prickett, N.J. 1974. Houses and House Life in Prehistoric New Zealand. M.A. Thesis, Anthropology, University of Otago.
- McNab, R. 1914. Historical Records of New Zealand. Government Printer, Wellington.
- Richards, R.M. n.d. A Revised Classification of Moriori Habitations. Ms., Department of Foreign Affairs, Wellington.
- Richards, R.M. 1972. A Tentative Population Distribution Map of the Morioris of Chatham Island, circa 1790. Journal of the Polynesian Society 81(3):350-374.
- Shand, A. 1911. The Moriori Peoples of the Chatham Islands. Memoir of the Polynesian Society 2.

- Simmons, D.R. 1963-1964. Field Notes from the Chatham Island Site Survey; November, 1963-February 1964. Ms., Auckland Institute and War Memorial Museum.
- Simmons, D.R. 1964. Chatham Island Archaeological Survey. New Zealand Archaeological Association Newsletter 6(2): 51-69.
- Skinner, H.D. 1923. The Morioris of Chatham Islands. B.P. Bishop Museum Memoir 9(1).
- Skinner, H.D. and W. Baucke, 1928. The Morioris. B.P. Bishop Memoir 9(5). Honolulu, Hawaii.
- Sutton, D.G. 1979. Polynesian Coastal Hunters in Subantarctic Zone. Ph.D. Thesis, Anthropology, University of Otago.
- Sutton, D.G. 1950. A Culture History of the Chatham Islands. Journal of the Polynesian Society 89(1): 67-93.
- Sutton, D.G. 1982. The Chatham Islands. In Prickett, N.J. (Editor), The First Thousand Years Pp.160-178. Palmerston North, Dunmore.
- Sutton, D.G. 1982a. Towards the Recognition of Convergent Cultural Adaptation in the Subantarctic Zone. Current Anthropology 23(1): 77-98.
- Taylor, R. 1870. Te Ika a Maui. London.
- Travers, W.T.L. 1871. Notes on the Chatham Islands extracted from Letters from H.M. Travers. Transactions of the New Zealand Institute 4: 63-66.
- Travers, W.T.L. 1865. On the Destruction of the Aborigines of the Chatham Islands. Transactions of the Ethnological Society of London 4(5): 352.
- Travers, W.T.L. 1877. On the Traditions, Manners and Customs of the Morioris. Transactions of the New Zealand Institute 9: 15-27.

- Travers, H.M. 1868a. On the Chatham Islands. Transactions of the New Zealand Institute 1: 173-180.
- Travers, H.M. 1868. Notes of the Chatham Islands (Latitude $44^{\circ}3'$, Longitude $175^{\circ}W$). Proceedings of the Linnean Society, London 9: 135-144.
- Vancouver, G. 1792. A Voyage of Discovery to the North Pacific Ocean and Round the World. Volume II. London.
- Weiss, B. (Editor) 1901. Mehr als Fünfzig auf Chatham Inseln. Kulturgeschichtliche und biographische Schilderungen Berlin.
- Welch, G.A. and B. Davis, 1870. An Account of the Chatham Islands, their Discovery, Inhabitants, Conquest by the Maoris and the Fate of the Aborigines. Journal of the Anthropological Institute 8: xcvi-cviii.
- Williams, J.W. 1898. Notes on the Chatham Islands. Journal of the Anthropological Institute 27: 343-345.