NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

THE POUERUA ARCHAEOLOGICAL PROJECT: PHASE I, 1982-1983

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Pouerua is located in the inland Bay of Islands (Fig. 1) 8 km east of Lake Omapere. It is the youngest and most conspicuous of 12-15 scoria cones in central Northland (cover).

The archaeological evidence on and around the Pouerua cone has been described elsewhere (Phillips, 1980; Phillips and Hilton, 1980; Sutton, 1982a). To summarise, there are between 300 and 400 terraces on the flanks of the central pa and three fortified areas on the crater rim, two of which are very strongly defended. There are five smaller pa on or near the edge of the 900 ha of lava-based soil which surrounds the central cone (N15/5). This area is covered by complex surface evidence of pre-European and early historic horticulture. Finally, Pouerua is one major pa within a dense and remarkable cluster of these, each of which occurs on a patch of friable silt loam within or near the Taiamai Plains.

A short paper proposing archaeological research at Pouerua was published in September of last year (Sutton, 1982a). The present paper does four things. First, it reviews Phase I of the project (1982 -March 1983); it then considers how much progress has been made towards meeting the research objectives. It introduces work done by Janet Leatherby and Peter Morgan who are mapping the Pouerua area, by Greg McManus and Garry Law on the excavation of N15/237, by Yvonne Marshall on the excavation of N15/505, by David Nevin and the present author on the excavation of N15/255, and by John Campbell on the initial underwater exploration of Lake Owhareiti. All this work will be reported by these people in forthcoming papers. Finally, this paper outlines plans for Phase II of the Pouerua Project.

The published objectives of the project are to define prehistoric settlement patterns and food production strategies at Pouerua. Interests to be followed up are:

1. antiquity of occupation,
2. methods of land modification and patch improvement used in food production,
3. definition of different types of settlement units present,
4. clarification of the relationships between settlement patterns and methods of food production and how these changed through time (after and somewhat amended from Sutton, 1982).

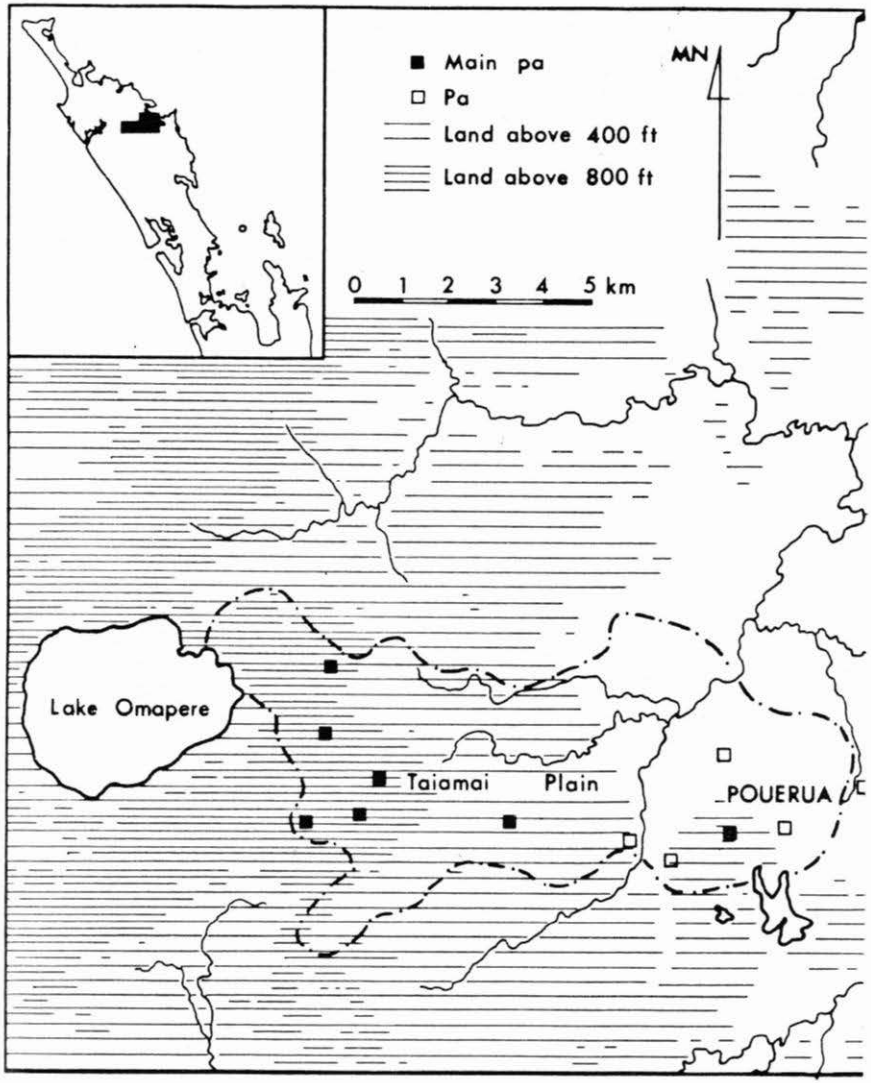
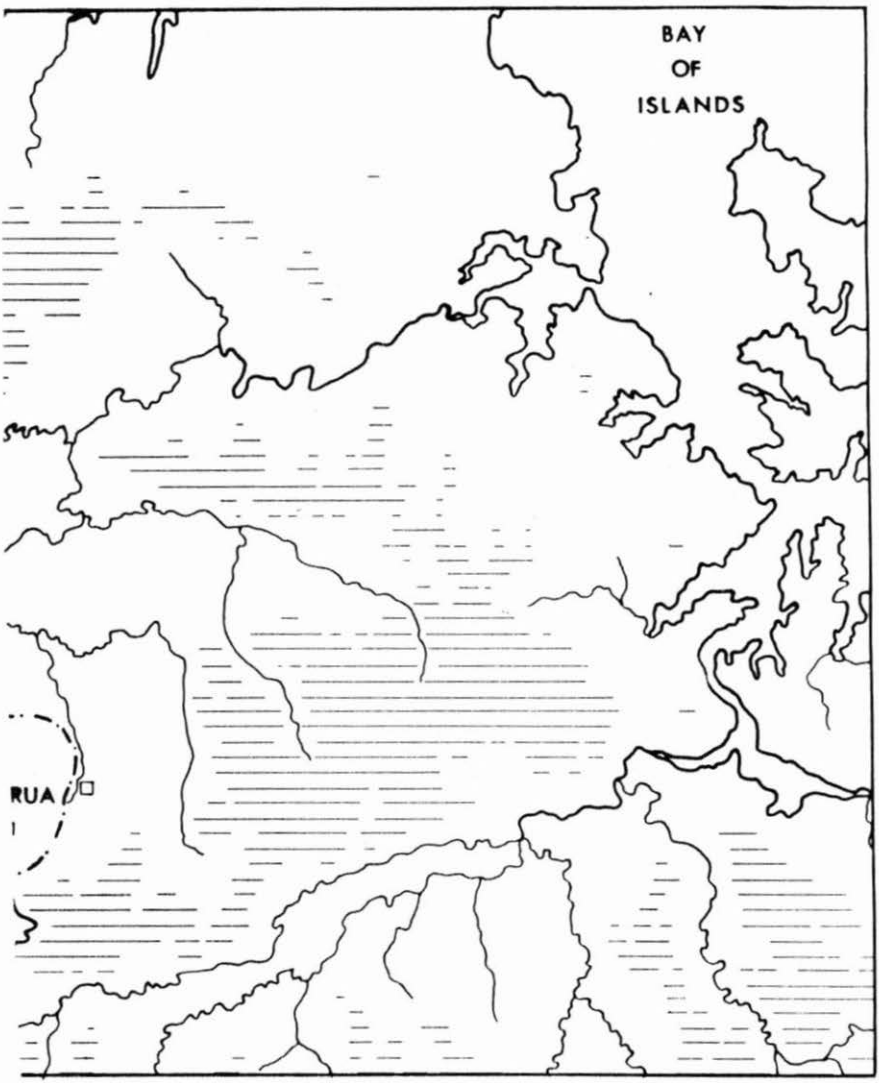


FIGURE 1. Inland Bay of Islands showing location of Pouerua.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Fieldwork

The 99 ha area around Pouerua is being mapped to help with objectives 2, 3 and 4. The map being prepared by Janet Leatherby and Peter Morgan has a horizontal scale of 1:1000 and 1 m contours. It records all visible surface archaeological evidence. A final map and report is being prepared for publication.

The area around Pouerua was divided into sample areas for more intensive fieldwork. Criteria used in this division were soil fertility, friability and stoniness; aspect, slope and access to surface water. Three of these areas were selected for intensive study (Fig. 2). They are:
Area I - sloping-flat Ohaeawai and Papakauri silt loams (references to soil types from N.Z.M.S. 290, Sheet P04/05) west from the base of the cone,
Area II - undulating stonier silt loam on the north shore of Lake Owhareiti, and
Area III - flat-gently sloping Ohaeawai shallow bouldery silt loam near the northern edge of the Pouerua lava flow. These sample areas were chosen because they encompass the range of variation in the criteria listed above.

Fieldwork was undertaken in Area I in June and August and from November 15 until 20 December 1982. Area II was investigated from January 5 until 4 March 1983.

Area I (see Fig. 2)

This area includes steep cone slopes, undulating land, hillocks, gully bottoms and flats. Each of these zones shows evidence of occupation. There are some terraces in the intermediate and lower cone slopes, as well as many on the crater rim, and an important terrace cluster (N15/213) situated near the base of the foot tracks leading up to the crater rim. Numerous stone mounds and some trench boundaries occur on the hillslopes, trench boundaries and tillage margins are conspicuous in the gully bottoms with stone mounds occurring there along slope bases or as concentrations on small areas of thin soil. The flats west of Area I are formed of Ohaeawai silt loam and shallow bouldery silt loam: they are literally covered with stone mounds, large stone heaps and some short stone walls which are judged to be prehistoric. Long straight stone-curbed 'footpaths' are also present there.

There are 17 hillocks in Area I, 12 of which have been modified to form single or multiple terraces, or, uncommonly, pits.

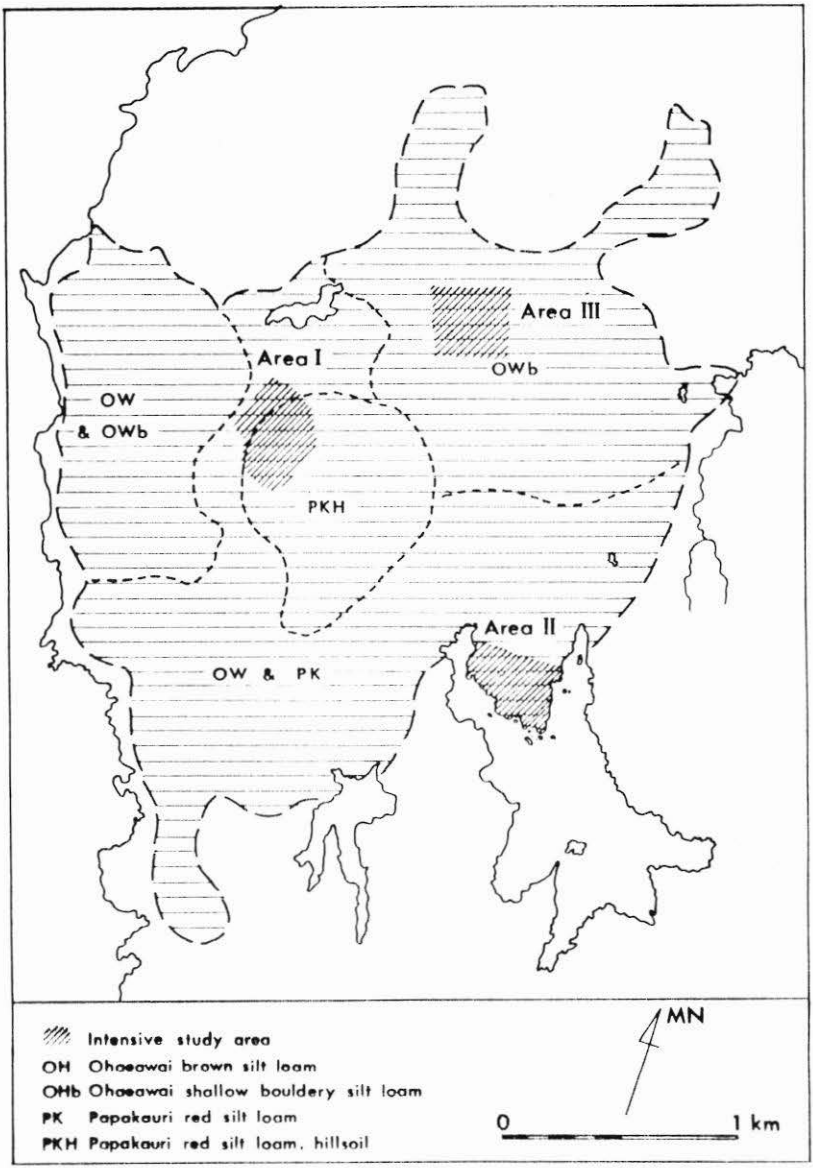

FIGURE 2. Pouerua showing soil types and study areas.

Terraces also occur on the ridges next to the largest areas of trench boundaries in Area I. Those excavated were: a ridge top open settlement (N15/237), by Garry Law and Greg McManus; a ridge top semi-subterranean house (N15/507), by Yvonne Marshall; a hillock-top open settlement (N15/501) dug by Charlotte Damm; and, finally, a terrace and semi-subterranean pit on a hillock with multiple terraces and two pits (N15/236), dug by Brian Keegan and the present author.

In addition to the settlement sites two stone mounds (N15/502), an intersecting grid of footpaths (N15/503), a stone wall (N15/504), and a large ash lens thought to relate to the burning of waste or weed during gardening were excavated to broaden the evidence of gardening sampled during earlier visits to Area I (Sutton, 1982a). (Note that site numbers N15/500-550 are informal. They were allocated during the excavation season to newly found sites and will be replaced with permanent numbers after site record forms have been processed).

The terraces excavated were chosen because they spanned the range of variation in domestic settlement sites present in Area I. The cluster of terraces at the base of the foot tracks (N15/213) was not included because of its apparent special function as a part of the fortifications at Pouerua rather than as a domestic settlement site as such.

N15/237 was a ridge-top single square house which faced north and sat squarely across the ridge. There was also a contiguous cooking and food preparation area, with a shallow scoop containing small burnt stones and a three-sided stone-lined fireplace for use in cooking. A small terrace and a pit located downslope from the excavated area may relate to this settlement. Only one phase of occupation is represented at N15/237.

N15/501 consisted of two superimposed rectangular houses placed on an excavated and made terrace on a narrow hillock in Area I. The earlier house was 2.3x3 m. The later one measured 2.5x3 m. It was set approximately 15° off from the earlier structure and had a four-sided stone-lined hearth (the earlier house had no hearth).

The house at N15/507 was a rectangular semi-subterranean structure measuring 3.8x4.2 m. It was built in a 1 m deep notch dug into the ridge. Its ridge pole was supported by a centre line of large posts. The eaves of the roof rested on the banks. The house faced north and had a substantial verandah 1.6 m deep. A small terrace containing two shallow scoops filled with heat-

fractured stones just downslope from the front of the house was covered with dark brown-black soil, charcoal and ash. This suggests that fires were lit and food prepared there.

Features on N15/236 were a long narrow terrace and an adjacent pit. No evidence of a living structure or palisades was found on the terrace. The pit contained evidence of two phases of occupation. In the earlier phase it was a square and vertically-sided pit dug into the cinder slope, with a partially-made fourth (north-eastern) wall. After infilling, the second phase of occupation involved the use of the pit, then a shallow sheltered hollow, for cooking. A single-slab cooking hearth was found intact.

An initial reconstruction of settlement patterns in Area I suggests that they principally involved single household open settlement sites. Artefacts found in these sites suggest that they are of late prehistoric age. Although the topography of the area is suitable for the construction of more complex settlements this evidently was not done. The limited amount of evidence of modification and resettlement of the excavated sites suggests single phase and fairly short term occupation of those sites. There is a notable shortage of pits in Area I. This suggests that either kumara and other stored foods were carried away or that they were stored above ground.

Area II (see Fig. 2)

The Leatherby and Morgan map of this area was not completed when excavation began there on 5 January 1983. The draft map shows that this is an area with undulating topography, much stonier than Area I, with steep-sided hillocks occurring in a band around the lakeshore. Away from the lake are fairly broad flats and basins between low ridges where there is less stone in and on the soils (Fig. 3).

Archaeological evidence of gardening is evident in several forms. The flats and basins have been cleared of stone and tilled so there are stone mounds around their edges and mixed silt-loam soils with some trench boundaries throughout. There are long single or double curbed stone lines in some areas. A considerable number of small hillock-top terraces without hearths are present. There are at least twelve single house open settlement sites along the lake shore, five of which are shown in Fig. 3. Two of these have pits associated. There is one pit cluster and there are also two more complex open settlement sites present. One of these contained two houses and related structures (N15/255), the other appeared to be one house surrounded at a slightly lower

level by three pits and an open terrace (N15/505). It was decided to excavate these two sites.

The two sites offered the possibility of stratigraphical superimposition and time depth, apparently not found in Area I. Second, each represented a new sort of site to the excavators and offered a view of more complex settlement forms than anything found earlier in the season at Area I. Finally, the stratified sampling of terraces which was intended in Area II was not yet possible in the absence of the complete Leatherby and Morgan map, but may be possible during a subsequent season.

N15/255 contained two very different houses, a small whare, 3.5 x 3 m, a large pit and two small terraces. These features clustered together on a small hillock. All of them were excavated. The higher house was 7 x 5 m with a single gable and substantial vertical walls. The presence of a verandah is suspected, but not proven. Artefacts found within it, and particularly in concentrations along the walls and just forward of the four-sided stone-lined hearth, included greenstone, a substantial amount of obsidian and other exotic materials as well as what we believe to be chert and sinter of local origin.

The lower house was a smaller semi-subterranean structure similar to the N15/507 house in Area I. It measured 9 x 4 m. It contained no hearth, instead a shallow firescoop, no obsidian or greenstone but substantial amounts of local chert and sinter. This house had a verandah which was built on a terrace made by heaping fill behind a stone retaining wall. There is some evidence of an underlying phase of occupation represented by a post hole from and ends for a storage pit over which the house was later built. At this point, notably without radiocarbon dates, I am suggesting that both houses at N15/255 were in use at the same time. The difference in their form, construction and contents are taken, at present, to reflect functional differences or status differentiation. Roof timbers, post holes and some artefacts were recovered during excavation of the whare or small shed as some of the excavators chose to call it. Sections and postholes of the adjacent kumara pit were recovered.

The N15/505 site (see Fig. 3), although thought from surface evidence to be pits around a single house proved to be a cluster of five houses built on a modified, particularly notched and terraced, but small hillock. Two of the houses were built over storage pits. Another was built over a large hangi. A total of three occupation phases are represented in this site. These may give the time depth sought at Pouerua.

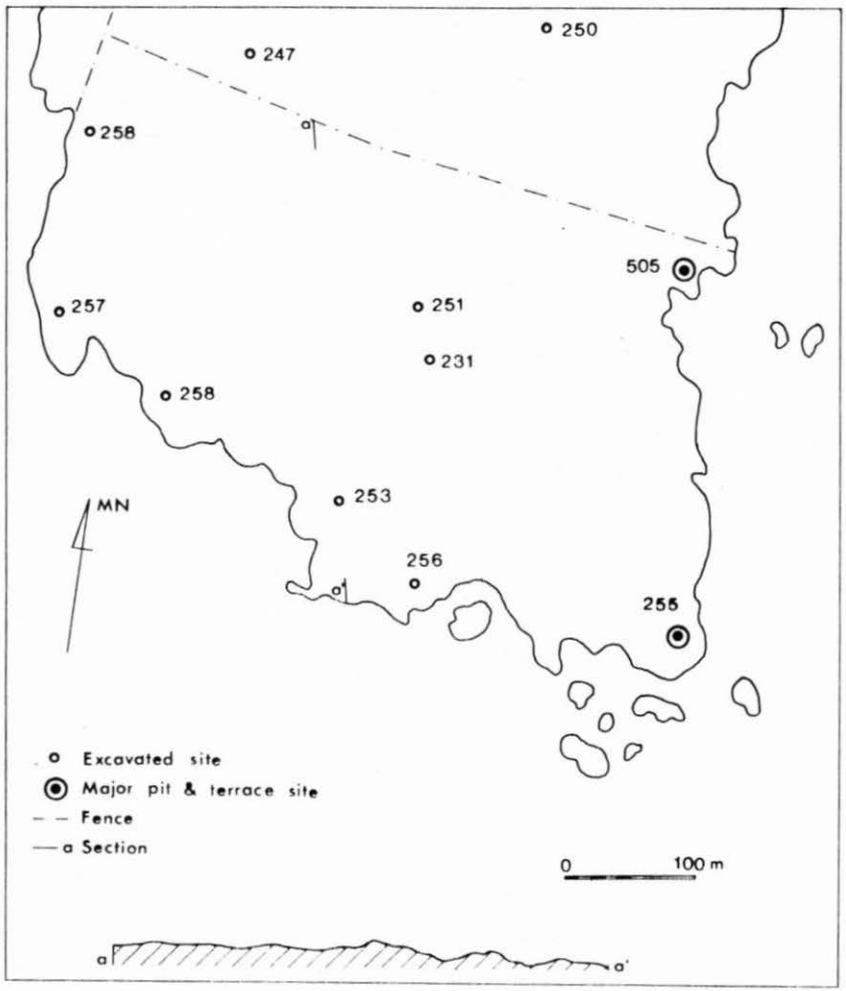

FIGURE 3. Area III, Pouerua.

Progress towards research objectives

In Phase I some progress has been made towards the definition of settlement patterns, at least in sample Areas I and II. Computer analysis of settlement pattern data will begin in late 1983. It will be used to establish:

1. settlement site composition; and number and size distribution of features included in these,
2. spatial distribution of settlement sites and horticultural evidence in relation to: each other, certain natural parameters such as soil characteristics and weather conditions, and defensive sites,
3. patterning in spatial distribution of sites and plot size in horticultural field systems.

Work on the reconstruction of food production strategies is also underway. The author is preparing an essay on kumara horticulture in Area I. It deals with; identification of reasons for selection of friable loams as a focus to prehistoric cultivations, the effects of forest clearance on microclimate and horticultural productivity, methods of ground preparation, tillage and the role of trench boundaries and the horticultural cycle or cycles from planting of tubers or seedlings to cropping, storage and fallow.

The reconstruction of food production strategies has not yet been extended to other cultigens (taro, gourd, yams), nor is it yet been taken up by anyone particularly well-qualified to deal with the essential soils and botanical evidence. The essay in preparation will begin the definitions of methods of land modification and patch improvement used in food production. The procedures followed during prehistoric stone clearance will be discernible on the Leatherby and Morgan map.

My main misgivings concerning Phase I of the Pouerua Project is that we seem to be suspended in the late prehistoric period unable to reach the earlier parts of the sequence and so establish antiquity of occupation, and thus work on processes of change through time. Radiocarbon dates expected presently, may show that the sites excavated this summer are older than assumed. I would not be displeased; I suspect however, that pollen analysis will be necessary if one is to establish the antiquity of the settlement at Pouerua. David Pocknall, Geological Survey, Lower Hutt, will begin pollen work in mid-1983. Analysis of assemblages recovered from archaeological excavations will proceed from June 1983.

Phase II of the Pouerua Project

Phase II of the project will see: completion of the mapping, excavations in Area III (see Fig. 2), and excavations on ancillary pa around the cone. The last will be an attempt to establish the history of construction and modification and the function of these sites.

Jeff Sissons will soon be starting work on his ethnohistorical study of Ngapuhi tribal history with emphasis on Maori socio-political organisation and land use on the Taiamai Plains from 1815-1860. Jeff is supported by a grant from the Social Sciences Research Fund Committee to which grateful acknowledgement is made here.

Phase III of the project, for those of you with an interest in forward planning and faith in the future of funding for research archaeology in New Zealand, will involve excavation on the tihi on the rim of the Pouerua cone and areal excavation of a sample of the terraces on its flanks.

Conclusion

As the author has argued elsewhere (Sutton, 1982a) the Pouerua Project is an attempt to clarify the origin and operation of the Maori chiefdomship in central Northland. It is a collaborative project in which specialists in various disciplines work together in order to produce a major contribution to the understanding of the prehistoric and early historic past in Tai Tokerau. This work is subject to the approval of Ngapuhi kaumatua. Their strong support of the project and desire to know, and have more widely appreciated, the achievements of the past is a driving force behind the work.

Acknowledgements

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