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NOTES AND NEWS

New members

Kate Lilley, Helen Hill

Donations

Thank you to Steve Bagley who made a donation.

Membership

For any membership enquiries, notification of changes to contact details, subscriptions to *Archaeology in New Zealand* or if you wish to make a donation please contact membership@nzarchaeology.org or write to Membership Secretary, New Zealand Archaeological Association, P.O. Box 6337, Dunedin North, New Zealand. Remember that donations over \$5 are tax deductible in New Zealand and a receipt will be sent to you.

Facebook

Make sure to check the NZAA's Facebook page and like us to stay in touch about NZAA's activities and news. We would love to hear from you: www.facebook.com/NewZealandArchaeologicalAssociation

2014 NZAA Conference Announcement

NZAA's 60th anniversary conference is to be held at Chateau-on-the-Park Hotel (www.chateau-park.co.nz) in Christchurch, from 25-28 June 2014. Conference will commence on the morning of 25 June and close with a gala awards dinner on 28 June. Part of the focus of conference will be heritage and the Christchurch earthquakes, and we'll celebrate the Association's 60 years of history too.

Keep an eye out for upcoming announcements about accommodation and events, on the Facebook page and the website as well as here in *Archaeology in New Zealand*. A call for papers will go out in the New Year. In the meantime, please direct any queries to conference@nzarchaeology.org

ICOMOS 2013 AGM Weekend

ICOMOS New Zealand will be holding its 2013 AGM weekend October 18-20 2013 at Whakatu Marae, Nelson. Papers on the theme of Cultural

Landscapes He Whenua He Taonga will be presented. Watch NZAA eNews for details.

NZHPT Archaeological authority Review

NZHPT is about to undertake its next review of the status of archaeological authorities. This was previously called the Overdue Report Audit. However, the aim of this current review is to collect updated information on the status of all authorities issued from 1993 where we do not have status information.

In the next few months we will be contacting everyone who has been identified as the s17 archaeologist on an authority where we have no updated information to request assistance with updating our information. We will attach a spreadsheet and ask you to please take a couple of minutes to fill it in, noting for each authority:

- If it was not actioned
- If you have not been contacted by the authority holder
- If the s17 was changed
- If no archaeology was found. Please note that a small half-page e-mailed report is still required. This should describe the work undertaken (including the date it occurred), and the results of the work. Include photos where possible
- If the authority was actioned and the report is still to be completed
- Any other information

We will follow up with you to discuss any overdue reports identified as part of the process. Thank you.

Pam Bain, Senior Archaeologist

PDC Workshop: Heritage New Zealand Pouhere Taonga Bill 2013

This workshop is the second workshop we have held which discussed changes to the various pieces of legislation that we work under – the first being the Protected Objects Act. Our nineteenth workshop, on the Heritage New Zealand Pouhere Taonga Bill 2013, was held on Tuesday 18 June at the Cambridge Club, the day before the NZAA conference in Cambridge. The speakers were Geraldine Baumann, Senior Legal Adviser, Pam Bain, Senior Archaeologist and Nicola Jackson, National Heritage Policy Manager – all from the New Zealand Historic Places Trust (NZHPT).

It was anticipated that the Select Committee would have reported just prior to our workshop. However this was not the case, so the NZHPT presented the key proposed changes, outlined issues that were raised in submissions and considered potential solutions to those issues. This was an opportunity to discuss what had been put forward in the Bill, the submissions and the departmental

report. A day or two after the workshop, the Select Committee did report back to the House, and the bill will now proceed to its second and third readings, and is likely to become law early in 2014.

The NZHPT team outlined the changes that related to practising archaeologists. In particular they discussed the drivers to legislative change, the purpose and overview of the Bill, the archaeological provisions, the authority process and the legislative process from here. Those attending formed groups to discuss various issues such as: investigatory authorities; minor effects; buildings and structures; and significant archaeological values. It is intended that NZHPT will discuss the policy details with the archaeological community during the next few months.

A huge vote of thanks must be given to the speakers who volunteered their time to prepare their presentations of a complex piece of legislation. We would also like to thank other members of the NZHPT who chaired the discussion groups and all those who attended. This was of real value for the NZHPT who now have to form policy around the new legislation.

It is also appropriate here to thank Meri Low for her sterling administration work for PDC since its inception in 2006. Meri has decided to retire from this position and Ben Thorne will take her place in the next workshop.

The PDC cell is Caroline Phillips, Mary O'Keefe and Amanda Young, with Ben Thorne as administrative support. Caroline Phillips is also looking for a successor, so feel free to put your hand up.

A workshop on the Conservation of Wet Organic Archaeological Materials will be run on 6 September 2013 and more workshops will follow next year. If you are not on our list and you want to hear more about the workshop series please drop Ben Thorne a line at ben@archaeology.co.nz.

Professional Development Cell

Trevor James Hosking (1925 - 2013)

Trevor Hosking was for many years the face of archaeology in the Taupo region. A builder by trade, he grew up in Palmerston North, acquiring an early interest in matters historical from his grandfather. He joined the Palmerston North Polynesian Discussion Group and explored middens at Waiterere Beach. A chance find started him on bottle collecting, which became a life-long passion.

Trevor moved to Taupo in 1953, joined the local Maori club and soon became involved with the Historic Places Trust, serving as their Taupo representative. An early contribution to site protection was lobbying for and undertaking the installation of a protective grille at the Ruahoata Maori rock art site. He later initiated and carried out a similar project for a burial cave on

Motutaiko Island in Lake Taupo.

He took part in Auckland University Archaeological Society digs during the 1950s, learning his excavation skills from Jack Golson and Lawrie Birks. He applied these skills to his excavations at Whakamoenga Cave and the Waihora rock shelter in the early 1960s, where he and co-worker Anne Leahy set high standards of excavation, retention and documentation. At this period, too, he located the Taupo source of high quality obsidian.

His greatest contribution was probably his work on the Tongariro Power Development Scheme. This was the first major salvage archaeology project in New Zealand, a pioneering programme at a time when there was no statutory provision for such work.

Trevor spent five years on the project between 1966 and 1971, with a break of one year in 1969, when he worked for the Trust on the restoration of farm buildings at Orari Gorge in South Canterbury. He devoted 6,859 hours on 877 days to the Tongariro project, clocked up 25,272 km in his vehicle, and submitted 50 detailed progress reports to the Trust. As Tony Batley wrote, "...he exhibited the characteristics of an archaeological bloodhound as well as having a flair for improvisation in situations which would have daunted most archaeologists" (Batley n.d.: 63).

The project involved site location and recording, several major excavations and, in the final stages, reconstruction and interpretation of selected sites. When Trevor began work, there were seven recorded archaeological sites in the project area; he recorded a further 197. He excavated 12, many of which were of nineteenth century age; they included three redoubt sites associated with the campaign against Te Kooti, an extensive settlement at Opotaka on Lake Rotoaira, and the Te Waiariki burial ground, where the Taranaki "martyrs", Te Manihera and Kereopa, had been interred in 1847. The Opotaka site, now a pleasant and much visited Scenic Reserve, would have been destroyed, had it not been for Trevor. In 2009 he was awarded a QSM for his contribution to historic site protection. An account of his life, in his own words, was published in 2009 (Harrington 2009).

Trevor Hosking was down to earth, practical, enthusiastic and energetic in everything he did. He had a myriad of contacts in the Taupo area and was on easy good terms with local Maori and with people at all levels of the Tongariro Power Project. He was one of the great amateurs who contributed so much to New Zealand archaeology in the early decades of the Association's life.

I first met Trevor at Sarah's Gully in January 1960, and have many happy memories of him in the field and at NZAA conferences. I thank Mat Campbell, Jim McKinlay and Joanna Wylie for assistance with this account of

Trevor's work.

References

- Batley, R.A.L. n.d. Tongariro Archaeology: a contribution to the Ecology, Prehistory and History of the Tongariro Power Development. Manuscript held by the New Zealand Historic Places Trust, Wellington.
- Harrington, A. 2007. *A Museum Underfoot: the Life Story of Trevor Hosking*. Friends of the Lake Taupo Museum and Art Gallery, Taupo.

Janet Davidson

Vale - Mike Morwood

On Saturday 27 July 2013, I received an unexpected phone call from Paul Clark of the Northern Territory Museum telling me that Mike Morwood was terminally ill at a hospice attached to Darwin Hospital. The next day, I received an even more unexpected call from Mike himself and we were able to chat for a few minutes reminiscing, mostly about misguided advice I had once given him to avoid doing research in Indonesia and if he had to work in Indonesia then under no circumstances should he work with Professor Soejono!

Mike, of course, entirely ignored my advice and the rest is history. From 1994 onwards he explored Pleistocene deposits and artefacts at Mata Menge, in the Soa valley of Flores; worked with Soejono at the site of Liang Bua and announced the discovery of a small hominin, *Homo floresiensis* in 2003 (Morwood *et al.* 2004); again with Soejono, he extended my own excavations at Song Gupuh, central south Java in 2004-5, taking them from deposits dated c. 8000 BP to ones with an inferred date of 77 000 BP at an excavated depth of 11 metres, a tribute to Mike's ability to deeply sound limestone deposits; he redated the classic *Homo erectus* material from the Trinil Beds; and, most recently, carried out research into the Pleistocene deposits of the Walanae Basin in Sulawesi. Clearly Mike was indefatigable in pursuing his Indonesian archaeological research and was only prevented from continuing to Sulawesi this year by the sudden worsening of the cancer which killed him.

Given that Mike Morwood spent most of his professional life as an archaeologist in Australia, it seems fair that the Australians claim him. However, Mike was born in New Zealand and despite professional choices, remained a passionate New Zealander. He completed his MA thesis on the functional analysis of obsidian flakes at Auckland University in 1974 having studied under Wilfred Shawcross and Richard Cassels. I supervised the second year of his MA beginning a warm, if intermittent, friendship with Mike through his years in Australia.

Prior to his foray into Indonesian archaeology, Mike Morwood's major contributions were in the field of archaeology and art; first in south central Queensland, then in southern Cape York, and more recently in the Kimberleys. This work culminated in his publication *Visions From the Past: The Archaeology of Australian Aboriginal Art* (Allen and Unwin, 2002).

Mike Morwood had to overcome setbacks and difficulties during the early part of his career, both in his research and in professional appointments. Despite the celebrity status of his discovery of *Homo floresiensis*, which the *New York Times* described as the foremost palaeoanthropological discovery of the past half century, he did not enjoy public exposure and much preferred being in the field. His nurturing of a number of young Indonesian scholars and the close relations he established with Indonesian archaeologists are indications of his personal qualities and his love of archaeology. At 62, Mike might have expected a further decade of exciting discoveries, but sadly, this was not to be. Mike Morwood is survived by his wife, Francelina, former wife Kathryn, a daughter and two grandchildren. There is a memorial page on website of the Centre for Archaeological Science at the University of Wollongong and friends and colleagues are invited to contribute to this. A memorial service will be held at the University of Wollongong on Saturday 7th September, 1.30pm.

References

Morwood, M. 2002. *Visions from the Past: The Archaeology of Australian Aboriginal Art*. Allen and Unwin, Sydney.

Morwood, M. J.; Soejono, R. P., Roberts, R. G., Sutikna, T., Turney, C. S. M., Westaway, K. E., Rink, W. J., Zhao, J.- X., van den Bergh, G. D., Rokus Awe Due, Hobbs, D. R., Moore, M. W., Bird, M. I. and Fifield, L. K. 2004. Archaeology and age of a new hominin from Flores in eastern Indonesia. *Nature* 431, 1087-1091.

Harry Allen

Treasurer's Report 2012-2013

I am pleased to be able to report to members that NZAA continues to strengthen its financial position, which bodes well going forward. 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 \$2,355 (2011 \$4,115) are a number of invoices received in December which were unpaid at the end of the year. The Department of Internal Affairs income was a grant from DIA drawn down in August 2011

for the completion of the DSRS audit, for which expenditure will occur this year.

The Accounts Receivable (\$14,779; 2011 \$12,546) largely reflect unpaid subscriptions for ArchSite at the end of the year, all of which were paid in January.

The large decrease in Property, Plant and Equipment value (\$1.078; 2011 \$62,316) 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 an increase in the level of both local subscriptions and, more significantly, overseas subscriptions. The increase in both Conference receipts and expenditure was due to a greater attendance in 2011. Also included in the expenses for last year were the costs for liability insurance and work on the development of the Strategic Plan – both of which will have positive outcomes for the Association. The bottom line saw a small increase in the net surplus.

The Publications Account has seen an increase in income from sales and along with reduced costs in the production of our publications, has resulted in a significant improvement in the bottom line result compared to last year.

The Digital Site Recording Scheme just has expenditure present in the 2012 year, reflecting the final tranche of depreciation of the system, but will have costs come to bear as the audit progresses – which will be offset by the DIA income that has been drawn down.

ArchSite is now being run as a stand-alone item in the accounts, and the results for 2012 are largely similar to and reflect the 2011 business in the Digital Site Recording Scheme account.

Overall statement: NZAA is building a strong financial base going forward, which will allow Council to address initiatives identified in the Strategic Plan and the needed upgrades to ArchSite.

Rick McGovern-Wilson, NZAA Treasurer

Publications Report, 2012-2013

The publications of the Association include the *Journal of Pacific Archaeology*, monograph series and *Archaeology in New Zealand*.

The balance sheet for publications shows an improvement and small profit for 2012 compared to the previous year. The amount of profit oscillates on a yearly basis depending on the volume of sales in the year and whether a

monograph has been published.

The Journal of Pacific Archaeology is self-sustaining due to the low production costs. This is entirely due to Tim Thomas of Otago University for editing the journal, and to Les O'Neill, also of Otago University, for the layout and formatting.

The monograph series is intermittent and dependant on receiving suitable manuscripts for publication. This year a monograph on historic period archaeology, edited by Matthew Campbell, Simon Holdaway and Sarah Macready has been published. The monograph acknowledges the contribution of Nigel Prickett in developing historic archaeology here as a discipline.

There are good reserves in the publications bank account. We are now in a more comfortable position of being able to produce worthy monographs in the absence of a production subsidy although we do prefer that manuscripts are offered to us with a production subsidy. The success of the publications is again due to the low production costs and the fact that so many people give their time for free or at low cost. Thanks go to the most recent monograph editors and especially Hamish Macdonald who is responsible for the high quality and the professional layout of this book and earlier monographs.

I'd also like to thank Emma Brooks who does the *Journal of Pacific Archaeology* mail out twice a year, and to Beatrice Hudson who is now helping out with the monographs. Without their help this job would be unmanageable.

Louise Furey, Publications Manager

Skinner Fund Report

In 1966, in honour of Henry Devenish Skinner, the New Zealand Archaeological Association, jointly with the Royal Society of New Zealand and the Polynesian Society, established the Skinner Fund from public subscription. Following the death of Dr Skinner in 1978, donations from the Friends of the Otago Museum and the Otago Museum Trust Board substantially increased the fund as a token to his memory. The Royal Society of New Zealand administers the fund.

The purpose of the fund is to promote the study of the history, art, culture, physical and social anthropology of the Maori and other Polynesian peoples, particularly through the recording, survey, excavation and scientific study of prehistoric and historic sites in New Zealand and the islands of the south-west Pacific. This includes the detailed analysis of all cultural, artistic, or physical remains recovered as the result of such investigations. To this end, the Skinner Fund committee deems research projects that have survey, recording, and excavation as their goal, to have equal weight with those which propose to treat analytically and comparatively materials already so recovered. The committee

gives preference to well-documented research plans that specify methodology and anticipated outcomes of the proposed research.

The amount available for distribution from the fund is not large, and grant allocations are usually up to \$1000.

Three Skinner Fund applications were received. All three were accepted and funded.

These were:

1. Jonathan Carpenter - The Archaeology of Colonial Expansion in Aotearoa/New Zealand and its Expression in the Ruapekapeka Campaign of 1845-46

2. Laura Dawson - SEM research on starch grain microfossil reference collection and pig husbandry of the Marquesas

3. Christina Stantis - Subsistence and Migration in prehistoric Polynesian individuals using biochemical studies and dental features

Two of the grants (1, 3) were given \$1500 as sufficient funds were available to support these projects.

Simon Bickler

Abstracts from the 2013 New Zealand Archaeological Association Conference

Māori horticulture, system theory and tikanga

Hans-Dieter Bader

Large scale horticulture provided the economic basis for Māori living within large groups and arguably provided the means for emerging complex societies. These horticultural systems have been viewed in the past through the lens of singular feature types separate from domestic feature types for example. It is proposed to enhance this by looking at horticultural systems as social systems based around the theme of communication (e.g. Luhmann, *Soziale Systeme*, 1984, Habermas, *Theorie des kommunikativen Handelns*, 1981). Each so-called garden has elements of preparation, planting and domesticity as well as transport and links to other parts of the cultural landscape. Thus it can be viewed as a stand alone system that functions and communicates with other systems that create the cultural landscape. Tikanga or 'how things are done' also communicate each event or process (like planting or harvesting) as a relationship with the cultural landscape as a whole. At this level of interpretation of the archaeological material culture, archaeology is able to begin a fruitful conversation with oral traditions, especially traditions of tikanga.

Evidence of environmental events in early archaeological sites on Motutapu and Tiritiri Matangi Islands

Rob Brassey

Recent natural disasters including the Canterbury earthquakes and the tsunamis that have devastated Southeast Asia, Samoa and Japan have provided an impetus for New Zealand authorities to review regulatory frameworks and emergency management preparedness. Such disasters have also prompted earth scientists and archaeologists to consider potential evidence of past events and how this can inform the appraisal of future risk.

A number of authors have cited geoarchaeological evidence for a range of environmental events, and in some cases associated social change, that have purportedly occurred in New Zealand since Māori ancestors arrived 7 – 800 years ago. In this paper I consider whether the collective sequence represented in two early archaeological sites located close to Auckland supports these claims, and if not, what alternative conclusions can be reached.

Gardening and archaeology: digging pasts, planting futures

Steve Brown

Michael Shanks (2012) observes that “we are all archaeologists now”. What this statement points to is that people engage with places in archaeological ways when they discover things and think creatively about them. Thus encountering ruins and remains does not necessarily require the application of formal archaeological methods (e.g., field survey, site planning or excavation) but can occur through generic practices of observation, collecting and reflection, processes that inevitably create dialogue between humans and material things. Human-material engagements, for example via home renovation and gardening, stimulate familiarity with, and feelings for, places and things.

In this presentation I explore the idea that gardening is a form of archaeological practice. I draw on an archaeological ethnographic approach (Hamilakis 2011) to describe the experience of excavating six test pits across a suburban block, my garden, in the Sydney suburb of Arncliffe (Brown 2012). By focussing on the intimacy of in-place material encounter, I consider how gardening and archaeology are social practices that entangle humans, other species and things. I argue that viewing such everyday practices as gardening as archaeological practices has implications for understanding what an archaeology of the recent past is and does.

The archaeology of the Waikato basin

Matthew Campbell

Recent investigations linked to the Waikato Expressway State Highway 1 realignment have allowed us to pull together the archaeological record of the

Waikato Basin, assessing site distributions, reported excavations, aerial photography and soil distributions. The evidence shows that the settlement of the inland basin was late in New Zealand's prehistoric sequence, and was dependant on the ability to successfully cultivate kumara in what is almost a marginal environment. While investigations have been limited and focused on development driven projects close to the river, we now know enough to have a firm overview of the Waikato and to formulate some interesting research topics.

The Maungawhau revegetation programme: successes and failures

Matthew Campbell, Malcolm Paterson and Toki Taiao

A number of agencies and interested parties have for some time been concerned with the damage to the cultural and heritage fabric of Maungawhau Mt Eden, an iconic element in the Auckland landscape, from foot traffic. Maungawhau provides an ideal viewing platform for the city and its harbours, and consequently attracts over 1,000,000 visitors a year. Subsequent foot traffic has resulted in considerable and highly visible wear and tear, with deeply incised informal paths and general erosion of archaeological features. Three initiatives from Auckland Council to remediate this damage have met with various degrees of success. Firstly, grazing stock have been removed from the maunga. Secondly, buses are now no longer allowed to drive to the summit. Thirdly, planting of selected native species has been trialled to control visitor movements and replace invasive kikuyu with suitable grasses. The native grass pātiti (*Microleana stipoides*) has been planted on terraces while pōhuehue (*Muehlenbeckia complexa*) has been trialled as a barrier species on scarps. On areas of the greatest wear exotic ryegrass (*Lolium perenne*) has been retained and some of the deeper informal tracks have been filled and turfed with rye. While there have been some successes, particularly with the pātiti trials in areas where there is little traffic, the 2012/2013 season was defeated by poorly timed plantings and drought.

The use of photogrammetry in the digital documentation, monitoring and visualisation of heritage structures. Case studies in 3D

Hayden Cawte and Sheryl McPherson

The usefulness of laser scanners in archaeology and heritage management is well known. They provide the ability to capture and reconstruct our subject and environment in three dimensions. The use of photogrammetry, however, for similar purposes with similar accuracy, is not. Photogrammetry provides us the ability to reconstruct objects in three dimensions from images alone using simple consumer-grade digital cameras and commercial image processing software (AereoScan, Pix4D, Photoscan, 123D). Presented here is a

methodology for its use in historical archaeology utilising recent case studies from throughout Otago.

The Barracouta and the “Rat”

Eleanor Crosby

The first Māori to arrive in New Zealand from a tropical homeland arrived with all the necessary technologies* for existence in a tropical, probably coral encircled, island environment. Temperate New Zealand was different in almost every way. Once their tropical-adapted-technological products wore out, replacement products adapted from their ancestral technological knowledge base and made suitable to the new conditions were needed.

Which technologies were transferred more-or-less easily and which had to be rapidly adapted? And how? Every economic technology required not only new materials but adaptation to all the rest of the previously unknown ecological conditions. Thus if ornaments, for example, were under virtually no economic imperative to change forms (apart from utilising different materials) fishing gear was certainly under immense pressure for successful adaptation.

This paper discusses some of the factors involved in the holistic technological transfer of tropical trolling for bonito (*Katsuwonus pelamis*) with all its associated knowledge, skills and gear to Murihiku trolling for barracouta (*Thyrstites atun*, mangā).

Archaeological and linguistic evidence for origins and possible/probable adaptations is considered. More general theoretical implications for technology transfer will be omitted from this paper.

* Technology is considered holistically, including the whole body of ceremonials, knowledge, and skills which pre-establishes the context in which material products are manufactured and used.

Archaeological sites in the Wellington coastal marine area

Andy Dodd

As part of a coastal plan review in 2012-13 the Greater Wellington Regional Council commissioned heritage assessments on a number of archaeological and built heritage sites located in, or adjacent to, the Coastal Marine Area (CMA). The Wellington region CMA has a diverse range of underwater and intertidal cultural heritage ranging from shipwrecks to deliberately sunken vessels, coastal defence features, wharves and foreshore structures. This paper summarises the archaeological features visited during the course of this project, and looks at some of the threats and protection methods being proposed.

Great Mercury Island one year on

Louise Furey and Simon Holdaway

The Great Mercury Island Ahuahu Archaeological Project is a partnership between Auckland University and Auckland Museum in collaboration with Ngati Hei and Sir Michael Fay representing the owners of the island. We are part way through a second year of work on the island. The archaeology of the five sites excavated in 2012-2013 will be reviewed. Four of the sites, in the same part of the island, are different but have some common elements. Our developing understanding of how the island was used and occupied in the past will be discussed.

Preliminary results of experimental kumara gardening in the Waikato

Warren Gumbley

In an attempt to understand the function of the made soils and the archaeological features associated with them in the Waikato, an experimental garden has been grown over the last three summers using the taputini variety of kumara. This paper details the yield of the kumara and the potential interplay between fertility, environment and structure of the gardens along with possible function of archaeological features found within some gardens.

Prehistoric horticulture at Horotiu, Waikato

Warren Gumbley and Andrew Hoffman

Extensive investigations were carried out at Horotiu on a series of Māori gardens. This paper reports the nature of the archaeological features found and their relationships within the site and possible associations with similar features found elsewhere in the Middle Waikato Basin. Some tentative interpretations of the functions and processes involved will be proposed.

What's cooking? A residues analysis of ceramics from Thailand

Cathleen Hauman

Residue analysis is a relatively new method of investigating the past, and an analysis of ceramic residues has never before been undertaken in Southeast Asia. This study analysed the residues absorbed into sherds from four sites in Thailand: Ban Non Wat, Ban Salao, Khok Phanom Di and Nong Nor. Fatty acids were analysed using gas chromatography mass spectrometry (GC-MS) and isotope signatures were obtained using gas chromatography isotope ratio mass spectrometry (GC-IRMS). The most likely sources for these residues were determined from the fatty acids to be of plant, fish or mammal, or a combination of these, while the isotopes suggested a C3 plant or an animal feeding on these plants. There is potential to apply this method to historical ceramics found in New Zealand, or even, in cases where residues are visible, to analyse the past uses of glass vessels.

Interpreting the Waikato war – technology and the visitor experience

Amy Hobbs

A new interpretation and education resource was launched in January 2013 to provide information to visitors about aspects of the 1863-1864 Waikato War. This project was a collaboration between the New Zealand Historic Places Trust and Ngā Muka, a hapu of Waikato-Tainui.

A key goal of the project was to raise awareness of the Waikato War within the minds of the New Zealand public and provide information in a format that was accessible to all, particularly the younger generation. As a result, a range of both digital and physical media was produced and launched in time for the upcoming 150th commemorations of the Waikato War battles over 2013 and 2014.

The sites included in the new resource are primarily unstaffed and dotted through the Auckland, Waikato and Waipa urban and pastoral landscapes. The sites are known archaeological sites, but little if any of that history was visible to the great majority of New Zealanders, even the few that have read some of the more widely available information. This interpretation project, especially the illustrative window signs, has helped to make the significant stories behind these ‘lumpy paddocks’ legible to visitors.

The need to protect archaeological features informed aspects of the project, such as the placement of the Tohu Maumahara (symbol of remembrance), the signage locations, and the moving of the fence at Rangiriri. Physical elements in the landscape were strategically positioned to avoid archaeology and also prevent people from walking over archaeological features between the signage.

This presentation will take delegates on a journey through how the resources were developed, the challenges along the way and what the key outcomes for NZHPT and Ngā Muka were. It will also be a good opportunity to discuss other ways of how archaeology can inform interpretation projects in relation to the differing target markets and improving the visitor experience and levels of engagement.

Prospects for tourism at Tongan archaeological sites

Kevin L. Jones, Seu’ula Johansson-Fua, and Jenny Cave

We report on the Tonga Tourism Support Programme, contract TSSP 04/2011 Heritage Site Management, for New Zealand Aid. The Heritage Site Management project aimed to improve the heritage tourism industry and infrastructure in Tonga in ways which would maximise returns and benefits to local communities. A wide range of sites were selected by the Tongan Visitor Bureau. In this paper we report on the current status of Ha’amonga a Maui (the trilithon) on Tongatapu, Velata Fortress and the siaheulupe (pigeon snaring

mounds) on Uoleva Island in the Ha'apai group, Feletoa fort on the Vava'u group, and the Lau'ua Platform Lookout which is within a fortress on 'Eua. We have investigated the traditions that attach to these sites as part of an ongoing University of the South Pacific – Tonga campus project on the preservation of Tongan oral history and tangible cultural heritage and on local community support issues. In recent years the economy of Tonga has shifted away from a traditional subsistence base towards the travel and leisure, expecting it to be the lead driver of economic growth over the next decade. Approximately 100,000 visitors arrive in Tonga every year by air, ship and yacht, closely matching the numbers of local residents on the archipelago. Forty two percent of visitors are Tongans who live overseas, returning to visit friends and relatives, 40 % are holiday makers and 8 % visit for business purposes. Of these, by far the greatest number comes from near neighbours New Zealand and Australia with smaller numbers from Fiji (totalling 34%) and less than 6% from North America and Asia, but 4% from long haul routes in Europe. The team developed a model to assess the tourism development potential using the criteria of: site robustness, market appeal, stakeholder readiness, supporting infrastructure, cost and value of investment and risk. These were embedded within a community development process, the Kato Alu framework. Current visitor numbers suggest that further investment in infrastructure is warranted at the Ha'amonga Maui and on 'Eua. The other sites are marginal for investment but improvements could be made in promotional materials that would lead to greater visitor numbers and eventually a case for further on-site infrastructure.

In search of Hawaiki: identifying Polynesian origins and mapping population dispersals in the Pacific using complete mtDNA genomes

Lisa Matisoo-Smith, Stefan Prost, Andrew Clarke, Pascal Murail, David J Addison, Michael Knapp, Ann Horsburgh, Jo-Ann Stanton, Olga Kardailsky, Christy Rand, Hinano Teavai-Murphy, R. John Mitchell

Here we date the mitochondrial DNA haplogroup B4a1a1a3 to investigate its prehistory and the implications for the origins of the East Polynesian peoples. To set Polynesia into a broader context we also investigate genetic relationships within Oceania and compare all of the complete mitochondrial genomes from Oceania to those from Island Southeast Asia (ISEA) using a range of different clustering algorithms and available complete mitochondrial genomes from GenBank.

Not train-spotting

Peter Mitchell

Railways archaeology has been for the most part concerned with the study of the physical features associated with the day to day operation of rail systems (McVarish 2008:68). These include: locomotives and rolling stock, as

well as features such as bridges, culverts, signals, viaducts and the rails themselves (Nock 1981, Kiernan, McConnell, Bannear, McGowan and Airey 1989). While obviously a valid approach, as Shackel (2010) and Hill (1999) point out, this emphasis on the things people have made reduces the role of the people who made them. This paper, which identifies temporary camp sites occupied by the builders of the Otago Central Railway, is a step towards bringing these people out from under the shadow of the monuments they constructed.

Wakanui Beach – preliminary results of analysis

Bridget Mosley

Wakanui Beach site was excavated in the 1970s by the Canterbury Museum Archaeological Society. In 2009 Canterbury Museum began a programme to analyse previously un-published archaeological assemblages from their collection. Wakanui was one of these sites and – after some minor delays – these are the preliminary results of analysis, due for publication later in the year.

Digging in the dunes – the archaeology of the Kapiti Coast

Mary O'Keefe

Planned construction of a major highway through the Kapiti Coast has triggered research into the archaeology and human history of the coast. Despite over 100 years of formal and informal site recording on the Kapiti Coast there remains much we do not know about human occupation and resource use. A major feature of the coast is the extensive and geomorphologically active sand dunes. The relationship between site locations, site retention and the geomorphology of the coast appears to be important, but the nature of this relationship is not yet well understood. A series of research themes for the archaeology of the coast has been developed, and the road construction programme provides an opportunity to explore these themes.

Ferguson's new era and the introduction of the cyanide process of gold saving to New Zealand

Peter Petchey

In the 1880s one of the serious issues facing the gold mining industry in New Zealand and worldwide was the loss of gold from stamper batteries, with sometimes over half of the gold content of ore being lost in the tailings. The introduction of the cyanide process improved gold recovery rates to 80 to 90% in many cases, and was one of the most significant technological developments in the mining industry. The cyanide process was patented in Glasgow, but the first full-scale field trials were carried out in New Zealand at Karangahake in 1889. The exact site of the trial plant is lost, and was probably built over by

later developments, but it is little-known that another cyanide plant was being built simultaneously in the Waiorongomai Valley near Te Aroha. At the site of Ferguson's New Era Reduction works there survives part of what is possibly the oldest cyanide plant in the world. This paper examines the archaeological evidence of this plant, compares it to the contemporary accounts of early installations and the archaeological evidence of subsequent installations, and discusses the significance of this and other historic goldfields evidence in the Waiorongomai Valley.

A Māori and archaeologist ask “where to from here”?

Caroline Phillips and Wiremu Puke

A combination of Māori knowledge and archaeological investigations has yielded evidence about traditional Māori gardening in the Waikato. This led to the development in 2010 of Te Parapara - New Zealand's first traditional Māori garden in a public setting - in Hamilton Gardens. Since this time, archaeologists have uncovered traces of many gardens in the Hamilton area. However, the information from these investigations largely repeats what was found in 2000 by Warren Gumbley and Tom Higham at Wairere Drive. In this paper we ask “what more does a practical gardener need to know?” and “what can additional information can archaeology provide?”

Contextualising the use of raw material sources for stone artefact production on Ahuahu Great Mercury Island

Rebecca Phillips

Ahuahu Great Mercury Island is situated between a number of key stone artefact resources including Tahanga, Tuhua Mayor Island, Aotea Great Barrier Island, and a variety of Coromandel obsidian sources. Sourcing of stone artefacts in New Zealand provides information on trade relationships, mobility and access to resource, however, when combined with technological studies of assemblages, can provide a more detailed picture of the use of different raw material sources and social, economic and technological implications. Combining sourcing information and technological analyses of stone artefacts, this research investigates the use of different raw material types at two spatially and temporally distinct locations on Ahuahu. Differences in the intensity of use of chert, basalt and obsidian may indicate the changing nature of access to stone raw materials, use of the landscape, and preferences in stone material use.

An overview of the Waikato war

Neville Ritchie

Between 1845 and 1872 there were 13 major conflicts between British and Colonial forces and various North Island iwi. Despite their scale, casualties

and long term consequences, they are the 'Forgotten Wars' in New Zealand history. Many stemmed from increasing Māori resistance to selling or losing land to the growing influx of European settlers after the mid 1850s. The Waikato War of 1863-64 occurred about midway through the sequence of the NZ Wars. The campaign was one of the largest of the New Zealand Wars involving over 12,000 British and Colonial forces against Māori forces unlikely to have numbered more than 2000 at one time. It was probably the most successful from a British perspective too; the major outcome, besides seizing of the Waikato heartland, was that it decided governance of New Zealand in favour of the colonists. The other major outcome was that the military garrison settlements established in the Waikato became the main towns and cities today including Hamilton, Ngaruawahia, Cambridge, Pirongia and Te Awamutu.

While it secured vast tracts of land for European settlement, its legacy has been over 100 years of land grievances by the descendants of the original Māori settlers. Tainui people received compensation for their claims against the Crown through the Waikato Raupatu Land Settlement Act 1996. Despite the significance of the Waikato War, most of the surviving sites have little or inadequate interpretation. The key sites Rangiriri, Paterangi and Orakau have fared even worse. All are in private ownership and have been modified almost beyond recognition. But there are some positive developments such as DOC's Waikato War Trail and a new interpretation initiative by NZHPT.

Project Njord: A terrestrial & marine archaeological survey of an early 20th century Norwegian whalers' base, Rakiura/Stewart Island

Matthew Schmidt with SCHIP partners

The Norwegian Whalers Base ('The Base') lies in Price's Inlet in Kaipipi Bay, Paterson Inlet, Rakiura/Stewart Island. It is an isolated coastal cultural heritage site of high historic significance to Rakiura and New Zealand. Between 1926 and 1932 the Ross Sea Whaling Company of Sandefjord, Norway established its repair base for whale catcher vessels in Price's Inlet. The purpose of the facility was to repair whale catchers during the southern winter while the factory ships returned to Europe with the whale oil taken during the hunting season from November to February. The yard consisted of the slipway, workshop, cookhouse, carpenters shop, bunkhouse, winch house, a tin hut and the Othello Wharf which was a wharf made from the hulk of the 1853 whaling ship *Othello*. What remains of The Base in the marine environment was previously unknown and the land based remains required further mapping. Between 7 and 12 March 2013 four archaeologists conducted a terrestrial and marine archaeological survey of The Base as part of a SCHIP Partners ("Southland Coastal Heritage Inventory Project") Cultural Heritage Project to better understand what remnants of this important site were present.

The project team found that the remains of The Base both on land and in the water were highly intact, particularly the hulk of the *Othello* whose hull (including its 19th century copper sheathing) and rudder were complete. The team concluded that increased legal protection would help to ensure this cultural heritage site remained in its relatively intact state.

Computer simulations of colonial battles using agent-based models

Chris Scrogins

This paper covers the problems and opportunities involved in designing a computer simulation of a battle of the Victorian colonial era (roughly 1840-1890). Simulations of historical battles can be useful across a number of areas including education, tourism and historical debate.

Agent-based models are widely used in many areas ranging from evolutionary biology to social networks. Such models contain many (often hundreds of thousands) of individual “agents” that react to other agents in their immediate vicinity. Running the model over many time steps leads to cumulative macro-behaviours that emerge from the combination of many highly localised agent micro-behaviours. Thus it is often possible to produce highly complex interactions between opposing forces by the use of very simple rules for each agent involved.

Battles of the colonial era particularly lend themselves to agent-based models as they usually had relatively low numbers of participants, colonial weapons were generally light and uniform and advanced weapons platforms (e.g. tanks, aircraft, etc) were not present (and thus do not have to be simulated).

This paper details an agent-based model for the Battle of Isandlwana – the opening battle of the Anglo-Zulu War of 1879 in which over 1,000 British regular troops were killed. This model is unique in that every soldier (over 20,000 of them) is represented as an individual agent. This representation of every individual enables agent-based models to simulate history in a unique way that can lead to unexpected results – particularly in the analysis of “what-if” scenarios.

The archaeology of missionary life: further excavations at the Hoho Mission

Ian Smith, Jessie Garland, and Tristan Russell

A second season of excavations at Hoho Mission, Bay of Islands, in January-February 2013 disclosed evidence of the domestic life of the community that lived there from 1814 to 1832. Foundations of two houses were located, one from the first decade of the settlement, and the other post-dating it. The earlier house is almost certainly that occupied by Thomas Kendall and family, and the archaeology reveals measures taken to remove evidence of their presence after Kendall was expelled from the settlement in 1824. Elsewhere on the site

small structures and other features from the ‘back yards’ of missionary houses were uncovered. Artefactual and faunal remains are currently under analysis and providing fresh insights into the material culture and dietary patterns of this early Pakeha community.

Earthquake archaeology: trials, tribulations, opportunities

Frank van der Heijden & Katharine Watson

The impacts of a disaster on archaeology – and many other things – are broad in scope and far-reaching. None of us involved in the immediate aftermath of the Canterbury earthquakes could have envisaged the size and extent of the impact on the archaeology of the province. While Christchurch has received the most publicity, the archaeology of many smaller centres has also been affected, from Ashburton to Akaroa to Kaiapoi, Rangiora and Darfield.

Canterbury is the first major area in New Zealand to have experienced the effects of a disaster on its archaeology. There was no template to follow after the first earthquake, no procedures in place and no plans. These plans were in place by February, but the effects of this earthquake were much greater. Canterbury, however, is unlikely to be the only region in New Zealand to experience a significant disaster and so this session outlines, in more detail than previously, how we dealt with the impacts of the disaster, and gives you the chance to ask questions and offer your thoughts.

Buildings and financial ambition

Katharine Watson, Matt Hennessey and Charlotte Staniforth

Buildings can reveal a lot about money. The materials, fittings and fabric used can indicate how much the builder was prepared to spend on the building. The appearance and layout can reflect the relationship between social position, wealth and ambitions. And the function of a building can reveal how its builder intended to make money. The three buildings discussed in this paper each reveal something about the builder’s financial ambitions, and their success or otherwise.

On the run at Ohakune: the life, times and refuges of a WW2 conscientious evader

David Wilton

The treatment of New Zealand conscientious objectors in WW1 was somewhat draconian (to put it mildly). It was little wonder that in WW2, men who had no wish to join up simply “went bush” and disappeared. One such man was “Les” Bergesen from Ohakune. A Tongariro Natural History Society project to record archaeological sites around Ohakune led to the location of hut sites associated with his time on the run. A combination of archaeological and historical information (including contact with his family) revealed an interesting and poignant picture of a fascinating individual.

Middens on a landscape

Dan Witter

Over sixty midden deposits have been excavated in an area of coastal dunes north of Kaiapoi as part of subdivision development. Recently obtained dates indicate that most of these are in the order of 1600-1650 AD. This appears to be at a time when river mouth mudflats were nearby. The middens show considerable variety and indicate a range of activities. This variability can be described as a cycle where mollusc shells from various habitats are harvested, processed and disposed in different ways. The result is a pattern of middens showing landscape partitioning.