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Metal burial: Understanding caching behaviour and contact material culture in Australia's NE Kimberley

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Abstract
This paper explores identity and the recursive impacts of cross-cultural colonial encounters on individuals, cultural materials, and cultural practices in 20th-century northern Australia. We focus on an assemblage of cached metal objects and associated cultural materials that embody both Aboriginal tradition and innovation. These cultural materials were wrapped in paperbark and placed within a ring of stones, a bundling practice also seen in human burials in this region. This 'cache' is located in close proximity to rockshelters with rich, superimposed Aboriginal rock art compositions. However, the cache shelter has no visible art, despite available wall space. The site shows the utilisation of metal objects as new raw materials that use traditional techniques to manufacture a ground edge metal axe and to sharpen metal rods into spears. We contextualise these objects and their hypothesised owner(s) within narratives of invasion/contact and the ensuing pastoral history of this region. Assemblage theory affords us an appropriate theoretical lens through which to bring people, places, objects, and time into conversation.

Keywords
Aboriginal, archaeology, colonialism, identity, Kimberley

Study area – 'Kimberley Visions'

Site DRY252 (Figure 1) is located in the northeast Kimberley. The *Kimberley Visions* Australian Research Council Linkage project, through which this research was undertaken, has recorded 1315 cultural sites spanning the past ~50,000 years (Veth et al., 2019). Excavations at *Miniwarra*, a large fluvial feature on the lower Drysdale River (DRY 121, Figure 1), have identified occupation of the northeast Kimberley from as early as 53,500 years ago (OSL 49.3 ± 2.1 ka, Shfd17121, Veth

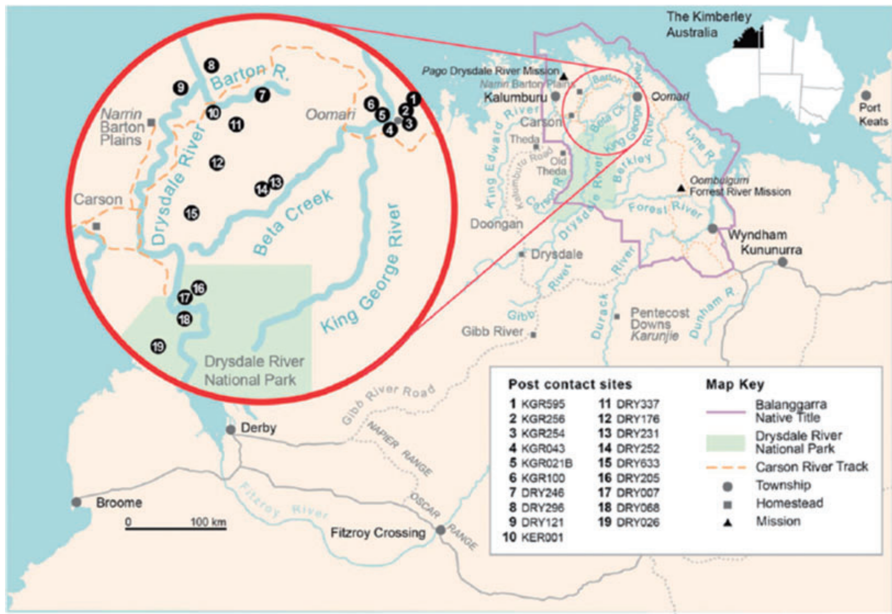

Figure 1. Map of the Kimberley showing the location of major towns, access tracks, rivers, missions, stations, and other post-contact sites (DRY252 is #14). Figure: Pauline Heaney.

et al., 2019). This place is a site of continuing cultural significance for Kwini people, associated with Waina family *lalai* (Dreaming/Creation) stories. Additionally, excavation of the *Borologa* rockshelter further up the Drysdale River (Delannoy et al., 2020) has demonstrated extensive human physical manipulation of rockshelter interior spaces over time in a shelter painted with multiphase rock art. Sites much further south along the Forrest River have substantial numbers of glass artefacts in their deposits, attesting to their re-use by Aboriginal people. These and numerous other examples show the long-term and continuing chains of connection, modification, and adaptation of people across this region.

Some of the most recent adaptations are seen at 19 sites with contact/post-invasion materials (see Figure 2). Contact materials are defined as introduced materials such as metal, glass, porcelain, and exotic plant taxa, as well as other organic items such as flour, sugar, and tobacco, which have not survived. For example, DRY068 ('Living Shelter') in the Drysdale catchment houses a paperbark bundle with stones, which through deterioration over time has exposed steel rods and other metal objects. The wrapping of such artefacts in paperbark is rare in comparison with cached contact materials, which are more typically found on rockshelter shelves or floors. This does not seem to be a product of preservation

Figure 2. DRY252 cache with remnant paperbark and rock ring. Photo: Balanggarra Aboriginal Corporation and Kimberley Visions/UWA, Cecilia Myers.

as contact materials are typically <100 years old, located in protected rock shelters, with paperbark lasting many decades. Kimberley Aboriginal people have employed a structured system of contact and exchange to survive and thrive in this climatically and socially dynamic region (Redmond, 2012). The evidence discussed in this paper – an assemblage of a diverse range of objects and materials – allows insights into processes of material adaptation and negotiation in a cultural contact situation.

Assemblage theory

The idea of 'assemblage' has recently developed into a very popular concept in archaeology (e.g. Hamilakis and Jones, 2017), although the concept has a long tradition within the discipline. It tends to be used in relation to a collection of objects made from the same material (e.g. pottery or lithics), or objects that share typological or stylistic similarities. The term is also applied to disparate objects that can be related to a spatio-temporal context such as an archaeological feature, settlement structure, or deposit (Hamilakis and Jones, 2017: 77). Deleuze and Guattari (2009) argued that the deliberate creation of assemblages is an important reflection and constituent of human agency and creativity, which applies to both the original creator and the analysts who group artefacts into meaningful sets. Agency in the context of assemblages is best understood as recursive and sometimes unpredictable, even feral. The assemblage itself acts back upon its maker as a dynamic entity and once identified, the assemblage, as a conceptual set, asks us to think and behave in certain ways (Dant, 1999: 118; David, 2002: 67–70). As a proponent of the 'new materialism', Bennett (2010) has argued that the agentive

capacity of an assemblage is the product of the vibrant and vital materials that constitute it as well as the relationships between its different elements. In this understanding, the agency of an assemblage is not only dispersed between its maker and the objects, but also between the components of the assemblage. Latour's (2005) highly influential Actor Network Theory also asserts – on a much broader scale – that societies themselves are composed of assemblages of people and objects with dispersed agencies, adding a scalar dimension to assemblages.

DeLanda's (2006, 2016) 'assemblage theory' has gained widespread attention in the social sciences. One of his main aims is to conceptualise the capacities and opportunities that assemblages contain and express. He proposes that the parts of assemblages should be viewed as equally self-sufficient and articulated. For DeLanda (2006), assemblages can be characterised by properties and capacities, which can refer both to the whole assemblage as well as to its components. Capacities are the latent possibilities of materials or objects that are activated by the inclusion in an assemblage. In this case, capacities become properties. DeLanda describes this as a movement from the 'virtual real' to the 'actual'. For example, resin is a material that has multiple capacities that are a consequence of its material properties. Resin is sticky, malleable, but it also hardens when it dries out but becomes soft when heated. The latter characteristic can be understood as a capacity that exists as real, but typically unrealised, and hence a virtual possibility of this material. Through the act of heating, this capacity is turned into an actual property of this material in a specific context. Similar arguments can be made in the case of metal that also changes its properties when heated or sharpened and, consequently, exhibits different properties. The dimensions of capacities and properties are intrinsic to assemblages. However, it is only through actualisation that assemblages can express their capacities and can become affective entities.

Over the last decade, these ideas have received additional attention within archaeology. For example, Hamilakis (2011) and Hamilakis and Labanyi (2008) have emphasised the multiple temporalities of assemblages and the potential of an assemblage perspective to foreground non-linear approaches to time rather than linear succession or period-focussed analyses. The cultural materials discussed within this context are populated mostly by Native American material cultures. For example, Zedeño (2008) examined the practices connected to Plains Native American bundles, which were carried, exchanged, and distributed between persons. She argues that these assemblages possess personhood and are subjected to power relationships that parallel social relationships. Pauketat (2013a) focussed on medicine bundles and argued that they are reflective of the articulation and re-articulation of social relationships. He puts forward the idea that bundles can both reflect and capture past relationships as well as establish new ones, emphasising the multi-temporality of assemblages, signalling and creating relationships (Pauketat, 2013b; see also Strathern, 1992). Finally, Robinson (2017) has explored DeLanda's assemblage theory in an analysis of South-Central Californian Chumash caches. The intentionally deposited assemblages at Cache Cave, within the interior

Emigdiano Chumash borderlands, comprise collections of artefacts and raw materials (basketry, cordage, lithics, bone tools, antler objects, shell beads, feathers, etc.). These caches were spatially differentiated and 'it is noticeable that the potentially greater valued objects are in dark areas (...) and in more difficult to reach places' (Robinson, 2017: 166). Some assemblages appear to reflect activities at a household level, while others seem to relate to individual persons. We draw from this work as we apply it to our north Australian Aboriginal assemblage or 'cache' case to explore questions around contact dynamics and Aboriginal identity. In this paper we examine this tension between obtaining, using, and placing culture made from 'new' colonial materials.

Caching culture

Paperbark (bark from trees of the *Melaleuca* genus) bundles in the northern Kimberley, and across northern Australia, are typically associated with human and animal burials (Gunn et al., 2010), trade goods, stone artefacts, and here, metal artefacts. This paper discusses the adaptation of this practice to post-invasion/contact cultural materials. Archaeological site 'DRY252' on Kwini and Balanggarra people's Country includes a single cache of 13 modified and unmodified metal objects, two balls of resin, and a wooden spear shaft, arranged within a largely deteriorated paperbark bundle and a ring of six pieces of sandstone, on the inner shelf of a small rockshelter (Figure 2).

The bundling of these materials is mirrored in sparse records of other caches of contact goods across the Kimberley (Akerman, 1983; Love, 1936). We here define a 'cache' as objects put in an inconspicuous but remembered location for future use. 'Contact' refers to the immediate period of physical European presence, which in the Kimberley dates from the early to mid-1800s (Crawford, 2001). We explore the cache's geographic and historic context, particularly post-invasion European exploration and pastoral expansion into the Kimberley. This approach aims to connect information around the 'two-way' (Porr and Bell, 2012) identities lived by people in the Kimberley generally, and by the individual(s) responsible for making this cache, specifically. The cache as an assemblage brings materials from different historical trajectories into conversation and allows us to understand and appreciate how the capacities of different materials were utilised, repurposed, and turned into properties within this particular historical context. As we outline below, the metal objects were selected because of their material potentials and capacities that served very different purposes to their earlier utilisations. Clearly, the metal objects were not created with this particular use in mind. However, following DeLanda (2006), the creation of the objects within European/colonial contexts created virtual real capacities that later allowed their use in the context that is discussed within this paper. Similarly, traditional Aboriginal materials, such as resin, were not originally created to be combined with metal objects. But their capacities allowed these combinations to eventually be realised within the historical contact situation, which we now describe.

Contact and pastoral history in the Northern Kimberley

European overland exploration of the Kimberley began late in comparison with the rest of Australia, being a remote region in the Northwest of the continent, at a considerable distance from the established colonies. An early exception is George Grey's 1837-8 expedition to north-western Australia, which included the first known non-Aboriginal recording of Kimberley rock art (Grey, 1841). The north Kimberley was specifically targeted by Alexander Forrest's 1879 expedition as having good potential for cattle and sheep farming, in line with the land parcels being then released by the Western Australian Government (Clement et al., 2012). In 1901 Frederick Brockman led a surveying mission from the east Kimberley town of Wyndham (Figure 1). As is common in the 'pathology' of European colonialism, missionaries followed on the heels of the explorers, establishing the Drysdale River Mission (also known as Pago Mission) in 1908, which relocated in 1932 to what is today the town of Kalumburu (Crawford, 2001). In 1913 the Forrest River Mission (Oombulgurri) was established north-west of Wyndham (Kaberry, 1936). To illustrate how recent some of these events are, Mary Pandilow, a Kwini Traditional Owner who grew up in Kalumburu, recalled a visit to the old Barton Plains station (or 'Narrin', discussed below) as a teenager, seeing a large boab tree (*Adansonia gregorii*) with Brockman's name carved into it (Crawford, 2001: 54).

As documented by Paterson (2011: 247), pastoral stations (elsewhere known as stock farms or ranches) were often spatially vast and lightly stocked, and formed the primary setting for contact between Aboriginal societies and outsiders. In the Kimberley, stations came relatively late, with early unsuccessful attempts dating from the 1890s, and more successful ones from the 1920s onwards (Smith, 2001). These stations operated within seasonal limitations – working throughout the 'Dry' season (typically May–October) until the onset of the Summer Monsoon or 'Wet' season (November–April).

When looking specifically at the impact of European expansion in the Kimberley, Smith's (2001) study of contact materials from Gordon Downs station, located along Sturt Creek in the south-eastern Kimberley, divided European contact into four periods:

1. Pre-1880s: Traditional Lifestyle: hunting and gathering;
2. 1880s–1920s: Chaos Period: invasion and colonisation;
3. 1920s–1960s: 'Station Times' 1: pre-wages and work for rations; and
4. 1960s–1970s: 'Station Times' 2: small disposable incomes.

A case can be made that in the north-east Kimberley, Smith's 'Chaos Period' could be extended up to the 1950s, with few established stations until then. Chalarimeri (2009) provides a rich account of 'Station Times', having been born on the King George River around 1938, and then growing up in the Kalumburu Mission. Chalarimeri discusses Aboriginal groups living on the Mission, those

doing station work, and a few Kimberley people still living out bush – and how these lifeways interweaved and combined over time. The introduction of metal, and the particular forms present at DRY252, provides a *terminus post quem* with periods three and four, or 'station times', the most likely date for the re-use and deposition of such cultural materials. Of additional consideration, metal artefacts were introduced into the Kimberley from Macassan and Southeast Asian contact, with one potential caching example noted by Ross and Travers (2013). The post-1970 period has seen many stations struggle and diversify into tourism and mining, with some recent court actions to redress the often unpaid past labour of Aboriginal workers during 'Station Times' (see also Jorgensen, 2017).

Recognising that stations became the main 'employer' of Kimberley Aboriginal peoples in the 20th century (see Jebb, 2002), this was seasonal work. When the Wet season came, Aboriginal workers were released – or simply walked away – from station routines, allowing time to get back on Country, engage in cultural business, and visit sites. This form of employment affected the dispersal patterns of Aboriginal people and facilitated access to new colonial goods and ideas brought home upon their return in the Wet.

Additionally, Mulvaney records that during the Wet season paintings were created in rockshelters on Mirriuwung Country immediately to the east of our study area. He examined one rockshelter where metal objects had been left behind, including small tins, a modified kerosene tin water-jerry, and a metal file (1996: 13; also Shaw, 1986, 1992). We suggest that the artefacts in DRY252 date to the 'Station Time' (c. 1920-1970) period of culture contact and exchange, but do not know which station(s) they came from. The two closest stations are Narrin (Barton Plains Station, 25 km away) and Carson River Station (within whose borders DRY252 is contained).

Narrin (Barton Plains Station). Narrin is the Aboriginal name for Barton Plains Pastoral Station, established by British company Bovril Australian Estates Ltd. on the Drysdale River shortly after 1914, when the Western Australian government opened up lands for pastoral leases between the Drysdale River and Wyndham (Crawford, 2001). In its establishment phase 1300 cattle were driven over a three-month period from Queensland by Joe Egan and assistants, with an Aboriginal labour force. Aboriginal workers did not receive wages and, with limited rations, cattle were speared for food. Blandina Yawan told Crawford (2001) that the spearing of cattle led to the murder of at least one Aboriginal worker by station lessees. In addition to possible murder, Blandina stated that Aboriginal girls and women were sexually assaulted and exploited (Crawford, 2001: 13–14). Narrin was abandoned two years after its establishment, largely as a result of 'Aboriginal resistance to pastoral intrusion', and it is recorded by explorer C.P. Conigrave that a third of their cattle were speared 'by the wildest blacks in the north', and the stockmen were noted as lucky to have escaped with their lives (Crawford, 2001: 200). Narrin is a key example of Aboriginal resistance that significantly delayed the establishment of pastoral stations in the northern Kimberley

until the 1950s (Crawford, 2001: 200). Narrin was purchased by the Anglican church in the second half of the 20th century and combined with the adjacent Carson River Station (Sanz de Galdeano, 2006).

Carson River Station. DRY252 falls within the boundaries of the Carson River Station as leased and managed by the Kalumburu Aboriginal Corporation (KAC) and currently subleased to Northern Pastoral Management (Fowler, 2013). This 800,000-acre lease was initially established as a cattle station in the early 20th century and subsequently abandoned after 30 years, reportedly as a result of the impact of cattle ticks, incursions, and cattle 'theft' from local Aboriginal people (*The Daily News*, 1950: 3). J.C. Eagleson obtained the lease on the Carson River in 1950 (*The West Australian*, 10 July 1950: 4), and planned the first sheep run this far north in the Kimberley. Eagleson was described by *The Daily News* as 'a Wyndham jackeroo from county Armagh, Ireland' (*The Daily News*, 1950: 3), and by Father Sanz (2006) at Kalumburu as 'hopeless and useless on a pastoral lease', but 'no real trouble' (p. 121). The station was then purchased by the Kalumburu Mission following Eagleson's ill-health, and incorporated the former Barton Plains Station (Sanz, 2006: 122). Sanz was responsible for coordinating further construction on the Station, including living quarters, sheds, cattle yards, and over 480 kilometres of fencing, using Aboriginal labour. When convinced his efforts were not being rewarded by subsequent station outputs, Sanz (2006) tried to on-sell the station, but the New Norcia Mission arranged instead for its purchase by the-then Department of Aborigines of the Western Australian Government (p. 122).

Given Kimberley Aboriginal people routinely travelled between Forrest River Mission in the south-east and Kalumburu in the north-west, these two stations are the most likely source of metal for the DRY252 cache, which sits on the plateau distantly overlooking the traditional Carson track joining Kalumburu and Forrest River (Oombulgurri).

Culture contact, burials, caching, and cultural materials

Culture contact

Paterson (2011: 247) notes that in areas where pastoralism was the only viable economic pursuit for European settlers, stations became the main contact zone between Aboriginal people and outsiders. The material culture resulting from this contact, he argues, needs to be interpreted within a short temporality, with objects moving between groups and changing meaning rapidly and often. This adoption and adaptation of new materials within traditional production systems maintained Aboriginal relations and responsibilities to Country. For example, the presence of glass and metal artefacts recovered from archaeological excavations in the Kimberley has been used in Native Title deliberations when arguing for continuity of connection to Country:

> For example, metal and glass have been found in the upper levels of the excavated soil. The archaeological evidence so gathered, when coupled with ethnographic material, is able to identify sites as places of continuing ceremonial or mythological significance. (Justice Lee in *Ben Ward and Ord v State of Western Australia & Ors* (1998) 1478 FCA)

Focusing on the introduction of metal into the Kimberley, Harrison (2002) analysed assemblages from 'Old Lamboo' station in the south-east Kimberley, approximately 400 km south of our study area. He notes that artefacts produced by Aboriginal people are generally under-described (but see Akerman, 1983). Harrison (2002) suggests that, unlike glass objects and especially Kimberley points, which were often made for Western colonial markets, metal objects were 'often made specifically by and for Aboriginal people in forms which are either a clear post-contact technological development, or in a more traditional "form" but to meet a post-contact need' (p. 67).

Mowaljarlai and Malnic (2001: 99) use a photograph taken by Andreas Lommel in 1938 showing this move from stone to metal spear points. The image is of one of Mowaljarlai's early teachers, Lawandi, whose spear had a metal blade at one end, made from a Mission horseshoe, combining raw materials from different worlds for a specific functional end. In relation to the caching of metal objects, Love (1936: 63) recorded the Worrorran man Wolalara retrieving a knife he had made out of hoop iron and stored on Country. Petri (1954: 54) reported that metal was seemingly perceived as a better material by Kimberley Aboriginal people because it was less susceptible to breakage compared to the traditional pressure-flaked stone Kimberley Points. However, he also stressed that the introduction of metal did not completely replace the use of stone and men continued to use both raw materials. As highlighted by Harrison (2002: 67), Idriess (1942) commented on the value of metal to 'the last of the stone age men' in the 1930s, suggesting they would walk any distance, and go through any privation (p. 62), to obtain metal to transform into a durable weapon with 'immense killing power'.

Traditionally, the adoption and adaptation of metal and other contact materials by Aboriginal people, applying existing stylistic, technological, and morphological conventions, has been understood as indicating cultural conservatism (e.g. Yen, 1995). We prefer Clifford's view that such continuities of practice signal active responses to invasion or colonisation by 'processing the new through dynamic traditional structures', allowing for cultural continuity while simultaneously managing change (Clifford 2001: 479). The re-deployment of novel, exotic materials in traditional composite tools provides evidence of new social relations, dynamics, and valence (Head and Fullagar, 1997). How objects were brought into local assemblages, and what this tells us about identity, are questions worthy of further exploration as they disrupt simple binary formulations of power relations and assumptions about the agency of people and objects.

Burials and caching behaviour across Northern Australia

Human remains and cultural materials are often found 'buried' and cached in rockshelters across the Kimberley. Materials range from paperbark bundle rock ring burials of human remains, to paperbark wallets (*woolumboorr pedeni*, in Kwini) with precious material culture such as quartz crystals (Balfour, 1951; Mulvaney, 1996), to individual stored objects such as imported pearlshell artefacts. Redmond (2012: 69) notes these wallets are bound with red-ochre-stained string, 'just as the bones of funerary packages are'. Across Kwini and Balanggarra Country, numerous bark bundle rock ring burials have been archaeologically documented. These secondary treatments or caches of human remains and artefacts have been reported as ongoing cultural practices (e.g. Mowaljarlai and Malnic, 2001; Redmond, 2005). Historically, rituals and ceremonies associated with such practices have been documented (e.g. Kaberry, 1935; Love, 1936).

Kaberry's work across the Kimberley, but particularly with people around the Forrest River Mission, provides detailed information on secondary placement or interment practices in the early 20th century (Kaberry, 1936). These bundles are called *durdu* (Worroran and also likely a Yeidji/Yiiji word), and are the secondary process following tree 'burials' (*nenjen*, in Kwini) (Kaberry, 1936). However, she noted that some individuals' primary burials involved interment in the ground (*djela,* in Kwini) with an oval rock ring constructed above the grave. These practices are in line with broader patterns in the Kimberley (Love, 1936).

Durdu contain bones that may be covered with a range of materials including blood, gum, and red and yellow ochre. They were bound in paperbark wrapped with human-hair string in a bundle (Kaberry, 1935). These bundles were the central feature of delayed mourning ceremonies that attracted numerous family members, with performance and crying over the *durdu*. For Lyne River and Nulamo Aboriginal groups to the north of Forrest River and closer to DRY252, Kaberry reported that bones were split into three separate *durdu*, with specific bones placed in each, before the *durdu* were placed on Country. The interment location was usually a person's spirit home, the location their mother buried their umbilical cord, and the site of their initiation (for men) or the place they learned to crawl (for women).

During the 1970s at Mowanjum in the west Kimberley, Akerman recorded a model paperbark *durdu* bundle which was made by Sam Woolagoodja to re-enact the final mortuary ceremonies as practiced by the Wororra. The *durdu* took the form of a bark-covered pleated-ended vessel (*anggam*), bound with string fibre covered with resin, and decorated with sprays of white ochre blown from the mouth. Also, for the western Kimberley, Yorna explains that Wanjina-Wungurr peoples' ongoing connections to Country are expressed, and displayed, by returning a person's bones to a rockshelter where their *woongudd*, or conception spirit, belonged:

> People who belong to this country, they put their bones into this cave because it is their place ... They come from this country and they come back to this country as their final resting place, just like the Wandjina. They rub the bones with red ochre and cover them with paper bark and put them in the cave. Sometimes the paper bark comes off and animals spread the bones. We have to put them back. (Mangolamara et al., 2019: 28)

Eewaambood (Janet Oobagooma) also notes that a visitor will know whether there will be bones in a cave based on the marks on the cave walls, including whether human representations or other visual signs occur among the rock art (Mangolamara et al., 2019: 32).

Non-skeletal cultural materials have also been found cached across the north Kimberley, including stone tools, modified and unmodified glass, and metal objects (see Roberts and Parker, 2003 for an Arnhem Land example). Sometimes such objects were placed on a shelf within a rockshelter, often out of reach or sight, and protected from the weather. The caching of bundles is less common. Paperbark 'wallets' were a way by which objects moved across, and were cached on, Country. For example, Tindale (1985: 12) recorded bundles of Kimberley points – valued and powerful objects – being wrapped in paperbark and fur to be kept safe during travel.

Rock rings were consistently used for both human and other bundled materials. Less information is available on these rock rings, but in the literature they are often referred to as having had practical functions, to hold down the burials and caches, and to avoid disturbance from animals. The symbolism of these rings was often inferred to be significant, as suggested by Kaberry's (1936) mention of their use in primary interment burials. These rock rings may be part of the package of bundle burial morphology, or may have their own particular meanings, such as demarcating a burial space where particular behaviours were activated.

Mangatji's memorial

Chalarimeri (2020, personal communication) suggests that objects cannot be buried *per se*, but rather they are stored, kept, saved and put aside for their next use; as such, burial is the wrong term for cached objects, even where bundled within a rock ring.

Little previous research exists on the kind of cache recorded in this paper, with Kim Akerman's (1983) work in the western Kimberley, and unpublished materials from Dunham River in the Eastern Kimberley (Akerman, 2019, personal communication), the only known examples. Akerman (1983) reported on a cache of artefacts in the Oscar Ranges, north of Fitzroy Crossing (see Figure 2); he labelled this cache 'Mangatji's Memorial', as he was able to identify the cacher – a Bunapa man named Mangatji Tjuuru. The identification of Mangatji, in Akerman's (1983: 81) words:

> ... breathed life into the objects and transformed the cache from a collection of interesting and even informative artefacts into a memorial to a man who fought for and maintained his personal and cultural integrity against the invincible and oppressive forces of integration and pastoralism – the white invasion.

Mangatji was born in the late 1890s, lived and travelled across his Country, and died in the late 1940s. During his life, he avoided prolonged contact with Europeans at a time when pastoralism was well established. Mangatji had several caches, and Akerman's (1983) research discusses the one he encountered. The multi-component cache included two bags made from the legs of pants and a felt hat, which were wrapped within a hessian 'Eureka Flour' bag. One bag contained animal bones (one used for the knapping or pressure-flaking of stone) and glass (worked and unmodified); the other bag contained a ground-edge stone hatchet, ochre-stained cotton armband, an ochred plant-fibre headband and cloth with spinifex resin nodules, wooden-handled metal adze, pine spindle blade, spinifex resin, ochre, metal solder, tin foil, metal chisel blade, shaving mirror, metal key, cotton cloth, and horseshoe nails in a shirt-sleeve bag. This collection presents materials from a complex interaction of cultures, as well as providing a rich understanding of Mangatji's life across two (or more) worlds.

Another East Kimberley person who walked the Country between Kalumburu and Mount Elizabeth to the south-west into the 1970s was 'Freddy' Jakamarra (also 'Jagamarra'; Godden and Malnic, 1982; Walsh, 2007). Jakamarra was incredibly knowledgeable about 'traditional' material culture, and like Mangatji largely shunned the European world. In 1977, Walsh (2007: 171) recorded a series of spears Jakamarra carried at Mount Elizabeth, including a steel-bladed 'kangaroo' spear. He would have likely had a series of caches across this country and travel routes. Whilst Jakamarra is one possible creator of the DRY252 cache, no specific details have been recorded about who placed it there or owned it, so we have to deploy archaeological methods informed by general ethnography of the region.

The DRY252 cache/burial

Site description

Site DRY252 is a small mushroom-shaped rockshelter, approximately 4 m long × 3 m high, that has a short approach, being visible from less than 50 metres away (Figure 3). The rockshelter has a shallow overhang, but includes a narrow, well-protected platform approximately 40 cm high where one layer of the sandstone has eroded away. Two stone rings occur on the platform, the northeast one (90 × 60 cm) containing remnant paperbark wads, which would have originally covered a series of metal objects and resin balls, with fragments of paperbark above and below these objects. A section of a wooden spear shaft was also located in a crevice of the internal rock platform approximately 50 cm from this rock ring. The rock ring on the southern side of the rockshelter had no visible material

Figure 3. View of DRY252 rockshelter, taken facing southeast (yellow line indicates cache on inner protected platform). Photo: Balanggarra Aboriginal Corporation ('BAC', Kimberley Visions, Cecilia Myers).

culture associated with it, or paperbark, and may have been a burial or cache from which the remains have disintegrated or been removed.

Quarrying was identified on the top of this rockshelter, with a distinctive grey-pink potential 'marker' stone being highly visible. The site has no visible rock art despite available wall surfaces and the presence of 33 rock art sites within a 1 km radius (some with dense, multi-phase art panels). For example, the multi-phase rock art site DRY251 is located just 30 m south-east of DRY252. This site also has multiple ground horizontal rock surfaces, stone artefacts, edge battering of the inner rockshelter walls, and cached wooden artefacts. The richness of the art in this rockshelter sits in strong contrast to DRY252. Indeed, the placement of this cache in a shelter without art seems deliberate. However, given there are examples of paperbark bundle rock ring burials and other cached materials found at sites with rock art, this may not necessarily reflect a pattern of site selection across the wider north-east Kimberley.

Material culture

The cached objects were recorded and left in situ at DRY252, and are as follows:

1. *Hooked metal rod*: 34 cm long, 3 mm wide: likely a home-made gate hinge for a station door.
2. *Large nail*: Unmodified, could have been used to engrave or drill holes in objects (e.g. bull-roarers) or for piercing (e.g. bark to sew seams of bark buckets).

Figure 4. 'Axe'. Photo: BAC/Kimberley Visions, Cecilia Myers.

3. *Rectangular metal slabs* (×2): One unmodified. One rectangular metal slab is ground at one end like an axe (Figure 4) and was made from either a wagon wheel rim or possibly a robust stock-gate hinge. This form of metal artefact is relatively common across the Kimberley. Looking at the 'axe', we may infer some ritual importance in addition to utilitarian use – as often objects in Aboriginal society are not clearly separated from 'everyday' objects into these two spheres. Stone axes across Australia have elsewhere been designated with symbolic, non-functional associations connected to power, status, and identity (Brumm, 2001). Additionally, Akerman has documented contemporary use of steel hatchets in the eastern Pilbara as symbolising the lightning-generating stone axes of Ancestral Beings, used in rain-making ceremonies. Subsequently, whilst the DRY252 axe may have been used as an axe, it also may have held symbolic meaning akin to that recorded in the Pilbara.
4. *Metal razor blade*: The cut-throat razor blade (Figure 5) would likely have been a prized object, and used for either shaving hair, e.g. women's heads to be used to make hair-string, or during mourning. Razors were also sought after for men's initiation rituals (Akerman, 2019, personal communication).
5. *Metal rods (×8)*: Ranging from 42 cm to 95 cm in length, sharpened into a point at one end, with resin and fibre binding on the other end of three. During site recording, these objects were handled by Traditional Owner Ian Waina, who discussed sharpening techniques for the rods. The fibre used in the binding on the metal rod spears was identified as potentially being boab root. The whole collection, Waina suggests, may date up until the 1960s and 70 s, as during this period people were still very much living 'two-way', in both the Mission or Station life and bush life. This two-way living is shown by the method of sharpening the metal spears, which combines the same techniques used for wooden

Figure 5. Razor Blade. Photo: BAC/Kimberley Visions, Cecilia Myers.

Figure 6. Metal rod, resin and fibre binding close-up. Photo: BAC/Kimberley Visions, Cecilia Myers.

spears, but on a much more durable and valuable material. Further analysis by Akerman of photographic records has led to the following additional interpretation of the rods. These eight metal rods (e.g. Figure 6) have been interpreted as most likely the tips of fishing spears. This metal tip would have been set within a wooden shaft, directly in the hollow culm (see also Allen and Brockwell, 2020). These shafts would likely have been reeds, or more likely *Bambusa arnhemica*, which was traded into the Kimberley from the Daly River area via Timber Creek. There are no local grasses, reeds, or phragmites in the immediate region with sufficient strength to hold points of this weight. An alternative shaft could be non-native bamboo species traded and planted on developing stations and other outposts. These iron-rod spears indicate fishing and other water-based hunting, such as water goanna, freshwater crocodiles where they could be hand thrown (as opposed to use of a spear-thrower), and less likely for use for terrestrial animals, such as cattle.

6. *Resin balls (×2)*: Curated resin, with multiple potential uses, including as demonstrated on the ends of the metal rods. Ian Waina's interpretation was that the resin was potentially collected from antbed mounds as utilised in the southern Kimberley post-contact (or *Triodia* (see Akerman 2020), or possibly tree sap such as *Callitris*, as suggested by Chalarimeri).
7. *Wooden shaft*: This small section of wooden rod may have been a section of a wooden foreshaft, used in combination with the metal rod spear-tips.

What this initial description and interpretation tells us is that the majority of these metal objects, both modified and unmodified, could have been easily sourced from nearby stations or from established routes of trade and chains of connection that existed/exist across Aboriginal north-western Australia (cf. Mulvaney, 1976). The cut-throat razor stands out as an object with greater prestige, a metal manuport without need of further modification. The modifications observed include the ground tips of the metal rods to create spears, the resin and fibre binding for use in composite spears, and the edge grinding of the metal slab to form an axe. The two resin balls cached with these tools suggest the collection is someone's kit cached with future uses in mind, as opposed to the 'burial' of treasured or 'dead' goods, in line with Chalarimeri's interpretation.

Discussion

The DRY252 assemblage provides an intriguing collection of cultural materials, contained in a paperbark bundle, and placed within a stone circle – a pattern of storage observed more commonly with secondary human burials. Whilst caching of materials, including contact materials (metal, glass, ceramic, etc.) is relatively common in the north Kimberley, this form – being bundled within paperbark and stored within a rock ring – is not. Where large caches of contact materials have been recorded, as by Akerman (1983) in the southern Kimberley, those materials were cached in fabric bags, created from trouser-legs, rather than paperbark bundles. Unlike Mangatji's caches, which were small and located relatively close to homesteads, that of DRY252 is found on an escarpment 25 km from the closest station or colonial settlement (Akerman, 1983). Paperbark was used until the 1970s and *Triodia* resin was being transported from the West Kimberley (Mowanjum via Looma) into Kalumburu up until then too. If the cached resin is made from this material, this provides additional chronological bracketing. The ground-edge axe included in this assemblage indicates that this collection predates commercially produced hatchets – commonly available as the NE Kimberley settled into station life. If obtained earlier (1930s-1940s), this would indicate a broader trading network and may link into *wunan*, a Kimberley-wide network of trade and exchange, both ceremonial and practical, with kin-based obligations (Kaberry, 1939; Redmond, 2012). Indeed, Tindale (1985: 1015–1017) recorded an unnamed senior Kimberley man as listing spear-tips, axes, and scraps of tin as valuable items traded in *wunan*. The kinship obligations and explicit trade routes and

Table 1. Interpretations of the DRY252 cache.

Interpretation	Evidence (for and against)
Depot or cache	Utilitarian, increased mobility, two-way living of station or mission life and bush-life (potentially seasonal), resin balls infer curation, number of spears length of travel time
Burial – artefacts as conceptual grave goods	Paperbark bundling within a stone circle, but not collocated within a rockshelter with rock art, 'Western' understanding of burial practices
Indication of wealth/status	Diversity of the goods cached, including the cut-throat razor and number of spears
Reactivation of Country post invasion/contact	Response to the impacts of invasion/contact and introduction of complex land tenure (Mission, stations)

directionality of this system provide another framework within which this assemblage fits.

Our interpretations remain informed speculation at this stage as presented in Table 1, acknowledging that elements from each hypothesised function may be valent at any one time, depending on the circumstances of the individual(s) who made the cache and the changing world around them. Table 1 captures four possible interpretations, which are not exclusive.

The function or purpose of this cache is also of key importance to understanding the lifeways of its creator(s). The cache may be a depot, and one of many, increasing mobility across country, as with Mangatji's caches in the west Kimberley (Akerman, 1983). An alternative interpretation from an Aboriginal perspective is that the size of the cache relates directly to the length of the journey being undertaken, including an anticipation of any sharing, gifting, or trading along the way, which is supported by research on traded objects in *wunan* (e.g. Redmond, 2012). We note that DRY252 is surrounded by a high density of stone tool quarries and this cache may represent a change in manufacturing preference and material, as suggested by the rooftop quarrying and absence of stone artefacts in the bundle. Unlike many northern Kimberley human bundle burials, however, which are frequently collocated in rockshelters rich in images or rock art, this bundled cache is the only visible cultural material in this rockshelter. The absence of further archaeological evidence may suggest then that this quiet choice of site is very particular for the individual who has left it there, away from the nearby richly decorated rockshelters. This example demonstrates the importance of location in ascertaining the significance of an assemblage. In contrast to the North American example outlined above (cf. Robinson, 2017), the cache in the Kimberley seems to acquire meaning through separation and avoidance.

When identifying whose cache this was, one potential individual could be Jakamarra, known to travel in this region in the 1970s (Godden and Malnic,

1982; Walsh, 2007). However, a few things can be surmised by the location of the rockshelter and the materials themselves. Looking at the recent antiquity of these metal objects, and in the context of the establishment of stations and missions in this part of the Kimberley, it is likely they date from the early to mid-20th century, likely as early as 1920, through to 1970. If accepting these rods are part of composite fishing spears and that this cache is for personal use (as with Mangatji), the cacher appears to have been a hunter, likely marine-focused, based on the number, type, and range of rod spears accumulated. If these are fishing spears, the cache would likely have been laid up for use in the dry season when river levels drop, creating large pools, and fish and crocodile become more accessible. What the unmodified objects were used for is more difficult to infer, and it is possible that objects such as the nails may simply have been on hold until useful. The large resin balls reflect curation of this material, with resin use seen in the collection in association with the spears or as a valuable raw material for anticipated exchange. Overall, it appears noteworthy that most objects included in the cache are in conditions that allow different pathways of transformation. Almost all elements are either unfinished tools, blanks, or raw materials. In this sense they represent a contact material expression of the quarrying of stone directly co-located directly above the shelter (see Mackenzie et al., 1983). It is well recorded that stone artefact quarries have a range of additional powers and mythological associations and were maintained by individuals often with ritual authority (Ross et al., 2003). Following DeLanda (2006), the objects are, hence, more reflective of the capacities of their materials and less realised properties. The steel rods have the capacity to be turned into a fishing spear; the rectangular metal slabs have the capacity to be turned into adzes; the resin balls can be transformed into a hafting agent. The collection of objects is consequently ready to be activated and, therefore, was foremost deposited for future use – even though we cannot be completely sure about these realisations. In contrast to the evidence reported by Harrison (2002), it appears that in this example from the northeast Kimberley, metal was foremost used to produce traditional tools and gear. They neither appear to relate to specific post-contact uses nor constitute a clear post-contact technological development. Metal is rather used to enhance existing artefacts and uses.

Conclusion

We have presented some reflections on a particular assemblage of material culture items from the northeast Kimberley in Western Australia. It appears that this assemblage is reflective of a singular episode of human action sometime during the early/mid-20th century. This period was a time of great historical upheaval in the region and was characterised by extensive social disruption and change, whilst also a time of resilience and adaptation. It also was a traumatic and violent time of Australian history during which colonial lifeways and economies were introduced into this part of the continent. This change also facilitated expansion of trade networks, whilst the *wunan* system continued to operate, incorporating changes

in routes and materials exchanged. While it could be argued that this particular assemblage combines materials and techniques from two different time periods (colonial/precolonial) or worlds (European/Aboriginal), the objects are, nevertheless, all contemporary. Rather than assigning its components to different periods, it is more productive to view this cache as the confluence of different materials and forms with different temporal trajectories, linked by accumulation as an assemblage, with potential kinship and exchange connections. Human creative agency has combined it into a unique collection. Whether the two-way nature of this assemblage represents the actions of an individual living in both worlds in relative harmony, or reflects colonial violence, is not something we can know with the information we have. However, the DRY252 cache provides a rich insight into cross-cultural encounters in the northern Kimberley. It evidences both local and broader social actions indicative of trade and accumulation of new commodities. The cache is reflective of a particular negotiation of the opportunities and affordances that this landscape provided and enabled. The cache was assembled for future use and its contents were mostly kept in a condition that allows transformation into different end products. It was apparently kept apart from painted rock art sites and this spatial separation seems to emphasise the foremost utilitarian significance of the cache. Nevertheless, it creates a focal point in the landscape that equally consists of colonial and precolonial elements and markers. Within these spaces, the cache presents an element with capacities and limitations that are reflective of the wider complex landscapes of inclusion and exclusion of colonial Australia. The metal in the cache seemingly provides superior material qualities for certain uses (e.g. fish spear points). However, the respective materials also need to be acquired and appropriately curated, aspects that need to be negotiated and coordinated with other aspects of daily life. We have demonstrated some of these processes in this paper and recognise the cache as a product of an active and creative engagement with the relevant historical conditions, transforming new capacities into affective properties. We do not think it coincidental that this assemblage of contact metal and resin materials, that effectively represent quarry sources for further implement manufacture and presumably long use-lives, has been placed in a burial context in the same locale as a quartz sandstone quarry likely involved in the production of blanks/preforms for point manufacture.

Importantly, these materials provide information around the dynamism of Kimberley culture in the face of invasion, and adaptation to new materials. The combination of traditional techniques utilised on these metal objects, as well as unmodified pieces, is testament to these two-way dynamic engagements.

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References

Akerman K (1983) Mangatji's memorial. In: Smith M (ed) *Archaeology at ANZAAS*. Perth: Western Australian Museum, pp. 81–85.

Akerman K (2020) *Triodia* resin manufacturing techniques. Appendix to: V Rots, E Hayes, K Akerman, et al. Hafted tool-use experiments with Australian Aboriginal plant adhesives: *Triodia* spinifex, *Xanthorrhoea* grass tree and *Lechenaultia divaricata* mindrie. *EXARC Journal*. 2020(1): 1–10. Available at: https://exarc.net/ark:/88735/10487

Allen H and Brockwell S (2020) Archaeology of the recent: Wooden artefacts from Anbangbang 1 and Djuwarr 1, Western Arnhem Land. *Australian Archaeology* 86(2): 147–159.

Balfour HR (1951) A native tool kit from the Kimberley district. *Mankind* 4(7): 273–274.

Bennett J (2010) *Vibrant Matter: A Political Ontology of Things*. Durham, NC: Duke University Press.

Brumm A (2001) An axe to grind: Symbolic considerations of stone axe use in ancient Australia. In: Boivin N (ed) *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*. London: UCL Press, pp. 143–163.

Chalarimeri AM (2009) *The Man from the Sunrise Side*. Broome: Magabala Books.

Clement C, Gresham J, Jeffrey J, et al. (2012) *Kimberley History: People, Exploration and Development*. Perth: Kimberley Society.

Crawford I (2001) *We Won the Victory: Aborigines and Outsiders on the North-West Coast of the Kimberley*. Fremantle: Fremantle Arts Centre Press.

Dant T (1999) *Material Culture in the Social World*. Buckingham: Open University Press.

David B (2002) *Landscapes, Rock-Art and the Dreaming: An Archaeology of Preunderstanding*. London: Leicester University Press.

DeLanda M (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity*. London: Bloomsbury.

DeLanda M (2016) *Assemblage Theory*. Edinburgh: Edinburgh University Press.

Delannoy JJ, David B, Genuite K, et al. (2020) Investigating the anthropic construction of rock art sites through archaeomorphology: The case of Borologa, Kimberley, Australia. *Journal of Archaeological Method and Theory* 27(3): 631–669.

Deleuze G and Guattari F (2009) *What is Philosophy?*. London: Verso.

Fowler C (2013) *The Emergent Past: A Relationist Realist Archaeology of Early Bronze Age Mortuary Practices*. Oxford: Oxford University Press.

Godden E and Malnic J (1982) *Rock Paintings of Aboriginal Australia*. Frenchs Forest: Reed.

Grey G (1841) *Journals of Two Expeditions of Discovery in North-West and Western Australia, During the Years 1837, 38 and 39*. Adelaide: Libraries Board of South Australia.

Gunn RG, Whear RL and Douglas LC (2010) A dingo burial from the Arnhem Land Plateau. *Australian Archaeology* 71(1): 11–16.

Hamilakis, Y. (2011). Archaeological ethnography: A multitemporal meeting ground for archaeology and anthropology. *Annual Review of Anthropology, 40*, 399–414.

Hamilakis Y and Labanyi J (2008) Introduction: Time, materiality, and the work of memory. *Journal of Archaeological Method and Theory* 21(2): 5–17.

Hamilakis Y and Jones A (2017) Archaeology and assemblage. *Cambridge Archaeological Journal* 27(1): 77–84.

Harrison R (2002) Australia's iron age: Aboriginal post-contact metal artefacts from Old Lamboo Station, Southeast Kimberley, Western Australia. *Australasian Historical Archaeology* 20: 67–76.

Head L and Fullagar R (1997) Hunter-gatherer archaeology and pastoral contact: Perspectives from the northwest Northern Territory. *World Archaeology* 28(3): 418–428.

Idriess IL (1942) *Over the Range: Sunshine and Shadow in the Kimberleys*. Sydney: Angus and Robertson Limited.

Jebb MA (2002) *Blood, Sweat and Welfare: A History of White Bosses and Aboriginal Pastoral Workers*. Perth: University of Western Australian Press.

Jorgensen D (2017) The art of Station Time: The aboriginal experience of pastoralism in Australia. *World Art* 7(1): 107–122.

Kaberry P (1935) Death and deferred mourning ceremonies in the Forrest River tribes, North-West Australia. *Oceania* 6(1): 33–47.

Kaberry P (1936) Spirit-children and spirit-centres of the North Kimberley Division, West Australia. *Oceania* 6(4): 392–400.

Kaberry P (1939) *Aboriginal Woman: Sacred and Profane*. London: Routledge.

Latour B (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Love JRB (1936) *Stone-Age Bushmen of Today*. London: Blackie.

Mackenzie K, Jones R and White N (1983) *Spear in the Stone*. Canberra: Ronin Films.

Mangolamara S, Karadada L, Oobagooma J, et al. (2019). *We Are Coming to See You*. Fremantle: Fremantle Press.

Mowaljarlai DB and Malnic J (2001) *Yorro Yorro: Everything Standing Up Alive*. Broome: Magabala Books.

Mulvaney JB (1976) The 'chain of connection': The material evidence. In: Peterson N (ed) *Tribes and Boundaries in Australia*. Canberra: AIAS, pp. 72–94.

Mulvaney K (1996) What to do on a rainy day: Reminiscences of Mirriuwung and Gadjerong artists. *Rock Art Research* 13(1): 3–20.

Paterson A (2011) *A Millennium of Cultural Contact*. Walnut Creek, CA: Left Coast Press.

Pauketat T (2013a) *An Archaeology of the Cosmos: Rethinking Agency and Religion in Ancient America*. London: Routledge.

Pauketat T (2013b) Bundles of/in/as time. In: Robb J and Pauketat T (eds) *Big Histories, Human Lives: Tackling Problems of Scale in Archaeology*. Santa Fe, NM: SAR Press, pp. 35–56.

Petri H (1954) *Sterbende Welt in Nordwestaustralien [The Dying World in Northwest Australia]*. Braunschweig: Albert Limbach.

Porr M and Bell HR (2012) ‘Rock-art’, ‘animism’ and two-way thinking: Towards a complementary epistemology in the understanding of material culture and ‘rock-art’ of hunting and gathering people. *Journal of Archaeological Method and Theory* 19(1): 161–205.

Redmond A (2005) Strange relatives: Mutualities and dependencies between Aborigines and pastoralists in the Northern Kimberley. *Oceania* 75: 234–246.

Redmond A (2012) Tracking Wurnan: Transformations in the trade and exchange of resources in the Northern Kimberley. In: Fijn N, Keen I, Lloyd C, et al. (eds) *Indigenous Participation in Australian Economies II: Historical Engagements and Current Enterprises*. Canberra: ANU Press, pp. 57–72.

Roberts A and Parker A (2003) *Ancient Ochres: The Aboriginal Rock Paintings of Mount Borradaile*. Marleston: J.B. Books Pty. Ltd.

Robinson D (2017) Assemblage theory and the capacity to value: An archaeological approach from Cache Cave, California, USA. *Cambridge Archaeological Journal* 27(1): 155–168.

Ross A, Anderson B and Campbell C (2003) Gunumbah: Archaeological and Aboriginal meanings at a quarry site on Moreton Island, southeast Queensland. *Australian Archaeology* 57(1): 75–81.

Ross J and Travers M (2013) ‘Ancient mariners’ in Northwest Kimberley rock art: An analysis of watercraft and crew depiction. *The Great Circle* 35(2): 55–82.

Sanz de Galdeano S (2006) *Memoirs of a Spanish Missionary Monk*. Carlisle: Hesperian Press.

Shaw B (1986) *Countrymen: The Life Histories of Four Aboriginal Men as Told to Bruce Shaw*. Canberra: Australian Institute of Aboriginal Studies.

Shaw B (1992) *When the Dust Come in Between: Aboriginal Viewpoints in the East Kimberley Prior to 1982 as Told to Bruce Shaw*. Canberra: Australian Institute of Aboriginal Studies.

Smith P (2001) Station camps: Identifying the archaeological evidence for continuity and change in post-contact Aboriginal sites in the South Kimberley, Western Australia. *Australian Archaeology* 53(1): 23–31.

Strathern M (1992) Qualified value: The perspective of gift exchange. In: Humphreys C and Hugh-Jones S (eds) *Barter, Exchange and Value: An Anthropological Approach*. Cambridge: Cambridge University Press, pp. 169–191.

The Daily News (1950) Over the range with 1000 sheep. *The Daily News*, 15 April. Available at: http://nla.gov.au/nla.news-title275 (accessed 15 February 2021).

Tindale NB (1985) Australian Aboriginal techniques of pressure-flaking stone implements: Some personal observations. In: Plew MG, Woods JC and Pavesic MG (eds) *Stone Tool Analysis: Essays in Honour of Don E. Crabtree*. Albuquerque: University of New Mexico Press, pp. 1–34.

Veth P, Ditchfield K, Bateman M, et al. (2019) Minjiwarra: Archaeological evidence of human occupation of Australia’s Northern Kimberley by 50,000BP. *Australian Archaeology* 85(2): 115–125.

Walsh G (2007) *Development of Australian rock art recording methodologies: For the interpretation of cultural and environmental histories*. PhD Thesis, Griffith University, Australia.

Yen DE (1995) The development of Sahul agriculture with Australia as a bystander. *Antiquity* 69(265): 831–847.

Zedeño MN (2008) Bundled worlds: The roles and interactions of complex objects from the North American Plains. *Journal of Archaeological Method and Theory* 15(4): 362–378.

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The Balanggarra Aboriginal Corporation (registered native title body corporate) administers land on behalf of the Balanggarra People. Balanggarra (combined) recognises the Balanggarra people's native title rights and interest over approximately 26,025 square kilometres of land and sea in the northern Kimberley region of Western Australia, inclusive of the lands and sites in this paper. Balanggarra native title holders, the Board, IPA Rangers and additionally senior Kwini Traditional Owners contributed to the content of this paper.