



NEW ZEALAND
ARCHAEOLOGICAL
ASSOCIATION

ARCHAEOLOGY IN NEW ZEALAND



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NOTES AND NEWS

New members

Greg Coupe, Collier family

Donations (received with thanks)

Jonathon Carpenter

Membership secretary

For any membership enquiries please contact membership@nzarchaeology.org or write to the Membership Secretary, New Zealand Archaeological Association, P.O. Box 6337, Dunedin North, New Zealand.

Karel Peters

Karel Peters died in Auckland on 24 May 2012. He was born in The Hague, Holland, on 24 January 1932. Later in life he would talk of his adventures in the war, especially in early 1945 when there was fighting close to where he lived and yet he had to go out to the countryside for food. After leaving school he trained as a draughtsman and for 10 years from 1951 worked at the Netherlands Topographical Institute as a cartographer. At this time he was also a middle distance runner, good enough, I understand, to represent his country. I remember him in the 1970s in the Auckland Domain on lunchtime runs from the university, his long stride making it look so easy. In Holland he met and married Margaret who was English and also an athlete. They were to have a family of two boys and a girl, all born in New Zealand.

In 1961 the Peters came to New Zealand where Karel first worked in Auckland for the Survey Branch of the Lands and Survey Department. In 1962 he was appointed cartographer at the University of Auckland Geography Department, moving a year later to the Anthropology Department where he was to be from 1963 to 1983. It was here that he became involved in archaeology.

In 1964 Karel and John Terrell reconnoitred the Houhora site, excavated in 1965-66 by Noel Roe and Wilfred Shawcross. At Houhora Karel was responsible for latex pull-offs of cross-sections which were on display for many years at Auckland Museum and are preserved today as an important record of the site; he also had something to do with a certain one-piece fishhook made of gingernut. In 1968-70 he was at Lake Mangakaware with Peter Bellwood and

wrote up the Mangakaware 1 report published in the Newsletter (Vol. 14 No 3), as well as arranging for divers to search the shallow lake for wet wood material. Also in 1968 he found time to excavate a garden site at Moturua Island, Bay of Islands, again reported in the Newsletter (Vol. 18 No 4).

All this time he was heavily involved in the Western Samoa project initiated by Roger Green, involving a large team and published as Bulletins 6 and 7 (1969 and 1974) of the Auckland Institute and Museum, edited by Green and Janet Davidson. Karel wrote up reports on the Luatuanu'u star mound excavations and investigations on Apolima Island, and was responsible for nearly all line drawings in Bulletin 6 and most in Bulletin 7.

In the early 1970s Karel was at Kohika with Geoff Irwin where he made emergency tanks to hold the significant wet wood collection from the site. In 1974 he worked with Aileen Fox at Tirimoana pā, Te Awanga, and was good friends with Hawkes Bay people he met there until he died.

Meanwhile, his job in the department was changing, from illustrator to 'Senior Technical Officer' with responsibility for archaeological laboratories in the new Human Sciences building when the department shifted from the old houses further up Symonds Street in 1978. Among facilities on the seventh floor of the new building was a purpose-built wet wood lab where Karel continued his pioneering work on the conservation of archaeological wet wood in New Zealand. Later he was to take on a wide range of archaeological and ethnological conservation work. In 1975 he was given a Winston Churchill Fellowship to study conservation in Europe. In 1982 he was again in Europe, this time on a Royal Norwegian Foundation of Science study grant.

In 1983 Karel was appointed conservator at the Auckland Museum where he was to be until retirement in 1992. The job was a new one and part of a big shift in professional resourcing of collection care which was changing the face of museums. While at the museum he was part of a team brought together for the 'Te Māori' exhibition which opened in New York in 1984 and went on to other venues in the United States before returning to New Zealand in 1986 and touring institutions in the main centres.

Karel played a significant role in the university Anthropology Department at a time of development and achievement in the 1960s and 1970s with Les Groube, Peter Bellwood, John Terrell, Ryk Ward, Richard Cassels, Wilfred Shawcross, Roger Green and Geoff Irwin in the department at this time. I remember him as a valued museum colleague, not least for his inside knowledge of archaeology but also in the tea room with interesting and enjoyable conversation and always good company.

Nigel Prickett

President's report, 2011-2012

The last 12 months has seen a lot of activity in the Association. The most pressing issue has been the new Heritage New Zealand Pouhere Taonga Bill which will affect the way archaeologists go about their business in the future. The New Zealand Archaeological Association (NZAA) Council formed a sub-committee to prepare a submission on the bill. This sub-committee comprised Sarah Macready, Matthew Campbell, Karen Greig, Garry Law and Aidan Challis. I would like to take this opportunity to thank this group for the many long hours of work they put in. I would also like to thank all the other members of the Association who provided feedback on the draft submission we circulated. There was a diversity of opinions within the Association about the various strengths and weaknesses of the draft bill, but I am confident that as a group we will all agree that the final bill will be better off for our input.

The post-earthquake work in Christchurch continues and I would like to acknowledge the efforts of so many of our members who have been involved in this work over the last 12 months. In particular Katharine Watson and Frank van der Heijden have been working virtually around the clock and in doing so have been excellent representatives of archaeology. Their work demonstrates a level of professional collaboration, and a thoughtful and considered approach to the circumstances that is a real credit to our discipline.

I am really pleased to see how well ArchSite is growing. There are still technical difficulties but ArchSite is being picked up by more and more organisations and is increasingly seen as an essential planning tool. The income from ArchSite is more or less covering our costs and is likely to grow over the next few years and then level off. We have recently separated ArchSite finances from the NZAA general accounts and the Council is currently drafting the terms of reference for a Board of Governance which will be responsible for the general governance of ArchSite – under the oversight of the NZAA Council. We will be reporting back to the membership on this as we move forward. I would like to thank Nicola Molloy, Rick McGovern-Wilson and Simon Bickler for the work they have put in to ArchSite over the last 12 months.

The other major task of the Council has been to prepare a strategic plan. Over the last few years the Association has grown in various ways and, with ArchSite, is becoming an even more central and influential player in New Zealand heritage. The Council believes that we need to develop a simple strategic plan with some specific targets to guide our development over the next few years. We have a good constitution which is as relevant today as it was when it was first drafted. The aim of the strategic plan is to assist the Council and the Association to deliver the values and tangible outcomes that the NZAA aspires to, as articulated in our constitution. We will circulate a draft of the strategic

plan for comments sometime in the next few months.

In my past year as president of the New Zealand Archaeological Association I have received excellent support from the other members of Council and from many other members of the Association. I would like to thank you all for your support. Finally, I would like to thank our immediate past-President Dr Rod Clough for his commitment to the Association and for the support he has provided for council over the last 12 months and more.

Richard Walter, NZAA President

Treasurer's report, 2011-2012

I am pleased to be able to report to members that the New Zealand Archaeological Association (NZAA) is slowly getting back into a sound financial position. When I took over the Treasurer's role in 2009 I inherited a \$140,000 debt to Eagle Technology for the build of ArchSite, \$70,000 of which was unbudgeted. This was finally cleared during 2011 and means that I can now focus on stabilising the financial future of the Association.

The following comments are to be read in conjunction with the financial statements which were pre-circulated to members.

Statement of financial position

The Accounts Payable of \$4,115 (2010: \$26,748) are a number of invoices received in December which were unpaid at the end of the year. The Department of Internal Affairs (DIA) income was a grant from DIA drawn down in August for the completion of the Digital Site Recording Scheme (DSRS) audit, for which expenditure will occur this year.

The Accounts Receivable (\$12,546; 2010: \$2,721) largely reflects unpaid subscriptions for ArchSite at the end of the year.

The large decrease in Property, Plant and Equipment value (\$62,316; 2010: \$135,886) is due to the depreciation of the value of ArchSite, following standard practice, as the auditors had previously capitalised the cost of ArchSite.

Statement of financial performance

The following comments are to bring your attention to areas of income and expenditure which have varied substantially from last year.

In the General Account there is a reduction in the level of both local subscriptions and, more significantly, overseas subscriptions. The subscriptions are accounted for on a cash basis and no adjustment has been made for subs in arrears or advance at balance date. There has been a significant decrease in the cost of audit and accounting fees due to better controls over the accounts and

the decision not to have the accounts fully audited, but reviewed instead. The resulting decrease in expenditure across the board means that a larger surplus was realised in this account.

The Upgrade Project and Journal Accounts have now been closed down as the Upgrade Project has terminated and the Journal activities are now part of the wider Publications programme.

The Publications Account has seen a significant decrease in income (\$20,450; 2010: \$29,557) due to the fact that there was no monograph produced in 2010 which would have resulted in sales flowing through into the 2011 financial year. This is reflected in the bottom line result, but is not of concern.

The final result for the Digital Site Recording Scheme (ArchSite) is largely a bookkeeping result due to the depreciation of the database. The DIA funds that were drawn down in August 2011 will be reflected as income in this year's accounts, and the audit costs will also come to play. The significant decrease in the license fee was due to NZAA being accepted into the ESRI International Non-governmental Organisation scheme, which means we now only pay approximately 5% of the normal annual fee. As of 1 January 2012 ArchSite has been split off as a separate trading entity and all income and expenditure in future will be shown separately from the DSRS project, which was for the building and establishment of ArchSite, and will be completed this year.

Overall statement: NZAA has been through a significant financial slump over the last few years but we are well on the road to recovery. 2012 should see us start to strengthen that position but that does not mean I will relax the purse strings. I will continue to preach fiscal responsibility to my council colleagues for at least the next two years, especially as we have a number of initiatives that we want to enact as a result of the strategic planning exercise that council undertook in March.

Rick McGovern-Wilson, NZAA Treasurer

ArchSite report, 2011-2012

ArchSite continues to quietly tick over, and now runs with relatively few hiccups, so there is very little to report on. The number of users continues to increase, as does the amount of traffic adding new sites and updating the data held for existing sites. In addition, we are getting more inquiries from the public wanting information about sites, and how they may affect property owners.

I have extracted usage statistics which show that in the past 12 months ArchSite has seen 1370 unique visitor sessions, 1425 new sites added and 4638 updates to existing sites.

There were two major events that happened in relation to ArchSite in the last year. First Parker Jones, our account manager at Eagle, who had so

much involvement in ArchSite's development and establishment retired at Christmas. We should be extremely grateful for all the work he put in, much of it gratis, to help get ArchSite up and running. Second, as a result of Parker pushing ESRI, New Zealand Archaeological Association was accepted into the International Non-governmental Organisation scheme for ArcGIS Users. This had an immediate effect, with our annual license fee dropping from \$16,000 (which in itself was discounted) down to \$5,000.

The regional file audit has made little progress over the last year, which I take full responsibility for, but it is my intention to get this finished in the coming year. Once that is done the original Digital Site Recording Scheme project, as funded by DIA, can then be signed off. We can then also draw down the final part of the funding.

We continue to grow the number of users, particularly local body and corporate subscribers, and iwi/hapū subscribers are now increasingly coming on board.

To finish off I want to acknowledge the huge amount of work that Nicola Molloy undertakes as Central Filekeeper in assuring data purity. Fortunately she has been able to get assistance for uploading files to ArchSite from colleagues at the Department of Conservation over the last year. Nicola often spends her weekends and evenings completing work on ArchSite for all our benefit.

Rick McGovern-Wilson, ArchSite Administrator

Abstracts from the 2012 New Zealand Archaeological Association conference

Discussion paper on the archaeological collections held at Te Papa Tongarewa

Amber Aranui

This paper looks to follow on from the paper given by Amy Findlater at the 2011 Havelock North conference on the issues surrounding archaeological collections held in our museums. I will outline the collections held at Te Papa Tongarewa, and the work that has been undertaken recently to identify the possible opportunities that are available to research these collections. Te Papa is also interested in knowing what archaeologists would like in terms of access and research opportunities regarding these collections, including the Archzoo Lab in Tory Street. Te Papa is currently looking at its archaeological collections and the possibility of making these collections and the research of them a priority for the museum in the future. There is also the potential for the National Museum to create better relationships with agencies such as New Zealand Historic Places Trust, the New Zealand Archaeological Association

and universities around archaeological issues, and therefore I would encourage this paper to be a forum for discussion and to initiate dialogue on this issue.

Robinson farmstead, Macraes: preliminary discussion of excavations

Cathryn Barr

The historic values of the largely intact Robinson farmstead were first formally identified by Peter Petchey in 1996. Petchey noted that the collection of buildings consisted of the farmhouse, woolshed and several implement sheds, and suggested that there was likely to be a great deal of subsurface archaeological evidence associated with the buildings. Based on a review of historic plans and titles Petchey suggested that the land was initially taken up by Peter Gifford in the late 1870s or early 1880s, and that the earliest buildings in the group possibly dated from this period. Ownership of the farm later passed to Gifford's daughter, Jane Robinson, who retained the property until her death in 1943.

While the Macraes district has been the focus of many archaeological surveys and assessments, these have largely focused on the use of the area for mining, and there are very few agricultural complexes such as this recorded in the district. As part of the MPIII project OceanaGold (NZ) Ltd propose to expand Fraser's Pit, which will result in the loss of all buildings associated with the farmstead as well as any archaeological deposits that may be associated with this occupation.

Excavations were carried out at the farmstead over a three-week period in February 2012 by Opus International Consultants, SPAR and students from Otago University. This paper provides a discussion of preliminary result of work to date.

Ceramic production and inter-island interaction: Characterisation of Lapita ceramics from the Western Solomon Islands by means of portable x-ray fluorescence and scanning electron microscopy

Karolyhn Buhring

Lapita is a cultural unit which has been associated with much of the colonisation of the southwest Pacific since 3500 BP. Interaction and exchange between different geographic areas and islands have potentially been critical variables in the speed of colonisation.

The Western Solomon Islands have a unique archaeological record presenting intertidal sites with Late/Post Lapita ceramics as the only material evidence. Previous studies have identified that Late/Post Lapita ceramic production was mainly local. However, exotic ceramics have been found in a number of sites in New Georgia, indicating a ceramic transfer, possibly from

outside the Solomon Islands. The presence of historic ceramic sherds has been explained as a result of ceramic transfer from the nearby island of Choiseul, where ceramics were manufactured until recent times.

Advances in GIS predictive modeling for cultural heritage management (New Zealand Transport Agency/Opus)

Nick Cable

The NZ Transport Agency (NZTA) is the Crown entity responsible for managing and operating more than 108,900 km of state highways as well as designing and building new roads to improve transport efficiency and safety in New Zealand.

The agency's operations can have significant impacts on cultural heritage and therefore careful consideration of archaeological risks is a must for all ground disturbance activities. In addition, there are legal requirements and internal environmental policies that the NZTA must always comply with.

In recent years, the NZTA have explored a number of GIS-based methods for identifying archaeological risks and managing archaeological sites along the national state highway network. Most of the GIS mapping systems developed for the agency have used ArchSite and, in some cases, iwi locational data. However, these systems present significant gaps in data as they do not include other heritage sites such as those identified in council schedules and the New Zealand Historic Places Trust Register. These systems also fail to address the issue of unsurveyed areas and their potential for presenting unknown archaeological features. The subsurface nature of archaeological sites provides the biggest challenge for the NZTA as the discovery of unknown sites can lead to significant impacts and delays to construction and maintenance works.

NZTA and Opus have been involved in trialing a new GIS-based deductive risk identification model using some of the more recent advances in fuzzy logic tools. By modeling some simple human behavioural 'rules' onto a detailed terrain model, we have produced what we believe is a cognitive model of human activity across a landscape. This model, when combined with existing site information, offers a potential way forward in predicting archaeological risks. State Highway 11 in Northland was chosen as the pilot area for this study as a good example of both coastal and inland areas with a high number of recorded archaeological sites which the model can be tested against. The strength of fuzzy modelling is that there is no limit to the number

of ‘rules’ that can be applied to the model in order to test our understanding of the archaeological landscape.

New insights into Lapita lithics and settlement strategies from the early Fijian landfall site, Bourewa

Valerie Campbell

Bourewa is the earliest Lapita site yet found in Fiji. Some 1600 worked pieces were analysed from the 2005 excavation. The basal level yielded 96 pieces of worked stone and revealed new insights into the value of ‘expedient’ flake industries in Pacific archaeology. Their distribution similarly provides greater understanding of the settlement strategies of the earlier Pacific voyagers.

Maritime archaeology in New Zealand: Trials, tribulations and opportunities

Matt Carter and Andy Dodd

New Zealand is an island nation that was initially settled via the sea, firstly by Polynesian voyagers and later by a European maritime culture. These two groups traded and traversed in and along the coastline, leaving considerable physical evidence of their seafaring ways. Today this maritime past is reflected in more than 2000 shipwrecks as well as numerous canoe landing sites, fish traps, inundated villages and sunken canoes.

Despite this wealth of underwater cultural heritage (UCH) and a strong legislative base for the protection of archaeological sites, maritime archaeology in New Zealand is significantly underdeveloped, with no effective programme for the management or protection of UCH. As a consequence, the public of New Zealand rarely views shipwrecks and other UCH as sites that need to be protected. This lack of perceived value results in limited funding being available for the investigation or management of maritime archaeological sites and as such, developmental pressures, commercial salvage and fossicking continue to damage this non-renewable resource.

Although these are major challenges there are still considerable opportunities for underwater archaeology in New Zealand. Increased awareness of underwater cultural heritage can be achieved by engaging the public in various ways such as through Australian Institute of Maritime Archaeology/ Nautical Archaeology Society (AIMA/NAS) training courses. In addition, the global nature of New Zealand’s maritime trade means that there is enormous scope for international collaboration between researchers at a diverse range of organisations around the world. Such actions would help provide the impetus

for capacity building and the eventual establishment of an effective maritime archaeology programme in New Zealand.

Aspects of the prehistory of the Yugumbeh-speaking clans of Southeast Queensland: A brief overview of 25 years consulting work

Eleanor Crosby

Speakers of the various Yugumbeh dialects in Queensland were located between the Logan and Tweed Rivers and their territory reached from the Pacific Ocean on the east to the Dividing Range on the west.

Owing to the paucity of reliable ethnographic records it has proved complicated to work out the names and territories that might properly describe the pre-European traditional Aboriginal cultural patterns. This presentation first describes a current understanding.

It then discusses some ethnographic evidence that implies the occupation of the coast area between the last glacial maximum around 20,000 years ago and 3000 BP when the sea level stabilised at about present-day levels. Unless coastal occupation prior to the mid Holocene sea-level rise (6000-3000 BP) was on a higher area, all earlier coastal occupation evidence was destroyed by rising seas. At present one midden site on the side of a low hill (Hope Island) is evidence of coastal occupation c. 4500 BP. The earliest known occupation in the region is on an ancient sand dune (Wallen Wallen Creek) that was approximately 50 km inland when it was first occupied around 20,000 BP.

The pre-European landscape on the coastal fringe comprised a patchwork of small areas with good economic resources separated by low hills. These provided the coastal fringe with more food plants than available at Kakadu in the Northern Territory. In the hinterland the traditional economic management schemes largely revolved around fire management, particularly directed towards keeping areas beside major watercourses under grass.

The presentation concludes with an examination of Pine Ridge, the stump of a 120,000 year old dune occupied from around 3,000BP.

Measuring human movement from a basalt adze manufacturing assemblage on Moturakau, Aitutaki

Kane Ditchfield

In the Pacific, tracing human movement is an important component of research relating to prehistoric voyaging and interaction, as well as trade and exchange. Among other methods, stone adze analyses represent one approach for inferring patterns of human movement throughout the Pacific. Both technological and geochemical sourcing studies significantly contribute towards understanding these patterns by demonstrating that adzes were moved away

from quarries to locations both within and between Pacific islands. These studies offer good indications of the distance and direction of human movements but, because many of these adzes occur archaeologically in a highly used or maintained state, much less is known about the frequency with which these adzes were manufactured and moved away from quarries and smaller source areas. The manufacture of preforms at quarry locations and their subsequent removal also created debitage assemblages that remained behind. These assemblages offer the opportunity to quantify what was removed from quarries and smaller sources, as well as measure the magnitude and frequency of preform removal. Thus, an investigation of prehistoric movement in relation to the transport of adze preforms is possible. This is quantifiable based on the proportional under- or over-representation of both the observed cortical surface area and volume when compared to what is expected in an assemblage, as supported through experimental analyses. This study investigates the applicability of this method to an adze manufacturing assemblage from a rockshelter site associated with a basalt source on Moturakau Islet in Aitutaki, southern Cook Islands. The application of this method demonstrates that the demand for adzes placed upon Moturakau was low and likely related primarily to localised environmental concerns. However, the effects of movement on the basalt assemblage at Moturakau were still comparatively high

Harbour of plenty: Analysis of shell midden from Opoutere

Louise Furey

The 2008 excavation of an eroding shell midden at Opoutere on the Coromandel Peninsula, carried out in conjunction with the New Zealand Historic Places Trust, the Radiocarbon Laboratory University of Waikato and Auckland University, provided information on economy, chronology and coastal processes. It was also an attempt to develop techniques which could be used on rapidly eroding sites to gain a range of information while having limited financial resources. If predictions are correct, there is a significant threat to coastal sites due to a greater frequency of extreme weather events, storminess and rising sea levels.

A healthy lot: The archaeology of medical care in 19th century Otago through the case of the St Bathans Cottage Hospital

Jessie Garland

This paper examines transformations in health care in Central Otago during the late 19th and early 20th century through an archaeological and historical investigation of the St Bathans cottage hospital. The historic gold mining settlement of St Bathans was founded in 1864 during the Otago gold

rush and, by 1900, was one of the few mining towns still operating in the region. Initially reliant on visiting doctors and themselves for medical care, the community established a cottage hospital in 1891, which operated off and on for the next 30 years. Material culture excavated from a cess pit behind the hospital building in 2009 has formed the archaeological basis for a wider investigation into health, disease and medical care in St Bathans. In particular, emphasis has been given to the place of the hospital within the broader context of 19th century medical developments and attitudes towards the provision of health care at an individual, community and national level.

The Great Mercury Island/Ahuahu Archaeological Research Project: An introduction

Alex Jorgensen, Simon Holdaway, Thegn Ladefoged, Rebecca Phillips, Rod Wallace and Louise Furey

In 2011, the University of Auckland Archaeology Department, in collaboration with Auckland Museum, Ngāti Hei and Sir Michael Fay, began planning a 10 year archaeological research programme on Great Mercury Island/Ahuahu. In the following we first introduce the project and its background and aims to the wider archaeological community; and second, present some preliminary results from the first two excavation seasons run through the University of Auckland field school and Auckland Museum in late February and early June 2012.

Great Mercury/Ahuahu is a privately owned island of some 1,740 hectares off the northeast coast of the Coromandel Peninsula, and falls within the rohe of Ngāti Hei. Ngāti Hei oral histories show direct links to Kupe and to the waka Te Arawa. The hapū is named for Hei, who guided Te Arawa to the area known as Te Whitianga Nui a Kupe.

The island has 125 recorded archaeological sites, including pā, stone terracing and stone garden complexes, lithic work zones and coastal 'archaic' sites. A small number of previous archaeological investigations have been carried out on Great Mercury/Ahuahu, primarily by Golson (1955), Edson (1970), Irwin (1979) and Furey (1983 and 2008).

The 2012 excavations focused on the central zone of the island and in particular the stone garden complex recorded as T10/356 and the coastal dune occupation layer at T10/944. Excavations within the stone garden documented a range of horticultural activities, including the construction of stone alignments, rock-faced terraces, ditches and gardening plots. Geophysical survey and excavations of the coastal dune site recorded successive occupations of the area, with extensive evidence of lithic working and cooking events. Auguring

and test pitting provided an understanding of geomorphological change across the dune zone.

The ongoing archaeological research on the island will document the ecodynamics and lifeways of past inhabitants.

DNA and history

Garry Law

Since the emergence of the mitochondrial Eve concept the Out of Africa model has been the dominant paradigm for the emergence of modern humans beyond that continent. It was held by its supporters as the explanation of everything. It effectively supplanted an older regional emergence model, based on fossil discoveries. The first two tests of the newer model in the sequencing of ancient DNA – that of a Denisovan and of Neanderthals – have shown that some modern people have descent, in part, from other lines, as the regional model held. In short, Out of Africa is not the explanation of everything. Was the model one which was not capable of negation from within the data that generated it? As an explanation of everything this model has fallen at its first real fence and now needs major revision. What other historical assertions of interpreters of DNA need to be considered more critically?

Complete mitochondrial DNA genome sequences from the first New Zealanders: Ancient DNA from Wairau Bar

Elisabeth Matisoo-Smith, Michael Knapp, K. Ann Horsburgh, Stefan Prost, Jo-Ann Stanton, Hallie Buckley and Richard Walter

The dispersal of modern humans across the globe began 65,000 years ago when people first left Africa and culminated with the settlement of East Polynesia, which occurred in the last 1000 years. With the arrival of Polynesian canoes only 700 years ago, Aotearoa/New Zealand became the last major landmass to be permanently settled by humans. We present here complete mitochondrial genome sequences of the likely founding population of Aotearoa/New Zealand recovered from the archaeological site of Wairau Bar. These data represent the first complete mitochondrial genome sequences from ancient Polynesian voyagers and provide new insights into the genetic diversity of human populations in the Pacific at the time of the settlement of East Polynesia

A history of pā construction in the Bay of Islands: Results from the 2012 season of the Northland Archaeological Project

Mark McCoy and Thegn Ladefoged

In this paper we present radiocarbon dates and artefact analyses following the first excavations of pā in the coastal Bay of Islands since Les Grøube's

pioneering efforts in the 1960s. Results from three sites located on Urupukapuka Island suggest pā building began soon after the earliest fortifications dated in inland Bay of Islands at Pouerua, and these earlier pā may have initially been located near settlements. This was followed by a strategy of island defence that involved the construction of a ring of headland pā around the coast later described in 1772 by Du Fresne as ‘villages of the natives fortified with palisades.’ At one pā, the main ditch-and-bank was remodeled in the post-contact era and may have been made in anticipation of raids by Nga Puhī, or the result of occupation by Ngā Puhī after 1820.

Oamaru: A short cocktail of history and archaeology

Angela Middleton

The development of the town of Oamaru since the 1850s is examined through a series of historical drawings, plans and photographs. Archaeological evidence uncovered over the past six years is related to this history of the town

Tapu and rock art: An intra-site analysis of the Takiroa and Maerewhenua rock art shelters, North Otago

Gerard O'Regan

A question remains in New Zealand archaeology as to whether Māori rock art had spiritual significance to its makers or not. In this study ethnographically informed interpretations of Māori spiritual concepts are used to postulate five distributional patterns that could demonstrate that a regard for tapu influenced the positioning of rock art figures. Digital technology was used to map the figures in two North Otago rock art shelters, reconstruct the spatial attributes of some figures previously removed from the sites and then measure the relationships between rock art elements. Two of the distributional patterns were confirmed, which is interpreted as demonstrating that some aspect of tapu in marked places was recognised by past Māori. Additions to the rock art over time suggest that Māori engagement with the two study shelters was usually respectful of the spiritual attributes of pre-existing images.

The stamper battery: Man and machine

Peter Petchey

This paper is based on PhD research into the archaeology of the New Zealand stamper battery. One aspect of this research has been to consider the human element in the machine: what was involved in running these mills, how were repairs and maintenance carried out in remote areas where spare parts were not available, and how some machines were purchased as out-of-the-box

complete units, but others were cobbled together from odd parts using (sometimes) ingenuity and care and (at other times) brute force. There are now very few men left that worked stampers, so an archaeological approach is the only way to address these questions.

Lost marbles and a lewd figurine: Archaeology of Grantham Street

Caroline Phillips and Ben Thorne

Archaeology at historic sites is often overwhelmed by archival evidence and the archaeological ‘added value’ can be minimal. In the Grantham Street excavations, although there are a number of photographs, council records, title deeds and newspaper articles that tell part of the story, the footprint of the built structures and the associated artefacts from the 12 properties yield a much fuller picture of life for the late 19th century inhabitants of Hamilton. It is intended that these narratives will provide a link between the current Hamiltonians and their past through a public lecture and museum exhibition.

M.I.A Māori in Action: The archaeology of Māori resistance in the Waikato 1863-1864

Makere Rika-Heke

During the Land Wars of 1863-1865 some of the most renowned colonial uprisings in the history of Aotearoa/New Zealand occurred. Historical text-based accounts tend to focus on Māori ‘rebellion’ against the Crown’s invasion, conquest and annex policy. These historical accounts laud British military prowess and downplay Māori strategic military action, completely skipping over the indigenous experience. This paper examines Māori resistance in colonial New Zealand during the 1863-1864 period, focusing on the changes it instigated in Waikato culture and society by incorporating archaeological evidence as a complementary source of data. Three well known Land War era constructions and wāhi tapu – Te Teo Teo, Meremere and Orakau – are reviewed as citadels of resistance. Despite the fact that there are numerous historical records of these battles, most of these accounts were written by British witnesses or those in Crown employ, and as such contain certain Eurocentric biases. This paper endeavours to find unique ways to bring a fresh perspective to Land War themed discussions by looking at three archaeological sites from a Māori perspective, in order to better understand the compulsion of Māori resistance. By examining the intricacies of Māori strategic action and how this is represented by the archaeological record, this paper seeks to shed new light on the Māori approach to war and thus provide an alternative interpretation. The archaeology of Māori resistance ties together traditional context (ethno-history), history and archaeology to add a new dimension to Māori resistance

and its aftermath.

A bakery and a power scheme: The Bendigo and Bullendale preservation projects

Matthew Schmidt

The New Zealand Historic Places Trust (NZHPT) is New Zealand's lead heritage advisor. The NZHPT is known for its advocacy in the preservation and management of Otago Goldfields sites but it also plays a significant role in the direct management and protection of sites through its involvement in heritage projects and field surveys. This paper presents a summary of two goldfields heritage preservation projects, one from Central Otago and one from the Queenstown Lakes area, both of which the NZHPT is involved in. Otago contains thousands of recorded and unrecorded archaeological sites relating to Māori and European/Pākehā settlement and exploitation of the region. The most recorded and noticeable sites are the 19th century gold mining sites from Central Otago and the Lakes District. Amongst the large collection of typical goldfields heritage sites, such as water races, sluicings, tailings, reservoirs and dams, etc., are smaller innocuous sites which were vital to the functioning of the goldfields, and sites little known about by the public but which played a vital role in the history of the Otago goldfields.

Bread was a staple food for the gold miner and hence bakeries were crucial to the goldfields. The Bendigo bakery at the Bendigo goldfield in Central Otago was built by James Lawrence in 1872 for baker James Scott. This bakery was the main supplier of bread for Bendigo and its surrounds, producing hundreds of loaves a day. In 2009, the Otago Goldfields Heritage Trust, New Zealand Historic Places Trust, Department of Conservation, Otago Polytechnic stone masonry class and stonemason Keith Hinds together undertook stabilisation and management works to preserve this important bakery. These works succeeded in preserving the structure and the archaeological investigation also confirmed what remained of the once busy ovens.

Hydroelectric power appeared early in the Otago goldfields and New Zealand was a world pioneer with its industrial use. The electrical generators at Bullendale were fired up on February 1886 to power the Phoenix Company gold stamper battery, this event being the first industrial use of the hydroelectric power in New Zealand. Today, the whole electrically powered mining system can still be seen, such as the remains of the brush dynamos, part of the electrical line, the stamper battery and the electric winding motor. The NZHPT is working with the Department of Conservation and the Wakatipu Heritage Trust to preserve and manage this internationally important 19th century hydroelectric power industrial goldfields site.

The Southland Coastal Heritage Inventory Project (SCHIP): Kaitiaki Monitoring Programme

Matthew Schmidt and Dean Whaanga

SCHIP is supported and managed by the Southland Regional Council, New Zealand Historic Places Trust, Te Ao Marama Inc., the Department of Conservation and the New Zealand Archaeological Association. Since 2003 SCHIP has been researching heritage sites on the Southland coast through site surveys, site investigations, rescue excavations, radiocarbon dating and site monitoring. This data has been used to advise the partners and other key groups on the presence and management of sites on the Southland coast. As part of the on-going monitoring of archaeological sites, the SCHIP partners have developed the Kaitiaki Monitoring Programme in conjunction with Murihiku Runanga for the monitoring of archaeological sites. The programme enlists the help of runanga volunteers and equips them with their own field kit to monitor coastal archaeological sites in their own particular area any time they visit the coast. This monitoring may be part of a formal SCHIP project or during any informal visit to the coast by a volunteer. The twelve Kaitiaki Monitors will note changes to known archaeological sites and record and report on newly revealed archaeological sites and taonga. The sites of interest to the monitors are not only Māori sites but also Pākehā and Chinese archaeological sites. This programme illustrates the vital part local communities can play in the management of their heritage and how this can be supported by government, local government and non-government organisations.

Archaeology at the Oihi Mission Station, Bay of Islands

Ian Smith, Angela Middleton, Jessie Garland and Naomi Woods

The first permanent European settlement in New Zealand was established at Oihi in December 1814, and a small community persisted there until 1832, missionising to the Maori population at nearby Rangihoua pā and throughout the wider Bay of Islands area. Excavations in February 2012 located remains of the mission's school, the first in New Zealand, and showed how it changed in size and form throughout its life. They also disclosed evidence of Māori occupation before and perhaps also after the missionary occupation, hinting at the nature of cultural interactions. Artefacts from the site are fundamental for definition of the material culture assemblage of the first generation of Pākehā settlers in New Zealand and will provide the baseline from which changes throughout the 19th century can be documented.

Whenua tuku iho: Managing an ancestral archaeological landscape, Ōtakanini Tōpū, South Kaipara Peninsula

Vanessa Tanner, Leah McCurdy and Malcolm Paterson

Ōtakanini Tōpū is the largest freehold Māori title in the Auckland region, comprising 2800 hectares spanning the west to east coast of the South Kaipara Peninsula. It is collectively owned by shareholders who are predominantly descendants of the original Ngāti Whātua owners – themselves the beneficiaries of land passed on by their ancestors. The property contains more than 200 recorded archaeological sites representing a significant cultural landscape. This paper outlines the archaeological component of a collaborative project (undertaken between the Tōpū and Auckland Council) to develop an integrated sustainable farm management plan. Baseline archaeological information including spatial definition, condition evaluation and management recommendations were systematically collected for incorporation into a plan and GIS tool that will guide future management actions undertaken on the farm. The main objective of the management plan is to conserve the cultural landscape whilst encouraging the Tōpū to be a sustainable economic resource for its shareholders and community.

Reassessing the radiocarbon chronology of the Maioro site (R13/1), Northern Waikato, New Zealand

Rod Wallace

As the two previously reported 12-13th century dates for the founding of the Maioro site have been controversial, residual charcoal from three previously dated samples was obtained and identified. Short lived material from one supplied a new AMS date so that we now have a total of five dates for Phases 2 and 3 whose overlapping ranges centre on the 16th century AD. We suggest the two unexpectedly early dates attributed to Phase 1 are unreliable as they were run on unidentified charcoal that may have incorporated significant inbuilt ages. We argue occupations at this site may have begun no earlier than the late 15th century AD and ended by the early 17th century AD. This analysis illustrates how the growth habitats and ecology of wood species used for dating can contribute to chronological interpretations and has implications for the practice of ‘chronometric hygiene’.

Christchurch earthquake archaeology: A year on

Katharine Watson and Frank van der Heijden

This paper provides an update on the archaeological work being carried out in Christchurch (and Canterbury) post-earthquakes. It covers the legisla-

tive environment, the numbers, the research and some of the more interesting finds.

A review of the Rakaia River Mouth moa hunter site

Daniel Witter

The Rakaia River Mouth moa hunter site was made famous by von Haast in 1872 for the identification of a moa hunter culture in New Zealand. The main subsequent studies were by Trotter (who investigated an area with ovens) and Jacomb (who excavated in a habitation area). Recently in relation to a Selwyn District Council plan of management and plan change, I have conducted further investigation and analysis. As a major Archaic site the accumulated information needs to be brought up to date. Comparisons with other sites can be made and its functions modeled. Although it has been ploughed and some of it has been built over, there is still the potential for future investigation.

Working for Europe's largest archaeological archive: The London approach to the curation, research and promotion of archaeology

Joanna Wylie

The London Archaeological Archive and Research Centre (LAARC) is the largest archaeological archive in Europe. Part of the Museum of London, the LAARC is charged with the responsibility of curating London's archaeological heritage whilst also actively promoting archaeological research at a regional level. The LAARC is the lead repository for archaeological collections from across the Greater London region, and currently holds summary information about more than 8500 archaeological sites. It also stores more than 3500 complete archaeological archives (both the records and finds), some of which date to the late 19th and early 20th centuries. This paper will explore the LAARC's unique approach to archaeological curation, research and education, and discuss how some of their current practices might be successfully applied within the New Zealand context.