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Guest Editorial

Multidisciplinary approaches to Australian island pasts: Late Pleistocene to historical perspectives on Australian island use

Abstract

To mark Michael J. (Mike) Rowland's retirement a symposium was held at the Queensland Museum, Brisbane, Australia on 30 August 2013 titled 'A Long Way in a Bark Canoe: A Symposium in Honour of Mike Rowland'. The symposium celebrated Mike's singular contribution to advancing understandings of Australian island colonisation and use. The papers collected here represent the first volume dedicated to Australian island archaeological research and showcase the full range and diversity of contemporary multidisciplinary research approaches. The volume surveys the depth and breadth of Australian island societies, including studies of late Pleistocene island use in northwest Australia, late Holocene deltaic island societies of Papuan lowland rainforests, early-to-mid-Holocene tropical island use of Torres Strait and the Great Barrier Reef, and Holocene selective occupation and abandonment of Bass Strait and other Southern Ocean islands.

Keywords: islands; human-environment interaction; colonisation; palaeoenvironment

1. Introduction

Australia is an island continent with a coastline extending over 59,736km. The 8222 islands surrounding the Australian coast comprise almost 40% of its total coastline length (Geoscience Australia 2015a, 2015b). They span through 34° of latitude and range from the northern tropical islands and reef sandy cays of Torres Strait located between the mainlands of Australia and New Guinea to the temperate islands of Tasmania in the Southern Ocean in the south. Most islands were hilltops on the glacially-exposed continental shelf and took their current form when the continental shelf was flooded during the marine transgression between the end of the Pleistocene and the early Holocene. Others formed more recently associated with coral reefs and riverine deltas and changing sedimentation budgets. Historically, occupation of islands ranged from permanent residential islands to those used seasonally, with some islands reserved for specific ceremonial and resource production activities. Yet broadscale insights into the variability of usage patterns and long-term trends in social and environmental processes of cultural transformation on Australian islands have been hampered by patchy archaeological and palaeoecological research. Concentrated research in Torres Strait and the nearby southern coast of Papua New Guinea in recent years has dramatically increased understanding of the development of Melanesian island societies of northeast Australia and provided new comparative insights in the variability and complexity of island use across Australasia.

In this review volume, we bring together researchers and institutions involved in Australian island research to provide a contemporary synthesis and benchmark on archaeological and palaeoenvironmental research of Australian island environments. The last major overview of Australian islands archaeological research appeared 16 years ago in the volume *Australian Coastal Archaeology* (Hall and McNiven 1999). At that time, the main geographical areas of dynamic islands research in Australia were northwest Western Australia, and central and southeast Queensland. Since 1999, Torres Strait has developed as the most dynamic region of islands research in Australia, and this new volume showcases the range of recent research from Torres Strait and the adjacent region of southern Papua New Guinea.

All five INQUA Commissions (Coastal and Marine Processes; Humans and the Biosphere; Palaeoclimates; Stratigraphy and Chronology; Terrestrial Processes, Deposits and History) are represented in the papers in the volume. Key environmental themes explored through the volume are geoarchaeology, taphonomy, impacts of sea-level rise and climate change, chronology of island formation and colonisation, anthropogenic environmental modifications, island terrestrial and marine resource management, and intra- and inter-island occupation, mobility, and exchange relationships. Key socio-cultural themes explored include ritual and ceremonial sites, mortuary practices, canoe voyaging, and responses to colonial impact. Site types discussed include shell deposits (cultural and natural), villages, long-houses, gardens, rock art, ritual shrines, artificial reefs, and ceremonial stone arrangements. The contributions represent diverse multidisciplinary approaches adopting coordinated methodologies to the task of understanding the diversity of human use and modification of islands in the Australian context. Culturally and chronologically, the volume surveys the depth and breadth of Australian island societies, including studies of late Pleistocene island use in northwest Australia, late Holocene deltaic island societies of Papuan lowland rainforests, early-to-mid-Holocene tropical island use of Torres Strait and the Great Barrier Reef, and Holocene selective occupation and abandonment of Bass Strait and other Southern Ocean islands. The volume's geographic coverage is thus broadscale, spread from the hot and humid tropical north to the cold temperate waters of the Southern Ocean. Uniquely, the papers in this volume reveal the diversity and complexity of cultural practices (e.g. subsistence, mobility, technology, socio-religious institutions, cosmology, resource manipulation and management) and historical contingencies that structure and mediate long-term human use, engagement, and modification of islands.

2. A tribute to Michael J. Rowland

On 30 August 2013 a symposium held at the Queensland Museum, Brisbane, titled 'A Long Way in a Bark Canoe: A Symposium in Honour of Mike Rowland', celebrated the retirement of eminent island and coastal archaeologist Michael J. (Mike) Rowland. The 19 papers collected in this volume are largely a subset of those presented at the symposium.

Mike was born in Plymouth, New Zealand, on 28 May 1951. He completed his BA and MA at the University of Auckland. His masters research, awarded in 1975, focussed on island biogeography, island archaeology, and on resolving quantification and occupation sequences of shell middens; research themes that have sustained Mike across his long career. Mike moved to Australia in 1976 to take up a position as Technical Officer in the Department of Prehistory and Archaeology, University of New England, Armidale. In 1978 he moved to the Department of Anthropology and Sociology at the University of Queensland in Brisbane as a tutor where he also enrolled in a PhD and began fieldwork in the Keppel Island group off Queensland's central east coast. In 1981 he began his long career in the Queensland State Government public service, first as a Field and Research Archaeologist in the Archaeology Branch, Department of Community Services and Aboriginal and Island Affairs, then in 1989 as the Senior Archaeologist in the Environmental Protection Agency, and then finally in 2004 as Principal Archaeologist in the Department of Environment and Natural Resource Management from which he retired in 2012. For 25 years Mike was the most senior archaeologist employed by the Queensland State Government. During this time Mike not only took a lead in advising on the management of the archaeological record of the State of Queensland, but continued to undertake and publish research at a rate that would make many academics blush.

Mike has published more than 55 refereed journal articles and book chapters in addition to dozens of book reviews, technical notes, newsletter contributions, and reports. The latter include field reports of surveys that sometimes still represent the only information available on the archaeology of some lengths of Australia's massive northeastern coastline. Many of the areas and themes

pioneered by Mike have been picked up by others and his legacy is represented in many of the contributions collected in this volume.

Mike's body of work can be collected around several key themes. First, from his earliest publications Mike was interested in understanding different types of shell-bearing deposits and how to quantify shell remains. An enduring contribution of this strand of his interests is drawing attention to the economic value of small shells often ignored by archaeologists as 'non-economic'. Second, Mike has published a large body of work on identifying, recording, and managing archaeological sites, including significance assessment and biogeographical approaches to predictive modelling. Third, the largest body of work focusses on Mike's beloved Keppel Islands where he has conducted research for over 30 years working closely with the Woppaburra traditional owners. This pioneering work revealed previously unanticipated early occupation of offshore islands, the presence of shell fish hooks, and indications of dramatic change in use of the islands through time. The Keppel work stimulated Mike's interest in broader patterns of colonisation and use of the islands down the length of the Great Barrier Reef and questions of watercraft use. At the same time Mike began publishing critiques of emerging models of Holocene Aboriginal cultural change in Australia, arguing strongly that both social and environmental factors need to be considered in concert, particularly drawing attention to differential preservation of archaeological deposits and the possible impacts of environmental change on cultural trajectories. Over the past decade, contributing to the climate change debate from an archaeological perspective has become Mike's passion, seeing him make important observations about the validity of underlying assumptions and human adaptability. Although Mike has sometimes been branded as an environmental determinist, a close reading of his body of work reveals a thoughtful and considered approach to understanding the human past, revealed most strikingly in his sensitive writings about massacres, frontier conflict, and repatriation. In his retirement Mike continues to research and publish and mentor many students and colleagues.



Fig. 1. Mike in New Plymouth, New Zealand, c.3 years old, showing the aptitude for stylish dressing that he would come to be known by, c.1954.



Fig. 2. Mike on Keppel Island, 1980.



Fig. 3. Excavations at Mazie Bay, North Keppel Island, 1980. (L-R): Nicky Horsfall, Cathy Box, and Mike.



Fig. 4. Mike at camp while excavating on the island of Naghir, Torres Strait, 1981.



Fig. 5. Mike taking sand samples from the section of A5 Mazie Bay, North Keppel Island, 1979.



Fig. 6. Mike shaking a leg at the Woppaburra land transfer, 2007 (Photograph: Christine Doherty).



Fig. 7. Mike and Woppaburra delegates at the symposium on 30 August 2013 (Photograph: Leon Jackson).

3. Contributions in this volume

This special issue of *Quaternary International* comprises 19 papers with a combined multidisciplinary authorship of 45 researchers represented by archaeologists, anthropologists, geomorphologists, zoologists, palaeoecologists, palynologists, geologists, radiochemists, conservators, and local Indigenous community members. In Hall and McNiven (1999), 25 (74%) of the 34 papers were single authored. In this volume, only seven (37%) of the papers are single authored, indicating that research projects are becoming increasingly multidisciplinary and large-scale team affairs. Indeed, three of the papers in the current volume have eight or more authors whereas in Hall and McNiven (1999) the most number of authors on a paper was four. Increasingly, understanding the long-term history of Australian islands calls for multidisciplinary research teams with palaeoecologists calling on the expertise of archaeologists to help understand anthropogenic impacts on ecologies, archaeologists calling on the expertise of palaeoecologists to help provide the environmental context of past cultural practices, and both archaeologists and palaeoecologists calling on the expertise of local Indigenous traditional owner communities to assist with understanding the mutually transformative relationship and blurred divide between culture and nature.

The papers neatly fall into one of three large-scale geographical sectors: “Torres Strait and southern Papua New Guinea”, “Tropical northern Australia” and “Temperate southern Australia”.

3.1. Torres Strait and southern Papua New Guinea

Eight papers in this volume highlight the range and scope of island archaeological and palaeoenvironmental research across the continental (rocky) and reef islands (sandy cays) of Torres Strait, and the nearby muddy deltaic islands of the Gulf Province of Papua New Guinea. Papers by Barker et al. (2015) and David et al. (2015) focus on the Kikori River delta of the Gulf of Papua – a region with high rainfall, and tropical lowland rainforests and swamps. Ethnographically-known high density village communities living in huge communal long-houses sustained by horticulture, especially sago production, practiced elaborate ceremonies that often involved skulls taken in headhunting raids. The papers examine the regionally unique challenges of excavating and dating the remains of long-houses and identifying nearby headhunting refuge encampments of the past 600 years. The remaining six papers cover various geographical and temporal dimensions of Torres Strait. Rowe (2015) provides a model case study where pollen core vegetation sequences integrate complementary archaeological insights. The result is culturally meaningful and nuanced palaeoenvironmental reconstructions of settlement and mobility patterns linked to landscape firing and freshwater availability over the past 3000 years. A rare window into early marine specialisation in Torres Strait is provided by Crouch’s (2015) study of a 4200-3500 year old midden on the small island of Sarbi in western Torres Strait. Ephemeral use of Sarbi is linked to a network of broadly contemporaneous sites focussing on the rich marine resources of Kuiku Pad coral reef, with scheduling innovatively discussed in terms of the navigational concerns of seasonal wind directions and currents. Sea voyaging and mobility on a much more extensive scale is discussed by McNiven (2015) for the Kulkalgal people of the Central Islands of Torres Strait. Living mostly on drought-prone sandy cays, the Kulkalgal developed a broad range of risk-buffering strategies to overcome seasonal resource shortages that ranged from importation of plant foods and water to an elaborate system of ritual shrines associated with spiritual renewal of key resources. The theme of ritual and ceremonial practices is picked up also by Greer et al. (2015) and McIntyre-Tamwoy et al. (2015) for the southern sections of Torres Strait, including the adjacent mainland of Cape York. Greer et al. (2015) highlight the focus of much Torres Strait islands archaeological research on ritual and ceremonial sites and practices. They argue that investigating the development of these practices also needs to consider strong influences from mainland Australia. McIntyre-Tamwoy et al. (2015) illustrate the scale of Cape York ceremonial practices on the doorstep of Torres Strait through examination of a large

stone arrangement site complex. While the antiquity of the stone arrangements is unknown, incorporation of European objects points to continued use into the nineteenth and twentieth centuries. The theme of occupational continuities into the colonial era is the focus of Wright and Ricardi's (2015) paper on the central western island of Mabuyag in Western Torres Strait. Excavation of a range of ancestral village sites reveals European objects indicating continuities in traditional subsistence practices into the nineteenth century. Such continuities challenge the accuracy of written records claiming missionary-induced village abandonment and settlement centralisation.

3.2. Tropical northern Australia

Beyond Torres Strait, the large swathe of northern tropical Australia is also represented by eight papers – two from Western Australia (Manne and Veth 2015; McDonald 2015), one from the Northern Territory (Kearney and Bradley 2015), two from Queensland's Gulf of Carpentaria (Moss et al. 2015; Rosendahl et al. 2015) and the remaining three papers from central and southern Queensland (Robins et al. 2015; Ross et al. 2015; Rowland et al. 2015). Manne and Veth (2015) and McDonald (2015) provide unique perspectives on not only Australia's earliest island use but also some of the earliest evidence for human use of islands in the world. Both studies document how increasing proximity of marine environments to sites as a result of sea-level rise was expressed behaviourally in increasing dietary use of marine food resources (Manne and Veth 2015) and increasing incorporation of marine motifs in rock art (McDonald 2015). The dramatic environmental consequences of the marine transgression and the late Holocene stabilisation of sea-levels and marine habits is a theme taken up by Moss et al. (2015) and Rosendahl et al. (2015) for the South Wellesley Archipelago of the Gulf of Carpentaria. Based on extensive coring of swamps, Moss et al. (2015) detail dramatic changes in the configuration of mangrove and adjacent terrestrial wetland environments on Bentinck Island over the past 3000 years that have major implications for understanding past Aboriginal use of the archipelago. Significantly, they document major changes in local vegetation patterns that reflect historically-known decreases and increases in use of areas and concomitant alterations in landscape firing practices. Rosendahl et al. (2015) detail an innovative multimethod approach to demonstrate that 7000-4500 year old oyster deposits on tidal flats are of natural origin and not cultural middens as once thought. These natural deposits provide important independent insights into marine resource availability against which to understand Aboriginal occupation of the region within the past 3000 years. The theme of late Holocene intensified use of islands in the context of sea-level stabilisation and marine resource development and availability is taken up by Rowland et al. (2015) for the extensive Great Barrier Reef marine province along the Queensland coast. The argument for major environmental and cultural changes taking place around 3500 years ago is reinforced, as is the potential for Melanesian social and cultural influences down the Queensland coast. The social complexities of understanding past Aboriginal use of offshore islands is brought into sharp focus with Kearney and Bradley's (2015) nuanced discussion of historically and ethnographically-known voyaging by the Yanyuwa people to the islands of the Sir Edward Pellew Group in the Gulf of Carpentaria. That social practices may also dramatically alter midden deposits is explored by Ross et al. (2015) in relation to Peel Island within Moreton Bay, southeast Queensland. It is argued that oyster shell consumption may be unrepresented in midden deposits due to alternative use in the formation of artificial reefs to increase production and availability of oysters. The issue of representativeness of midden deposits across Moreton Bay is taken up further by Robins et al. (2015) where it is argued that increasing numbers of middens through time may reflect largely preservation factors. In particular they draw attention to the dynamic dune systems of Moreton Island where old landscapes (and possibly associated middens) are buried by more recent dune deposits.

3.3. Temperate southern Australia

Three papers on Aboriginal use of islands along the temperate coastline of southeastern Australia provide dramatic contrasts to island use across northern tropical Australia. Bowdler (2015) provides a timely update on Aboriginal use of the Bass Strait islands during the late Pleistocene and early Holocene marine transgression through to nineteenth century occupation of Flinders Island. What emerges is a complex history of withdrawal during the marine transgression followed by strategic and sporadic seasonal revisitation in the late Holocene from the Tasmanian mainland and selected permanent occupation over the past 150 years. The issue of seasonal use of Bass Strait islands within the past 500 years is taken up by Fullagar (2015) in a detailed functional analysis of stone artefacts from multiple midden levels in Great Glennie Cave located 7 km off the Victorian mainland coast. Irregular seasonal use of the island hints at reasons for island visitation apart from the 'economics of subsistence'. Finally, the social complexities of intermittent island use are explored further by Draper's (2015) detailed exploration of Aboriginal association with Kangaroo Island off the South Australian coast. Known as Karta or 'island of the dead' by mainland Aboriginal groups, Draper reveals how archaeological evidence is inconsistent with early ethnographic records that the island was never visited. More permanent occupation reflected the arrival of spirits of ancestors whose symbolic journey was assisted by use of rafts as mortuary platforms for corpses on the adjacent mainland coast.

4. Concluding thoughts

Mike Rowland has played a major role in fostering the emerging field of Australian island archaeology. Mike's energetic surveys, observations and ideas about island use have stimulated and inspired generations of archaeologists to grapple with the complexity of engaging with the archaeology of islands. The field owes a debt of gratitude to Mike's generosity and mentoring over many decades.

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