



AAA 2024

Sharing Archaeological Narratives



ABSTRACT BOOKLET

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Anima Mundi, Why the Tiwi Islanders Sang in the Vatican Museums, and Created New Knowledge From 100 Years Ago, for the Future

Katherine Aigner, Australian National University

The ethnographic section of the Vatican Museums: Anima Mundi, Peoples, Arts and Cultures, was created mainly from objects sent for an exhibition in 1925, curated by esteemed ethnographer Fr Wilhelm Schmidt. He worked with other missionary ethnographers who had travelled around the world searching for an understanding of what he believed to be a primordial monotheistic religion. From Africa to Tierra de Fuego, Asia and North Africa, they also worked with communities in the Pacific and Australia.

The Vatican Museum's permanent exhibition, which took the public on a tour of intangible cultural beliefs represented through material objects, was closed, on and off, throughout the 1980s to the early 2000s. The Anima Mundi Museum re-opened with a new layout in 2010, with great ceremony, to the sound of the didgeridoo, with an exhibit dedicated to the Vatican Museums' Indigenous Australian collection. In 2018, Tiwi Elder and knowledge holder, Pedro Wonaeamirri, infused the halls of the Vatican Museums with traditional Tiwi chants (he had met the Vatican Museums' team previously in his homeland on the Tiwi Islands in 2010). In 2023, Senior Australian of the Year and well-known Indigenous educator, Dr Miriam-Rose Ungunmerr-Baumann also left an impact, donating an artwork for the collection called *We Found God in Nature*. She spoke about her spirituality, which she called *Dadirri*, 'it is deep listening, silent, still awareness' she said.

These collaborations that happened in the Anima Mundi Museum, mark a shift in how the peoples and their material objects have been perceived in ethnographic collections, from different disciplinary narratives of the past, to shared agency and values moving forward.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

A Methodology for Reidentifying Submerged Aboriginal Sites on the Continental Shelf

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The archaeology of the continental shelf is a well-established area of inquiry in the global archaeological community, as are the applications of GIS for modelling submerged landscapes. Despite this - in New South Wales - the intersection of Aboriginal archaeology and heritage consultancy is halted firmly at the coastline. With an increasing number of marine off-shore developments planned for the NSW continental shelf, including wind farms and marine agriculture, the applications of heritage must needs be considered. The existing gap is perhaps best demonstrated through the New South Wales Aboriginal Heritage Information System, or AHIMS. This database prevents searches from being undertaken should the area extend into oceanic contexts.

We aim to build on the findings of a 2020 study, being a joint venture between Flinders University and the University of Western Australia, which reidentified an Aboriginal site off the Murujuga coastline. It is our hope that this will begin a conversation on conserving submerged Aboriginal sites and the outcomes of restructuring existing systems and databases to facilitate this.

It is noted that this proposal is still in its infancy, and we are working to refine and develop this to improve projected outcomes. As such, this presentation aims to set out a current methodology for the cultural mapping of the submerged landscape, starting with the maritime contexts of the Illawarra. We are proposing the use of established GIS techniques to map palaeochannels and landforms. We then aim to synthesise data through consultation with local Aboriginal stakeholders and knowledge holders, with the hope of reidentifying submerged ceremonial sites, Dreamtime sites, and travel routes; with the ultimate goal of using a heritage map to minimise the impacts of marine offshore development on culturally significant sites and materials.

*Building New Narratives of Cross-Cultural Encounter and Exchange

Flinders Island Group: Incorporating Rock Art Motifs to Assess Narratives of Connection

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Flinders Island Group (off the tip of Cape Melville, Queensland) is a culturally rich archipelago representing the most heavily ethnographically documented islands on the Australian eastern seaboard. Early contact ethnographic accounts were broadly guided by a diffusionist approach suggesting Indigenous people were without initiative or innovation, with contact from the north driving much change. A similar argument has been proposed recently following the discovery of pottery on Jiigurru (Lizard Island). The Flinders Island Group is located along a trade route that may have encountered Melanesian voyagers. Interestingly, genetic research does not support gene flow from the north to the south (Wasef et al. 2021). To further investigate patterns of connection and exchange across the region, we have collaborated with the Yithuwarra people (Flinders Island Group) and Kaurareg Traditional Owners (Muralag Island) to ascertain if connections may have existed between the regions.

*Highlighting Collaborative Research and Exploring Narratives of the Past in New Guinea

A Collaborative Model for Archaeological Research in the Middle Purari, Gulf of Papua, Papua New Guinea

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Archaeological investigations along the Purari River corridor in the Gulf of Papua have been limited, apart from industry-related studies relating to various hydro, gas and petroleum projects that operate in the wider area. Archaeologists, together with international partners namely the Papuan Past Project, the University of Papua New Guinea, in collaboration with TotalEnergies EP PNG Limited, have been conducting archaeological investigations in the Wabo area of the middle Purari beginning in 2023. This has required intensive collaboration between the various stakeholders, including the local landowners who are key to the success of the research project. This paper focuses on clearly identifying the many collaborative partners, their roles, responsibilities, and goals within the overall state legislative frameworks and customary and traditional expectations. More broadly, University of Papua New Guinea archaeologists identify global questions and international partners identify techniques and analysis methodologies. The local landowners nominate and/or facilitate access to local sites for data collection, and TotalEnergies EP PNG Limited provide logistics, funding, and security. Hence, for the research project to succeed, each collaborator must recognise the mutual benefit of working together in this space.

***Shared Signals? Crafting New Narratives and Approaches to Northern Australian Rock Art**

Snake and Moon 'Right Way Marriage' Stories and Images

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In north west Australia, boab trees hold significant cultural values for Indigenous people. Their leaves, bark, roots and nuts are important as traditional resources for food, medicine, fibre, water and shade as well as offering directional points in the landscape. In much the same way as rock shelters are marked, some tree trunks are inscribed with images and symbols, a few of which tell of events that took place during the time when the landscape was created.

Like those in rock art of the region, some of these images are associated with narratives that describe the making of the landscape. There are also some images that serve as reminders of cultural laws. One such narrative is about forbidden love. This narrative in Nyaliga Country involves the moon (a man) and a snake (a woman). For this was Windid di windid bururu birrinyingarri (A long time ago when they were people) Ngarranggarni ngadmangarri ('Dreamtime' that's what we say) [D.C.]. The importance of marriage laws is emphasised by the multiple ways in which this story is told across the languages of the Kimberley but also in the diverse representations in which it is shared - through oral tradition, images on rock walls, on ancient boab trees, and more recently on canvas. While the female in the story in some parts of the Kimberley is represented as a star rather than snake, the male transgressor is always a moon which, each month, is reborn. In this presentation we discuss the narrative, variations, and the ways in which these are interpreted interculturally and cross-culturally.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

The Creative Future of Artefact Displays in Foyers and Lobbies: Moving Beyond the Static

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Conventional artefact displays in the foyers or lobbies of buildings are often static, uniform and in many ways non-interactive. There is a need to explore the creative future of artistic artefact displays, and how we can move beyond the static norms, push the envelope, and encourage tactile ways of interacting with our history. This paper will provide examples of static displays in the foyers and lobbies of buildings and how the general public is traditionally encouraged to interact with archaeological results and artefacts. The disadvantages of these artefact displays will be then discussed. This paper will also investigate the role that 3D printing, virtual reality, virtual tours, online exhibitions, interactive displays, and other innovative means can play in pushing the boundaries of conventional artefact displays in foyers and lobbies. For example, 3D printing can encourage tactile approaches to interact with artefacts, safely allowing replicas to be handled and explored. These replicas could also provide a glimpse into the cultural stories of artefacts, including how they were manufactured, used and discarded. In addition, virtual reality and virtual tours can serve to place the public in the role of an archaeologist, while online exhibitions and interactive displays extend the reach of interpretation beyond those who physically enter the building. This paper will also explore other innovative and creative techniques for sharing archaeological stories in the foyers and lobbies of buildings. Creative artefact displays in foyers and lobbies of buildings will aid in sharing archaeological narratives with the wider community, explaining broad challenges in archaeology and communicating the importance of cultural heritage consultancy in the wider industry.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

Storytelling, Setting the Record Straight About the Shared History of Aboriginal Australians and their Lived Experience in the Pastoral Industry

Delyna Baxter, Charles Darwin University

The Stockman's Hall of Fame in Longreach commissioned an extensive oral history project to record the lives and contribution of Aboriginal men and women to the Australian Pastoral Industry. The oral histories were intended to contribute to an exhibition, and as a collection to be held by an appropriate organisation. Two hundred oral histories were recorded during 2011-2013.

Participants were Aboriginal men and women and included younger and older people, although the majority were retired from the industry. Strict ethical guidelines were followed during the collection phase of the project, and ethics approval for the analysis phase was provided by ethics committees from two universities. This paper is based on my experiences of collecting these oral histories, and how I use the genre of storytelling to act as a conduit to aid in truth telling around Aboriginal peoples' past experience of life in the pastoral industry.

Key themes to be explored in the paper relate in particular to peoples' identities and the need for cultural transmission of knowledge. The oral histories provide rich insights into how identities are forged, maintained and managed through a changing historical landscape in Aboriginal Australia. They also furnish an understanding of the contributions to wellbeing the stories give to these old past pastoral workers, as well as to modern Aboriginal society.

*Poster

Platinum Discovery: A Shiny New Result Provided by the Garden Range 2 Excavations on Taungurung Country

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Michelle Richards, The University of Melbourne

Ian J. McNiven, Monash University

Taungurung Land and Waters Council RAP

This poster presents an exciting result from the analysis of stone tools discovered during the Garden Range 2 excavations on Taunugurung Land and Waters Council RAP Country. We used non-destructive pXRF to geochemically source the excavated artefacts and the historically collected stone artefacts from Taungurung Country in the Museums Victoria collections. We discovered that a source of stone containing platinumforming minerals was favoured for use as grinding stones and hammerstones. The occurrence of these minerals is uncommon across the landscape making it possible to predict likely source locations. This new information allows us to re-construct past exchange systems and social networks in Taungurung Country to understand the activities and importance of the Garden Range 2 rock shelter in the cultural landscape.

* When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Always a Trace: Archaeological Absence, Indigenous Presence and Depictions of 'Contact' Experiences in North Australian Rock Art

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Amanda Kearney, San Diego State University

In this paper, we explore how we might 'see' and interrogate absence and presence in the archaeological record. Our aim is to bring into question the epistemic lens (archaeological) through which absence is made visible and the epistemic lens (Indigenous knowledge) through which absence is made impossible. To do this, we turn to the contact rock art record from Yanyuwa Country in northern Australia where, despite four centuries of contact with the 'other' (Indonesian trepanger gatherers, and Europeans), no motifs depicting introduced subject matter resulting from these encounters have been found. Rather than attributing this absence to taphonomic factors, we argue it can be understood as an Indigenous presence when juxtaposed with the richly narrated lifeworld of the Yanyuwa. For Yanyuwa, creating rock art is a non-human-centred activity; it is through the actions of Ancestral Beings and spiritual entities that all rock art, potentially including introduced subject matter, is made and taken away according to cultural circumstances such as Yanyuwa health and wellbeing and changing engagements with Country during post-contact times. We conclude by advocating for archaeologists to look outside of, or suspend, Western-oriented frameworks and reasoning and turn to self-determined Indigenous ontological and epistemological thinking around how absence appears and operates.

*Rock Art Stories

Archaeology, Ethnology and Contemporary Aboriginal Viewpoint: Developing an Understanding of Archaeological Patterning of the Rock Art and Other Cultural Features of the Upper Blue Mountains NSW, Australia

Wayne R Brennan, The University of Sydney

This paper discusses the current understanding of the archaeological patterning of the Mt Wilson-Mt Irvine region (mainly the rock art), in relationship to the Burbung ceremony of southeast Australia. By examining the Aboriginal viewpoint, alongside ethnographic and archaeological records, the paper shows how these three perspectives inform each other to give a greater understanding of the rock art and other cultural features in the landscape.

*Poster

Cataloguing Private Collections of Mamu Stone Tools

Alice Buhrich, Freelance

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Steve Purcell, Mamu Aboriginal Corporation

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Thousands of stone artefacts are held in private collections on the Mamu estate, based around Innisfail, in Far North Queensland. Items in private collections include basalt axe heads, grinding stones and the unusual incised slate grindstones (morahs) and triangular shaped ooyurkas that are not found anywhere else. Our project team includes the Mamu Rangers and an archaeologist, who are guided by Mamu Elders. The project is part of a larger Mamu cultural heritage project funded through the Australian Heritage Grants scheme.

We aim to catalogue artefacts held in these private collections in order to:

- Gain a deeper understanding of how Mamu used the landscape in the past.
- Train Mamu Rangers in stone tool identification and recording.
- Know where the artefacts are held and build relationships with landholders.
- Store the objects appropriately to ensure their long term preservation.

Our preliminary analysis of the private collections has revealed that the artefact collections represent important Mamu camping areas. Most of the artefacts are edge ground axes and grinding stones found on deep basalt plains. The edge ground axes are often broken and were probably discarded. Our project demonstrates the value of private collections over museum or other large collections. For example, farmers can tell us exactly where and how they found the items. This information is added to Mamu's cultural heritage database.

* Sharing Community-Owned Narratives to Heritage Management (Lightning)

Rock Art Recording and the Carbon Economy

Alice Buhrich, Freelance

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The carbon economy yields significant values to participating Aboriginal communities in northern Australia. These include regular income, control of ‘hot’ damaging fire, reinstating cultural practices, improving environmental outcomes and getting back to Country in a meaningful way. Cultural burns aim to reduce fuel load and encourage healthy Country and are an important tool for managing the risk of large unmanaged bushfires in Australia.

Sandstone is especially at risk from spalling due to the geological nature of the rock and vegetation plays a key role in managing this risk. When Western Yalanji commenced their burning regime in Wulburjurbar, the sandstone escarpments near Laura in south east Cape York Peninsula, they enlisted an archaeologist to conduct baseline assessments of the extensive rock art that could be used by the Rangers to monitor impacts to these significant assets.

Over one week, a small team used a helicopter to inspect remote, high priority areas for recorded and unrecorded rock art. We conducted basic recordings with the aim of assessing potential impacts from fire. Archaeologist Alice Buhrich, designed a system for the Western Yalanji Rangers. Fire risk ratings were given on a scale of 1 (lowest risk) to 5 (highest risk). Risk assessment used both archaeological considerations and Traditional Owner narratives.

This project, funded by (Qld) Department of Environment and Science Looking after Country Grants, is an example of how archaeology can play a role in Traditional Owner conservation aspirations.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Plant Imagery in Rock Art of South East Cape York Peninsula

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Balnggarrawarra Aboriginal Corporation

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Laura Rangers

Melsonby Rangers

Waarntuur-iin Aboriginal Corporation

The vital significance of plants to Aboriginal people of Cape York Peninsula as food sources and components of artefacts, medicine, clothing and ornaments is recorded in Aboriginal knowledge, anthropological and ethnographic literature, a large surviving assemblage of culturally modified trees, and in museum collections. As there is evidence of ritual and totemic associations, the presence of plants and plant-related imagery in rock art is unsurprising. The rock art record is particularly significant as a source of archaeological information due to the somewhat limited recovery of organic materials in archaeological deposits (but note the excavated fibre and resin materials discussed in this session, the widespread recording of grinding features in the Agayrr Bamangay Milbi project, and the identification of plant fibres in rock paintings). To complement plant-related archaeological research in the study area we focus on analysing the selection and role of plant imagery in rock paintings: which plants were depicted and how did plant motifs work in the art system; do they shed light on lifeways and belief systems of the Old People and if so, how; are there spatial trends that may reflect relationships with land? Although the approach is essentially synchronic, we briefly consider relative chronology in the context of rock art superimpositions, differential weathering and style. Apart from its intrinsic value to the aims of the Agayrr Bamangay Milbi project, the study provides comparative data relevant to studies of plant imagery in regions elsewhere, such as Arnhem Land and the Kimberley.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

You Don't Need Much of the Good Stuff: Recreating Rock Art Motifs During Ochre Workshops in the ABM Project

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In workshops held in mid-2023 and mid-2024 Bama (Indigenous) researchers evaluated the ochres and associated paint-making materials (particularly grindstones, binders and brushes) from their respective Countries to assess pigment quality and paint technologies.

Participants selected motifs recorded in their Country during our past four years of survey and recreated them on a 1:1 scale. Using primed and unprimed canvases to act as a proxy for porous and mineralised sandstone rock surfaces, Bama researchers selected ochres in keeping with the colours of the original motifs and measured the amount of pigment used. Workshop activities gave Bama researchers a reason to trial the pigments/paints used by their Old People, sparking intergenerational conversations and the sharing of family memories. In the cultural landscapes of southern Cape York Peninsula, which are brimming with high-quality pigment sources and other associated materials, Bama have a huge amount of choice in selecting paint-making resources. Our collaborative work demonstrates that, when using high-quality ochres, a little goes a long way.

*Poster

A Proposal for Collaboration: Narrating Space Exploration Through Heritage

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NASA has a wide range of resources available which allow for space enthusiasts and professionals alike to explore previous and current NASA programs and their results through text, audio-visual sources, and increasingly through online interactive resources. This shift is occurring in order to not only increase engagement with NASA resources to validate their creation as a US government entity, but also to meet the increasing interest in space exploration that is coming from the next generation as careers in space continue to become valid options.

HEXOS Space Heritage proposes that these resources are a prime setting to which heritage information can be added, therefore also bringing increasing attention to heritage values and their importance in society, both for space heritage and in general heritage at large. This can influence the quickly growing space sector to consider heritage values in their designs for future offices, labs, and launch sites on Earth, and spacecraft and missions off-Earth.

For our poster, HEXOS Space Heritage has designed several examples of abbreviated significance statements that can easily be integrated into NASA's pre-existing resources which can educate and inspire audiences who usually are not exposed to heritage narratives.

*Building New Narratives of Cross-Cultural Encounter and Exchange

Pre-Colonial Globalisation?: The Connected Landscapes of the Groote Eylandt Archipelago and the Early Modern Island Southeast Asian Forest and Marine Commodity Trade, Materialised Through Organic Residue Analysis of Archaeological Makassan Earthenware

Kellie Clayton, Monash University

Recent books on the archaeology of globalisation in history edited by Tamar Hodos, and Nicole Boivin and Michael Frachetti, omit any reference to the pre-colonial activities in northern Australia undertaken by mariners from island Southeast Asian (ISEA), such as Makassan (South Sulawesi) sea cucumber fishermen. I contend that the cultural consequences of the connectivities between ISEA and Australians in the pre-colonial Groote Eylandt Archipelago provide a distinctive case of long-term engagement with globalisation processes. Building on my 2023 study of the ISEA forest and marine commodities network, I use multidisciplinary evidence to describe key attributes of these connectivities, and assess their cultural consequences, to both visitor and the visited, in terms of eight 'hallmarks' of a global culture, drawing on the work of Carl Knappett and Justin Jennings. I also draw on the works of Ian Keen and Donald Thomson to describe and illustrate the Indigenous exchange connections of the Groote Eylandt Archipelago. Clarifying the distinctiveness of this case study requires new approaches to problematising the conflation of the regional and ethnic origins of the visiting ISEA mariners (cf. Groups 1 and 2 earthenware compositional analyses), and the identification of the range of exported Australian commodities besides sea cucumber. I 'materialise globalisation' by re-assessing the historical types and functions of Makassan earthenware pottery discarded in the Groote Eylandt Archipelago. I investigate the types of Australian commodities exported, as well as ISEA staple carbohydrate consumption (indicative of region of origin) using absorbed lipid and adhered microfossil residue analysis of archaeological earthenware. Here, I present the preliminary results of my doctoral research.

*Poster

Dead and Buried but No Longer Forgotten: The Interred at the Old Smithfield Cemetery, 1876-1915

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This research reinstates people in the landscape through archival and archaeological investigations of the Old Smithfield Cemetery: the oldest extant cemetery in the Cairns region. The cemetery was established to service the short-lived township of Smithfield, 1876-1879. Smithfield's location on the Barron River facilitated the movement of people and goods to the Hodgkinson goldfield via pack tracks and a dray road that traversed the coastal mountain range. During the first year of European settlement at Trinity Bay (1876-1877), Smithfield eclipsed Cairns as the region's primary commercial centre. Given the township's former importance, the sparse funerary remains evident today at the Smithfield Cemetery, of one unnamed grave and one nameless re-erected metal grave plaque, prompted the ensuing archival and archaeological investigation of the cemetery. Archival research revealed that 24 people were buried at Smithfield Cemetery between 1877 and 1915, and provided a valuable starting point for researching the township's little-known inhabitants. A geophysical investigation of the remaining portion of the original five-acre Smithfield Cemetery was undertaken using a magnetic gradiometer to compare archaeological evidence against the archival record. Fifteen grave-like anomalies were revealed, in addition to the extant grave. The survey's findings correlate well with the documentary evidence and dispel the previously held belief that only one burial had occurred at the cemetery. Furthermore, this research supports the likelihood that the Old Smithfield Cemetery was the only burial ground in the Smithfield township area at the time of European settlement.

*Stories All the Way Down: Narrating the Past in the Present

Storytelling with Microbiographies in the Archaeology of Immigration

Kimberley Connor, Stanford University

At least 34,000 women and children stayed in the Female Immigration Depot at Hyde Park Barracks (1848-1887), and they left behind hundreds of thousands of evocative but largely anonymous artefacts. How can archaeologists tell a story of the site that brings together the archival and archaeological evidence in a way that does justice to both the commonalities of the group and the specificities of each individual journey? One possibility is to use microbiographies - short, biographical vignettes of individuals in the group - to give life to the mass of data. Using a series of microbiographies of immigrant women from the Female Immigration Depot, I explore the potential applications (and challenges) of this technique for explaining taphonomic processes, providing alternative explanations, illustrating trends, and exploring unexpected results.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Community Led Management of Rock-Climbing Impacts at Dyurrite, Wotjobaluk Country

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Dyurrite falls within the north western limit of the Gariwerd Cultural Landscape and is jointly managed by Barengi Gadjin Land Council Aboriginal Corporation (BGLC) and Parks Victoria (PV). BGLC represents the rights and interests of the Wotjobaluk, Jaadwa, Jadawadjali, Wergaia and Jupagulk Peoples (WJJWJ Peoples of the Wotjobaluk Nations), the Sovereign First Peoples of the Wimmera, Mallee and Gariwerd regions of so-called Victoria. Between November 2020 and February 2023, BGLC and PV conducted numerous cultural heritage and environmental surveys of rock-climbing routes in the Dyurrite Cultural Landscape to assess the impact of rock-climbing activities on cultural values. These surveys revealed significant rediscoveries relating to the cultural heritage of the area including over 300 separate quartzite quarrying locations and associated stone-tool manufacturing floors; a number of newly rediscovered rock art panels; and intangible values including a significant women's place.

BGLC and PV also developed the Dyurrite Cultural Landscape Rock-Climbing Decision Framework, detailing how determinations were made regarding how rock-climbing activities will be managed at each of the 2,696 separate climbing routes assessed. This document outlines the determination process, which is a four-step framework of evaluation and endorsement by four separate groups in BGLC and PV with an independent review mechanism. This paper will detail how this Framework was used, the assessment and determination process and results and discuss the benefits of this Framework for other Traditional Owner groups managing rock-climbing or similar recreational impacts on their Country.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Aboriginal Cultural Heritage and the Limitations of the Victorian *Aboriginal Heritage Act 2006*: An Analysis of Eastern Maar Nation Sites Beyond the Standard Legislation

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According to the Victorian Aboriginal Heritage Council, the Victorian *Aboriginal Heritage Act 2006* recognises Registered Aboriginal Parties (RAP) as the primary guardians, keepers, and knowledge holders of Aboriginal cultural heritage. While the legislation has increased the power to negotiate and approve interventions and potential harm to cultural heritage, the standards for what can be considered cultural heritage, and thus protected, are very precise and restrictive. The aim of this study is to understand the limitations of Victorian legislation, highlighting cultural heritage that does not fit the standards proposed by the legislation. To achieve this, case studies in the Eastern Maar Aboriginal Corporation RAP area will be described and analysed. Three cases will be analysed in depth, which are located in the Western Victorian townships of Koroit, Ararat, and Noorat. These cases demonstrate that despite recent improvements, the legislation is still based on Western standards. In contrast, Traditional Owners' concepts of cultural heritage are broader and more inclusive of elements that do not necessarily involve anthropic interventions. The study will also address the solutions encountered by Eastern Maar Aboriginal Corporation to deal with those challenges and the outcomes reached so far.

*Shared Heritage in the Consulting World (Lightning)

Community Driven Cultural Heritage Management on Puutu Kunti Kurrama Country

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Puutu Kunti Kurrama and Pinikura (PKKP) Country is in the resource rich region of the Pilbara on the western edge of the Hamersley Ranges in north western Australia. For decades the PKKP people have been undertaking statutory heritage surveys and approvals for mining proponents where the entire methodology from start to finish was determined by these proponents. PKKP voices were constantly dampened by these entities, with many proponents simply disappearing when they had received what they needed.

PKKP Aboriginal Corporation (PKKPAC) fought to improve the standards and type of heritage work that was being undertaken across PKKP Country, developing strong relationships with quality heritage consultants who demonstrate a commitment to undertaking work the PKKP way, developing methodologies that go above and beyond compliance-based heritage management. PKKPAC and Big Island Research (BIR) have been working closely together for the last five years on several large ongoing projects across PKKP Country. PKKPAC and BIR have developed a methodology where PKKP Traditional Owners drive the compliance fieldwork, undertaking research and cultural mapping while meeting the proponents' obligations. This methodology ensures that Traditional Owner narratives, which were traditionally limited by legislation that prioritised development above all else, are at the forefront of all heritage related work on PKKP Country. Using the case study of the excavations undertaken at Nyimarri Rockshelter on Puutu Kunti Kurrama Country, we demonstrate how strong relationships with a commitment to placing Traditional Owner narratives at the front and centre of managing their own heritage is crucial to developing a proactive heritage management program.

*Poster

Archaeological Excavations of Former Sand Dunes in Kingscliff, NSW, Reveal Terminal Pleistocene Visitation

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The archaeological record of the Tweed-Byron region is dominated by late Holocene exploitation of coastal environments. Indeed, sites such as Seelands rockshelters and Wombah 1 represent some of the earliest archaeological excavations in NSW. However, despite being on a major coastal route for initial peopling of Sahul, there is little evidence of pre-Holocene visitation. Here, we present the results of a compliance-based archaeological excavation at Kingscliff Public School. Excavations consisted of eleven 1.5m³ test pits resulting in the recovery of 76 flaked stone artefacts. These were found in two zones: i) near the surface of a heavily truncated podzolic soil profile dated to the early Holocene (>7,000 years ago), and ii) a sealed layer of a lesser number of silcrete and chalcedony artefacts from depths of 1-1.5 m below surface and correlating with ages of >11,000 years ago. The lower assemblage suggests a small hunting camp on the top of the dune over-looking the surrounding locale. In combination with recent findings from Minjerribah (Adams et al. 2024), our data hint at a much earlier use of the region, as has always been proposed by the Bundjalung Nation, and with ongoing investigation will further continue to inform the peopling of south eastern Australia.

*Dating Murujuga's Dreaming

Mapping Surface Hydrologic Features of Murujuga

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Waterholes are typically found in depressions in river channels; they play a crucial role in retaining residual water from periodic surface flows and may receive additional inputs from underlying aquifers. Their connectivity and persistence are heavily influenced by climatic variations. In Murujuga, a high density of rock art is associated with these waterholes, highlighting their cultural importance as well as their role as refuges for plants, animals, and people utilising the freshwater resource. Understanding the hydrological dynamics of these resources is crucial in arid and semi-arid environments due to the potential impacts of climate change on freshwater persistence. Hydrology also informs our understanding of how freshwater resources may have changed in the past under differing climatic conditions. The functionality of Murujuga's waterholes is driven by geographical and climatic factors such as rainfall, evaporation, surface flow, water balance, perched water, geology, and pool morphology. One key question is the extent of streamflow generated in response to a given amount of rainfall and runoff, which are crucial for sustaining these waterholes. Our studies apply mapping techniques to characterise the geomorphological and hydrological attributes of the landscape to enhance our knowledge of waterhole functionality, contributing to a comprehensive understanding of the region's hydrological system. These data are interpreted in combination with hydrological monitoring datasets to classify the surface water features of Murujuga. By identifying the geomorphological conditions that make waterholes prevalent on certain landscapes at Murujuga, notably on Burrup Peninsula, Dolphin Island, and Enderby Island, we aim to understand the nature and distribution of surface-water features across Murujuga. Finally, this study aims to bridge the knowledge gap concerning the hydrological and hydrogeological characteristics of waterholes in Murujuga. By elucidating the factors that contribute to their formation and persistence, our research intends to offer valuable insights into human occupation.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Rising Tides: The Impact of Changing Sea Levels on Coastal Heritage Sites in Cape Melville National Park, Cape York Peninsula

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Globally, there is increasing awareness and concern for the impacts of anthropogenic climate change on archaeological and cultural heritage sites. This is particularly true for members of the Cape Melville, Flinders and Howick Islands Aboriginal Corporation, who for the past three years have been working with the Agayrr Bamangay Milbi Project documenting more than 100 coastal midden and other heritage sites across their Country in south east Cape York Peninsula, including culturally modified trees, rock art sites, fish traps, quarries and other significant places. Most of the middens are deflated, located along the coastal foredunes, in eroding blowouts. These sites suffered immediate impacts in late 2023 when the storm surges associated with Cyclone Jasper hit the region. As well as the normal impacts on exposed sites common to dynamic tropical coastlines, the accelerated frequency and intensity of weather events linked to global climate change, including rapid sea level rise is an issue of great concern to the Traditional Owners, whose aspirations for the sites are focused on heritage protection and knowledge preservation. Using predictive modelling, this presentation quantifies the extent of known heritage destruction that will occur with just a 1 m rise in sea level on sites along the coastal margins of Cape Melville National Park.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Mindurru: Pinikura Approach to Mapping Cultural Landscapes Under Threat

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The Pinikura Traditional Owners lived on and managed their traditional lands for tens of thousands of years prior to and post British invasion. Pinikura Country is under threat due to expanding mineral exploration and extensive 'low impact ground disturbance'. Most small exploration companies argue that heritage surveys are not required prior to undertaking low disturbance exploration, however much of the Pinikura Country has not been subject to statutory heritage surveys and therefore the government databases show the landscape as having no cultural values, although we know this is not correct.

PKKP Aboriginal Corporation, led by the Pinikura community, has developed a cultural mapping program drawing on the approach of counter mapping, where we create maps that challenge dominant narratives as a form of reclaiming colonised territory. Pinikura TOs alongside heritage professionals undertake visual and pedestrian cultural mapping in order to capture the cultural landscape. We target specific landscape features such as major waterways in order to record tangible and intangible cultural values which are then uploaded to our internal database. We draw on the recent Mindurru cultural mapping as a case study to demonstrate the value of community driven heritage projects. Mindurru, known as the Ashburton River to colonial-settlers, meanders from the north west coast in a neighbouring Country to the southeast where it enters Pinikura Country. Mindurru, like all major waterways, plays a significant part of the Pinikura cultural landscape, where people hunted, camped and travelled. Pinikura connections to Mindurru continue through the post-contact period where Pinikura families continue to live and work on Country on stations such as Wyloo, Nanutarra and Deep Pool. The cultural signature across this significant place consists of many archaeological and ethnographic features such as rock art, grinding patches, extensive stone artefact scatters, creation stories and more.

*Shared Heritage in the Consulting World (Lightning)

Working Together the Right Way: Kurna Cultural Leadership and Shared Heritage Management Processes for Major Development Projects in Adelaide, South Australia

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Australian capital cities are growing rapidly. In the Adelaide region (SA), the Kurna Traditional Owners and Native Title holders have struggled long and hard to have their cultural heritage recognised and respected, and their cultural rights and responsibilities as the primary managers of that heritage acknowledged. Many major development projects appear to pay little attention to cultural heritage impact assessment, heritage management, or engaging with Kurna.

Some recent major development projects are different - the developers have a direct working relationship with Kurna Yerta Aboriginal Corporation (Kurna PBC) and RAWsa (which provides their heritage management services), with heritage management consultants providing professional and scientific services. Together they work with State Aboriginal Heritage authorities. Kurna perspectives and cultural leadership are the core of this working relationship. Heritage management has to respect the primary role of the Kurna people in managing their own heritage, complying with the legislation, and achieving a high standard of heritage protection and impact management, and it has to be undertaken within the financial and time resources available to the developer.

We present case studies of two heritage projects, one residential and one industrial, that have significant archaeological records and also Traditional burial grounds that were heavily impacted previously by agricultural or industrial land use. Such impacts are not unusual for a city straddling three major coastal rivers. The Kurna Repatriation team, with senior Elders as well as younger members, supervise and work on the recording and rescue of Ancestral remains for repatriation to a safe space, and record the associated archaeological evidence. This work is conducted side-by-side with professional heritage consultants, together striving for high standards of cultural safety and scientific results. Every aspect of the work is negotiated and agreed, including with the developer and the State regulator. This Kurna-led, shared cultural heritage management process illustrates the way heritage management should be done but so often is not.

*Stories All the Way Down: Narrating the Past in the Present

One More Time with Feeling: Centring Emotion in Archaeological Narratives of Institutions

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This paper discusses the place that emotion holds in archaeological storytelling, and digs into the pitfalls and possibilities of emotion-centric analysis. Specifically, I focus on the use of emotion in archaeological studies of total institutions such as prisons and lunatic asylums. I draw heavily upon the work of my ongoing PhD thesis topic, underfloor assemblages at Fremantle Prison. Fremantle Prison is a UNESCO World Heritage site in Western Australia which opened as a convict prison in 1855. The prison remained in active use throughout the period of convictism in Western Australia and afterwards, only closing in 1991. Archaeological works at the Prison have resulted in an extremely rich assemblage of material culture that speaks to the experiences of incarceration over 140 years of Western Australian history. This assemblage is a vast, textured, and often troubled emotional landscape.

The robust body of work produced by historians of emotion is leant upon heavily here as I gesture towards the idea of an ‘archaeology of emotions’, a challenge only taken up by a small number of archaeological researchers. I briefly review this body of work and consider the implications for archaeological storytelling and narrative-building if we are to explicitly centre emotion further in our research. The concept of an ‘emotant’ is discussed; a term coined by Eleanor Standley in 2020 ‘to describe a physical agent that is characterised by or serves in the capacity of emotion’. The utility of the emotant as an analytic category in the Fremantle Prison artefact assemblages is demonstrated, and I suggest it could be employed at other institutional sites. Emotion is a difficult and vague concept to grapple with as a researcher approaching the past; however I argue it is invaluable to our work and indeed already plays a deep and integral role in archaeological interpretation and communication, whether we acknowledge it or not.

*Dating Murujuga's Dreaming

Murujuga Rock Art Monitoring Project: Insights from Kilometre- to Nanometre- Scale Observations of Rocks

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Calibre/WSP

Rock art at Murujuga is engraved into a patina, formed by externally derived material with some contribution from microbial activity, on a substrate of one of five very different rock types, each with its own characteristics and vulnerabilities. The patina and substrate have been examined by a range of techniques, from kilometre-scale geological mapping, through to optical microscopy on the millimetre scale, and transmission of electron microscopy and atom probe tomography on the nanometre scale.

These techniques have revealed seven morphological types of patina, and a wide variety of trace element distributions, some of which can be related to the environment of formation, and some which remain cryptic. In addition, detailed study of the substrate to the patina reveals widespread and well-developed porosity. Porosity development will, on the longer or shorter term, destabilise the overlying patina. The implications for the preservation of the world-class rock art at Murujuga will be discussed.

*Dating Murujuga's Dreaming

The Geospatial Distribution of Rock Varnish on Rosemary Island, Dampier Archipelago

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Rock varnish (or desert varnish) is a thin manganese and iron oxide coating that has been studied extensively in arid environments, yet its distribution in coastal settings remains underexplored. This type of varnish forms across a variety of rock surfaces and has been observed all over the world. While the exact formation/growth mechanisms are still widely debated, we can still collect meaningful data on where varnish is observed. Here, we have conducted a preliminary study that examines the geospatial distribution of desert varnish on Rosemary Island in the Dampier Archipelago, WA. Rock varnish is currently being explored as a potential chronology system for engraved rock art across the archipelago. Therefore, any additional data on varnish formation are greatly needed. In this study, we use high-resolution remote sensing data, ground-based surveys, rock-art databases, and a geographic information system to map the spatial extents and concentrations of desert varnish across various geomorphic features (rock types, areas of outcrop, and hill slopes). We have observed that the density of varnish is heterogeneous. Preliminary results on Rosemary Island indicate that desert varnish is predominantly found on east-facing slopes across the micro-gabbro rock units. We have also seen some indications of a heterogeneous distribution within the mapped Rosemary volcanoclastics. Furthering this study, we aim to provide new insights into the factors controlling rock varnish formation and distribution in a coastal island setting. This analysis has the potential to be applied to other areas across the archipelago for a holistic view of varnish across this dynamic coastal landscape. A better understanding of the distribution between varnish, rock, and art will have implications for using varnish as a reliable chronometer.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

Creating Virtual Narratives: Promise and Challenge of Digital Data in a Virtual Past

Calum Farrar, Griffith University

As many digital methods like photogrammetry and laser scanning become subsumed into the standard practice of Australian archaeologists, how this new wealth of data is used must be more deeply examined. Most apparent is the benefit these data offer to the interpretative ability of archaeologists, allowing artefacts, sites, and landscapes to be more thoroughly interrogated and contextualised. But this value remains comparatively underexplored for First Nations communities which are contributing so much to archaeological research.

In part this has been an issue of accessibility. Digital data are often produced in proprietary formats, requiring expensive computers, and they are more suited for analytical assessments. Even when these data are handed over to communities, it is clear that they are not being used to their full potential. In tandem with this issue of accessibility has been the caution archaeologists often take towards research outputs which go beyond the objective criteria typically operated around. This has limited the uptake of certain immersive communication technologies like Virtual Reality. These technologies offer an opportunity to Australian archaeologists to further integrate their research outputs with Indigenous ontologies, reinvigorating old narratives and building new ones. Coupled with considerable research into community collaborations overseas, which tackle issues of virtual authenticity and how to embed communities within archaeological narratives, it is time these methods were combined and utilised more frequently in Australia.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

Integrating Indigenous Knowledge, Heritage, and New Technologies in Sea Country Research

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Research has a long history of extractive practices closely tied to colonial state power, particularly when the research involves First Nations peoples. Decolonising research practice is fundamental to ethical research. This co-designed project brings together Indigenous Knowledge and Western Scientific knowledge to improve cross-cultural approaches to managing Sea Country and its heritage. Beginning with Indigenous knowledge and epistemologies, we use new technologies in combination with archaeological and anthropological methods to evaluate and monitor Trinity Inlet and its associated watershed, and to confirm the seasonal calendar of the Gimuy Walubara Yidinji. Combining Indigenous Knowledge in the form of seasonal calendars with new technologies enhances our understanding of the estuary and its seasonal shifts as a cultural landscape. Using decolonising methodologies, we have co-produced a framework to support researchers and Indigenous communities negotiating research agreements, combined scientific data with Indigenous Knowledge of estuaries, documented the cultural landscape of Gimuy (Cairns, Queensland), and contributed to policy change within the Australian Institute of Marine Sciences. Recognising Indigenous Knowledge and tribal science as more than an additional form of environmental knowledge will improve how heritage is managed and conserved for future generations. Understanding human-environment interactions offers new ways of finding sustainable approaches to conserving and protecting Sea Country and its heritage by considering every resource, and all knowledge systems.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

Finding Nothing? Revaluating Discovery and Disappointment in Archaeology-Art Practice-Based Work

Ursula Frederick, University of Canberra

Amongst art practitioners, uncertainty, speculation and failure are commonly acknowledged as inevitable aspects of the creative process; there are numerous ways in which mistakes, wrong turns and faults have been accommodated productively in the work of art and its discourse. Despite a growing awareness of archaeology's 'messiness', unpredictability and the possibilities of unruliness, archaeologists appear less adept or willing to integrate and narrativise what may be perceived as shortcomings and disappointments. This paper discusses a specific artwork that emerged out of an archaeological field survey undertaken in the north east Kimberley region of Western Australia. It reflects on what was found and what wasn't and considers the different capacities of art and archaeology to embrace and adapt to the unpredictable outcomes of practice-based research. I discuss how the creative approach developed generatively and collaboratively in the immersive environment of the field and how different survey experiences ultimately came to be mediated and materialised as an installation of etched glass forms. By drawing inspiration from images, insights and more-than-human encounters shared in the field, the artwork is intended to provoke reflection on art and archaeology as embodied and experiential modes of discovery. With a particular emphasis on ideas around expectation, knowledge and value-creation I ask if (and how) the pursuit of archaeology, including its attendant frustrations, may be reimagined and re-evaluated through artwork.

*Tales from Tools: Interdisciplinary Perspectives on Stone Artefacts

The Shape of Resilience: Reconstructing Muller Morphologies in Goodingu, Thalanyji Country

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This project explores the selection criteria for, and use of, mullers from Goodingu, Thalanyji Country in the Pilbara as part of the ARC Desert People Project. This study aims to contribute towards our understanding of what muller selection patterns can tell us about subsistence strategies and ultimately people's resilience in Australian arid zones. Research on mullers is limited compared to other lithic technologies due to a variety of issues (e.g. mullers are relatively rare and often found in fragmented states) and, to address this problem, this study attempts to reconstruct the original nodule size and morphology of muller fragments to understand their selection. This is achieved by testing a novel method of analysis, the Cortical Curvature Method (CCM), on muller fragments. The method is first tested in a controlled experimental setting and then applied to muller fragments from Goodingu. Preliminary findings suggest that the CCM is a viable method for reconstructing the original size of muller fragments. Using these data, we identify temporal and spatial patterns in muller selection and use to better recognise the deep connections at Goodingu. This project integrates traditional and novel archaeological techniques including methods of lithic analysis and digital modelling to explore the narratives captured in the ground technology at Goodingu.

*Dating Murujuga's Dreaming

The Age is Written in the Rocks: Testing New Luminescence Methods to Directly Date Rock Engravings and Stone Structures at Murujuga

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Murujuga is a rich cultural landscape that contains over one million rock engravings and a huge number of stone structures. However, the age of much of the archaeology is unclear; the geology and landscape history of the archipelago have resulted in few sedimentary archives that contain archaeological material in stratified sites from which chronologies can be determined. Additionally, rock engravings are difficult to date due to (i) a lack of direct dating methods and (ii) lack of stratigraphic relationships between the engraving and datable material, except in exceptional circumstances (e.g. rockfall events and areas of secondary carbonate or mud wasp nest formation). As such, there are currently no absolute age estimates for any motifs at Murujuga, and the catalogue of ages for stone structure use is limited.

The recent development of luminescence rock surface dating approaches has the potential to contribute to our understanding of rock engravings and stone structure use. Luminescence rock surface exposure dating methods have been used to tell when mm-scale layers of rock were removed on decadal, centennial, and millennial time scales, thus opening the possibility to directly date how long ago a rock surface was engraved. Luminescence rock surface burial dating methods are similar in principle to classical sedimentary OSL dating; they can be used to tell when rock surfaces were buried, thus enabling direct assessment of stone structure construction without the assumption of stratigraphic association.

Here, we present our investigation of the luminescence properties of the various lithologies at Murujuga in which engravings and stone structures are made. We report results from tests showing that exposure ages can be accurately determined on the timescale of our experiments for some lithologies. We also present preliminary results from rock surface burial dating of a previously excavated stone circle. These results reveal the potential of the luminescence rock surface dating approaches to better understand the age of rock engravings and stone structure use.

*Poster

The Permanence of Impermanence: Mapping the Indigenous Humpy Complexes on Arabana's Country, South Australia

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Humpy, most commonly known as 'wiltja' or 'wurley', is a form of Indigenous temporary dwelling. Early historical records indicate that this dome-shaped structure, often made of locally sourced tree limbs and bark, were widely used by past Indigenous communities during the hot dry season or for shelter while travelling. While humpy was widely identified as a temporary form of dwellings, recent archaeological investigation at two humpy complexes along the Oodnadatta Track (Far North of South Australia) on Arabana Country indicates that these impermanent structures represent a permanent record of cultural interaction between the Arabana people and their Country. This pilot archaeological mapping project, co-led by Arabana Aboriginal Corporation and BHP Copper South Australia, recorded a total of 15 humpies, across two humpy complexes in Mount Dutton and Edward Creek. The Mount Dutton Humpy Complex is located on a low sand hill surrounded by a chain of six heritage mound springs (~5km radius) while the Edward Creek humpies were erected on a low-land gibber plain next to a creek. The majority of the humpies were made of locally sourced mulga wood. This project is one of the few archaeological projects in far north SA with a special focus on Indigenous land use/dwellings, and these humpy remnants strongly illustrate the resilience and adaptability of past Arabana communities in the arid environment. The antiquity of these humpies is yet to be scientifically determined, but Arabana Elders who were involved in the project indicated that these humpy camps were likely to have been constructed by the end of nineteenth century or early twentieth century, soon after the extension of rail service to Oodnadatta in 1891.

*Rock Art Stories

Nayombolmi Blue

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This paper presents some of the outcomes of a community-led project about the life and legacy of Badmardi artist Nayombolmi (c. 1895-1967). We present a reappraisal of his use of introduced blue pigment in his artworks, which comes from two sites in the Burrungkuy area in today's Kakadu National Park, western Arnhem Land. Besides the famous Blue Painting, presented by Robert Edwards, Jan Jelinek, George Chaloupka and other scholars, we present new evidence for three other blue paintings attributed to Nayombolmi by his peers who knew him and his artworks well. It is argued that senior artists like Nayombolmi had the cultural capital to experiment with the newly introduced pigment, most probably originating from laundry detergents, such as Dulux, Whitman's Washing Blue or Reckitt's Blue.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Strengthening Collaborative Heritage Management

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'Gariwerd is a member of our family - like our grand-mother, our mother, our sister, our daughter. This is important to us. This is not just park management to our people. This is the return of a stolen family member. This is why it is so important to decolonise the management of land, water, fire, wildlife and the place names of our bio-cultural landscapes. Our reunion with Gariwerd reaffirms our obligations to look after our family member, our Country' (John Clarke, Eastern Maar).

The management of cultural heritage, particularly rock art, has been the focus of the collaborative team who are convening the AAA session 'Sharing community-owned narratives to heritage management'. Building on from the successful Gariwerd Rock Art Management Forum in 2023, this collaborative team has continued to heed the voices of Aboriginal and Torres Strait Islander people shared at the event, amplifying, embedding and embracing diverse narratives and worldviews into heritage management. We will question what it looks like when cultural perspectives, scientific matters, and more, embrace a holistic perspective where archaeology serves as part of a comprehensive storytelling science; what does it look like when primacy in heritage management is governed by cultural agency, authority and responsibility?; and how can the soon-to-be-released *Practitioner's Guide for Indigenous Rangers in the Management of Rock Art in Cultural Landscapes* inform improvements and strengthen collaborations in heritage management between community, researchers and scientists? These questions will be explored in this opening presentation that will frame this session.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

Roadside Memorials: Exploring The Roadside as a Cultural Landscape Through Technological Integration

Cassie Gordon, Department of Transport and Main Roads (Qld)

In examining roads as socially-produced landscapes, roadside memorials emerge as significant symbols that communicate shared knowledge of road safety and memorialise individuals' personal heritages in the form of contemporary artefacts. These memorials, or spontaneous shrines, serve as physical manifestations in the road corridor and create a landscape where compassion becomes compulsory.

This paper adopts an archaeological perspective to study roadside memorials as forms of 'personal heritage' that vary spatially and temporally. It investigates the performance of grief and the ritualisation of road safety admonitions in what can be termed an 'affective' landscape. This research integrates the use of technologies like ArcGIS and photogrammetry to explore these memorials through a story-telling and humanising approach.

By combining archaeological inquiry with innovative technologies, this study not only documents and interprets roadside memorials but also contributes to a broader understanding of the cultural values embedded in the road as its own discrete landscape. It aims to demonstrate how culturally-driven investigations can utilise technologies such as GIS and photogrammetry to delve into the histories and stories of 'experienced objects', thus enriching the narrative of this unique cultural landscape.

This paper concludes by proposing methods of best practice for heritage professionals working in road corridors, emphasising knowledge-sharing on story, and cultural preservation in the form of documentation.

*Archaeological Science in the Narration of the Past

Evidence for a Microbial Oxalate Source in Australian Rock Coatings Based on Trace Organic Analysis

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Oxalate-rich, layered, glaze-like mineral deposits are frequently observed coating low angle surfaces in Australian rock art shelters. The synchronous growth of individual layers in these deposits across the Kimberley region of Australia suggests a formation mechanism influenced by environmental conditions, yet the specific nature of this link remains unclear. These glazes, occasionally found with a relationship to Indigenous rock art, have been identified as useful dating tools if the biomineralisation of their oxalate mineral component can be confirmed. Proof of oxalate biomineralisation could not only attribute the formation of these deposits to particular conditions, but also highlight their potential as paleoenvironmental archives when growth intervals are constrained by radiocarbon dating.

Currently, the hypothesis of a microbial formation mechanism is only supported by circumstantial evidence, such as the niche environments in which these deposits form and the micro-stromatolitic structures observed within their layers. For the first time, this study investigates the trace organic composition of 15 glaze deposits and various control samples collected from sites across the north-east Kimberley region of Western Australia. Gas chromatography-mass spectrometry, inductively coupled plasma-optical emission spectroscopy, and X-ray diffraction analysis, are used to provide an improved understanding of the chemical and elemental composition of these materials and their potential sources, including rainfall, bushfire ash, and microbes.

Glaze-specific biomarkers are used alongside shotgun metagenomic data to propose a detailed microbial formation mechanism. This mechanism identifies potential source inputs and organisms involved in oxalate biomineralisation, offering insights into the environmental conditions and processes forming these mineral deposits and enhancing their usability and reliability as dating and paleo archival tools.

*Shared Heritage in the Consulting World (Lightning)

Connecting Bark and Wooden Material Culture to Culturally Modified Trees in Yagera Country, South East Queensland

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This paper will present research findings of a PhD project conducted in a collaborative partnership with Jagera Daran (Indigenous Traditional Owners) research partners. In Australian archaeology there has been a relative absence of research linking bark/wooden material culture to culturally modified trees. This paper argues that understanding the form of bark/wooden artefacts, the tree species and the part of the tree that they are created from, is fundamental to understanding the full context of culturally modified trees. Often, significance assessments about culturally modified trees are carried out without a base knowledge of the cultural and socio-economic importance of trees to Traditional Owners. Such an approach risks proper and in-depth heritage assessments and can lead to the destruction of culturally modified trees for residential housing, roads and other infrastructure development projects.

Museums in Australia and the United Kingdom which house bark/wooden material culture removed from Yagera Country in South East Queensland were recorded as part of this PhD research. In this paper it is argued that connecting Traditional Owners with their material culture heritage, along with fieldwork to document culturally modified trees and interviews to embed community perspectives, will lead to more holistic significance assessments—resulting in the better protection of these endangered Indigenous cultural heritage sites.

The PhD student was funded through the AAA Student Research Grant in 2022.

*Archaeological Science in the Narration of the Past

Soil as Memory: Microarchaeology and Geoarchaeology Services in Heritage Consultancy

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The archaeological record is formed one depositional event at a time; over time, soil formation incorporates the imprint of stories - cultural and environmental - into its fabric. Thus, individual events of deposition are the starting point for archaeological stories, and soils store these memories of past human activity amongst other memories of sedimentary events, vegetation and climate conditions. The development of microarchaeological approaches have changed the resolution at which archaeological stories can be told, however the use of microarchaeology to study soils has had little traction in Australia, especially in consulting archaeology. This paper draws on recent consulting projects we have worked on including Pleistocene sites in the Paramatta Sand Body, NSW, as well as other projects in Victoria to illustrate the application and added value of innovative microarchaeological and geoarchaeological techniques to the consulting sector. Studying the archaeological record at a microscopic scale first establishes the resolution of depositional processes that are preserved, and thus the temporal frameworks appropriate to archaeological interpretation at a given site. Second, the study of multiple proxies preserved in the soil contributes richly textured details into past human activities and environmental conditions that can enliven the stories we tell of the past.

Microarchaeological and geoarchaeological specialist services provide a new toolkit to assist consultancies in executing projects to an exceptional standard while simultaneously opening linkage between Traditional Owners, government bodies and developers to create a new, shared layer of meaning in the present that is grafted onto a multivalent past. This paper hopes to inspire an appreciation of soil as a conduit of archaeological stories and a previously unrecognised and underutilised element of Australia's tangible heritage.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Analysing a Late Holocene Lithic Assemblage from Windmill Way, South East Cape York Peninsula

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Sam Lowdown, Laura Indigenous Land and Sea Rangers

This paper outlines the analysis of the lithic (stone artefact) assemblage at the Windmill Way rockshelter in south east Cape York Peninsula. The study used a technological analysis focused on spatial aspects to uncover patterns in artefact production and distribution. This study contributes comparative data, advancing understandings of Aboriginal technological practices and cultural interactions with the environment.

A total of 1278 artefacts were examined. Raw materials were largely quartz, followed by chert, mudstone, and basalt. Artefact typologies were predominantly flakes and flaked pieces, along with cores, hammerstones and ground edge artefacts, and the only formal tool type identified were tula adze slugs. The assemblage shows a regional variability in raw material type when compared to other late Holocene-aged sites from across the broader study area. Tula and burren adze slugs have been observed with traces of resin evident, however Windmill Way is unique in that several of the stone artefacts have retained complete, intact resin hafts.

*Stories All the Way Down: Narrating the Past in the Present

A Collaborative Deep Time History of Plant Use in Australia: Stories and Investigative Frameworks from Queensland's Channel Country

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Subsistence studies of Indigenous Australia have historically positioned the continent on the foraging side of a forager-farmer dichotomy that ignores the complicated variety of ways Indigenous Australians perceive and shape their land and its food resources. The nuances of Indigenous subsistence strategies and interactions with plants have faced more recognition in recent years, including public interest in the possibility of plant food strategies such as cultivation by pre-colonial Indigenous Australians. However, investigations of plant foods in pre-colonial Australia have been limited, with evidence being largely sourced from the accounts of colonisers at contact that cannot be disentangled from bias, and later ethnobotanical extrapolations of Traditional Ecological Knowledge (TEK). This has resulted in a generalised, timeless and geographically non-specific history of plant use, curiously at odds with the complex, nuanced and diverse regional histories emerging from across Africa, Asia and the Americas over equivalent environments and timescales.

This paper presents some views of a collaborative discussion of what past plant use could have involved in Queensland's Channel Country, drawing on diverse perspectives to interpret and engage with an emerging archaeobotany and settlement archaeology. Contributions by Aboriginal and non-Aboriginal co-authors present empirical data and discuss the histories such data offer. We aim to explore the narratives built around plant food strategies in pre-colonial Indigenous Australia, and demonstrate how analysis of archaeological plant remains can provide a space for building narratives informed by Indigenous Knowledges and Western perspectives that can explore plant collection, management, cultivation and domestication outside dichotomous and progressivist theoretical frameworks.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

The Agayrr Bamangay Milbi Project: From the Beginnings of Our Story, to the Middle, and Looking Towards the End

Regan Hart, Queensland Parks & Wildlife Service/Cape Melville, Flinders & Howick Islands Aboriginal Corporation

Co-Author:

Lynley Wallis, Griffith University

The material culture of Indigenous Australians was traditionally dominated by organic raw materials, despite the archaeological record largely being dominated by stone artefacts. Rare assemblages of bone artefacts are occasionally recovered from archaeological contexts, and here we report another assemblage from the site of Windmill Way in Quinkan Country. The site is a late Holocene-aged palimpsest and includes a quantity of dingo-contributed faunal remains, amongst which, surprisingly, were 42 definite bone artefacts. These include bone unipoints, bipoints, spatulate objects and 12 incisors with resin; the detailed analysis of the latter will be presented elsewhere. Here we describe in detail the rest of the assemblage, and discuss their manufacture, functions and significance, including a discussion of bone technologies based on ethnographic observations and museum collections.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Old Stories in New Relations: Indigenous Agency in the Context of an Ethnographic Archive Collection from Two German Expeditions to the Kimberley

Christina Henneke, Frobenius Institute Frankfurt

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Leah Umbagai, Dambimangari Aboriginal Corporation

In 1938 and 1955, two German ethnographic expeditions conducted an extensive documentation of rock art in the Kimberley region. The resulting archive collection - consisting of painted copies of rock art, photographs, ethnographic objects and written sources - was stored in Germany for a long time as if in a time capsule. Recently, as part of a German-Australian research project initiated by the Wanjina Wunggurr community, this material has been made digitally accessible to the Traditional Custodians through a relational database, allowing for joint re-assessment, correction, and updating.

In my presentation I would like to reflect on the contemporary significance of the cultural heritage contained in the returned records for the Traditional Owners of the Wanjina Wunggurr community. What motivates and interests them to engage with these materials and what do they hope to gain from delving into their ancestors' pasts? The initial findings of my anthropological research, based on intensive archival analysis and fieldwork with Indigenous partners, outline different forms of Indigenous agency in dealing with the archival material.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Their Ways and Our Ways: Experiencing Shared and Contested Narratives on Taungurung Country

Jonah Honeysett, Taungurung Land and Waters Council RAP

Co-Author:

Michelle Richards, The University of Melbourne

It has been 40 years since Isabel McBryde published research on greenstone axes in *World Archaeology*. The publication alerted a global audience to the past greenstone axe exchange systems of Victoria's First Nations people. Forty years is a long time, and the research landscape has changed. Today, finally, we must consider the cultural appropriateness of sharing this narrative and this viewpoint widely. In this paper, we reflect on Isabel McBryde's narratives on greenstone axes and discuss the benefits and drawbacks of her perspectives, as an example of an archaeological narrative, on greenstone axes. We do find shared experiences in her multidisciplinary work, combining archaeology with ethnography, geology, linguistics. We do find some shared benefits in knowledge-sharing and education of the wider community. At the same time, there remain deep concerns with the global sharing of complex narratives from the archaeological record of greenstone axe exchange on Taungurung Country, without true consultation with the Taungurung community. In this paper, we present some of our experiences revisiting McBryde's work and how TLaWC RAP are shifting from the dominant archaeological narratives into a Taungurung-led research program on Country.

*Archaeological Science in the Narration of the Past

Early Archaeology of the Mangrove Highway: 50,000 Years of Aboriginal Marine Adaptations from Barrow Island, NW Australia

Fiona Hook, Archae-aus

Boodie Cave, first visited by Aboriginal people some 50,000 years ago, provides evidence of the earliest use of marine invertebrates in Australia. This presentation outlines recently completed analyses and refines our understanding of the role of marine invertebrates throughout the late Pleistocene and early Holocene and in response to changing sea levels. It identifies a previously undocumented Pleistocene-aged shell knife tradition and investigates this manufacturing process through experimental archaeology. The research also explores usewear and manufacturing characteristics of 11,000-year-old scaphopod shell beds. Overall, the findings highlight the significant role of marine invertebrates as food, and raw materials for tools and personal ornaments. These marine resources were relied on repeatedly by desert-adapted people who inhabited the caves and rockshelters on Barrow Island from 50,000 to 6,500 years ago, before the landmass was abandoned when cut off from the mainland.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

First Nations Australian Cultural Heritage Materials and Ancestors in the Collections of Imperial Russia

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Currently thousands of First Nations Australian cultural heritage materials are held in overseas collections, disconnected from their communities and history. Similarly, hundreds of First Nations Australian ancestors remain in overseas collections, far from home. First Nations Australian communities wishing to reconnect with their cultural heritage materials and facilitate the return of their ancestors need to know where they are held and how they came to be there. At present very little is known about First Nations Australian cultural heritage materials and ancestors held in collections in the former Russian Empire. As a result, it is not really possible to identify either a shared or a contested narrative relating to the history of Russian archaeological activity in Australia. We discuss the reasons for this lack of knowledge and outline our efforts to counteract it. We also detail promising sources of information and share some preliminary outcomes.

*Archaeological Science in the Narration of the Past

Undressing the Native Mounted Police: Paint Composition of a Sorcery Motif in Southern Cape York Peninsula

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Paints have the potential to encode information in every part of their preparation and use (in European parlance ‘chaîne opératoire’). Here, we report scanning electron microscopy for both chemical and anthracological analyses, as well as synchrotron powder diffraction results characterising a composite paint used to create a grey shirt on one of several Native Mounted Police motifs at the Crocodile 1 Rockshelter on Crocodile Station, Quinkan Country. Known to senior Traditional Owners as sorcery figures, the description of the paint provides additional information regarding the selection of materials by artists whose intention was to exercise power and agency in countering the violent attacks of the Native Mounted Police during the 1870s and 1880s.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology

Protecting Cultural Heritage through Djaara's Narrative of Country

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Dja Dja Wurrung have maintained a strong and continuous connection to Djandak (Country) in Central Victoria for over 30,000 years. Connection to place, cultural practice and knowledge enriches Djaara (people) with a profound understanding of identity and Country that transcends a one-dimensional narrative. Through generations of songlines and cultural practices traditionally passed on by Djaara Ancestors, cultural knowledge and practices enable Djaara to craft deep time narratives embedded in the landscape. Today, Djaara continue to orient cultural storytelling alongside Western science to understand values and illustrate narratives of Country that strengthen protection of cultural heritage and decision-making processes.

Knowledge of Country is more than an exchange of information. It is the way it is interpreted, taught, read and learned. Djaara worldview encompasses Bunjil's lore and the Djaara value system. The Djaara worldview forms a holistic and multifaceted knowledge system that incorporates science, spiritual, cosmological, cultural learnings, and indicators of environmental change. These elements form the bases of a multilayered understanding which is Indigenous bio-cultural knowledge, that has enabled Djaara a continuous healthy relationship with Country.

The complexities of Djaara's Indigenous bio-cultural knowledge system have altered overtime as culturally, Djaara have flexibly responded and adapted to continuous environmental changes in the landscape, often as a result of external factors such as climate change, settlement and development. Djaara's cultural knowledge and spiritual interconnectedness with Country is present in the tangible and intangible cultural values of Country.

Areas of cultural heritage sensitivity typically indicate the likely presence of cultural heritage. Outside of the typically known indicators for cultural sensitivity, these areas are often difficult to determine in the absence of an understanding of place based cultural values.

* Shared Heritage in the Consulting World (Lightning)

Can Hobbyist Detectorists Contribute to the Identification and Preservation of Cultural Heritage: A Study of the Benefits and Challenges Resulting from Legal Frameworks

Connor James, Law Quarter

The growth of interest in metal detecting and associated advances in technology and reduced costs presents challenges for those tasked with preserving cultural heritage.

On a daily basis, hobbyist metal detectorists are locating potentially significant artefacts and sites around the country. Archaeologists and detectorists approach artefacts with different background knowledge, objectives, and outcomes. Without appropriate regulatory frameworks, context has and will continue to be lost.

That raises the question, can changes be made to ensure that sites and artefacts are adequately protected whilst also tapping into the growth of this hobby to aide in identification and preservation in Australia. Or should metal detectorists simply be classified as the ‘enemy.’

There are substantial differences between the regulatory frameworks in Australia vs other jurisdictions such as in the United Kingdom. Lessons can be gained from an examination of the consequences of the *Treasure Act 1996* and their potential application in Australia.

I examine the consequences of rise of the hobby of metal detecting in Australia by reference to prior research and existing regulatory frameworks, looking at the risks and potential benefits of change. I look at key questions such as what is being found, what motivates detectorists, and how they are regulated.

*Shared Heritage in the Consulting World (Lightning)

Supply vs Demand: A Current Challenge for Cultural Heritage Management

Robyn Jenkins, RJ Heritage

The shift in Cultural Heritage Management in the last 20 years has been substantial, from small companies, individual consultants and the occasional cultural heritage staff in other organisations (e.g. government) towards a larger scale industry with high demand in multiple spaces (Aboriginal Corporations, Government, Consulting, Mining, Advisory Boards etc.). At the same time there has been substantial movement away from a compliance only approach into collaboration, partnership and cultural values (rather than just site management).

At this current point in time, the demand for experienced cultural heritage staff is far outweighing the current supply. One of the challenges with the shift in approach is that these projects require the support of cultural heritage staff with experience, knowledge and relationships with communities. This shift requires someone to have the ability to undertake multiple roles - archaeologist, project manager, negotiator, logistics manager, construction/design/planner, tech guru, health and safety officer amongst other things all at the one time. This is creating a greater challenge to support this continually growing industry with the right people for the right roles. It is increasingly challenging to find the right time and environment for mentoring and growing graduates in the industry while also ensuring effective management and protection of cultural heritage values.

This paper will explore the supply vs demand challenge currently facing the cultural heritage management space. The potential causes will be discussed and possible solutions to support cultural heritage management in the future.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Exploring the Potential of Motif Photographic Documentation as an Effective Monitoring Method for Rock Art Conservation: A Case Study from Quinkan Country

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Keeley Wood

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Jillian Huntley, Griffith University

Noelene Cole, James Cook University

Laura Rangers, Laura Rangers

Photographic documentation used as data points for rock art motif monitoring has been mobilised by cultural heritage practitioners and Indigenous land managers as a key technique in conservation management for rock art places. Photographic documentation repeated over extended periods of time is useful in identifying human-induced and environmental impacts that degrade rock art. Despite the practice of photographic documentation as an accepted methodology for rock art conservation there is a deficiency of successful examples of long-term photographic monitoring of rock art sites. In this paper we extend preliminary work undertaken by Wood (2022) to present a detailed analysis of the potential efficacy of photographic documentation as a reliable rock art conservation monitoring tool using archival photographic records from the Trezise (1960s - 1990s), Cole (1990s - 2010s) and the Agayrr Bamangay Milby Project (2021 - present) collections.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Collaborative Australian and Pacific Archaeological Conservation, How Did We Start, and Where Are We Now?

Holly Jones-Amin, The University of Melbourne/University of Wollongong/Monash University/CABAH

Archaeologists were pivotal in the birth of Australian tertiary conservation education. Commencing in 1966, Wallace Ambrose established a Conservation Section at the newly formed Australian National University (ANU) School of Pacific Studies. The next critical event was a visit to Ambrose's lab in 1968 by archaeologist John Mulvaney, then Professor of Prehistory at ANU, with the foundation Principal of the Canberra College of Advanced Education (CCAЕ [now Canberra University]), Sam Richardson. Richardson, Mulvaney, and Ambrose spent a Saturday afternoon in Ambrose's lab, where they convinced Richardson that 'conservation was a very important field'.

Paramount, their visit resulted in the 1975 Piggott report recommending a postgraduate course to train professional conservators at a degree-granting institution. Conservation training commenced at CCAЕ in 1978. In the early days of the degree, academics from the ANU School of Pacific Studies specialising in south western Pacific archaeology contributed to the conservation course - including archaeology luminaries such as Professor Jack Golson, who established the Research School of Pacific Studies, Department of Prehistory at ANU and was a pioneer in Lapita archaeology. He lectured on 'first aid' problems in the field, with specific reference to water-logged wood from his PNG excavations. Ceramist Owen Rye taught the technology of pottery manufacture and its history, and Ambrose educated students about the deterioration and weathering of archaeological materials and the dating and authentication of art.

Despite the promising start to conservation tertiary studies, where archaeologists were integral to the nascent degree, there is no collaborative comparable relationship today. Most archaeological conservation activity has been limited to stabilising Lapita ceramics or historical archaeology. There has been minimal rock art intervention. This paper charts 46 years of archaeological conservation training and practice in Australia and the Pacific and how the disciplines of archaeology and conservation now interact.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

Creative Responses: Archaeology Reimagined

Darran Jordan, AECOM Australia Pty Ltd

Archaeologists have used creativity in various forms to communicate ideas about the past to a wide variety of audiences. This paper looks at some key examples of ways in which imaginative responses have been expressively used to reimagine the past for contemporary consumption, including sculpture, story, comic and cut-up. It also applies and gives demonstration to some of these techniques that incorporate the artistic with the scientific, demonstrating that art is a territory to which any may lay claim.

*Archaeological Science in the Narration of the Past

Using Obsidian Sourcing to Reveal Stories of Early Island Exchange Networks in Southern Wallacea

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Co-Authors:

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Emily Nutman, Australian National University

Christian Reepmeyer, Deutsches Archäologisches Institut

Our species embarked on the world's first great maritime journey from Sunda (greater Southeast Asia) to Sahul (greater Australia) at least 50,000 years ago. In the process humans settled Wallacea, the archipelago of thousands of islands lying between these two continental landmasses. While this initial settlement has been the focus of many research efforts in the region, the period after this also holds many narratives that have yet to be explored. In particular, recent research has identified obsidian artefacts belonging to a single source in the archaeological assemblages of Timor, Alor, and Kisar islands (Reepmeyer et al. 2019). Dating from approximately 15 ka, this obsidian exchange network marks the onset of the world's earliest, multi-island maritime network. However, until now, the source of this obsidian has remained a mystery with the islands of Timor, Alor, and Kisar all ruled out as possibilities. Here we present the results of geological and archaeological survey, as well as chemical sourcing, to locate the source of this obsidian. We consider how this network connected early island communities in post-LGM Southern Wallacea.

*Stories All the Way Down: Narrating the Past in the Present

Telling (and Listening to) Meaningful Stories About the Past

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Martin Porr, The University of Western Australia

Kellie Pollard, Charles Darwin University

Stories are central to archaeology. Christopher Tilley famously conceived of archaeological excavation as a ‘theatre’ where the past is dialogically made sense of as the excavators (re)discover landscapes and artefacts. Importantly, he questioned why our site reports so rarely capture this dynamic and narrative process. Since his 1989 paper, multivocal approaches to archaeology have exploded, bringing archaeological ways of knowing the past into conversation with other ontologies, temporalities, and historicities. But (how) have these perspectives transformed archaeological storytelling? Or have these narratives simply been co-opted and flattened by being reified and reproduced in archaeological texts? This paper provides a crucial background for our session by introducing some of the key trends and problems in archaeological storytelling. The concern with narratives necessitates a critical assessment of the relationship between so-called scientific knowledge, myth and reality, particularly in the context of the relationship between the Western academy and Indigenous knowledge. Even though, or perhaps because, a narrative approach challenges the status quo we find that it offers many advantages to better understand the past and also to enhance reflexivity in the present. We conclude by encouraging reflexive and multimodal approaches to storytelling, which have the potential to express more diverse, experiential and dialogic archaeological narratives.

*Coral Sea Connections: Agentive People, Objects, Ideas

Subsistence and Beyond: People-Mollusc Engagement Across the Coral Sea Cultural Interaction Sphere

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Molluscan remains are frequently the most abundant category of faunal remains found at island and coastal archaeological sites. Traditional archaeological studies interpret the presence of shell as an unintentional by-product of human marine resource consumption and site occupation. However, recent research has shifted perceptions of molluscs from being a marginal source of food to being a resource with significant cultural values and uses with materiality of symbolic value in site architecture.

The Coral Sea Cultural Interaction Sphere (CSCIS) is a heuristic framework used to describe the extensive maritime exchange networks which connected island and mainland Papua New Guinea to north eastern Australia, down to Jiigurru (the Lizard Island Group), over the past 3,000 years. These networks mediated the exchange of ideas, technologies, and objects across the Coral Sea region.

By applying a meta-analysis approach to the available archaeological and archaeomalacological literature on midden sites across the CSCIS, we can begin to understand local and regional trends in coral reef forager decision-making, subsistence regimes, and cultural practices across the Coral Sea. Results highlight the efficacy of the CSCIS as a framework and stress the need for transparent reporting of methodologies to allow for cross-comparison of similarities and differences in archaeological molluscan assemblages.

* Stories All the Way Down: Narrating the Past in the Present

The Limitations of Western Ideologies and How They Have Influenced the Megafauna Debate

Jacinta Koolmatrie, Independent Researcher

Co-Author:

Jade Turner, Independent Researcher

There are many theories surrounding the extinction of megafauna. Some of these theories have pointed directly towards Aboriginal people as the cause of their extinction, while others consider that their influence was minor. Wherever your theory is placed on the megafauna extinction spectrum there is a chance it has still been influenced by colonialism, racism and bias. This paper will explore how these limitations have permeated interpretations and influenced the overall megafauna narrative.

Through highlighting how limited Western ideologies have been in the debate, we can pivot our attention toward Aboriginal Knowledges and interpretations. While Aboriginal Knowledges have been used to understand the physical and behavioural attributes of megafauna, this consideration has rarely been extended to the debate of their extinction. Through looking at the debate from an Aboriginal Knowledges perspective, we can form a deeper understanding about the past where Western ideologies are less influential.

*Highlighting Collaborative Research and Exploring Narratives of the Past in New Guinea

**Hunting and Subsistence in Northern New Guinea from the Pleistocene to the Recent Past:
The Evidence from Lachitu Cave, Papua New Guinea**

Loukas Koungoulos, Australian National University

Co-Author:

Sue O'Connor, Australian National University

Lachitu Cave (RIQ) on the north coast of Papua New Guinea preserves a large cultural deposit spanning ~30,000 years to the last few hundred years, offering a unique insight into the subsistence strategy of humans in northern New Guinea from the Pleistocene through to contemporary times. Here, we present results of the identification and analysis of faunal remains excavated from Lachitu during the 2004-5 field season. Lachitu's assemblage reflects a diverse subsistence base featuring exploitation of both terrestrial and marine animal resources at all times, but with a dramatic increase in the importance of the latter evident in the Late Holocene. Changing abundances and disappearances of various mammal taxa at Lachitu, many of which are no longer extant in the modern fauna of northern lowland New Guinea, indicate that a substantial shift in the environment and game animal resource base available to local hunters also occurred during the Holocene.

*Highlighting Collaborative Research and Exploring Narratives of the Past in New Guinea

Collaboration in PNG

Matthew Leavesley, University of Papua New Guinea/James Cook University

In Papua New Guinea, the days of the great white master are over. Today all researchers need to be cognizant of the fact that there are a range of stakeholders - some of whom have a right to veto. I will discuss some of the consequences of this in the context of recent archaeological research undertaken in Northern Province, PNG.

*Archaeological Science in the Narration of the Past

Lipids in Pots: Biomolecular Archaeology in Oceania

Mathieu Leclerc, Australian National University

Co-Author:

Karine Taché, Université Laval

Archaeological evidence off the coast of Queensland (Jiigurru) and in the Torres Strait show that pottery was used about 2,500 years ago. In the rest of Oceania, pottery dates to at least 3,000 years as it was introduced into the region by the founding colonists known as Lapita people who settled on large island groups from New Guinea to Tonga and Samoa. Despite being the most frequent artefact left by the groups who inhabited the 4,000 km chain of Oceanic islands, little is known about how the pottery vessels were used, particularly the foods and products that were cooked and stored in them, and the link between traditional food and ancestral culinary histories remains largely undocumented.

In this presentation, we detail a new approach designed to fill this gap. This approach combines biomolecular and ethnoarchaeological analysis to identify the food items placed or cooked in pottery and to document traditional cooking practices and their time depth. Our research focuses on one of the longest documented sequences of pottery use in Oceania (3,000 years) on the island of Espiritu Santo in Vanuatu. This allows us to investigate the long-term evolution of food practices and develop an analytical approach relevant for tropical environments around the world.

* Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Multivocal in Aspiration, Homogenous in Practice

Michael Lever, Lantern Heritage

This conference, like much modern archaeology, calls for recognition and integration of multivocality and an embrace of plurality. This reflects longstanding understandings in both the humanities, and also more recent emphasis on scientific plurality, as being inherently a more insightful approach than philosophical or scientific monism. Yet for all these calls for plurality, a sociological and demographic analysis of archaeology in Australia makes it quite evident that the praxis of the discipline is one that entrenches and replicates an overwhelmingly homogeneous demographic of middle to upper-middle class white practitioners. This cultural reproduction occurs due to factors such as unexamined class entitlement, assumed levels of social capital, and the way these factors are structurally embedded to diminish demographically diverse access to study and work in both the academic and commercial spheres of archaeology. I propose that this is inherently an issue of ethics that needs to be addressed regardless of financial or research costs, and I identify several practices where reform is most urgent if we are to encourage a broader disciplinary demographic.

*Poster

Ancient Metagenomics in Australia

Dawn Lewis, University of Adelaide

DNA extraction and sequencing technologies are developing rapidly in response to a diversity of genomic applications. For archaeologists, the extraction of DNA from bone has long been used to identify the source of singular sub-fossil remains. Such research has been so successful as to identify a previously unknown *Homo* species from only a few finger bones. Further, DNA has been uniquely useful in discriminating species and subspecies from non-morphologically-informative remains such as highly damaged or fragmented bone. The development of archaeological microbiome research for pathological investigations has taken the archaeo-genomics space even further, with bacterial and viral DNA being extracted from pathologically interesting sites including dental calculus or pulp, and bone. Combining the aforementioned species-targeted genomics with this microbial research has led to an increased interest in archaeological metagenomics targeting the entire capturable genome of a species and its associated taxa.

Recent innovations of metagenomic screening have included not only the improvement of extraction and sequencing technologies from which traditional genomic approaches have also benefited, but also the downstream technical advancement that has allowed the large quantities of data which are necessary in metagenomics to be managed more easily. There has been a flurry of metagenomic work produced around the world utilising microscopic archaeological substrates such as cave and lake sediments. Archaeological metagenomics has already provided proxies for palaeo-climatic conditions as well as the identification of extinct species and extant taxa which have not left macroscopic remains behind.

Here, I consider the potential uses of metagenomics for archaeologists in Australia with an emphasis on sedimentary substrates.

*Poster

Quantifying Flake Scar Organisation on Cores Using Orientation Statistics

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In stone artefact archaeology, flake scar negatives on cores represent an important source of information for understanding how past toolmakers extracted and provisioned lithic utility. To summarise the variability of flake scar patterning among cores, researchers typically employ descriptive categories such as single platform, multiplatform, unidirectional and bidirectional. While these categories can provide a general account of core reduction patterns, their application can be ambiguous due to the three-dimensional complexities of core geometry and the subjective nature of qualitative classifications. In this paper, we outline a new method for quantifying one aspect of flake scar patterning on cores: the three-dimensional orientation of scar negatives. Using standardised digital and experimentally flint-knapped cores, we demonstrate that statistical techniques from fabric analysis can quantitatively characterise the scar orientation arrangement of cores. Moreover, this method is able to reveal novel variation in the flake scar patterning among informal core types, such as multiplatform cores. When applied to a sample of multiplatform cores from the *Homo floresiensis* type-site of Liang Bua in Indonesia, we found that the cores made by *Homo floresiensis* exhibit a greater variation in scar orientation than those made by the modern humans who utilised the site after the disappearance of the extinct hominin. This difference appears to be related to a tendency among the extinct hominins to rotate the cores more frequently during flaking, suggesting a possible divergence in stone knapping practices between the two hominin taxa at Liang Bua. Overall, our research provides a new quantitative approach to gain new insights into past technological behaviour through stone artefact analysis, and highlights the potential of 3D analysis for advancing the field of archaeological lithic research.

*Dating Murujuga's Dreaming

The Tufa Pollen Record of Holocene Murujuga

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Tufa, which are deposits of freshwater carbonate, are valuable as multi-proxy archives and can provide long-term millennial-scale records of environmental and climatic change. Palaeobotanical evidence from tufa, such as pollen, can be used to reconstruct past vegetation, which can contribute to understanding human interactions with plants and environmental change in the past.

Our study investigates the pollen record from Holocene tufa from Murujuga, in the coastal Pilbara region of north western Australia. The landscape of Murujuga has undergone dramatic change since the Last Glacial Maximum. Rapid sea-level rise in the late Pleistocene and early Holocene inundated the north west continental shelf and transformed Murujuga into an archipelago between ~10 ka and 8 ka. However, little is known about how this extreme environmental change influenced vegetation and people living in this landscape.

We assess the feasibility of extracting and identifying the pollen from tufa sampled from different locations and representing ages between ~2.1 to 9.7 ka. The tufa pollen assemblage was analysed and compared with the results of a modern mangrove palynological dataset and botanical surveys, which were conducted in the area of sample sites, and used to interpret the sites in terms of implications for human occupation.

Results found a particular taxon, Casuarinaceae (sheoak), was present on Murujuga during the mid to late Holocene and no longer appears in the landscape today. The loss of Casuarinaceae may be due to a combination of drier climatic conditions, changes in soil salinity, colonial fire regimes and cattle, as well as timber exploitation. The outcomes of this study demonstrate that pollen can be preserved and retrieved from tufa, although the preparation of quality pollen samples from tufa is challenging and requires specialist treatment and preparation processes. Future palynological study of tufa is recommended with improved sample preparation and expanded reference collection of endemic species to better visualise the palaeoenvironmental record of Murujuga.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Managing Cultural Heritage Landscapes with Fire

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Bill Bell, Gunditj Mirring Traditional Owner Aboriginal Corporation

Troy Lovett, Gunditj Mirring Traditional Owner Aboriginal Corporation

Cultural burning, as practised by the Gunditjmara people, represents an ancient form of ecological knowledge and land stewardship, focusing on the deliberate and controlled use of fire to care for our heritage and manage the landscape. Through narratives and experience shared through the generations, the technique is distinguished by its holistic approach, prioritising the health of the ecosystem, the promotion of biodiversity, and the protection of cultural heritage sites. By examining the Budj Bim Cultural Landscape - renowned for its complex system of aquaculture that evidences early and sophisticated engineering by Indigenous Australians - this presentation highlights the integral role of cultural burning to look after both the tangible and intangible heritage through sustaining these ancient practices. Furthermore, utilising our Cultural Information Management System (CIMS), a digital repository to document, preserve, and share the rich knowledge encompassed in these practices, we are ensuring the longevity and resilience of the cultural and ecological heritage intrinsic to the Budj Bim landscape. By exploring the practice of cultural burning as a sophisticated Indigenous heritage management technique in the context of the Budj Bim Cultural Landscape, we demonstrate the value of integrating Indigenous knowledge systems with modern conservation efforts to manage our cultural heritage landscapes integrated with sustainable environmental stewardship.

*Rock Art Stories

Cultural Connections: Stories Imbued in Rock Art

Melissa Marshall, University of Notre Dame Australia

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Martin Porr, The University of Western Australia

Jake Goodes, Parks Victoria

Rock art is often viewed as being able to give unprecedented insights into past lifeworlds and ways of thinking. It is seen as a reflection of human creativity and innovation. Rock art provides the basis for an understanding of past technical expertise as well as cultural perspectives. As such, rock art has often influenced narratives about past and present Indigenous peoples and their cultures in Australia and beyond. In other contexts, rock art has been interpreted as reflecting real or mythological stories in the deep past and as such, allowing unique perspectives onto past belief systems and social as well as environmental relationships.

We explore the framing of this session as hosted by the National Scientific Committee of Rock Art in Australia (NSCRAA), designed to provide a platform for knowledge and experiences to be shared with respect to varied approaches to understanding the past, including innovative methods and methodologies, which enable all voices to join together to celebrate truth and the visibility of alternative ways of knowing, being and doing.

*Poster

How Do Wetting and Drying Processes in Expansive Clay-Rich Soils Influence Artefact Distribution?

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Natural soil processes have the potential to change archaeological contexts, altering artefact distributions and compromising the interpretation of archaeological deposits. One such process is argilliturbation: the movement within a soil profile due to expansion and contraction of the soil during wetting and drying cycles. Argilliturbation occurs in soils containing high proportions of clay minerals that exhibit shrink and swell characteristics (e.g. smectite minerals). Middle Gidley Island, located in the Murujuga rock art province in north western Australia, contains a clay-rich sediment basin and archaeological site that provides an opportunity to investigate the potential impact of argilliturbation on artefacts.

Here we present a pilot study to quantify the movement of lithic artefacts following wetting and drying treatments using the local soil and other contrasting soil textures. The soils used were the Middle Gidley clay-rich soil (MG Soil), a pure quartz sand (S Soil), and a mixed soil (X Soil) comprised of 25% MG and 75% S Soil by weight. We undertook six weekly wetting and drying cycles under controlled laboratory conditions on 30 soil experiment tubs. Each tub contained one of the three soil types and included small, medium or large lithic artefacts, with size categories determined by the size distribution surveyed at the Middle Gidley site. The tubs were imaged using CT-scanning before and after the experiment, and the movement of artefacts was accurately determined using 3D image correlation methods. All artefacts within the MG Soil moved upwards, whereas artefacts within the sand S Soil moved downwards. Movement in the X Soil was varied and less pronounced than in the MG and S Soils. By providing quantitative information on artefact movement in the experiments it may be possible to assess the degree of movement from argilliturbation at Middle Gidley sediment basin and more accurately interpret the archaeological assemblage as found today. The outcomes of this study provide a baseline that can be used to explore more sites that are affected by clay-rich soils.

*Dating Murujuga's Dreaming

New Knowledge of Holocene Hydroclimate and Freshwater Availability at Murujuga

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Extensive rock art engravings and archaeological evidence of human occupation are documented around waterholes at Murujuga, highlighting their cultural significance and importance as sources of freshwater. Frequently, these waterholes have thick deposits of tufa (carbonate): evidence of the past environment and climatic conditions under which the carbonate precipitated. Here we discuss how we have refined our knowledge of the hydrology and water permanence of the waterholes at Murujuga using tufa as geo-archives of environmental and hydroclimatic change over time. Rainfall, surface water levels and geochemistry demonstrate that some waterholes are long-lasting (semi-permanent) and fed by perched seepage after large recharge events: other ephemeral waterholes evaporate quickly after rainfall events. Semi-permanent waterholes on Murujuga's islands would be important for supporting humans as well as plant and animal life. The formation of tufa is dependent on moderate to large rainfall events that recharge the landscape and can generate significant surface water flows and allow for precipitation of calcium carbonate. Radiocarbon ages of Murujuga tufas range from 0.5 to 9.7 cal ka BP and constrain tufa formation to the Holocene. The initiation of tufa formation in the early- to mid-Holocene coincides with changing hydroclimatic conditions, following sea level rise and formation of the archipelago since the Last Glacial Maximum. Further insights from stable isotope and geochemical data from tufa will enhance our knowledge of hydroclimatic variability throughout the Holocene. This tufa palaeoenvironmental proxy record allows us to understand at what times during the Holocene water resources were abundant or sparse, meaning we can better contextualise the archaeological record at Murujuga.

*Archaeological Science in the Narration of the Past

Creating Narratives from Archaeological Trace Material and Introducing Multi-Taphon-Omics

Carney Matheson, Griffith University

The entire archaeological record could be considered trace material, for there is very little in the archaeological record where material or information has not been lost. However, for this presentation, I would like to limit trace material in archaeology to just the microscopic remains, traces and residues. Archaeological microscopy has strong support in Australia and around the world for the analysis of microscopic faunal and botanical materials, like starch, phytoliths, fibres and tissues. Archaeological trace analysis can include physical traces, like usewear, but can also include the degraded microscopic remains that in many cases just slip through the sieves. These microscopic traces include inorganic and organic trace materials. This less often analysed material requires more detailed microscopic analysis of soil collected from the archaeological site. It can uncover inorganic components like spherulites, pigments and evidence of inorganic grindstone products. But it can also be used to analyse the microscopic traces of the perishable organic material culture from the archaeological sediments. Archaeological residues on lithics, ceramics and even organic surfaces are now being analysed using microscopic, biochemical, genetic (genomics) and proteomic approaches. The introduction of multi-omics in a degraded biological system (taphonomy), or multi-taphon-omics, contributes considerably to archaeological narratives. When required, the inclusion of genomics, proteomics, metabolomics (and lipidomics), microbiomics and/or transcriptomics can contribute enormously to these interpretations. In this presentation, I demonstrate the complexity and comprehensiveness of the narratives that can be generated from these archaeological trace materials where microscopy, molecular biology (multi-omics), chemistry and botany has played an important role in analysing and interpreting past activities. The combination of these multiple analytical approaches, analysing evidence from a greater variety of sources, produces a better picture of activities in the past.

*Rock Art Stories

Brilliant Blue: The Blue Rock Art of Awunbarna, Northern Territory, Australia

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In the extensively painted rock shelters of Awunbarna (Mt Borradaile) in western Arnhem Land, appears a cluster of paintings that are conspicuous amongst the traditional white, red, yellow, and black figures. Brilliant blue pigment has, for generations, captured the imagination of local Aboriginal community members and visitors, including rock art researchers. This rock art was created using laundry whiteners (such as Reckitt's Blue) during a period of intense change in the region brought about by European arrival. This paper explores the largest documented cluster of laundry blue rock paintings in northern Australia. We investigate the subject matter, distribution, and manner of use at Awunbarna alongside its broader cultural and artistic context. We find that laundry blue rock art emerges as part of a flurry of innovative rock art being created in this region at the turn of the nineteenth-twentieth century and continuing, in rare instances, until the 1960s.

*Archaeological Science in the Narration of the Past

ArcGIS Based Edge Damage Distribution Analysis on Stone Tools Used for Piercing Tasks

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Understanding how stone tools were used in the past sheds light on human technological adaptations, responses to changing environments, and behavioural differences between species and populations of the genus *Homo*. Various methods are used to assess stone tool function, including 'edge damage distribution analysis', a novel technique which maps the location of macroscopic usewear along the edges of tools and quantitatively compares edge damage distributions on archaeological samples compared to experimental samples. Previous work has yet to consider piercing tools, despite their potential to exhibit similar damage to those documented on hunting weapons (spear tips), as both functions concentrate damage at the tip of the artefact. Here, we report on the results of a controlled experiment conducted to test the hypothesis that stone tools used for piercing tasks suffer similar edge damage distributions to those used as spear tips. Stone flakes were used to pierce holes in cowhide, and the resulting distribution of damage was mapped using ArcGIS. This distribution was then compared to published edge damage distributions on hunting weapons and butchery tools. We consider the implications our results have for identifying stone tool function and for understanding technological adaptations such as hide processing for clothing or skin bags.

*Dating Murujuga's Dreaming

How Science Adds to the Shared Narrative

Jo McDonald, The University of Western Australia

Dating Murujuga's Dreaming is a multidisciplinary collaboration with Murujuga Aboriginal Corporation that ultimately aims to directly date the rock art, while also providing more detailed environmental context to people's ongoing and changing uses of Murujuga (the Dampier Archipelago) through time. While we are still grappling with the methods for direct-dating the art we have made significant progress with increasing understanding of the changing landscape - especially during the Holocene.

We have refined the dates for islandisation with a new sea level curve - and also now understand the nature of the semi-permanent pools on the islands. The ages for dune building around the islands allows us to better understand the occupation opportunities - and rock art production - in the mid to late Holocene. This year we have also tested the OSL burial dating technique - by re-excavating one of the previously excavated stone structures at Old Geos. We can now see how and when the domestic structures at this site were built - and as with all re-excavations - have exciting new results to share! This paper concludes the session and highlights the significance of these new scientific approaches to refining the narrative for Murujuga's Holocene record.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Glass Beads in a Dillybag: A Cached Assemblage From a Rockshelter in Quinkan Country, Cape York Peninsula, Queensland, Australia

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Laura Rangers

In the 1970s a rare assemblage of trade beads was discovered inside a woven plant fibre bag in a rockshelter (the 'Dillybag site') near Laura, Cape York Peninsula, Queensland. Cached post-1895, the bag held more than 4000 glass beads strung on cotton, nylon and hand-spun (possibly human) hair twine. Seventy-eight percent of beads showed some degree of damage from bead-on-bead contact, suggesting that the assemblage accumulated gradually over time. All beads on hair twine were minute or small, and potentially reveal consumer choice in their selection, as does the large proportion of red, white and black beads, suggesting a preference for customary colours. This cache is not only the largest collection of glass beads recovered from an archaeological context in Australia, but also speaks to the dynamism, agency and persistence of the Indigenous people of south east Cape York Peninsula following invasion.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Mapping Cooktown Ironwood Sugarbag Trees in the Laura Sandstone Basin, Cape York Peninsula, Queensland

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Anthony Pagels, Flinders University

Erythrophleum spp. (Cooktown ironwood) is an endemic north Australian tree that is a key cultural resource. In Cape York Peninsula (CYP), Traditional Owners value, use, care for and manage the trees in culturally appropriate ways. Members of the Agayrr Bamangay Milbi (ABM) Project team have recorded hundreds of culturally modified Cooktown ironwood trees (CMTs) across south east CYP, stretching from Jowalbinna in the south to Cape Melville in the north. In this presentation we discuss the results of spatial analysis on the distribution of CMTs with sugarbag scars in relation to waterways, historic places and landform units in order to develop an understanding of how colonisation impacted Aboriginal people's use of the landscape. These trees provide a chronological sequence of technology (from stone to steel axes) and an important, if vulnerable, material record of natural resource procurement, cultural knowledge and connections to Country. We show how the significance of sugarbag trees is reflected not only in their ubiquity, but also in the iconography of rock art, other cultural associations and archaeological values. A dearth of metal cut sugarbag scars - in stark contrast to elsewhere in CYP and despite an abundance of such axes circulating amongst Aboriginal groups in the region - is posited to be related to the especially violent local contact history associated with mining. We discuss trends in distribution that invite more detailed study of the environmental distribution of the Cooktown ironwood and of the contemporary distribution of native bees, suggesting that non-cultural burning and land clearing practices represent ongoing threats to CMT survival in the region.

*Dating Murujuga's Dreaming

Murujuga Rock Art Monitoring Project: A World First in the Science of Conservation of Rock Art

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Australian Nuclear Science and Technology Organisation

Calibre/WSP

The Murujuga Rock Art Monitoring Project is believed to be the world's most comprehensive program to develop an extensive monitoring and management strategy for a cultural heritage landscape. It aims to (a) ensure that anthropogenic emissions are not impacting the cultural heritage site and (b) demonstrate that Australia's (likely) next world heritage site can be appropriately managed in coexistence with existing industry.

There are currently no air emissions standards applicable to the protection of rock art. The program is designed to consider all possible means of degradation (accelerated weathering) of cultural artefacts (principally rock/art, however encompassing any in-situ terrestrial stonework). As such, the program also includes laboratory studies to develop environmental exposure standards for air pollutants.

The program has been co-designed with both the Murujuga Aboriginal Corporation and the State of Western Australia (Department of Water and Environmental Regulation) along with local and international expert peer reviewers.

The presentation will detail the design of the study as well as current monitoring and management plans. It is expected that the methodology and results will be applicable to the management of heritage sites across the Dampier Archipelago and will set a benchmark for monitoring the effects of emissions on cultural sites more broadly.

*Archaeological Science in the Narration of the Past

Applications of the Herron (1988) SandClass Diagram for Sedimentary Lithic Characterisation and Sourcing

Emily Nutman, Australian National University

The use of geochemical classification diagrams has been a mainstay of provenance allocation for archaeological basalts and other igneous artefacts. Classification systems such as the Total Alkali Silica (TAS) and Pearce WF diagrams are a valuable first step that allow archaeological material to be coarsely sorted into recognisable geochemical groups. However, no such system exists for sedimentary lithics, which typically form the larger part of many archaeological assemblages.

The SandClass diagram of Herron (1988) is a siliciclastic sedimentary classification diagram that has the potential to be useful for sourcing non-igneous artefacts. It relies on the log₁₀ ratioed major oxides of iron, aluminium, silicon and potassium to assign samples into nine distinct categories. Further refinements by McCabe (2021), among others, have made the SandClass system more applicable to non-siliciclastic sedimentary rocks as well.

However the SandClass classification system is not widely used in geology and can sometimes be inconsistent with regional literature. Additionally, the elements it relies on are not easily detected by non-destructive techniques such as portable X-Ray Fluorescence (pXRF), impacting its ability to precisely classify certain archaeological materials. Despite these limitations, the SandClass system still holds potential as a coarse-grained classification tool, and could be valuable for advancing archaeological study of siliciclastic and other sedimentary lithic artefacts.

*Dating Murujuga's Dreaming

Seafaring Competencies and Interisland Voyaging through Murujuga during the Holocene

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Post-glacial sea level rise inundated vast areas of Australia's continental shelf, radically transforming coastal and hinterland landscapes and environments, displacing coastal communities and forcing them to adapt to new environmental conditions. The Pilbara palaeocoastal landscapes of north western Australia was almost completely island-free during the Last Glacial Maximum (LGM). People occupying the Pilbara's Late Pleistocene coastal environments were thus likely to have been adapted to the coast but without seafaring or voyaging competencies.

Murujuga (The Dampier Archipelago) is a densely inscribed archaeological landscape with evidence of continuous occupation from before the LGM through to the present day. During the late Pleistocene, Murujuga was a hinterland environment with the ancient coastline situated more than 150 km to the north west. This hinterland landscape islandised during the early Holocene and now consists of 42 islands. Archaeological evidence of occupational continuity suggests a transition to seafaring adaptations throughout the Holocene.

Evidence of inter-island crossings was documented by Philip Parker King in the 1830s; King observed an individual sitting atop a mangrove log, feet on two footpegs, with the craft propelled by paddling with the hands. With distances of up to 5 km between islands, strong tidal currents, and seasonally strong winds, how did family units or larger social groups effectively travel between islands on these simple watercraft?

Here we report on a hydrodynamic model that utilises particle tracking to identify optimum paths for travelling between islands. We identify specific launching sites that offer the most direct routes between islands but suggest that island hopping would require a land traverse across islands to reach a new departure point. Therefore, the simplicity of the watercraft identified in Murujuga may be by design, enabling the lightweight craft to be carried overland to the new launch site.

*Poster

Sharing or Signalling? Situating the Rock Arts of Northern Australia/Sahul

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Tristen Jones, The University of Sydney

Northern Australia/Sahul is home to an astonishing variety of rock arts and expressive media past and present. Much has been written about the role of rock art as part of a 'colonising repertoire' of artefacts and strategies deployed by the First People. Further, putative links are made with Pleistocene rock art in Island South East Asia on the basis of, for example, large painted animal motifs. And then the narrative suggests this relatively uniform shared rock art traditions developed and diversified into discrete social signals. But is this the case? What does the evidence say? Rock art is an unusually visible, agentive and theoretically informed entity that helps create, maintain and change people's relationships with places and other people. The last decade has seen a range of innovative studies dealing with rock art iconography, dating, style and most importantly collaboration with Traditional Owners, some of whom still make and maintain rock art. We propose an overview of this work to identify both broad and specific patterns in the rock art of northern Australia from deep time until today.

*Stories All the Way Down: Narrating the Past in the Present

Total Landscape, Objects/Things, and Value

Tim Owen, GML Heritage/Flinders University

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Aboriginal cultural landscapes are inseparably connected with the total landscape, encapsulated through cultural, spiritual, cosmological and social frameworks. Traditional knowledge, social organisation and systems, underpinnings of cultural identity, religious, spiritual and ethical identities, all link a group to their Country. These long-standing concepts may be termed as (T)Jukurrpa (or local equivalents), considered by Aboriginal groups an enduring term applicable for all periods or times in the past since the creation of the world (Turk 2021).

Archaeology as a measurable science is unable to articulate such thought, leading to some of the legislative issues present today. In NSW, Aboriginal objects have been subject to prescriptive definitions that ascribe specific forms of identity and knowing. This has subordinated and alienated concepts, including Country, places, beliefs, values, and meanings that reflect a richer conceptualisation which recognises and validates ‘other’ ‘human constructs’, most importantly, those of Aboriginal people themselves.

This paper examines the definition of Aboriginal spirituality (Merlan 2014) and (T)Jukurrpa, with the re-definition for the notion of ‘sacred’ after Jaron (2021). Application of a redefined ‘sacred’ refers to a continuum of values which provide individuals and groups with meaning. New avenues to reconnect Aboriginal people with their past can be generated by viewing Aboriginal culture beyond physical objects and seeing things in the construct of a total landscape. We seek to discuss how looking at objects through a lens of the total landscape, as sacred items, as part of the sensory world, may provide new avenues for constructing object value and thus new narratives.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Friend or Foe: Rock Art Depictions of Watercraft in South East Cape York Peninsula, Queensland

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Ethan Henderson, Muunthiwarra

Linken Henderson, Muunthiwarra

Australian archaeological discourse demonstrates a growing interest in cross-cultural engagements between Indigenous people and Others. One aspect of this has been in the realm of watercraft technology, especially in northern Australia. While much has been written about depictions of foreign watercraft in Arnhem Land, and to a lesser extent the Kimberley and Pilbara of WA, the same is not true of north east Australia. We describe watercraft motifs in rock art from several rockshelters in south east Cape York Peninsula (CYP) classifying them following Wesley's (2012) methodology. Despite interactions with European mariners occurring on the east coast of CYP at least from the eighteenth century, most of the non-Indigenous watercraft depicted are cutters and appear to date from later periods of interaction when Indigenous labour was exploited as the foundation for the *bêche-de-mer* industry operating along this coast. The finding provides a basis for studying the boat images as a source of additional information on cross-cultural interactions in that industry, which is otherwise rare archaeologically.

*Tales from Tools: Interdisciplinary Perspectives on Stone Artefacts

Out of the Kitchen

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Elsbeth Hayes, University of Wollongong

Our work on ground stone seems to move in and out of the kitchen as geology, technology and a functional taxonomy take shape over multiple time scales of implement life-history. The stones that move across the landscape often end up close to the kitchen, just pass through, or (rarely) bypass it all together. Complete items, like edge-ground stone hatchet heads, have undoubted value to both Aboriginal people (past and present) and to archaeologists. Broken pieces are also valuable; they act perhaps like small change, and they also have a story to tell. While large (up to 30 kg) stone dishes are relatively fixed furniture and often indicate kitchens in sedentary village sites, some break and get recycled into hearth stones or portable top-stones, which tell another story altogether. Travelling plates, also made on tabular sandstone slabs and with a similar function, are found in many parts of Australia and are likely to have been part of a mobile kitchen toolkit - but never the end-product of recycling. The type of stone, how far stone moves, where it comes from and ends up, all have implications for understanding the archaeology at continental, regional and local scales.

*Dating Murujuga's Dreaming

Major and Trace Element Compositions of Rosemary Island Gabbro Rock Art Canvases (Dampier Archipelago, Western Australia)

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Murujuga, Western Australia, holds one of the largest collections of Aboriginal rock art in Australia. Millions of petroglyphs have been engraved with skill and detail, revealing the fascinating legacy of beliefs, traditions, and artistic expressions dating back thousands of years. The petroglyphs include a range of motifs that have been carved, pecked, and scratched into the weathered surfaces of the rock substrate. A variety of lithologies have been chosen for this artwork and we aim to investigate one of these - the Rosemary Island gabbro - as it hosts many older motifs covered with desert varnish (McDonald et al. 2022). We aim to examine the mineralogy and geochemical composition of weathering rinds to better understand the age and long-term preservation of the artwork. To achieve this, it is essential to characterise the whole-rock composition of 'fresh' gabbro samples and document any petrographic and geochemical variations within it.

Bulk-rock major element oxide contents were determined using X-Ray Fluorescence spectrometry and trace element abundances were acquired using inductively coupled plasma mass spectrometry of samples in solution. The new data reveal two subtly different magma groups within the Rosemary Island gabbros and the presence of separate intrusions. Element variations (e.g. Al_2O_3) with decreasing MgO content are consistent with pyroxene and plagioclase fractionation although the differentiation histories differ between the two groups and rare earth element patterns suggest that all of the Rosemary Island gabbros were derived from a similar mantle source.

This work is being conducted alongside, and informs, a parallel project on desert varnish production.

*Poster

Archaeology in the NSW Renewable Energy Consulting World

Lorien Perchard, Environmental Resource Management Australia Pty Ltd

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Cultural heritage assessments for renewable energy projects across NSW in 2024 have seen a huge increase in turnover, with dozens of clients and projects applying and vying for approval across the renewable energy zones (REZ). Large swathes of rural NSW are currently under assessment with Local Aboriginal Land Councils LALCs and RAPs scrambling to complete and be part of the consultation process for each project. As such, heritage consultants have the chance to participate in long term heritage projects and grow relationships with LALCs along the way whilst developing long term management plans for the protection of heritage items. As consultants we have therefore faced questioning ourselves: Can the renewable energy projects positively contribute to the discovery of and protection of heritage items? and What promises can clients make to ensuring protection goes beyond the legal obligations?

In this poster we explore one major renewable project located in the south west REZ. We consider its contribution to consulting, the process of early community engagement and consultation, and promises to avoid culturally sensitive sites.

*Tales from Tools: Interdisciplinary Perspectives on Stone Artefacts

A Second Cache of Tula Adzes From the Boulia District, Western Queensland

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This presentation describes the recent excavation of a cache of 60 tula adzes in the Boulia region of western Queensland. This buried cache is only the second known of its kind in the country, and the largest. The cache contained nothing but 60 chert tulas, all of which are exceptionally large and unused, which we argue suggests that the artefacts were intended for trade, rather than stored for personal use or as a discard pile. This can in turn provide insights into the great north-south trade route of goods including narcotic pituri, ground axes, grindstones and ochre, and symbolic aspects such as ceremony and song. This paper also discusses attempts to determine when the artefacts were cached, and what this might tell us about the social climate at the time.

*Poster

Exploring Narrative, Science, Technology Through an Indigenous Cultural Intellectual Property and Indigenous Data Sovereignty Lens

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Indigenous Peoples' rights to control, access and retain use of their Indigenous Cultural Intellectual Property (ICIP), including cultural heritage information, stories, objects and images, is not new to the field of archaeology or to the cultural heritage profession. In fact, we in the field of archaeology have often been at the forefront of supporting Indigenous sovereignty and ownership of the past through incorporating oral histories and ethnographies, joint storytelling and co-authorship. However, there are also many examples where we have been living in antiquity ourselves, with Indigenous histories being overlooked or hidden in favour of scientific inquiry, and recognition of understanding the past has been given to the 'academic' rather than the owner of the information. Worse, we have shared (whether knowingly or not) confidential, privileged and secret sacred stories without knowledge holders' consent.

ICIP, which is the rights of Indigenous peoples to control, own, maintain, protect and develop their intellectual property, applies to things like cultural heritage reports, interactive digital media, video footage, photographs, languages, songs, objects, traditional knowledge published stories and academic papers. In an archaeological context, it is likely to be incorporated in some or all of the materials we - as part of the archaeological profession - produce, and as such, data sovereignty needs to apply. This means that as a heritage profession we must understand that ownership of any ICIP will remain with the Traditional Custodians and that they are appropriately attributed for use of their ICIP.

This poster explores case studies, guidelines, cultural protocols or restrictions where we interact with ICIP and Indigenous data sovereignty. Joint understandings and applications of these will provide surety for Indigenous communities. In doing so we can move beyond static archaeological approaches that have been owned and dominated by the scientific community towards a future that celebrates Indigenous sovereignty, recognition and ownership of cultural heritage.

*When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Cultural Landscapes, Addressing the Intratangible: Frameworks for Managing Cultural Presence in Archaeological Absence

Damien Piro, South32

International conventions protect intangible cultural heritage through mechanisms like the Intangible Cultural Heritage (ICH) List, as the World Heritage list does for the natural world, recognising their universal importance. While in Australia there have been legislative mechanisms introduced that recognise the importance of intangible heritage and the cultural connection to the natural world, there remains limited ability to incorporate these three elements under one protective mechanism.

There is an over reliance on the presence of material culture to define the fabric of sites, with intangible elements mostly linked ethnographically to tangible features in the natural landscape that often disregard holistic perspectives and narratives of Traditional Owners. This is reflected in the significance assessment of cultural landscapes where weight is given to scientific value and tangible presence, disproportionally over cultural significance. Applying international frameworks for the safeguarding of intangible cultural heritage regionally provides a community-led focus for assessment that is driven by the affected to ascertain significance.

This trichotomy of tangible and intangible heritage with the natural environment that cultural landscapes provide can best be described as intratangible. It is not necessary that the absence of one these elements should detract from the whole, and in certain cases may be explained through the other two. Cultural practice and custom as applied to the environment might account for the absence of material culture, illustrating the value of an ICH approach to regional assessments where the universal value is decided by those affected.

*When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Intangible Nyikina Archaeology

Emily Poelina-Hunter, Monash University

Becoming an Indigenous archaeologist through studying Classical Archaeology and researching Cycladic culture of the Bronze Age Aegean gave me a Western understanding of material culture and intangible culture. But in 2024 I further decolonised my own mind about how 'intangible' can be interpreted. My research project 'Ngayoo Wiliyanoo: I am the freshwater mussel' aims to honour my totemic responsibilities, as the freshwater mussel (wiliyanoo) from the Mardoowarra (Fitzroy River) is my totem. While archaeological evidence of freshwater mussels can be found in middens along other Australian rivers, I was concerned that if I did not locate and excavate a midden on Nyikina Country along the Mardoowarra, then I would not be 'doing archaeological research'. However, the absence of middens from wiliyanoo use along the Mardoowarra is as significant as the presence of middens containing freshwater mussels of other species along other rivers. This presentation will discuss why my totem as a species (*Lortietta froggatti*) will never be strong in the archaeological record due to taphonomy, environmental impacts, and the continuation of traditional methods of harvesting and consuming wiliyanoo into modern times. My research is therefore about intangible Nyikina archaeology and is contributing to an understanding of the Indigenous Australian archaeological record by demonstrating the narrative of wiliyanoo use by Nyikina people on Nyikina Country.

*Stories All the Way Down: Narrating the Past in the Present

Voice: A Third Space for Indigenous Theory Building in Archaeology

Kellie Pollard, Charles Darwin University

This presentation focuses on recognition of the need for Indigenous people involved in archaeology to build theories of narrative that reflect their own epistemologies (theory of knowledge), ontologies (theory of being) and axiologies (theory of doing) as genuine narratives, or interpretation and understanding of archaeological objects and material culture in a third space. The discipline in Australia claims to have shifted its gaze to giving more platform to Indigenous perspectives, which is true to an extent. But one of the last bastions of intellectual transformation that needs to occur is in theorising archaeological narratives according to the worldviews and philosophies of Indigenous people. Third space archaeology is a standpoint of intellectual terrain that negotiates barriers to genuine intercultural collaborations between archaeologists and Indigenous communities. Third space archaeology endorses the veracity of Indigenous knowledge systems as legitimate and in counterpoint to, or in partnership with, Western epistemology on a case-by-case basis. In this presentation I discuss third space objectives and the related standpoint of archaeology with, by, and for, Indigenous people in Australia.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

Gwion Gwion Rock Art and the 'Frobenius Expeditions' to the Kimberley (1938, 1954/1955)

Martin Porr, The University of Western Australia

Co-Authors:

Kim Doohan, Mintupela Ltd.

Richard Kuba, Frobenius Institute

Christina Henneke, Frobenius Institute

Leah Umbagai, Dambimangari Aboriginal Corporation

The Aboriginal rock art of the Kimberley, north western Australia, has intrigued European observers for a long time. The first European records of rock images in this part of the continent were already published during the first half of the nineteenth century. These early records had lasting effects on academic and public perceptions. They have contributed to a view of the rock art of the Kimberley as separated from contemporary Aboriginal practices and knowledges and belonging to an equally distant and mysterious past. A lot of these debates have revolved around an expression within the complex sequence of Kimberley rock art that is associated with descriptions of Joseph Bradshaw from the late nineteenth century. As 'Bradshaw paintings of the Kimberley' and popularised by the late Grahame Walsh, these paintings continue to generate a lot of public attention and fascination. While the validity of the category of the 'Bradshaw paintings' and the problematic separation from Aboriginal perspectives have been critically evaluated elsewhere, we want to discuss here a different aspect of the research history. In this paper, we critically assess the contributions of the members of the so-called Frobenius Expeditions to the north west Kimberley in 1938 and 1954/55. By integrating unpublished archival sources, this critical analysis provides new perspectives on researchers' perceptions of the subject of Aboriginal rock art, how their understandings were shaped due to their preconceptions and interactions with Traditional Owners, and how ideas changed and were transformed during the research and publication process.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Ongoing Research at the Undara Lava Tubes

Shannah Prior, Ewamian Ltd

Co-Authors:

Alice Buhrich, Freelance

Jimmy Richards, Ewamian Ltd

Ewamian Rangers, Ewamian Ltd

The Aboriginal cultural values of the volcanic landscape of the Undara Volcanic National Park (the Park) in northern Queensland have received little attention. The Park contains the best example of lava tubes in Australia. The lava tubes formed around 190,000 years ago from the Undara crater that flowed west on the gentle slope of the Great Dividing Range, into the tropical open woodland savannah. Over time the roof collapses have formed unique vine thicket ecosystems that contain Gondwana rainforest plants and unique invertebrate fauna.

The Ewamian Rangers have been working with National Park Rangers and archaeologists to document and interpret the cultural values of the Undara lava tubes and surrounding cultural landscape. Ewamian culture and connection to Country is one of Undara Volcanic National Park's key management goals. Our work has been conducted in stages reflecting the capacity of the Ewamian Rangers, Ewamian Elders and Ewamian Limited. The benefit of this long-term approach is that we have been able to involve a large number of community members in surveys, oral histories and archaeological excavation. For some Ewamian people, this was the first opportunity they had to visit the Park. Our project has helped strengthen the relationship between Queensland Parks and Wildlife Service and Ewamian people and helped facilitate meaningful engagement over the management of the cultural values of the Park overall.

So far, our surveys have revealed that most of the lava tubes surveyed contain cultural material, such as stone arrangements, artefacts, charcoal, faunal remains and ochre. The vine thickets at the lava tube openings contain high ethnobotanical potential with food and medicinal plants. Archaeological excavation of only 20 cm of deposit has revealed 2000 years of occupation with the potential to yield evidence of deep time occupation.

*Archaeological Science in the Narration of the Past

Geoarchaeological Narratives in Australasian Archaeological Contexts

Lauren Prossor, Aurecon/Australian National University

Co-Author:

Elisa Scorsini, GML Heritage/Australian National University

Archaeological investigations often face context-dependent challenges. Arid environments and islands offer compelling case studies for investigating the intersection between geogenic and anthropogenic formation processes in open-air archaeological sites. For example, Lake Mungo's rapidly eroding lunette surfaces meant the remaining archaeological deposits were thin and challenging to comprehend. In island contexts, the sea's proximity to archaeological sites influences preservation, which in turn complicates interpretation, frequently resulting in difficulties in understanding short-lived traces of human occupation visible in the archaeological record or assessing their integrity. Both contexts share preservation difficulties that have limited the extent of archaeological answers.

This paper demonstrates how geoarchaeological techniques can answer questions by presenting two multi-proxy case studies. These studies address questions of past cooking activities at Lake Mungo and stratigraphic integrity issues at the Ormi site on Dauar Island in the eastern Torres Strait. Microstratigraphic investigation of hearths at Lake Mungo, Case Study 1, was based at La Trobe University as part of ARC Linkage Project and Discovery Project grants. Micromorphology coupled with QEM-EDS allowed the identification of several types of combustion features including redeposited ashes raked from a fire, in situ combustion, and baked clay aggregates. Investigation of the stratigraphic integrity at the Ormi site on Dauar Island, Case Study 2, was based at the ANU as part of an ARC Discovery grant. The study uncovered a previously unknown palaeosol and revealed cultural material fluctuations detectable only through microscopic analysis, while also addressing issues of archaeological context integrity. These projects underscore the importance of geoarchaeology's broader application in the Australian environment to achieve full and multifaceted accounts of the rich Aboriginal past to resonate in the present and empower the future in academia and CHM.

*Rock Art Stories

Contextualising 3D Cultural Heritage: An Indigenous Photogrammetry Model for Conservation at Ubirr Rock Art Complex

Sam Provost, Australian National University

Co-Authors:

Tristen Jones, The University of Sydney

Ethan Williams, Department of Climate Change, Energy, the Environment and Water

Alfred Nayinggul, Njanmja Rangers

Daryl Wesley, Flinders University

Melissa Marshall, University of Notre Dame Australia

Through the collaborative development of a digital 3D model of the Ubirr rock art complex in Kakadu National Park, this project explores digital opportunities for the cultural conservation and sustainable management of one of Australia's most prized landscapes. The jewel in the crown of the UNESCO World Heritage-listed Kakadu National Park, the Ubirr rock art complex is a gallery of millennia-old paintings that holds the tangible and intangible cultural values of the Manilkarr, Mandjurrngunj and Bunitj Clans of west Arnhem Land. Applying multimodal participatory GIS, this research project aims to understand if and how digital landscape modelling might aid in the development of a Cultural Heritage Plan of Management for Ubirr, and thus move towards ameliorating some of the tensions between Aboriginal ownership, National Parks management, pressures from extensive research activities, and the deleterious effects of tourism and climate change. Initiated by Binninj and Mungguy Traditional Owners, the project brings together a multidisciplinary team to map Indigenous cultural values in the landscape through interviews, sketch mapping, on-ground data collection, and culminating in the production of an 83,000m² 3D photogrammetry model of the exterior and interior of the main gallery. Unreal Engine 5 was used to produce an interactive digital landscape of the Nadab Floodplain to provide audio and visual context for the photogrammetry model. This research shows that combining cultural values mapping, GIS and 3D modelling of cultural heritage sites can amplify the voices of Traditional Owners in dialogue about management in ways that assert their rights and ownership of data in the process. The methodology presented in this paper offers a blueprint for Indigenous communities, cartographers and heritage practitioners who want to engage with mapping and modelling in culturally safe ways that promote and protect Indigenous cultural heritage.

*Juukan Gorge: The Story of Destruction and Rebuilding (Panel)

Juukan Gorge: The Story of Destruction and Rebuilding

Jordan Ralph, PKKP Aboriginal Corporation RNTBC

On 24 May 2020 the world was shocked to learn of the destruction of Juukan Gorge as part of mine development of Rio Tinto. Blasting of the gorge included severe damage to rockshelters known to be over 30,000 years old and containing a unique cultural history of the Puutu Kunti Kurrama People. Public outcry ensued, the Australian Federal Government conducted a Parliamentary enquiry, and heritage protection legislation was changed.

This session is provided by the PKK and those who assisted with the archaeological investigations; originally and now as Juukan Gorge is rehabilitated. In the session we present the history of excavations, destruction, re-excavation and attempts to move forward.

Panellists will present as follows:

- Introduction: **Burchell Hayes**, PKKP Aboriginal Corporation
- Excavation History 2009, 2014: **Michael Slack**, Scarp Archaeology
- Destruction, Aftermath: **Jordan Ralph**, PKKP Aboriginal Corporation and **Burchell Hayes**, PKKP Aboriginal Corporation
- 2022-4 Excavations Research Design: **Michael Slack**, Scarp Archaeology, **Gavin Ashburton**, PKKP Aboriginal Corporation and **Tim Ashburton**, PKKP Aboriginal Corporation
- Results - Excavations: **Liam Neill**, Scarp Archaeology, **Gavin Ashburton**, PKKP Aboriginal Corporation and **Tim Ashburton**, PKKP Aboriginal Corporation
- Results - Lithics: **Liam Neill**, Scarp Archaeology and **Birgitta Stephenson**, In the Groove Analysis Pty Ltd
- Results - Fauna: **Tim Churchill**, Scarp Archaeology
- Results - Archaeo-botany: **Elise Matheson**, Scarp Archaeology
- Special Finds: **Josh Connelly**, James Cook University and **Burchell Hayes**, PKKP Aboriginal Corporation
- Juukan Legacy: **Jordan Ralph**, PKKP Aboriginal Corporation and **Burchell Hayes**, PKKP Aboriginal Corporation
- Discussion Panel Chaired by **Claire Smith**, Flinders University
- (Chatham House Rules – questions from floor)

Co-Contributors:

Harold Ashburton, Terry Hayes, Joan Ashburton, Sandra Hayes and Angie Cox

*Coral Sea Connections: Agentive People, Objects, Ideas

An Evaluation of Geochemical Data Available for Sourcing Stone Axes in PNG: The Case of the Kiwai Axes

Michelle J Richards, The University of Melbourne

Co-Author:

Ian J McNiven, Monash University

The huge stone axes found on Kiwai Island are one of the more intriguing items of material culture from Papua New Guinea. It has long been known that stone axes found on Kiwai Island must have been imported owing to the lack of suitable local stone. This paper assesses the available geochemical databases for determining the geological source of the axe stone in Papua New Guinea and the Torres Strait. We suggest that an innovative assemblage-based approach to characterising the Kiwai axes using non-destructive pXRF analysis provides a solution to locating the stone source. This research is a combination of multi-disciplinary lines including archaeological and earth science approaches along with ethnographic, heritage, and museum studies. Understanding the location of the stone source for these axes contributes knowledge to past exchange systems and social networks forming the PNG-Torres Strait parts of the Coral Sea Cultural Interaction Sphere and the role of ceremonial objects in mediating inter-regional relationships both past and present.

*Shared Heritage in the Consulting World (Lightning)

Impacts of Environmental Watering on Heritage Places in Gunbower Forest

Jamie Rooney, RM Consulting

While annual flooding of Victorian Ramsar protected wetlands was common in deep time, post-contact regulation of the Murray River, combined with extensive landscape modification and impacts of climate change has altered traditional flows and flood patterns. Gunbower Forest, northern Victoria, contains approximately 340 registered Aboriginal sites, which are subject to regular inundation from both natural flooding and environmental watering. The heritage impacts of these events, and the risks posed to heritage places, is not yet fully understood.

This presentation will outline the results of a year-long flood impact assessment undertaken in partnership between RM Consulting Group, Barapa Barapa Wamba Wamba Water for Country Steering Committee, and North Central Catchment Management Authority. This project aimed to identify whether environmental watering programs risked harming known Aboriginal Places within the extent of Gunbower Forest. This was achieved through ongoing monitoring and assessment of at-risk sites before, during, and after floods; and where required, the installation of protection measures surrounding at-risk places.

We will outline:

- The GIS modelling methods used to identify risk categorisation
- The results of surveys undertaken both on foot and via kayak during periods of peak inundation, and
- The results of various protection measures installed and their relative effectiveness when installed surrounding mounds and culturally modified trees.

This project was undertaken in conjunction with, and driven by, Barapa Barapa Elders and representatives who directed protection measures and field methodologies. The project was conceived outside of the traditional legislative framework of Cultural Heritage Management (CHM) and focused on the cultural values of Traditional Owners, rather than intended outcomes required by developers.

*When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Predictive Balance

Annie Ross, The University of Queensland

Co-Author:

Michael Lever, Lantern Heritage

Anna Weisse, 4 Corners Heritage

For decades, archaeologists have used some form of 'predictive modelling' to hypothesise where humans might have settled in a landscape and to determine where to search for sites, and place excavation trenches. In the 1960s Eric Higgs championed site catchment analysis. In the 1980s it was optimal foraging theory. These days it's niche construction and evolutionary ecology. For each of these predictive models, the underlying principle is that humans behave predictably and follow the rules of subsistence behaviour as laid down by ecologists. The problem is that humans do not behave predictably. Their use of landscape

- Country - is structured around social and cultural requirements. Unfortunately, too much cultural heritage management practice specifically, and archaeology generally, still revolves around environmental determinism. In this paper we explore the manner in which social and cultural values are not reflected by functionalist modelling, and suggest alternatives that better explain the full nature of the human past.

*Building New Narratives of Cross-Cultural Encounter and Exchange

Isolation, Semi-Isolation vs Encounters

Mike Rowland, James Cook University

From the early 1980s I have made occasional enquires into the extent of potential culture contact between the Queensland coast and islands with areas to the north and external to Australia. In a 2018 publication I undertook a more comprehensive review of possible external encounters and in a 2022 publication reviewed possible encounters between the Pacific Basin and the east coast. In 2022, Professor Lynette Russell, Monash Indigenous Studies Centre, provided me with the opportunity to pursue these themes as part of the *Global Encounters & First Nations Peoples* project. My task was to contact people, institutions and museums to determine if they had pre-1770 items in their collections. Results were disappointing with little or no evidence of such items or objects. My focus therefore shifted to a broader review of potential encounters. The arrival of Aliens, Egyptians, Phoenicians, Vikings, Celts and many others can be easily dismissed. But other peoples including Macassans, Melanesians, Polynesians, Dutch, Spanish, Portuguese, French, Chinese, Japanese are more realistically said to have encountered Australia prior to 1770. The evidence for this is reviewed and assessed here along with a framework for how archaeologists, linguistics, geneticists, anthropologists and others might be more cognisant of evidence for potential pre-1770 encounters with Australia.

*Shared Heritage in the Consulting World (Lightning)

Ask and Listen: A Collaborative Approach to Managing Yindjibarndi Cultural Heritage in a Highly Active Industrial Context

Ian Ryan, Echoes Cultural Heritage Management

Co-Authors:

Angus Mack, Yindjibarndi Ngurra Aboriginal Corporation

Patricia Ryan, Echoes Cultural Heritage Management

Rio Tinto's Hamersley and Robe River railway is a private railway that connects iron ore mines in the inland Pilbara with port facilities at Dampier and Cape Lambert and is one of the largest private railways in the world. It is therefore a very long and active industrial work site. A significant section of the railway is located in the Country of the Yindjibarndi People and intersects many Yindjibarndi heritage places, with the associated building and maintenance interacting with many more. Over the last 30 years there have been several Aboriginal archaeological surveys of sections of the railway and associated corridor, and many archaeological sites recorded during these surveys have been subject to permits to disturb them under the *Aboriginal Heritage Act 1972 (WA)*, usually resulting in their salvage prior to construction works. These heritage places were then managed as though they had effectively ceased to exist, despite often retaining cultural heritage values for Yindjibarndi People, and substantial material culture. In 2022, Rio Tinto Iron Ore approached Yindjibarndi Ngurra Aboriginal Corporation (YNAC) to discuss a review of known heritage places in the Yindjibarndi section of the railway, primarily artefact scatters that had been subject to agreed mitigation measures. YNAC approached Echoes Cultural Heritage Management (ECHM, then Gavin Jackson CRM) to collaborate on the development of a methodology to conduct the review and an in-field consultation with Yindjibarndi representatives to establish a framework for managing these places. The results reflect a shift from passive management of heritage places to an active management strategy, partially in anticipation of the now-repealed *Aboriginal Cultural Heritage Act 2021 (WA)*. RTIO, YNAC and ECHM are now collaborating on a Cultural Heritage Management Plan for this same section of railway. This presentation provides a brief review of this project, from the perspective of YNAC and ECHM.

*Archaeological Science in the Narration of the Past

Site Formation History of Widgingarri Shelter 1, Kimberley, WA: Insights From Combined Soil Micromorphology Analysis and Single-Grain OSL Dating

Wanchese Saktura, University of Wollongong

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Richard Roberts, University of Wollongong

Wudugu Malanali, Arraluli Clan

Peter Collins, Arraluli Aboriginal Association

Widgingarri Shelter 1 is an archaeological site located on the west coast of the Kimberley region that was occupied during the late Pleistocene and Holocene. The rock shelter was initially excavated in 1985, with further analysis in 2022 of legacy archaeological materials and dating of sediments using optically stimulated luminescence (OSL) extended its occupation history to approximately 50,000 years ago. However, due to the abundance of large rocks in the lower part of the deposit, the underlying archaeologically sterile sediments or bedrock were not reached. Widgingarri Shelter 1 lies on the hypothesised 'southern route' of entry into Australia, making its location and antiquity of particular significance to archaeological studies of the early peopling of Australia. The site is also of significance to the Traditional Owners, which led to an invitation for researchers to re-excavate the archaeological deposits and reconstruct its occupational and environmental history. This presentation will be focused on results of geological and geochronological investigations at Widgingarri Shelter 1. Stratigraphy and site context was investigated by means of field and landscape observations and soil micromorphology, and a timeline was established from 29 single-grain OSL age estimates. We combined these datasets to develop a chronostratigraphic framework for the site, and identified five phases of site formation punctuated by time gaps: > 62 ka, 62-53 ka, 52-45 ka, 17-12 ka and 5-0 ka. Each phase coincides with a period of landscape change or occupation of the site, highlighting the strong connection between sediment dynamics and site use. This study also demonstrates the benefits of combining single-grain OSL dating with soil micromorphology to investigate termite activity and its effects on post-depositional sediment mixing.

*Poster

Living on the Edge: A Neanderthal Tale from the South Eastern Pre-Pyrenees

Sofia Samper Carro, Australian National University

Co-Authors:

Susana Vega Bolivar, Universitat Autònoma de Barcelona

Jezabel Pizarro, Universitat Autònoma de Barcelona

Jorge Martínez-Moreno, Universitat Autònoma de Barcelona

Rafael Mora, Universitat Autònoma de Barcelona

Neanderthals were the first extinct human relatives to become known to science and have an iconic significance in human evolution. Recent research has clarified aspects of Neanderthal anatomy, genetics, development and behaviour. The continuous offering of public science documentaries, news articles and publications demonstrate how these hominids still captivate the public.

An unresolved issue in Neanderthal research is the cause of their demise, which is a topic of global significance given the extinction of all other ancient hominins that co-existed with *Homo sapiens*. Why did anatomically modern humans (AMH) survive while Neanderthals, Denisovans and *Homo floresiensis* did not? Multi-factor theories propose that climate/environmental change, coupled with small populations and direct dietary competition with AMH led to the extinction of the less capable and adaptable Neanderthals.

This poster presents the ARC funded project *Neanderthal hunting ability and the extinction of archaic humans*, which examines Neanderthal lifeways to test the assumption that our closest extinct relative was a less adaptable and proficient hunter compared with AMH. By presenting what we know from Neanderthal behaviour in the southeastern Pre-Pyrenees, we provide the background data to interpret our new findings from three archaeological sites: Abric Pizarro, Cova Gran and Roca dels Bous.

*Archaeological Science in the Narration of the Past

I Wanna Know What Bone Is! First Results on Bone Palaeoproteomics from the Kimberley Region

Sofia Samper Carro, Australian National University

Co-Authors:

Sue O'Connor, Australian National University

Richard Gillespie, Australian National University

Samantha Keats, Biosis

Melanie Fillios, University of New England

Mark Moore, University of New England

Wudugu Malanali, Arraluli Clan

Peter Collins, Arraluli Aboriginal Corporation

The analysis of bone ancient proteins (palaeoproteomics) is revolutionising the design of research strategies for zooarchaeological assemblages worldwide. By providing means to identify species presence in sites from samples that are not identifiable macroscopically through traditional methods, palaeoproteomics is offering a new exciting approach to understanding people's past interactions with their environments.

Nevertheless, this technique is not without challenges. Proteins preserved in ancient bones have undergone several modifications, for most of which we do not know the mechanisms for change to the organic bone component. As a relatively new technique, much progress is needed in the optimisation and development of laboratory protocols tailored to different taphonomic histories.

With a focus on European context, there are currently few examples of the application of this technique in Australian contexts. Published results from cave sites indicate that palaeoproteomics is a viable technique for Australian assemblages preserved in temperate and sub-tropical environmental regions, although its suitability in tropical settings has not been fully demonstrated. Additionally, these analyses applied peptide mass fingerprinting techniques, which are unlikely to produce taxonomic identifications down to species level.

Here we present the first results from the application of shotgun palaeoproteomics to palaeontological and archaeological assemblages in temperate (as control samples) and tropical assemblages to identify macropod species. This paper will present the challenges and limitations identified in our analysis, while promoting a discussion of the suitability of biomolecular techniques for First Nations communities interested in adopting these techniques to further explore human-animal interactions during Australian Deep Time.

*Coral Sea Connections: Agentive People, Objects, Ideas

PNG National Museum and Art Gallery: Regulatory Responsibilities and 3000 Years of Regional Seafaring Interactions Viewed Through Museum Collections

Kylie Sesuki, PNG National Museum & Art Gallery

Co-Authors:

Jemina Haro, PNG National Museum & Art Gallery

Robert Skelly, Monash University

The Papua New Guinea (PNG) National Museum and Art Gallery (NMAG or the Museum) has the legislated responsibility to manage and protect the nation's cultural heritage and cultural properties. In this paper, the administrative and regulatory roles of the Museum are summarised. In addition to managing collections, the Museum is the place of contact for PNG citizens wanting to discuss matters related to their culture. Archaeological researchers and consultants working in PNG are obliged to follow professional and ethical guidelines that are essential to the role NMAG plays in serving PNG citizens. The obligations ensure proper community engagement and provide the Museum with the information needed when addressing cultural heritage matters raised by communities. Museum representatives accompany all archaeological research projects in PNG. The participation contributes to the presentation and management of Museum collections. Recent research on the PNG south coast and Massim Islands has provided further information about seafaring and cultural exchange relations connecting Papuan, Oceanic, and Australian seascapes during the past 3000 years. The brief for this session calls for discussion on ways multi-dimensional exchange networks influenced cultural practices in the Coral Sea Cultural Interaction Sphere. The discovery of pottery sherds in Torres Strait, and Lizard Island off the Queensland north coast, attest to the scale and complexities of these cultural interactions. In this paper, evidence of shared histories visible in Museum collections are discussed. The aim of discussion is to encourage archaeological researchers to look toward the regional implications of PNG cultural histories. Engaging with quality archaeological research projects contributes to the role of the Museum in managing and protecting PNG cultural properties. With more than 550 languages spoken in New Guinea, the Museum invites archaeologists to investigate further the diverse cultural histories in 'the land of the unexpected'.

*Coral Sea Connections: Agentive People, Objects, Ideas

4000 Years of Maritime Interactions in the Massim Islands of South Eastern Papua New Guinea: Connecting Local Histories and Regional Models

Ben Shaw, Australian National University

The Massim Islands of south east Papua New Guinea, famous for post-colonial ethnographic descriptions of Kula exchange, have been inhabited by people for at least 17,000 years. Since this time landmasses in the region have undergone significant transformation with post-glacial sea levels exponentially increasing the number of islands but drastically decreasing cumulative land area. Recent archaeological research has increased the visibility and resolution of maritime networks spanning the Late Holocene (4200 years), highlighting the role of cross-cultural interaction in their formation and augmentation. This paper will provide an up-to-date review of this evidence and contextualise it in a broader framework of connections within the Massim and with neighbouring regions.

*Coral Sea Connections: Agentive People, Objects, Ideas

Exchange Relations and the Changing Significance of Archaeological Research on the South Coast of Papua New Guinea

Robert Skelly, Monash University

Anthropologists of the late nineteenth and early twentieth centuries were enthralled by the performance of Motu hiri and Mailu seafaring along 1100 km of the northern margin of the Coral Sea Cultural Interaction Sphere. In 1915, Bronislaw Malinowski described coastal seafaring as ‘the great chain of intertribal trading which encircled the whole of Papua’. Recent archaeological research in the Hood Bay-Aroma Coast region 125-150 km south east of Port Moresby provides an insight into the ways people managed connections in one section of that great chain. Motu and Mailu exchange networks did not directly connect. The Aroma Coast marks the western extent of Mailu seafaring and the villages of Hood Bay where the entrepôts who negotiated the movements of cultural values between the two networks resided. The agency of those involved animated narratives that shaped seafaring interactions in response to new opportunities and changing social circumstances. For 3000 years, responding to change has been a theme shaping societal relations. In the 1960s the first road connecting Port Moresby with Hood Bay was built. A road to the Aroma Coast came soon after. These roads introduced commercial opportunities, caused major demographic shifts, and brought seafaring exchange to an end. Today’s senior community leaders were born into this period of change when the intergenerational sharing of oral histories began to falter. Change is accelerating through the introduction of new technologies such as mobile phones and the intergenerational sharing of oral histories is being further diminished. Archaeology in PNG is increasingly being called upon to fill gaps in oral histories that did not exist two generations ago. This paper discusses the challenges of engaging with communities in ways that allow research to speak to community aspirations and identity. These are matters fundamental to assessing the value and significance of archaeological research.

*Archaeological Science in the Narration of the Past

From Lost to Found: Rediscovering John Wilson's Narrative in the Dungowan Valley

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Carney Matheson, Griffith University

The Dungowan Dam and Pipeline project was a piece of critical State Significant Infrastructure (CSSI) proposed by Water Infrastructure NSW (WINSW) for construction on Dungowan Creek, approximately 52 km south east of Tamworth, NSW. While the project was ultimately discontinued, interviews with a former local resident hinted at the possible existence of an undocumented grave in the proposed dam footprint. It was purported that a man named John Wilson died of natural causes and was buried in a paddock adjacent to Dungowan Creek. Little detailed information existed as to who this person was, when he lived and died, why he was buried at Dungowan Creek, or where exactly in the landscape his remains were located.

EMM undertook an extensive program of documentary and field investigations to explore the history and final resting place of this individual, which included active consultation and participation with a former resident of the property and the Gomeroi Traditional Owners. A multi-faceted methodology employing ground penetrating radar and archaeological excavation led to positive confirmation of the burial location and recovery of skeletal and other archaeological material. Subsequent analyses were undertaken to determine the biological profile of the individual and included artefact analysis as well as skeletal, isotopic, and aDNA analysis. The coalescence of these various threads of evidence allowed high confidence in the burial's provenance as Mr Wilson's, creating a short history of an itinerant worker/swagman who inhabited the Dungowan Valley at an early stage of European settlement. Following the discovery of the remains, he was re-buried in Dungowan cemetery, along with a short ceremony and interpretation of his history and origins. In addition to possessing significance in its own right, the burial contributes to the cultural landscape of the Dungowan Valley. This project underscores the importance of cultural heritage management in uncovering and preserving historical narratives, enriching the broader understanding of the region's history and heritage.

*Shared and Contested Narratives in the History of Australian and Pacific Archaeology

The History of Experimental Stone Knapping and the Australian Contribution: A Contested Narrative or Merely Forgotten?

Matthew Spriggs, Australian National University/Vanuatu Kaljoral Senta

The experimental knapping of stone to produce artefact types from the deep time past has long been an interest of archaeologists in Australia and elsewhere in the world. Its origins clearly lie in the knowledge gained from watching Indigenous people knap stone, whether in Brandon, Suffolk, England with its long-established gun-flint industry or in the Kimberley where there has long been a fascination with its spectacular point industry. But the histories of stone-knapping studies have often excluded the contribution of Indigenous Australians and New Guineans to the elucidation of how to flake stone. There is some disagreement about influences on the development of stone-knapping studies, hence some contestation, but it would seem more than likely that the Indigenous contribution has been in large part merely ignored or forgotten. This paper will seek to contribute to developing the shared history that the subject deserves.

*Poster

New Braided Knowledge Understandings of an Aboriginal Earth Ring and Biik Wurrdha (Jacksons Creek, Sunbury) on Wurundjeri Woi-wurrung Country, Melbourne

Caroline Spry, La Trobe University/Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation

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Nearly 50 years ago, David Frankel led an archaeological excavation of one of the enigmatic earth rings on Wurundjeri Woi-wurrung Country in Sunbury, Melbourne. Frankel (1982) identified 166 stone artefacts inside the ring and argued the ring was most likely to be Aboriginal in origin, and possibly ceremonial. Since then, archaeological techniques and consultation protocols have evolved to enable the origins, function, and cultural values of the ring and biik wurrdha (Jacksons Creek) landscape to be further investigated. This presentation brings together the results of a Wurundjeri Woi-wurrung-led study of the cultural values of biik wurrdha, and stone artefacts and estimated age of Sunbury Ring G. The results braid traditional cultural and contemporary archaeological understandings of Sunbury Ring G and the broader biik wurrdha landscape.

*When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Does No Artefacts = No Wurundjeri Woi-wurrung People? Challenging Notions of Absence Through Mapping, Modelling and Knowledge Recording in a Traditional Custodian-Led Strategic Aboriginal Heritage Assessment of Wurundjeri Woi-wurrung Country, Melbourne

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Wurundjeri Woi-wurrung Country in Melbourne is one of the most heavily developed parts of Australia, with nearly 10 % of its extent subject to development through 1,500 approved Cultural Heritage Management Plans (CHMPs) since the *Aboriginal Heritage Act 2006* (Vic) began. For the most part, these CHMPs determine past occupation and cultural heritage significance through the presence or absence of artefacts and/or cultural features. However, this ignores the fact that all Country is important for Wurundjeri Woi-wurrung people and has cultural values, most of which will never be identified and understood through archaeological survey and excavation alone. This paper presents the Wurundjeri Woi-wurrung Strategic Aboriginal Heritage Assessment (SAHA), which is documenting the cultural values of Wurundjeri Woi-wurrung Country through mapping, modelling and Traditional Knowledge recording. The cultural mapping results will be made publicly available to enable understanding and consideration of Wurundjeri Woi-wurrung cultural values in early land-use planning. The results will also inform changes to Aboriginal cultural heritage legislation and policy in Victoria to provide better protection for Aboriginal cultural heritage. The SAHA program is funded by the Department of Premier and Cabinet.

*Designing Archaeological Education Programs for Primary and Secondary Students
(Workshop)

Designing Archaeological Education Programs for Primary and Secondary Students
Georgia Stannard, La Trobe University

Co-Author:

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The importance of the deep time archaeological record is being increasingly recognised within Australian primary and secondary schools. The Australian Curriculum (v9., 2022) now includes a core unit for Year 7 entitled 'deep time history of Australia', which includes a significant amount of archaeological data and interpretation. For most Australian students, this unit represents their first foray into understanding and appreciating Australia's precolonial history. As a result, the Australian archaeological Community of Practice now has a unique opportunity to positively contribute to the body of knowledge available to teachers through both the development of resources and the facilitation of incursion and excursion programs.

This workshop will provide a detailed introduction to designing and implementing archaeological incursion and excursion programs for primary and secondary students in Australia. We will cover content outlined in the curriculum, pedagogical approaches for different age groups, learning strategies and theories, and key considerations when designing school programs, such as approaches for interacting with students. Real-world case studies will be used to demonstrate the potential of these programs for both student and teacher learning.

*Archaeological Science in the Narration of the Past

Singing Rocks, Talking Heads and Whispering Country: Collaborative Learning/Teaching with The Ngaanyatjarra Lands School, Western Australia

Birgitta Stephenson, In the Groove Analysis Pty Ltd

This paper is presented with the active participation and consent of: the minyma pampa (older women of knowledge); the Blackstone Rangers; the leadership team of the Ngaanyatjarra Lands School; and Fat Lizard Films. The Ngaanyatjarra Lands School camp held at Singing Rocks in the Western Desert of Western Australia in August 2023 set out to integrate different ways of knowing to produce wider, nuanced understandings of past landscape use than is possible through one viewing lens. Singing Rocks is a place of uninterrupted occupation for as long as the Traditional Owners can recall and beyond. Although originally designed as a learning exercise for students from the Blackstone, Jameson, and Wingellina campuses, the excursion instantly became a learning, teaching, sharing, collaborative, eye opening experience for all involved. Landscape interpretations were compiled using Elders' Country and seasonal knowledge, the Rangers' Country Care program, archaeological Dino-lite investigation, usewear and residue analysis, 3D mapping, and anthropological considerations. This paper will use film clips, narration and discussion to examine the intersection and overlap of knowledge and to demonstrate how gaps in knowledge systems were able to be filled through effective cooperation and co-design. This collective learning resulted in a surprising 'twist' for commonly assumed understandings of the use of grinding patches. Bring your own popcorn and prepare to switch your normal viewing goggles.

*Poster

Impact of the Freshwater Reservoir Effect on the Radiocarbon Dating of Shells from the Lower and Central Murray River

Chloe Stringer, The University of Melbourne

Co-Authors:

Amy Prendergast, The University of Melbourne

Jillian Garvey, Dja Dja Wurrung Enterprises/La Trobe University

Jan-Hendrik May, The University of Melbourne

Vladimir Levchenko, Australian Nuclear Science and Technology Organisation

Since the 1950s, archaeological research conducted along the lower and central Murray River, on Ngintait, Latji Latji, Barkandji, Yorta Yorta, and Ngaiawang Countries, has relied on radiocarbon dating of freshwater mollusc shell to help confirm the chronology of human occupation in this region as well as support larger models of human occupation timing in Australia. The popularity of freshwater mollusc shell for radiocarbon dating in this region is partially due to the prevalence of shell in a variety of Aboriginal cultural sites.

However, radiocarbon dating of freshwater organisms, such as molluscs, is complex as the carbon reservoir of the water bodies in which they live may differ from atmospheric values. Therefore, radiocarbon dates which do not consider this freshwater reservoir effect may be inaccurate.

While Gillespie and colleagues (2009) investigated the freshwater reservoir effect in the Murray-Darling Basin around Willandra Lakes World Heritage Area, the effect present in the Murray River has yet to be explored. Therefore, this research analysed historically live-collected freshwater mussel samples collected from Ngintait, Latji Latji, Barkandji, Yorta Yorta, and Ngaiawang Countries, near Mildura (VIC), Echuca (VIC), and Morgan (SA), to establish a freshwater reservoir effect for the lower and central Murray River. We also dated modern water and freshwater shell samples from across this region to better understand the source of this offset.

The calculated average offset of approximately 136-56 years will have an impact on chronologically recent sites and improve overall precision. These results will help us improve chronologies in the region and better understand the important relationship between people, molluscs, and Country.

*Archaeological Science in the Narration of the Past

People, Mussels, and Country: Using Traditional Ecological Knowledge and Western Scientific Techniques to Investigate Human-Mussel-Environment Relationships During the Late Quaternary on Ngintait and Latji Latji Country, South East Australia

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First People of the Millewa Mallee Aboriginal Corporation

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Russell Drysdale, The University of Melbourne

Freshwater mussel shells are commonly recorded in Aboriginal archaeological sites in the Central Murray River Basin (CMRB), on Ngintait, Latji Latji, and First People of the Millewa Mallee Country. Middens containing freshwater mussel shell are found in great number along the banks of the Millewa (Murray River) and these shells have been used to determine that CMRB has been inhabited for at least 29,000 years. Yet, so far, it has been difficult to ascertain the cultural and economic significance of this resource to the region's inhabitants.

This research aims to gain a more holistic understanding of human-mussel-environment relationships in the CMRB through the incorporation of evidence from a variety of knowledge systems and different techniques applied to two shell middens in the region: Homestead Midden and the Murray River Holocene Midden. Traditional Ecological Knowledge (TEK) gained through collaboration and interviews with the Ngintait, Latji Latji, and First People of the Millewa Mallee community is combined with several Western scientific techniques. The application of sclerochronology unlocks the high-resolution climate record stored within the freshwater mussel shell itself, allowing for the seasonal climate at the time that the mussels were collected to be determined. These estimations of time-of-year of collection can provide insight into resource habits and movement of Ngintait and Latji Latji peoples across Country. Nutritional analysis of modern specimens collected throughout the year can also help us to understand whether season of collection may be linked to changes in the nutritional value of the mussels themselves. Radiocarbon dating allows for the narratives unearthed to be placed in a larger chronological context. A more holistic understanding of human-mussel-environment relationships will allow us to best interpret the cultural and economic importance of freshwater mussels in the CMRB and understand how this relationship may have changed through time.

*Building New Narratives of Cross-Cultural Encounter and Exchange

The Entanglement of Recent Amurdak Rock Paintings, Cross-Cultural Encounters, Stories and Exchange in North West Arnhem Land, Australia

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Co-Authors:

Charlie Mungulda, Davidson's Arnhem Land Safaris

Sally May, University of Adelaide

Amurdak Country in north west Arnhem Land predominately has Iwaidja neighbours to the north, Mawng to the north east, Kunwinjku to the south east and Gaagudju to the south. Oral history, early ethnography and various historical records inform us that Amurdak people regularly engaged with all of their neighbours for trade, ceremony, marriage partners and other reasons both in Amurdak Country and in that of their neighbours. Amurdak rock paintings reflect many aspects of this engagement, but recent rock art also illustrates a range of interactions with people of European and Asian descent since the 1800s. Furthermore, as Amurdak encounters with foreigners increased, the nature of contact and exchange between the Amurdak and their neighbours altered. In this paper, we explore the nexus between cross-cultural contact, changing inter-clan relationships and rock art. Amurdak encounters with the British at Victoria Settlement north of Amurdak Country in the mid-1800s, explorers passing through Amurdak Country in the mid to late 1800s, buffalo shooters in the late 1800s to early 1900s, missionaries and anthropologists in the 1900s are all documented in written records. Some are also illustrated in rock paintings and live on in oral history. We are finalising a book that tells the story of the Amurdak people in detail for the first time. In the process, a history of Amurdak people is told with traditional Amurdak songman Charlie Mungulda a central character. A synopsis is presented here.

*Poster

Experiencing Taungurung Country Under the Microscope

Taungurung Land and Waters Council RAP

Co-Authors:

Daniel Young, Taungurung Land and Waters Council RAP

Michelle Richards, The University of Melbourne

This poster presents our experience of seeing Taungurung Country under the microscope through the petrographic slides prepared by Alan Watchman and Isabel McBryde in the 1970s. This provided us with new perspectives on the geological landscape and provides us a way of understanding how Traditional Knowledge of different geological settings was used by our Ancestors for crafting stone tools and how these locations fit into the broader cultural landscapes across Country. The learnings from this work are helping to build Taungurung-led narratives of past exchange routes and material culture.

*Exploring the Whole Narrative: Combining Story-Telling, Science and Technology (Lightning)

This Country: Using Videography to Share Stories About Country, Culture and Place

Natalie Taylor, Urbis

Co-Author:

Wayne Brennan, The University of Sydney

Sharing narratives through videography is one way that archaeology can be communicated in an engaging and accessible way. In 2023, during my undergraduate studies at The University of Sydney, I produced a 10-minute documentary in collaboration with Gamilaraay man and archaeologist Wayne Brennan. The central question of the film is, 'How do First Nations People connect to Country in a contemporary context?'

Set in the Blue Mountains, the film features different cultural sites and landscapes, sharing the perspectives of Wayne Brennan, Gamilaraay man Paul Glass, and Tharawal man Uncle Eddie Walker. This paper will be presented by Natalie Taylor and Wayne Brennan.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Resetting Heritage Management Through Changing Narratives

Katherine Thomas, Taungurung Land and Waters Council

Taungurung Land and Waters Council RAP is on a pathway to change 'heritage management' practices in Victoria. Employing consistent clear messaging in informal and formal settings at Taungurung Land and Waters Council provides the narrative cornerstones to build a reform agenda for heritage management. Education can be a conduit for the wider community to understand that there are different perspectives and alternatives to 'heritage management'. Spreading these understandings and narratives will lead systemic changes within the wider community, leading to caring and healing practices for Country. TLaWC RAP would like to share some of our work in changing the narratives in heritage management by early engagement (education) with potential developers on Country, proactive workflows for Cultural Heritage Management with Heritage Advisors, and planned field schools on Country. There are better ways to 'manage heritage'. This paper will look at RAP-led, reformist, educational, holistic approaches, to changing the overarching narratives in heritage management.

*Poster

Sharing the Stories of Collapsed Gallery

Zachary Thorp, The Agayrr Bamangay Milbi Project

Co-Authors:

Bryce Barker, University of Southern Queensland

Lynley Wallis, Griffith University

Jill Huntley, Griffith University

Cat Morgan, Griffith University

Heather Burke, Flinders University

Gabriella McLay, Griffith University

The Agayrr Bamangay Milbi Project

Collapsed Gallery is a sandstone rockshelter located north east of the town of Laura, south east Cape York Peninsula. Excavated as part of the The Agayrr Bamangay Milbi Project (ABM) in July 2022, the site produced an assemblage that included lithics, faunal remains, shell, and charcoal. The walls of the site also contained abundant rock art which was recorded in detail for the project in mid-2021. Radiocarbon dating produced dates of ~2000 BP, seemingly with a hiatus until ~200 BP. The question then arises as to why the site was seemingly abandoned for 1800 years and why people returned to the site after abandoning it for so long?

*Tales from Tools: Interdisciplinary Perspectives on Stone Artefacts

Investigating the Berribee Silcrete Quarry and Stone Raw Material Transport and Use in North West Victoria, First People of the Millewa Mallee Country

Isabel Tickle, La Trobe University

Co-Authors:

Nicola Stern, La Trobe University

Rebekah Kurpiel, La Trobe University

Jillian Garvey, La Trobe University

Nathan Jankowski, University of Wollongong

First People of the Millewa-Mallee Aboriginal Corporation

The Berribee Silcrete Quarry, which lies on the Country of the First People of the Millewa Mallee, was a significant source of raw material for making stone tools. At the quarry, there is evidence that rock was extracted by excavating pits into the outcrop, which would have involved considerable investment of time and energy. This indicates its importance in an area with few and isolated raw material sources of good flaking quality.

Through surface investigations and excavation, this research examines how the silcrete was extracted and worked at the quarry and what people carried away with them. The project also investigates the scatters of artefacts that mark the locations where material from the Berribee Quarry was transported and worked. The distribution of silcrete from Berribee, and other raw materials found at these locations, is being studied using trace element analysis together with an analysis of textural characteristics that can be identified with the naked eye. This research is providing insights into the way stone technology unfolded across the landscape.

*Building New Narratives of Cross-Cultural Encounter and Exchange

Decolonising Cross-Cultural Entanglements Through Time: Narratives of Sovereignty, Heritage, and Human Rights

David Tutchener, Deakin University

Co-Author:

Bunurong Land Council Aboriginal Corporation

Previously, it has been argued that the term 'contact' has limited relevance in Australia as either a model for cross-cultural engagement or as a metaphor for these encounters. One of the ideas that supports this perspective is that the power imbalance between colonisers and the colonised is not represented through the use of this term, as 'contact' is linear and draws on theories of assimilation during cross-cultural encounters.

How can we explore other terms and theoretical underpinnings, to open cross-cultural multivalent research collaborations that can decolonise our practice and help explain the complexities of these encounters? This paper outlines a conceptual model for braiding or weaving these ideas through time, to capture some of the complex ways identity, heritage and human rights persist and how these ideas can complement self-determination and empower communities to either share or not share their heritage and values with the broader world.

Recently human rights in the form of the United Nations Declaration on the Rights of Indigenous Peoples have become a flash point in the Australian heritage industry. Self-determination as a tool to support Indigenous peoples' choices in the heritage approvals process has not yet developed in a way that fully supports the active protection of significant heritage places. It is here, at the core of much of the heritage industry's work in Australia, that colonialism continues to disenfranchise Indigenous communities every day. This paper explores the ideas of cross-cultural entanglement and the persistence of Indigenous heritage, identity, cultural values, and Country through the lens of legislative heritage management and the United Nations Declaration on the Rights of Indigenous Peoples.

*Shared Heritage in the Consulting World (Lightning)

A Vision for Leading Practice for Cultural Heritage: The Role of the Dhawura Ngilan in Business as Defined by Indigenous Australians

Robin Twaddle, BHP

Co-Authors:

Jessica Olofsson, BHP

Jade Pervan, BHP

The Dhawura Ngilan (DWN) is a vision of how Aboriginal and Torres Strait Islander cultural heritage is recognised, managed, cared for, and engaged with by the next generations of Australians. Developed through extensive consultation with First Nations stakeholders, peak representative bodies, advisory councils, and committees, the DWN has been endorsed by the Heritage Chairs of Australia and New Zealand. Much like the Burra Charter it represents a collective agreement of best practice and while it is not legislated, aims to inform policy and guide industry.

The release of the DWN represents an exciting opportunity for industries to review practices and better align to best practice standards. This is particularly true of industries whose core business activities have ongoing and lasting impacts on cultural heritage values - such as mining and other resource extraction enterprises. For these businesses that may have profound footprints on the landscape and thousands of touchpoints with Community, the embedment of DWN principles through frameworks, guidelines, and policies presents both a substantial challenge and an opportunity to take greater accountability and responsibility. While some components of the DWN are often placed at the forefront for mining, such as the physical management of cultural heritage and Free, Prior and Informed Consent (FPIC), other aspects are too frequently shied away from - for example Truth Telling.

In this talk we aim to view the DWN through a resource industry lens, highlighting the bright spots as well as the challenges faced by those who are seeking to embed these key principles within complex business contexts that contain a variety of challenging priorities. We also aim to open the discussion within and across industries to promote collaboration and the sharing of ideas to improve industry standards and expectations.

*Building New Narratives of Cross-Cultural Encounter and Exchange

'The Country of My Brother-in-Law': Makassan Encounters and Kinship with Yanyuwa People in the Gulf of Carpentaria

Chris Urwin, Monash University

Co-Authors:

John Bradley, Monash University

Robert Skelly, Monash University

Yanyuwa Sea Country (the Sir Edward Pellew Islands) was once the easternmost destination for regular Makassan voyaging to Australia. Mariners from the port of Makassar in southern Sulawesi (Indonesia) would sail 2,200 km to the south west Gulf of Carpentaria in Australia to acquire trepang (sea cucumber) until the Southeast Asian trade ceased in 1907. Yet little has been written of the archaeology and oral traditions of these interactions with Yanyuwa people. In this paper we introduce: (1) Yanyuwa-Makassan sites surveyed and excavated in 2023 - 2024; and (2) a rich body of Yanyuwa stories, place names, and song poetry recorded in the past 43 years. Yanyuwa placenames derive from the Makassarese language and speak of diverse encounters, including Yulbarra (Country of my Brother-in-Law) and Mamadthamburru (Taker of Life). We conclude by reflecting on what the stories from Yanyuwa Sea Country tell us about the nature of cross-cultural 'trade', exchange, conflict, and kinship in northern Australia.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Analysis of Resin-Hafted Artefacts and Plant Fibre Technology from Windmill Way, Laura, QLD

Kim Vernon, The University of Queensland/Griffith University

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Alexandra Snep, Flinders University

Rebecca Hagan, University of Southern Queensland

Lynley Wallis, Griffith University

Heather Burke, Flinders University

Laura Rangers

Australian Indigenous peoples used adhesives and binders for the manufacture of ornaments and composite tools, including hafting for woomeras and spears. Many of these adhesives are based on plant sources, including resins from grass tree, spinifex, beefwood and ironwood. The bindings used with composite artefacts are known ethnographically to have been made from a large range of plant fibres. These can also be involved in the manufacture of objects, including necklaces and an extensive fibre culture of string dilly bags and nets. A collection of 12 macropod teeth with intact resin hafts, numerous stone artefacts with intact resin hafts, and over 500 pieces of plant fibre string were recently recovered from Windmill Way, a rockshelter near Laura, south east Cape York Peninsula, as part of the ABM Project. Research aims to characterise the plant(s) from which resin was obtained for hafting, and also those used for manufacturing string. Modern plant resin samples and fibres were analysed as a local reference collection, in addition to 56 reference artefacts held in the Queensland Museum collection. Analysis of archaeological samples using microscopy, use-wear analysis and residue analysis was followed by microscopic fibre analysis for plant fibres and chemical characterisation using FTIR and GC-MS/LC-MS to characterise resins. Results reveal novel information about the manufacture and use of these archaeological materials, including the complex preparation of adhesives and extensive knowledge of plant fibre string manufacture. Windmill Way archaeological site represents a rare opportunity to explore narratives on perishable fibre craft and composite tool technology in Australia.

An Actualistic Taphonomic Study Exploring Site Formation in the Submerged Caves of Mount Gambier, South Australia

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Co-Authors:

Gilbert Price, The University of Queensland

Liz Reed, The University of Adelaide

Geraldine Jacobsen, Australian Nuclear Science and Technology Organisation

Vladimir Levchenko, Australian Nuclear Science and Technology Organisation

Shwaron Kumar, Australian Nuclear Science and Technology Organisation

Stewart Fallon, Australian National University

Rebecca Esmay, Australian National University

Joseph Monks, Cave Divers Association Australia

Julien Louys, Griffith University

Recent recovery of historic, non-human bone assemblages from two underwater karst caves in Mount Gambier, South Australia, have opened new avenues for understanding the deposition and early preservation of bone in these systems. To date, there have been limited taphonomic studies focusing on the depositional processes and burial environments of submerged caves, preventing a comprehensive understanding of site formation in these environments that flux between wet and dry conditions commonly linked to glacial-interglacial cycles. This work asks the question: can taphonomic analyses distinguish between animals deposited directly in wet cave environments versus those that experienced secondary submersion after decay, or cyclical submersion events? Taphonomy and early diagenesis of terrestrial underwater caves deposits are here studied through an observational, actualistic approach. Analysis of domesticates (e.g. cow, sheep) from Green Waterhole (collapsed doline) and Goulden's Hole (sinkhole) provides an opportunity to investigate relatively recent taphonomic histories and associated changes to bone in the phreatic (wet) and vadose (dry) cave environments. These establish a benchmark and framework to assess archaeological and palaeontological deposits found in submerged caves. Using macroscopic (assemblage and surface), microscopic (histological), and radiometric (C^{14}) approaches, this research provides a suite of bone modification signatures linked to phreatic environments in a chronological framework. Using a mixed method approach that investigates taphonomic patterns associated with groundwater, phreatic systems, and freshwater, our study provides baseline taphonomic data for other terrestrial and submerged sites in Australia and internationally. This study applies archaeological science to reconstruct environmental narratives of glacial and interglacial cycles directly from bone and fossil assemblages.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

A Late Holocene Assemblage of Bone Artefacts from Quinkan Country, South East Cape York Peninsula

Lynley Wallis, Griffith University

Co-Authors:

Salmia Yakub, Griffith University

Heather Burke, Flinders University

Mia Dardengo, Griffith University

Laura Rangers

Kim Vernon, Griffith University/The University of Queensland

Carney Matheson, Griffith University

The material culture of Indigenous Australians was traditionally dominated by organic raw materials, despite the archaeological record largely being dominated by stone artefacts. Rare assemblages of bone artefacts are occasionally recovered from archaeological contexts, and here we report another assemblage from the site of Windmill Way in Quinkan Country. The site is a late Holocene-aged palimpsest and includes a quantity of dingo-contributed faunal remains, amongst which, surprisingly, were 42 definite bone artefacts. These include bone unipoints, bipoints, spatulate objects and 12 incisors with resin; the detailed analysis of the latter will be presented elsewhere. Here we describe in detail the rest of the assemblage, and discuss their manufacture, functions and significance, including a discussion of bone technologies based on ethnographic observations and museum collections.

*Poster

Artefacts as Art: Identifying the Sources of Unusual Stencils in Rock Art in Quinkan Country, South East Cape York Peninsula

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Noelene Cole, James Cook University

Jill Huntley, Griffith University

Bryce Barker, University of Southern Queensland

Laura Rangers

Located in the Laura region of south east Cape York Peninsula, Quinkan Country is home to hundreds of rock art sites. As well as hundreds of obvious hand, foot, axe and boomerang stencils, members of the Agayrr Bamangay Milbi (ABM) project have documented numerous unusual stencils whose identity is not immediately obvious. The shapes and dimensions of the unidentified stencils were compared to those of published images of material culture from the region, and also to various Indigenous and historical artefacts on display in Queensland museums. Using this approach, potential object sources for many of the unusual stencils were able to be identified. They were often found to be related to items of European material culture, raising the prospect that such items may have had more cultural, and possibly ceremonial significance, than previously thought.

*Poster

Experimental Archaeology: A Teaching Experiment

Jenna Walsh, Flinders University

Co-Authors:

Susan Arthure, Flinders University

Simon Hoad, Flinders University

Martin Polkinghorne, Flinders University

Marc Fairhead, Flinders University

Undergraduate archaeology students often do not see a trowel, or dirt, until their third year of study. In this Experimental Archaeology experiment, we provided an opportunity for first-year students to be immersed in theory, phenomenology, and science... but most importantly, we introduced them to the joy of getting their hands dirty. Students created clay artefacts, and we replicated a Neolithic-era firepit to turn their creations into enduring ceramics. We present a snapshot of our three-year teaching experiment here. Have we changed archaeological teaching at university level? Perhaps - but setting stuff on fire was fun, anyway!

*Tales from Tools: Interdisciplinary Perspectives on Stone Artefacts

Stone and Fire: A High-Density Lithic Assemblage from a Rockshelter on Marra Country, Northern Territory

Jenna Walsh, Flinders University

Stone tool processing sites provide a tangible link to time, place, and technology, but they also speak to deep connections humans have to landscape and each other. Walanjiwurru 1, a late Holocene rockshelter on Marra Country, was used over a long period of time as a lithic processing site. In this paper we present preliminary data and form a narrative of method, complexity, and connection in which both archaeology and ontology combine.

This project forms part of an ongoing research collaboration between Flinders University, Monash University, and the Namultja Aboriginal Corporation.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

It is Written in the Stones

Jacinta Warland, Touchstone Archaeology

Co-Authors:

Nathaniel Surha, Manbarra

Walter Palm Island

Joan Growden, Woolaning Indigenous Corporation

This paper will explore the transfer of cultural knowledge through absorption of oral histories, rock art, knowledge of food, resources, language and connections with natural seasons and landforms, and finally through community reciprocity. The younger Aboriginal participants learnt by practising timeless rituals, demonstrating

Participants also learnt by following re-touch obligations on many of the rock art sites and landscape features, which held spiritual and mythological values for the custodians. Memory is plastic and needs to be expanded to ensure it is retained and continued. Deprived of Country, through actions written into our shared histories as focused on policies and massacres, their memories (read cultural practices) had to find a new way to be

Each author discusses how this acquisition of knowledge could be unlocked, creating an understanding that memory was transferred and created through both emic and etic processes. By using multiple approaches using oral histories, dance, song, art, weaving, repetition of ritual and through physical immersion into ones' Country an

There are several places that can still show how this is practised: Dak Djerat Country, within the confines of the Litchfield National Park, Northern Territory, and Manbarra Sea Country North Qld. The Traditional Knowledge transfer in these non-literate societies occurs in a very complex and multi-sensory way.

*Sharing the Archaeology of SE Cape York Peninsula: The Agayrr Bamangay Milbi Project

Characterising Formation Pathways of Oxalate Accretions: Implications for Radiocarbon Dating Rock Art

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Oxalate mineral formation in rockshelter sites is a phenomenon associated with rock art across the globe. Oxalate accretions are often assumed to be the product of geological weathering or biological processes despite the definitive mechanism for their formation still being largely unknown. Carbon bearing oxalates have previously been radiocarbon dated and used to build chronological sequences associated with rock art. With the mechanism for their formation remaining ambiguous, the source of the carbon used to obtain radiocarbon dates is frequently unknown, leading to concerns regarding the accuracy and veracity of such age determinations. Under the umbrella of the ABM project, oxalate mineral accretions from rockshelter sites in south east Cape York Peninsula have been sampled with the goal of characterising the formation pathway to evaluate if they are suitable for radiocarbon dating. Here we report on the characterisation of oxalate minerals from south east CYP and possible formation pathways, assessing the hypothesis of a biological source of oxalate accretions. We trialled multiple pre-treatments for radiocarbon dating, providing insights regarding the amount of initial sample required for viability, and identifying potential contaminants.

*Archaeological Science in the Narration of the Past

Storytelling Through Excavation: Adding Conservation Science to the Archaeologist's Toolkit

Lucy Welsh, Extent Heritage

The principles of materials conservation and the role of artefact treatment are fundamental to archaeological site interpretation. Yet, even basic principles of conservation science are not taught to archaeologists, with only one Australian institution offering vocational conservation skills delivered as a standalone Masters Degree. While conservation as a discipline is often not considered until the post-excavation phase of the archaeological process, the absence of treatment principles and basic conservation science utilised during an excavation can significantly limit an artefact's ability to contribute to the archaeological narrative arising from the remainder of the excavation. Once archaeologists engage in the excavation process, they have a duty of care towards their finds and consideration must be given to the longevity of the artefact, its ability to inform us about the past, and the opportunity to access that artefact for future research. The role of the archaeologist in the long-term management of archaeological materials is increasingly vital as commercial heritage enterprises tackle external timeframes and delays that can ultimately result in the deterioration of artefacts awaiting specialist conservation treatment. This paper provides an accessible overview of fundamental conservation principles - or artefact first-aid - that can be integrated by archaeologists and applied in the field to ensure cultural material has the best chance of contributing to archaeological narratives. Breaking down the barriers between disciplines and providing archaeologists with the scientific toolkit to manage their artefacts in the field will better facilitate long term artefact management and in turn, conserve the stories that these artefacts might tell.

*When Absence is Presence: Sharing Epistemologies to Bring Understanding to Narratives of Absence

Applications of Archaeological and Anthropological Methods to Narrative Case Study, Pilbara, Western Australia, c.1890-1945

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This presentation will explore application of cross disciplinary research methodology drawn from archaeology and anthropology to narrative case study. This project explored the life of an Aboriginal woman from the Pilbara region of Western Australia, who lived in relative isolation in remote Country from the 1920s to mid-1940s following an incident with colonial authorities. Research was undertaken to better understand stories of survival and resilience, employing methods drawn from archaeology and anthropology. Integrating historic archival research, archaeological material analysis and ethnographic oral history work, this project explored multiple epistemologies of the past. The paper seeks to determine how these approaches can contribute a wider understanding of intertwining experiences, and how this may reflect broader patterns among Aboriginal Pilbara women from 1860-1950. The paper will critically examine the challenges and promises inherent in this multidisciplinary methodology and reflects upon the implications for future research and community heritage preservation.

*Highlighting Collaborative Research and Exploring Narratives of the Past in New Guinea

Diprotodon and Denisovans and the Highlands of Sahul

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Redating of megafauna by some members of our team at the site of Nombe in the PNG Highlands supports Mary-Jane Mountain's original proposal for a long co-existence between people and megafauna at high altitudes. Interestingly, evidence from modern genomes also indicate that Denisovans may have been present in the Highlands. If archaic hominins are present in the mountains of Sahul it represents a paradigm shift in our understanding of hominin dispersals east of the Wallace Line. A reconnaissance field trip by Leavesley and Westaway in 2022 obtained consent from the Clan Laiya Nomane to undertake new investigations into the series of rockshelters in the area which hold high potential for the application of modern techniques, including eDNA and ZooMs. The implications of the results so far will be discussed and why this is important for producing a new narrative for Sahul.

*Sharing Community-Owned Narratives to Heritage Management (Lightning)

Jawoyn Cultural Work in a Living Cultural Landscape: Narratives in the Management of Culture and Heritage in Kakadu National Park

Ethan Williams, Kakadu National Park

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Jawoyn Country shares a large portion of Country with the world heritage listed Kakadu National Park. Work is underway to enable Jawoyn people to undertake active management of important sites across Kakadu and lead the conservation of Jawoyn sites.

In June 2024, more than 70 Traditional Owners gathered at Gunlom Falls to speak about management of Country, Jawoyn worldviews and cultural ways of knowing, and to share and learn knowledge intergenerationally. People shared their experiences and challenges of caring for rock art and cultural heritage places.

The paper shares firsthand accounts from the Kakadu Cultural Heritage Team and Jawoyn Traditional Owners and Rangers on how work is being done holistically and outlines future challenges and opportunities in the south of Kakadu National Park into the future.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

Ludic Depictions of Human Subsistence: Using a Board Game to Communicate Archaeological Narratives

Joshua Willsher, Australian National University

Human subsistence strategies have always been a central focus of archaeologists. The complex ways past peoples interacted with, and utilised their environments continues to be a major area of research and debate. Unfortunately, the complex narratives of human subsistence which are now being uncovered by archaeologists have often been oversimplified and poorly communicated to wider audiences.

Here we present a board game currently being developed (with plans to crowdfund in late 2024) aimed at presenting the complexities of ancient human subsistence to a non-academic audience. We discuss the challenges and compromises in creating an authentic depiction of current archaeological knowledge and narratives while maintaining accessible and enjoyable gameplay.

It is essential that games utilise the medium and their mechanics in communicating information, rather than simply being a vehicle for that information. Therefore, we outline a range of decisions made prior to and during the development process related to how archaeological narratives could be implicitly presented in an effective and detailed way through gameplay. We also present feedback from playtests of the game with testers ranging from expert archaeologists to people with no formal archaeological background.

We also discuss the inclusion of auxiliary material as a way of presenting further information to players with deeper interest in the ideas and narratives presented in the game and how this can enhance the depth of communication to audiences without being a barrier to entry.

*Coral Sea Connections: Agentive People, Objects, Ideas

The Waiet Archaeology Project: Results From 2022-2023 Field Seasons

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Jill Huntley, Griffith University

Sabu Wailu, Mer Gedkem le

James Zaro, Dauareb Elders Group

During recent years Dauareb, Meriam, Goemulgaw Elders and ANU/ Griffith archaeologists have combined to resurrect rituals associated with an important 'culture hero'. Waiet reputedly brought new initiation and mortuary ceremonies from Mabuiag to Murray Islands (Mer, Dauar and Waier), which were then embedded in an existing socio-political and religious system. In this paper we present Eastern Torres Strait results including excavation of a related funerary site on Waier, zogo (sacred) places on Mer and substantive survey of Dauar Island. Beyond an exploration into ritual movement and development, research provides insight into post-Lapita settlement activities spanning present-day 'Papua New Guinea' and 'Torres Strait'.

*Dating Murujuga's Dreaming

Characterising the Potential of Rock Varnish at Murujuga as a Chronological Record

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Murujuga's rock art is located across the Dampier Archipelago: petroglyphs are pecked into the dark weathering rind to reveal the contrasting lighter-coloured bedrock. There are a number of different geologies at Murujuga all forming an excellent canvas for Aboriginal people to have made images through deep time and into the recent past. Occasionally, rock varnish has formed on these surfaces, including over petroglyphs, therefore the rock varnish is a potential clue to reveal a minimum date for when the petroglyphs were made. Rock varnish has an unusually high manganese oxide and iron oxide content, characterised by a dark and often shiny appearance, and is found on many of the Murujuga geologies.

Our interdisciplinary team of archaeologists, geologists and microbiologists on the Dating Murujuga's Dreaming ARC Linkage Project is investigating the local characteristics of this rock varnish. Our approach includes research foci from the macroscale of varnish distribution on rocks across the landscape to the microscale observations under the microscope. Analysis of rock art panels recorded in the database suggests a higher proportion of varnish formation on coarser-grained rocks as compared to finer-grained rocks. Microscopic observations reveal stromatolite-like structures in the varnish and microbial biofilm at the rock-air interface. Microbiome samples showed that the varnish harbours diverse bacterial communities including those with resistance to radiation. Understanding how biotic and abiotic factors render the formation of rock varnish is crucial for establishing a dating method, and this paper details progress made so far on this complex problem.

*Creative Archaeology: Communicating Archaeology through Art, Performance and Fiction

'The Analogy of an Archaeology Dig': Australian Archaeology on Stage

Simon Wyatt-Spratt, The University of Sydney

Given the relative nicheness of our profession, it is unsurprising that Australian archaeologists are rarely depicted in fictional works. However, there is one medium where Australian archaeology has taken centre stage. The last decade saw three main stage productions of new Australian plays where the protagonist was an archaeologist. The 'analogy of an archaeology dig' - to quote playwright Donna Abela - has proven an irresistible theatrical device compared to a historian sifting through archived documents. But how do these plays compare to the reality of archaeological work in Australia? And are these plays successful at communicating archaeological ideas? This paper explores how three playwrights have depicted archaeology and archaeologists, and will consider whether they present a viable model for archaeologists looking to communicate archaeological narratives. It will then turn to look at whether there are alternative models of theatre-making that might be better suited to conveying archaeological ideas.

*Poster

Core Concept: Defining Cores in the Archaeology of Indigenous Australia

Simon Wyatt-Spratt, The University of Sydney

One of the biggest impediments to the analysis of cores in the archaeology of Indigenous Australia is the slippery use of terminology. This impairs comparative analyses and limits our ability to extrapolate meaningful information from our lithic analyses. This situation has resulted from a history of poorly articulated theoretical frameworks. These frameworks impact the way that archaeologists have interpreted the results of lithic analysis, but more fundamentally how they practise lithic analysis. This has led to a situation where the same terminology is used across Australia, but with different meanings depending on the archaeologist who is using it. By quantifying over 500 definitions from almost 200 sources, this poster explores how the use of different theoretical frameworks has resulted in 1) fundamentally different interpretations of the lithic record, and 2) the same terminology for cores being used in subtly but significantly different ways.

*Stories All the Way Down: Narrating the Past in the Present

What Lies Beneath

Anita Yousif, Artefact Heritage and Environment

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This presentation explores a practical example of a multimodal approach to heritage interpretation for sharing archaeological narratives in a major public environment.

The new Sydney Metro platforms at Central Station opened in May 2023. The Sydney Metro platforms sit above the 118 year old station, and are within the boundaries of the former Devonshire Street Cemetery which opened in 1820 and was cleared in 1901 for the construction of Central Station. The archaeological excavation program for the project uncovered thousands of artefacts associated with the cemetery and remains of early railway infrastructure.

Given the significance of the resource, interpretation of the archaeological narratives of the site was an important aspect of the project. A Heritage Interpretation Plan was developed to provide a framework. The main feature of the Plan was the multimodal approach, and the subsequent range of interpretive media (such as large-scale wall features, 3D imaging, video, computer interactive, artworks, and bespoke display) which provide engaging and accessible experiences for the enormous number and range of audiences using the station. Using the overarching theme of 'Journeys and Gatherings', the interpretive media work together to allow complex stories of the site to be told through an integrated approach.

*Archaeological Science in the Narration of the Past

Where Do We Come from and When? A Story Behind the Oldest Child

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Since the discovery of the Taung Child (*Australopithecus africanus*) fossil in 1924 (Dart 1925), South Africa has greatly interested researchers studying human origins. Understanding the relationships between different hominin species has always been challenging, largely due to the difficulty in accurately dating the remains. The complex stratigraphic context of the fossil-bearing caves, with multiple phases of karstification and infilling, makes the dosimetric assessment an intricate task. Another complication comes from the limit of the dating range for such old deposits with expected age ranges between 3.0 Ma and 1.0 Ma (Herries and Shaw 2011; Pickering et al. 2019). The unique and complicated depositional environment and history of the Taung-type site make faunal dating particularly difficult. This research summarises the studies conducted on the associated faunal remains with the Taung site in South Africa using the US-ESR dating method (Yu et al. under review). We discuss how our approach contributes to our understanding of human evolution in the region. Our dating US-ESR results on enamel fragments from five fossil teeth from Taung enhance our knowledge of the deposition time of the three-year-old *Australopithecus* specimen. This method enables the direct dating of teeth buried in the same layer. The deposits might be older than originally suggested, dating back to the beginning of the Gauss Chron, between 3.60 and 3.33 Ma based on EU model and palaeomagnetism data. Nevertheless, these results should be considered cautiously due to the intricate history of the site and the limitations faced during the study. This study, above all, emphasises the importance of carefully investigating the dating results and associated data, especially in the context of hominin-bearing sites.