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Relational ontologies and performance: Identifying humans and nonhuman animals in the rock art from north-eastern Kimberley, Australia



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ABSTRACT

Even though the study of animal depictions in early art is one of the most researched topics in rock art, interpretations have often been anthropocentric. Rather than seeing how human and animal populations co-exist and *become with*, rock art explanations of animals often linger around economic appreciations that prioritize their value for human beings. This view has been extensively influenced by a Cartesian philosophy that has at its core an idea of human exceptionalism and domination over other species. Here, we are concerned with deconstructing the ontological footing of humans and animals in the early rock art from the Kimberley, Australia, from a relational and performative point of view. Methods used in rock art to identify figurative motifs are deeply entangled with Western conceptualizations of what it means to be human/animal, marginalising Indigenous ontologies. Our main objective is to advance an epistemological approach that will allow us to identify and understand the modes of representation used by artists in the study area. We do so through the application of an iconographic analysis that incorporates performative relationships between motifs. By considering performance, we are able to engage with non-essentialists ways of being and focus instead on Indigenous ontologies.

1. Introduction

Questions surrounding whether human beings can in fact be regarded as intrinsically separated from other living forms have dominated the research agendas of anthropology, archaeology and animal studies, for the last two centuries. This has been referred to as human exceptionalism and perpetuates the idea of humans at the centre of the world, whereby other beings are measured against rationalism and consciousness, creating ever-lasting dichotomies between human and animals (Murphy 1992; Weitzenfeld and Joy 2014). Implied in this statement is the belief that humans are unique among other species due to their ability to create culture, among other things (Anderson and Perrin 2018; Ingold 2005; Plumwood 2007). As a result, in early academic thought, other animals have been perceived as an antithesis of what it means to be human (Ingold 1988; 2013), and further reinforced by paleoanthropological research that suggests that the so-called special human capabilities (e.g. language, consciousness, sense of future, feelings, and the ability to produce tools/art objects) were exclusive to Homo sapiens. Additionally, in the field of animal studies, it has been argued that research concerning humans and animals is anthropocentric (Arluke and Sanders 1996; Boyd 2017: 299; Noske 1993; Steiner 2005: 9), whereby animals are conceived of as not capable of creating history (Ingold 2011: 4). In turn, animals are regarded as closer to 'natural' history and governed by instinct (Noske 1993: 186). This conceptualization of humans as separated from nature can be traced back to the Christian notion of the soul, to Descartes' description of humanity's mental capacities, and to modern ideas of culture (Perrin and Anderson 2018: 450). The separation of humans from other species based on the former's so-called uniqueness have expanded the gap between human and non-human¹ populations. Thus, humans, and not animals, were able to place themselves above other animals (Ingold 2006: 262). By doing this, humans thought of themselves as masters of nature, giving rise to an exploitative logic that sees animals, and thus nature, as something to be dominated. From this standpoint, animals *can be one of ours* (be mine, carry my mark) but not be *one of us* (Ingold 2013: 16).

As a result, questions about animal depictions have centred instead on the 'value' (in the Marxist sense) animals have for human lifeways, such as economic (food resource), symbolic (centre of rituals and ceremonies), or as objects (lacking morals, rights, a sense of self). Some of these concepts originated from 18th Century Enlightenment humanism

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¹ By non-humans we refer to animals, plants, features of the landscape, and water, amongst others.

that viewed rationalism as the pathway towards progress (Weitzenfeld and Joy 2014: 5). Situating humans at the centre of the universe created a polarised discourse between humans and *other* animals. As a result, animals have usually been understood as an antithesis of what it means to be human (Ingold 2013). Despite this treatment of other-than-human animals, the advent of the so-called 'animal turn', the ontological turn, and more recently Multispecies approaches brought a change in the relationships researchers established with their study *subjects* (Ritvo 2007: 119), leading to the emergence of new paradigms, such as posthumanism. However, despite some efforts we believe that the prevailing nature-culture dichotomy still dominates most of human-nonhuman animal studies, as scientific paradigms are still grounded on a realist-Cartesian knowledge of the world.

Here, we are concerned with deconstructing the ontological footing of humans and animals in archaeology, in order to advance an epistemological approach that will allow us to identify human and animal depictions in north-east Kimberley rock art and to understand the modes of representation used by artists in the study area. Current methods used in rock art studies to identify humans and animals are deeply entangled with Western conceptualizations of what it means to be either human or animal, sometimes marginalising Indigenous knowledge. As a result, rock art images are portrayed as being unconnected to earlier symbolicmaking practices. To readdress this issue, we move away from traditional dichotomies that oppose humans to animals, and critically appraise how these categories came to be. Instead, we understand humans and animals as deeply entangled in a series of complex relationships, and in a continuous process of transformation.

Our study focuses on the oldest figurative rock art style dating from the Pleistocene (derived from superimpositions and direct dating; Finch et al. 2020; Finch et al. 2021; Walsh 1994; 2000): the Irregular Infill Animal (IIA). By studying an early artistic tradition, we aim to understand subsequent changes in subject matter through time and, thus, human-animal interrelations. We rely on two representative case studies, which contribute to the future assessment of the role non-human animals play/ed in past symbolic systems and how they ultimately contribute to the construction of social identity in Northern Kimberley.

2. Human and animal characterisations: Toward some working definitions

2.1. Anthropological thought on humans and animals

In social sciences, animals have often been negatively constructed (Ingold 1994: 3) by what attributes they lack in comparison to humans. Following the Cartesian tradition, animals were believed to lack feelings, a sense of purpose, inter-subjectivity and personality, and language (Dibon, 1954). It has also been argued that animals cannot make tools and produce according to our species' standards (Marx 1972: 76). In other words, they have been defined as an automata or *Animaux Machine* (Harrison 1992: 221). Consequently, Cartesian ideas on animals have also permeated into the natural sciences, whereby animals are treated as passive objects, whose only purpose is to be studied and measured by humans (Noske 2015). For example, Lynda Birke and co-authors (2004) studied how laboratory rats are perceived by scientists as objects, who are in turn erased from the research process and categorised as samples.

This dichotomy has been at the centre of anthropological debate for the last three decades, and is firmly rooted in a Cartesian construction of the universe (Descola and Palsson 1996). Within the historiography of anthropology, animals have indirectly been the subject of study in early ethnographies, but their inclusion has been predominantly dependent on their *value for* human populations. Traditional definitions of animals are constantly challenged as the attributes that were once used to place humans on a separate level from other species have been tested and demystified. Previous assumptions about the 'limited' capacities of animals, such as their presumable lack of language, feelings, and intentions, have been revisited, with many now taking the view that animals do display such capacities. For example, Falótico et al. (2019) recently tested the Marxist assumption that only humans were able to produce technologically imbued artefacts according to our species' standards. While conducting archaeological excavations on tool assemblages produced by Capuchin monkeys, the authors demonstrated that their stone tool usage changed over the last 3000 years. Another indicator used to define 'humanness' is the ability to communicate through language (Grandin 2008:101; Hurn 2012; 112). Constantine Slobodchikoff et al. (2009) conducted a study on language and communication in the Gunnison's prairie dog (Cynomys gunnisoni). They discovered that prairie dogs have the capacity to produce various alarm calls based on different threats, such as predators, but also that their language is composed of several syllables that can be combined and used to cope with varying situations. The notion of animals as the antithesis of what it means to be human has been challenged by researchers interested in the study of the moral status of animals. Two of the most prominent and controversial researchers that have focused on the moral status of animals are Peter Singer and Tom Regan. Singer (1990) argued that beings possessing a moral status are able to experience pleasure and pain. Regan (1983), on the other hand, considers that animals are capable of having beliefs and desires, memory, a sense of future, and experience pleasure and pain, among other characteristics. These examples in no way summarise the diversity of studies that advocate for animal exceptionalism but do establish the need for revising current definitions of what it means to be human.

In contrast to the stark Western nature-culture division are many global cultures that have permeable boundaries between natural phenomena, landscapes, and specifically with animal and plants deeply entangled in human lifeways - particularly gatherer-hunter-forager societies. For example, the concept of different types of personhood expands on traditional definitions of humans as close entities, and instead recognizes that "[Personhood is] a condition that involves constant change (...) [it] is attained and maintained through relationships not only with other human beings but with things, places, animals and the spiritual features of the cosmos" (Fowler 2004: 7). Influenced by the work of Deleuze and Guattari (2005) on rhizomes, Wallis (2019) applies this concept to the study of personhood in British rock art, while reflecting on the relational character of art and how people and otherthan-human beings are constituted. Equally, other authors have focused on fluid understandings of personhood and applied this to the study of archaeological contexts all over the world (see Betts et al. 2012; Finlay 2014; Fowler 2016; Gillespie 2000; Motta 2016).

2.2. Relational approaches to the study of humans and animals

Within archaeology, animals have been the subject of study for many decades, although questions about their remains have changed. In the 1960s the study of animals regained such popularity that a separate subbranch of archaeology was established to study them: zooarchaeology. In its early origins, zooarchaelogical explanations of animal remains surrounded economic questions, such as hunting practices, species meat return, and resources exploited (Binford 1978; Harris and Cippola, 2017; Overton and Hamilakis 2013).

Although many zooarchaeological approaches are still deeply concerned with such questions, the study of animals in archaeology took an unprecedented turn when Claude Lévi-Strauss (1963) declared that animal species are not just good to eat', but also 'good to think with', hoping to move beyond an utilitarian understanding of animals. This statement, along with the advent of post-Processual approaches in archaeology in the 1980s, led to a reconsideration of the role of animals in the archaeological record, to instead consider them as agents charged with symbolism. An example of this interpretation can be found at the site of Çatalhüyük in Anatolia, Turkey, where remains of a crane with cut marks were interpreted as having been used during rituals (Russell and McGowan 2003: 451). In rock art studies, this approach provided the means to consider contemporary categories such as totemism, animism and naturalism and apply these to the study of animal images. This work has been greatly influenced by contributions of Durkheim (1915), Malinowski (1926), and Lévi-Strauss (1963). Although initially influenced by contemporary Indigenous Australian cultural practices, totemism as an interpretive framework has been applied to the study of rock art in other countries. For example, in European Upper Palaeolithic art, totemism was used as a middle range framework from which to interpret animals and, thus, study the origins of religion (Jones 1967), ritual practices and increase ceremonies at certain locations (Reinach 1903; Sauvet et al. 2008), and shamanism (Dowson and Porr 2001; Lewis-Williams and Dowson 1988). Totemism was later incorporated into interpretations of rock art sites globally for the last five decades (see Dowson 2007; Layton 2000; Lewis-Williams 2014; Lommel and Mowaljarlai 1994; Quinlan 2000; Whitley 2021; among others). However, despite a move towards more nuanced understandings of animals, they are still interpreted according to their uses for human populations.

More recently, economic and symbolic approaches from which to study animals have been criticized in anthropology, which led to a greater focus to exploring the role of animals as part of society and, therefore, intertwined in human lifeways (Knight 2005). This perspective was derived from multispecies studies in anthropology (Kirksey and Helmreich 2010), and later adopted in archaeology (see Pilaar Birch, 2018). A multispecies approach shifts the focus from human to animal populations, in an attempt to overcome culture-nature/human-animal boundaries (Kirksey and Helmmreich, 2010: 545-546). Animals' life histories and biographies are now taken into consideration and seen as part of human life (Agamben 1998). Organisms other than humans and animals started to be emphasized in ethnographic work, such as insects (Raffles 2010), fungi (Tsing 2015), and microbes (Paxson 2008). This framework is closely linked to Edoardo Kohn's (2007; 2013) Anthropology of Life and is deeply concerned with human and other-thanhuman encounters. This way of looking at animals is also related to DonnaHaraway's (2008) manifesto on how human and animal relations are constantly shaped by these close encounters (but see also Lestel et al 2014 for other significant multispecies works). In both anthropology and archaeology, multispecies approaches are rooted on Gilles Deleuze's and Félix Guattari's (2005) work on becoming animal (see also Iveson 2013; Biehl and Locke 2010 for an extensive review of Deleuze thoughts on an Anthropology of Becoming). In archaeology more specifically, the concept of multispecies raised questions about how humans and animals shape each other lives. This led to the establishment of social zooarchaeology, in which animal bones are seen as moments of interspecies engagements, where meat consumption is conceived as an embodied and sensorial experience (Hamilakis et al. 2002; Overton and Hamilakis 2013). In rock art, not many attempts have been made to explicitly incorporate multispecies perspectives into art's interpretation, although some parallels can be made with recent ontological and relational approaches. In North America, Alberti and Fowles (2018) undertake a multispecies study of Rio Grande Gorge, New Mexico, rock art, while incorporating Indigenous perceptions of the art into their research.

Other considerations of animals in archaeology that attempted to leave behind Cartesian nature-culture dualisms emerged with the development of the 'ontological turn' in the early 1990s. Underlying ontological approaches is the question of what type of world do we live in and how do we know it. In this sense, is there a single external reality that can be (objectively) scientifically studied where multiple beings inhabiting this world perceive it differently, or are there instead multiple worlds and realities to be perceived (Harris and Cippola, 2017: 174)? This statement has many implications for ontology (ways of being) and epistemology (ways of knowing). Some of the critiques levelled at previous normative paradigms that put (Western) humans further apart from other species, focus on an ethical critique to anthropocentrism in which animals are interpreted by comparison to human experience (Steiner 2005: 20). This greater emphasis on ontology was initially influenced by the work of Bruno Latour, Marilyn Strathern, Tim Ingold, Eduardo Viveiros de Castro, and Philippe Descola, among others. These

thinkers highlighted the existence of alternate realities to a modern Cartesian ontology, focusing, instead, on Indigenous perspectives of being. The so-called 'ontological turn' gained momentum during the first decade of the 21st century. Recently Benjamin Alberti (2016) has divided ontological perspectives within archaeology into two streams: a metaphysical approach and an anthropological one. The first approach was greatly influenced by the work of Latour, Gilles Deleuze, Karen Barad, and others. Metaphysical archaeology, grounded in a Western intellectual tradition, stands against the Cartesian dichotomous ontology (Alberti 2016), and goes beyond the social (Jones 2017). Later proposals inspired by this metaphysical archaeology contain the 'New Materialism' (Gabriel 2015), including Action Network Theory (ANT) and the 'New Ontological Realism'. On the other hand, the archaeology of social ontology was inspired by anthropologists, including Eduardo Viveiros de Castro and Philippe Descola (Alberti 2016). This approach is concerned with the explicit use of ethnography in archaeology and engages with Indigenous theory. It can also be described as anti-Cartesian, relational, and concerned with other-than-humans. In archaeology, this latter approach was coined by Alberti and Bray (2009) and further developed by Christopher Watts (2013). Both approaches share the critique of a normative Cartesian ontology and knowledge system and represent attempts to move beyond the nature-culture dichotomy. However, the second approach - Archaeology of social ontology - does so by embracing Alterity or Otherness, and by extending the scope of sociality to include animals, plants, spirits, and things. Both approaches have been criticised by Andrew Jones (2017) for their fixed understanding of ontology and the belief that people's way of being is contained within material culture.

As has been argued, a greater focus on exploring ontological approaches that incorporated subaltern, Indigenous and other-than human understandings, was a response against a Western Cartesian paradigm. In archaeology, this meant the exploration of alternative approaches to ways of knowing the world (Alberti 2016; Moro Abadía and Porr 2021; Porr 2021; Vasco Uribe 2002). In rock art studies, the study of ontology and multiple ontologies led to the publication of several volumes dedicated to the exploration of Indigenous perceptions of art images and their meanings (Creese 2021; Domingo Sanz 2021; Goldhahn 2019; Jones and Wesley 2016; Lahelma 2019; Marshall et al. 2020; Porr and Bell 2012; Troncoso 2019). For example, in the Southern Andes, Troncoso and co-authors (2019) explore the relational properties of Diaguita rock art, whereby art's production was a way of mediating the multiple agents of the world: human and non-human beings. Having said this, we must proceed with caution when reconstructing past knowledge systems in not blindly reproducing contemporary ontologies into the past. Furthermore, rock art images cannot be studied in isolation or out of context of their surrounding landscape and other beings (Jones 2017: 177). Finally, many authors have warned us on the devastating effects of essentialising Indigenous 'others' in this process, where the West and the rest are homogenised and opposed, further perpetuating a colonial hegemonic power (Blaser 2014; Todd 2015; Wainwright 2008).

Other relational perspectives that gained attention in anthropology and archaeology emerged from Latin American studies, which conceived of animals as having the same ontological footing as humans: animals see things as we do and eat the same food as us (Viveiros de Castro 1998). According to Viveiros de Castro's (1998: 478) multi-naturalism, the body is a bundle of affects, dispositions and capacities. He argues that in Amazonia Indigenous people know the world is inhabited by different beings, other than humans, who may perceive reality differently than us (Viveiros de Castro 1998, 469). This so-called 'Amerindian Perspectivism' does not apply to all animal species, but only to those with a special significance (Viveiros de Castro 1998, 471). According to Amazonian mythical repertoire, animals and humans have a common origin and are un-differentiated. Hence, the common condition of humans and animals is not animality, but in fact humanity. Animals are seen to be ex-humans "The common point of reference for all beings of nature is not humans as a species but humanity as a condition" (Descola

1996: 120). The prohibition to consume certain animals could have originated from notions of the animals' past humanity (Viveiros de Castro 1998: 472). In this sense, "the savages are no longer ethnocentric but rather cosmocentric; instead of having to prove that they are humans because they distinguish themselves from animals, we now have to recognize how inhuman we are for opposing humans to animals in a way they never did" (Viveiros de Castro 1998: 475). From this perspective, all beings see the world in much the same way; what changes is the world that they see. Humans conceive animals as having a physical continuity (in Western ontology humans are perceived as an animal species), however with a metaphysical discontinuity, with the mind or spirit being the major difference between the two. For example, Mary Weismantel (2015) applied Viveiros de Castro's perspectivism to the engraved monoliths found at Chavín de Huantar, Peru, to shed light into new interpretations of this site. In doing so, the author was able to detangle new relationships between human, animals and things.

Viveiros de Castro's (1998) perspectivism and Kohn's (2013) Anthropology beyond the human are both grounded on contemporary perceptions of the world. These two works, particularly that of Viveiros de Castro, have been taken by archaeologists - as well as researchers from other disciplines – as a theoretical framework from which to study the past. In this regard, the use of ethnographic recollections to model past interpretations were the object of extensive discussion in rock art studies, and particularly so in the 1990s. The importance of ethnography and its application for archaeology and rock art has been acknowledged and used as a tool for providing contemporaneous accounts that can help bridge the gap between past and present (Morwood 1992:1). Others have criticized the use of ethnographies entirely as they are deemed as unreliable and biased by the researcher's own assumptions (Bednarik 2011; see also Blundell et al. 2010 for a compilation of formal and informed approaches to rock art). Following Layton's (1992a) propositions on this debate, we believe that a combination of an ethnographic and archaeological approach that explicitly engages with the ontological turn can help elucidate how the artist/s behind the production of Kimberley rock art conceived the 'we' versus 'them'.

2.3. On animal performance

Typically, within a Western classification system, a person can either be human or animal, but not both (Harris and Robb 2013: 12). However, when other ontological perspectives are explored the line that separates humans from non-human animals is blurred (*e.g.* Elkin 1933). This opens up a wide range of possibilities for human-animal interactions. Among hunter-gatherers, the use of animal paraphernalia – such as fur, claws, and teeth – is seen as a mnemonic aid that channels the spiritual power of the animal (Turner 1980). For example, in the Maritime Peninsula, USA, humans have engaged with shark populations over a period of 5000 years, in which humans wore shark teeth to experience the shark's *habitus* or to perceive the world through the shark's eyes (Betts et al. 2012: 635).

More recently, Mario Blaser (2013) argues that one of the main limitations of the ontological turn is the proposition that reality is outside of individuals rather than constantly being performed. In other words, there are not multiple realities or ways of being that are external to individuals "where different stories and practices are neither describing something existing ultimately 'out there' nor are they mistaken or metaphorical, but actually enact or 'world'" (Chandler and Reid 2018: 258). Following this line of argument, we propose that one of the differences between humans and animals, and which may be discovered archaeologically, is a performative one. The term is linked to Judith Butler's (1990) theorisation on gender performance that seeks to deconstruct social assumptions of gender as equated to biological sex (Butler 1993; Moore 1994). Gender performance has been used in archaeology to interpret prehistoric social systems and to understand gender manifestations in material culture (e.g. Perry and Joyce 2001). According to Butler "performative suggests a dramatic and contingent construction of meaning" (Butler 1990: 177, original highlight), a process through which a person's identity is shaped (Dowson 2009: 383). In other words, performance in this context refers to how gender and sexuality are enacted, it is something that people do rather than an inherent quality. Along this vein, Deborah Kapchan (1995: 479) defines performance in similar ways to Butler, by focusing on bodily practices and identity construction processes. She characterizes performance as "(...) paterns of behaviour, ways of speaking, manners of bodily comportment - whose repetitions situate actors in time and space, structuring individual and group identities." (Kapchan 1995: 429). Butler's work on gender performance was later incorporated into feminist studies that applied some of these concepts into the investigation of non-human beings. For example, influenced by Karen Barad's (2003) notion of performativity from which to interpret discursive practices, Birke et al. (2004) set out to explore human-animal relationships and their intersections in feminist scholarship. They argue that performativity sets to challenge nature-culture dichotomies as it implies a way of doing, in contrast to an essence of being. Going back to Barad's proposal on performativity, thinking through performance, in this context, allows us to move beyond representationalism, and focus instead on phenomena (e.g. relations) and agential-intra-action (Barad 2003: 814).

We propose that a performative approach moves beyond the boundaries of humanity and animality and instead places emphasis on the context of art production (*sensu* Layton1992b; Morphy 2012). Accordingly, *body composition* and *body posture* should both be key attributes when determining human and animal identification in rock art. As such, a figure superficially identified as human could in fact be an animal performing a human action and vice-versa (this will be particularly noted when composite figures are considered). For example, at the Mesolithic site of Star Carr, Yorkshire, perforated red-deer skulls with attached antlers were interpreted as masks that aided the hunter to conceal their identity from their prey (Conneller 2004). This use of deer masks by humans has been argued to create a fluid and ambiguous boundary between what it means to be deer and human (Finlay 2014: 1194).

Composite or hybrid figures are of particular interest here as they constitute a complex and informative category. Hybrids (or Therianthropes) are composed of elements belonging to different species (Cowie 1989: 611), in which borders are crossed (Kirstoffersen, 2010) (For this reason, the notion of hybridity of composition has implications for the construction of identity. "Recognising how humanity is constituted through the negotiation of the nonhuman and inhuman forces and entities, not through opposition or boundaries, is the question that might open into a more generous ecological thought" (Yusoff 2015: 402). For example, John Parkington (2003) argues that in southern African rock art, therianthropes inform us on shamanistic practices (see also Lewis-Williams and Dowson 1988; Lewis-Williams, 1981) and are in fact depictions of shamans in trance (Jolly 2002: 85). Along these lines, David Lewis-Williams' research in South African rock art had an impact on international discussions around shamanism, which set to distance rock art interpretations from a Cartesian ontology while appealing to wellstudied neuropsychology to interpret entoptic phenomena (Lewis-Williams and Dowson 1988). The author's development of an emic understanding of rock art from which to interpret distant San painting practices, set the tone for future research. In South America, iconographic analysis on ceramics depicting jaguar and human hybrid figures, has also been interpreted in a similar vein (Cruz 2006; Gordillo 2009). In Australia and beyond, it has been well-recorded that certain species were created from human forms and vice-versa and, in order to secure the replenishment of resources, humans must embody animals and conduct certain ceremonies, such as the repainting of motifs (e.g. Layton 1992b; Piddington 1932; Sauvet et al. 2008). Beliefs in totemism, creation narratives, descent and conception, ceremonial and ritual performance for species' reproduction all rely on mutability between plants, animals and human forms. As we will illustrate, this phenomenon

highlights the potential for the transformability of things, in which entities other than humans can possess personhood.

3. North-east Kimberley rock art: The irregular infill animal period

The value of non-human entities in the Kimberley was acknowledged in anthropological research on Indigenous lifeways from the early 20th century, onwards (e.g. Capell 1938; 1941; Crawford 1968; Elkin 1932/ 1933; Layton 1992b; Love 1917; 1936, Morwood 2002; among other observers). These early ethnographic studies describe the importance of natural resources for Indigenous people. These explore the role animal species, plants, and landscape features play in the construction of Country, territories, ritual, and symbolism. Although a major and early focus on Indigenous religion highlighted non-human entities, it is only recently that their study has been more broadly explored within a new body of rock art theory (see Brady et al. 2016; May et al. 2010; Motta 2016; Ouzman et al. 2018; Porr and Bell 2012; Veth et al. 2017). Parallel to economic reconstructions of the role plants and animals had from ethno-economic studies (and reconstructed from archaeobotany zooarchaeology studies), recompilations of traditional knowledge on the use of plants and animals in North Western Australia are now becoming more available (Cheinmora et al. 2017; Kenneally et al. 1996).

3.1. The irregular infill animal period

Knowledge of the occupational history of Northern Australia is changing rapidly, with new dates for the first human occupation being produced almost every year. It is now held that people were inhabiting the Kimberley by at least 50,000 years ago (Balme et al. 2009; O'Connell and Allen 2015; Roberts et al. 1990; Tobler et al. 2017; Veth and O'Connor 2013; Veth et al. 2019). Evidence for early artistic and symbolic behaviour by 40,000 years ago includes the manufacturing of ornaments and the use of ochre (see Balme 2000; Balme et al. 2018; Brumm et al. 2017; Maloney et al. 2018; Moore and Brumm 2015; Morwood and Hobbs 2000; O'Connor 1995 for a through discussion on this topic). Dating Kimberley rock art is challenging as rock art paintings were executed by combining pigments with inorganic binders and matter (e.g. Finch et al. 2020; Green et al. 2017). For the purposes of this paper, we rely on the relative stylistic sequences proposed by Grahame Walsh (1994; 2000), Welch (1993) and Veth and co-authors (2017) that examine superimposition sequences, and a recent paper on absolute dating on the IIA and Gwion periods (Finch et al. 2020, 2021). The broad Kimberley rock art sequences can be summed up as: (1) Cupules; (2) Irregular Infill Animal period; (3) Gwion Gwion period; (4) Static Polychrome period; (5) Painted Hand; (6) Wanjina; and (7) Contact Art period. Overlaps and recursive repainting of style periods have certainly occurred and are dicussed elsewhere (see Motta 2019; Motta et al. 2020; Ross et al. 2016).

The IIA has been dated as early as 17,300 cal BP (Finch et al. 2021). The period is characterised by large naturalistic animal depictions, consisting of a solid outline and infill with parsimoniously applied, irregular brushstrokes of ochre. Human figures are scarce, lacking the detail and realism of animal figures. Although not widely found in the Kimberley, the north and north-east regions do have some human figures at this time. Many other forms have been argued to accompany this period, including hand stencils and handprints, stencilled and printed artefacts (mostly boomerangs), plants, yams and grass prints, and mythical creatures (Walsh 2000, 12; Fig. 2). Although the style has been described as comprising a solid outline and irregular infill, techniques typically vary across the style.

3.1.1. Animals

By using Walsh's legacy dataset (>6000 sites), it has been calculated that 76% of the recorded IIA period repertoire portrays aquatic and terrestrial animal depictions (Veth et al. 2017). Some of the aquatic

animals that can be found in the rock art include fish (at least four species have been identified by Walsh 2000), waterbirds, tortoises, and crocodiles (Walsh 2000: 12). Terrestrial species include macropods (kangaroos, wallaroos, and wallabies), possums (sugar glider, ring-tail rock hunting possum), quolls, echidnas, flying foxes, snakes, and emus (Fig. 3). Walsh (2000) suggested a correlation between the subject matter of the depicted species in rock art sites and their proximity/distance from water sources. However, this statement needs to be further tested as both terrestrial and aquatic animals are often found associated within the same rock shelters.

3.1.2. Humans

Although animals constitute the most common depictions during this period (Walsh 2000), an unusually high concentration of human figures has been noted in the Drysdale River Catchment during recording programs from the *Kimberley Visions: Rock art Style Provinces of North* Australia Australian Research Council funded project (LP 150100490) in 2017 and 2018. As noted above, human depictions have proven hard to identify in the rock art as some incorporate floral and faunal elements in their composition. In this sense, the boundary between human and nonhuman spheres is unquestionably blurred. The composition of human figures is variable, sometimes incorporating natural themes in the form of headdresses or otherwise depicting the body shape. Human figures do not vary significantly from each other, in that they do not display unique body decorations except for the occurrence of headdresses.

According to Walsh (2000: 130) "anthropomorphs represent some of this art period's most disappointingly produced subjects. The basic, undecorated forms appear to represent humans rather than deities, and a comparison of their inconsequential numbers to those of flora and fauna images suggests that rock art had a very different role in this period from that of the subsequent Erudite Epochs". We believe such impositions of Western aesthetic to the art can lead to (mis)conceptions and biases in understanding the origins and indeed representation of art production in the Kimberley.

3.1.3. Other forms

Although the focus of this paper is on human and animals, many motifs appear in association including hand and artefact stencils and prints, plants, yams and grass prints; and these will be included in this discussion.

<u>Hand stencils and hand prints</u>: It has been argued that hand stencils and hand prints are among the oldest art traditions in northern Australia, as shown through superimpositions in the IIA period (Walsh 2000: 114). Some hand stencils from the Kimberley seem to be 'missing' digits and it has been proposed that these often called 'mutilated' hand stencils were actually used as hand signals and used as a mnemonic-aid for storytelling since they are located in close proximity to other rock art compositions (Walsh 1979:39).

<u>Stencilled and printed artefacts</u>: Boomerangs are among the most common type of objects stencilled, with other forms including prints of axes and dillybags (Walsh 2000, 12).

Plants, yams and grass prints: recent studies show that plants constitute up to 25% of the IIA rock art repertoire (Ouzman et al. 2018; Veth et al. 2017). Plant motifs are comprised of yams (45%), grass prints (39%), fruit (9%), and other botanical forms (4%; Ouzman et al. 2018). Grass prints and sometimes feather prints are found associated with the IIA tradition from the Kimberley and have also been recorded in the Victoria District River district and western Arnhem Land (Chaloupka 1993: 92; Walsh 1988: 216). The prints were made by covering the object with a coat of pigment and gently pressing them into the rock surface or by striking the object against the rock panel (Walsh 2000: 120). They have often been found on the higher portions of rock panels (Ouzman et al. 2018).



Fig. 1. Map of north-east Kimberley showing the location of the study area within the Drysdale River catchment located within the Balanggarra Native Title Determination.

4. Identifying humans and nonhuman animals in rock art

One of the aims of this study is to re-evaluate some of the categories which have been previously applied to the study of rock art styles and themes. When focusing on presumed terminal Pleistocene rock art, we use a contemporary lens on past representations created within likely different – and potentially opposite – sets of values and symbolic constructions. If this is the case, how reliably can we interpret past representation modes? Despite this and other challenges, it is possible to rely on logical steps in pattern recognition, whether motifs are of symbolic, thematic or economic import. In his seminal 'Animals into Art' book, Howard Morphy (1989) distinguishes five stages of rock art interpretation: (1) identification; (2) representation; (3) composition; (4) meaning; and (5) interpretation of the system. Here we focus on the first two stages as they influence our interpretations, though acknowledge the subsequent three phases will most certainly apply iteratively.

with isolating individual motifs and gathering as much information as possible to be able to determine chronology, style/period, the group that made the image and related matters (Morphy 1989, 4). As Jean Clottes (1989) remarks, an erroneous identification of a representation will result in an erroneous interpretation of the motif. Composite or hybrid figures (as countenanced here) prove hard to identify, as they possess elements that belong to different subjects (*sensu* Cardale Schrimpff 1989). This question is of particular interest, as our objective is to develop a method for the reliable identification of animals and humans and their *representation*. In the Kimberley, the way animals have been represented in the different style periods through time varies significantly, with some emphasizing naturalistic depictions of attributes, while others highlighting more abstracted forms, and others again depicting more hybrid and commensurate relationships (Taçon et al. 2020).

According to Morphy (1989: 4), identification is mostly concerned

The second stage described by Morphy (1989: 6) is that of representation and is concerned with decoding the art, *i.e.* what does it aim to



Fig. 2. Examples illustrating the diversity of forms that compose the IIA Period art repertoire, with (A) Hand stencils and handprints; (B) Stencils of objects, such as boomerangs; (C) Grass prints; (D) Animals, including aquatic fish and macropods; and (E) Anthropomorphs.



Fig. 3. Few examples of animal variability in IIA period. (A) Identified as possible kangaroo or Tasmanian Devil (Andrew Burbidge pers. comm.); (B) Kangaroo; (C) Goanna; (D) Possible Northern Quoll; and (E) Possible Bandicoot depiction (Andrew Burbidge, pers. Comm.)

depict? In the northern Kimberley, human and non-human animal figures belonging to the IIA style appear very different to one another, with human figures lacking personal detail and often having botanical elements or accoutrements. In contrast, non-human animal figures are largely realistic and detailed and, for most examples, can be identified to genus or family level.

4.1. Iconographic analysis

Erwin Panofsky (1939) argues that a classic iconographic analysis consists of three stages: (1) Pre-iconographical description; (2)

Iconographical analysis; and (3) Iconographical interpretation. The first is comprised of primary or natural meanings, integrated by factual and expressional meaning. The aim is to identify pure forms expressed by objects and events (Panofsky 1939: 15). The second level is comprised of secondary or conventional meanings, which come from a familiarity with objects and events in order to understand the combination of motifs in particular scenes. The first two levels are descriptive, whereas the third one is synthetic (Hasenmueller 1978: 291). This tripartite schema can be illustrated using the following example: two men meet on the street and one of them removes his hat to greet the other (Panofsky 1939: 3). According to the first level of interpretation, an object and an event can be identified: a person and a hat-removing action, respectively. Secondly, we can identify the intent of the action that will come by being familiar with the scene. In this case, the hat-removing action can be interpreted from different angles – friendliness, hostility, etc. In order to grasp the third level of interpretation, we need to explore the context of the scene (Hart 1993: 536). In this case, the action can be traced back to medieval times, when removing one's helmet was a sign of peaceful intentions (Panofsky 1939: 4). From this perspective, Panofsky was interested in tracing how certain motifs were historically developed and how "their meanings were transformed to suit new worldviews" (Hart 1993: 551). The relevance of his approach for this research relies on the importance of appreciating the cultural context of production and attaining a certain familiarity with the practical world.

In order to apply this method to prehistoric art, we have to tease out how past artistic conventions can allow us to determine how humans and nonhuman animals were represented. The general convention during the IIA style was to differentiate human representations from animal ones through: a) less detail in the torso and head; b) humans being generally shown in profile; and c) being depicted with either two or four limbs and with 'fingers' (sometimes these are in the form of plants and roots). We believe that one of the main differences between humans and non-human animal depictions is the high degree of detail included in animal depictions and in their body posture. This allows many animal motifs to be assigned to genus or even species. The body postures of humans and animals, therefore, differ greatly within the examples of the IIA style discussed here.

While the identification of intended forms in IIA art is facilitated through commonly figurative elements, there is a perennial problem where different societies represent animals by emphasising different core attributes, some of these overlapping across species (Morphy 1989: 5). This problem becomes even more complex when animal representations are considered from different art traditions and chronological periods. To overcome at least some these issues, we believe that animal identification must be context specific (Dillehay and Kaulicke 1984).

The question that remains is what happens when animals are not portrayed with detailed anatomical attributes that allows their species identification? It could be the case that artists have deliberately chosen not to depict a particular animal species (see Clottes 1989; Ucko 1989) or that certain attributes are shared among many species, making the identification of a particular animal more problematic. In the cases where identification is not possible due to the lack of recognisable attributes, how do we proceed with identification? Michel Lorblanchet (1989) warns us of the negative effect of having an 'indeterminate' category as it can easily become a 'bottomless holdall' where any unidentifiable motif (not only humans or animals) ends up (Lorblanchet 1989: 112). This problem can be partly overcome through the use of core characteristics or animal-specific features, such as: genitalia, foot shape, tail position, stance, hair/fur, pouch, and paws (see Lewis 1986; Murray and Chaloupka 1984).

5. Case studies

The case studies presented here were recorded during three field seasons of fieldwork between 2016 and 2018, under the *Kimberley Visions: rock art style provinces in northern Australia* Australian Research Council (ARC) project (LP 150100490) in partnership with Balanggarra Aboriginal Corporation. Here, we present two rock art sites located in the Drysdale River Natural Reserve, within the Balanggarra Native Title determination (see Fig. 1). In order to comply with Balanggarra wishes and ensure the site's protection from unsolicited visitors, their specific locations are not disclosed here.

5.1. DRY017: Human + Animals + Hand stencils

This rock shelter is located alongside the Drysdale River, in a low escarpment (Fig. 4). The shelter is 8 m long and 2.5 m high. This shelter has mostly IIA depictions, with the presence of other rock art motifs, which are difficult to place in a style schema, due to their poor preservation. The art at DRY017 is found on two panels: Panel 1, an inner vertical panel; and Panel 2, located on the main ceiling overhang. Additionally, grooves and grinding surfaces were recorded on small boulders inside the shelter. Here, we only focus on the rock paintings.



Fig. 4. Photographs of DRY017 site with distribution of identified art panels.

According to the iconographic method, the first step is to identify individual forms and then proceed with their classification. This site has a minimum of 13 individual motifs. The poor preservation of some panel sections means some of the figures are heavily faded and thus not able to be fully identified and attributed to a particular class. Panel 1 (Fig. 5) is composed of eight motifs, identified as belonging to the IIA period. Although the figures belong to the same period, differences can be perceived amongst them, mostly related to the type of infill and body shape. All figures in this panel are oriented to the right, which together with the irregular shape of the shelter gives the impression of upwards movement. When both the formal arrangements and 'performative' elements of the art are considered, three of them could be interpreted as human and five as animal. Of the human forms, two figures (Motifs 7 and 8) have hand prints located on the far-left side of the panel. They are associated with an unidentified and heavily weathered motif. The other human form (Motif 3) is located in between two macropods (Motifs 2 and 4). This human figure is depicted in profile having two limbs. The figure's head shape is irregular and presents a 'plant-like' headdress (the same headdress occurs in another human figure in Panel 2). The extremities of the figure have solid lines whereas the centre of its body is characterised by irregular infill. The main differences noted between this human figure and the animals depicted in this panel include: (a) the shape of the limbs; (b) the shape of the head; and (c) the presence of personal decoration. In terms of performance, the human figure is bending slightly to the front with their head looking down, whereas the heads of the other mammals are straight. Finally, the human figure possesses one lower and extended limb, giving the impression of walking or moving forward.

The animals depicted in Panel 1 can be grouped according to their class: Mammalia and Fish. The Mammalia class can be further classified into *Marsupialia* (Order) – Macropodidade (family) - Kangaroo – Unidentified species. The diagnostic attributes include the shape of the hind legs, forelimbs, tail, scrotum (Motif 2), snout (Motif 4) and ears (Motif 2). However, both figures differ with respect to the position of the tail and hind legs. In the case of Motif 2, the tail is curved similarly to when kangaroos are resting. A straight tail as in Motif 4 has been described as showing an alert position (McDonald 1982). The fish species could not be identified, but based on the depiction and location of the fins and overall body shape, they probably belong to two different species.

Panel 2 (Fig. 6), is composed of three figurative motifs: two identified as human figures, and one as animal. Among those identified as humans, Motifs 9 and 10 are depicted in profile, comprising a head, torso and arms. Motif 9 has its torso bent slightly forward, and has its arm raised in a flexed position towards its head. No fingers are visible. The torso of Motif 10 is 82 cm long, with one arm in an upward flexed position, and one leg slightly bent. Its head is rounded with a plant-like headdress (similar to the one in Motif 4 Panel A). Although both figures lack elements that could indicate their gender, it is suggested that the largest figure with headdress (Motif 10) represents a man and the other (Motif 9) a woman, based on the presence/lack of headdress and overall shape (ratios) of the head and torso. It is interesting to note that the hand print



Fig. 6. Digital sketch of DRY017, Panel 2.

is located next to the figure with a headdress (here interpreted as a man) and closer to the macropod than the other figure. More work needs to be done on depictions of gender from a range of human figures in the IIA style with respect to contextual associations.

5.2. DRY363: Human + Anthropomorphs

This site is located in the Planigale Creek area of the Drysdale River National Park. The shelter measures 5 m in length, 5 m height and the distance between the rear wall and the dripline is 2.5 m. The rock art is distributed over 6 panels (Fig. 7) located on the main ceiling and two flanking rock walls. The panel with the highest concentration of art is Panel 1, located on the ceiling. It contains five anthropomorphic figures in IIA period with a size ranging between 100 and 160 cm in length (see Fig. 8 for exact measurements). Panels 2 and 3 are extremely weathered, and no distinct figures could be identified. Panel 4 is composed of a single IIA figure identified as an eel measuring 78×36 cm. Panel 5 is also weathered, and only 10 finger prints (positive prints) and the outline of an indeterminate motif were found. Panel 6 is composed of an IIA human figure showing signs of weathering in parts, and no further classifications were possible.



Fig. 5. Digital sketch of DRY017, Panel 1.



Fig. 7. Digital site plan and site profile of DRY363 (plan by Bruno Vindrola-Padrós and digitised by Ana Paula Motta).

Only those paintings located in Panel 1 and 4 could be verified as either human or animal, with remaining images Indeterminate. Panel 1 (Fig. 8) contains five large figures, three of which are human, one classed as an animal and the last therianthropic. The animal figure could not be identified with certainty as some of the core attributes are missing, however it may belong to Monotremata - Echidna. All humans possess a clear torso, extremities, and human-like feet. In the case of two of these figures (Motifs 2 and 4) head features could not be identified due to weathering and flaking of the rock surface. The head of Motif 3 is depicted in a similar fashion to the human figures from DRY017, being composed of a circular plan view with short spikes radiating. With respect to body posture, two of the figures are depicted in profile (Motif 2 and 3), with just one leg and one arm visible, due tothem being depicted in profile perspective. Motif 2 has an arm resembling a plantlike motif and also shows a human foot with five elongated toes. Motif 3 has its arm in a semi-flexed position close to its head and has four thin stick-like fingers. The leg has been depicted showing a pronounced calf and ankle, although the full length of the foot is not distinguishable due to weathering. The third human figure (Motif 4) is depicted in front view

and represents one of the few figures in the entire region depicted in this plan perspective. The figure possesses four extremities (two arms and two legs). The arms are raised above the head, in a semi-flexed position, and both have fingers. The body is shown with legs opened to the sides also in a flexed position. The figure has definite knees and ankles depicted. Its feet are comparatively long, considering the size of its body, and the right foot does not resemble that of a human, looking more like macropod feet. The Therianthropic figure (Motif 5), has elements of both a macropod and human. Among those elements that bring the figure close to representing an animal are its tail and lack of lower limbs. The human elements include a head combined with a rounded shape and 'plant-like' hair or headdress. In terms of body posture, the figure is depicted in profile view and therefore is similar to Motif 3. It also shares a posture seen in the human figures of Panel 2 at DRY017. Additionally, its arm is also depicted in a semi-flexed position close to the face. Another hybrid component of this figure is the presence of a leg-like feature coming out from the lower section of its torso. It could be representing a lower limb, but its form is indeterminate.



Fig. 8. Digital sketch of DRY363 art motifs.

6. Discussion and conclusions

In order to understand depictions of humans, animals and hybrid variants in Kimberley rock art more meaningfully we have to recast the nature of complex and changing relationships between humans and animals, from both archaeological and iconographic points of view. There is a need to move on from 'menu list' approaches in which animals are seen as simply preys (Serpell 2005:11; Vinnicombe 1976) to more nuanced point of views that thinks of them from a variety of stances. Indeed, not all dietary species are depicted in Kimberley rock art; for example, there are no known depictions of shellfish, many small lizards or larvae despite these being commonly sought after (and see Dortch 1977:114; Pocock 1988:19 for lists of economic species found in the archaeological record from the Kimberley). While economic fauna is unquestionably portrayed, the incorporation of hybrid-human forms, and especially within more dynamic graphic narratives, suggests a performative lens is more appropriate here.

There is a need to revise the ontological conception of what humans and animals are, and therefore how they may be portrayed. Following our brief consideration of different Indigenous worldviews from South America and Australia, we considered relational and performative approaches from which to study humans and animals in rock art. A relational perspective gives humans and animals the same ontological footing. Amerindian perspectivism places an emphasis on the body, not to de-animalize it, but to particularize it. The body is seen as the locus of confrontation between humanity and animality. In this sense, we note that even though some figures are depicted with certain features found only in humans or animals and plants, the human body presents a variation of characteristics from the natural world. This is particularly relevant for the interpretation of Therianthropic or composite figures, in which human-animal boundaries are fused bringing together different elements, creating permeable bodies (Watts 2013). It is in this process that human and animal bodies are brought together during ritual through a metamorphic process that allows humans to re-enact the

Dreaming, and thus curate it, directly through performance. Even figures depicted with human form and posture can still contain ambiguous elements, such as the presence of plant-like headdresses which will distort human proportions (Veth et al. 2017). When bodies are decorated, they can express even more animalisation as they are covered by feathers, colours, designs and masks, amongst other accoutrements (Turner 1980).

Through the study of performative attributes in hand with an iconographic interpretation of the motifs, we suggest that there is a fluidity in the construction of IIA human and animal bodies in our study sites where some features are more prominent, while others are erased creating a fluid/non-fixed boundary between the two. In other words, the boundaries of what it means to be human and animal are contextspecific and could have been merged during ritual and ceremonial events. Indeed, if much of the Gwion period anthropomorphic art is ceremonial in nature, as recently argued for similar Dynamic Period Arnhem Land art (Johnston et al. 2017), then these IIA scenes may be earlier expressions of this ritual and ontologically rich domain. As such, some species appear to have played an important role in human-animal interactions at the Drysdale River. At DRY017 macropods were depicted juxtaposed between the assembled human figures, and in DRY363 there is an anthropomorphisation between macropods and humans. Moreover, as can be seen in Fig. 3(B), an Irregular Infill period kangaroo figure shows signs of pigment removal. This regenerative practice of pounding or over-painting older motifs brings together past and present events, connecting populations across time and with Country (Morphy 2012; Motta 2019; Motta et al. 2020).

In the Kimberley it is well documented that certain animal species played a central role in totemic cosmology and mythology. Totems represent the ways that humans relate to nature and life (Elkin 1932/ 1933, 258; Layton 1992b; Piddington 1932: 373). In North Western Australia, the term bugari is used among the Karajarri language speakers to describe things created by mythical creatures in an ancestral past, as well as the totem of an individual (Piddington 1932, 374). In this way, an individual is linked to a totemic group, the different members of that group, and also to ancestral or bugari time (Piddington 1932, 374). Many totemic myths are centred on beings that were neither human nor animal, but possessed characteristics found in both. In order to secure the replenishment of resources a series of activities had to be carried out, often referred to as 'regeneration' ceremonies (Layton 1992b). During these ceremonies, certain rites are enacted, depending on the species to be regenerated. In the case of wallabies, men would paint themselves as wallabies and make similar sounds (Piddington 1932, 386). Most of the myths among the Karajarri used terms such as men or animal interchangeably, such as the Wiridjagu Myth in which a small marsupial gives birth to two young boys who then become men. The kangaroo is also a persistent subject within Kwini creation sagas, and is directly relevant to the north Kimberley study area (Cheinmora et al. 2017: 175). Ethnographies from the wider north-west of Australia are rich in cosmologies inhabited by animal and hybrid Creation Beings providing guidance on ritual, ceremonial, societal and subsistence behaviours. These Beings are incorporated by clansmen during repeated ceremonies and will ultimately transmogrify into landforms, features, animals and plants, and not-the-least become depictions on the rocks (Motta et al.2020; McDonald and Veth 2012; 2013; Palmer 1977). It is this latter reality that makes Australian rock art studies and ethnography strongly amenable to performative approaches incorporating body posture, aggregation and deliberate hybridisation of the human-animal-plant forms.

The epistemological approach explored here led us to reconsider current interpretations of the role animals play/ed in Aboriginal rock art and cosmology, with human and animal boundaries are often blurred due to a 'personhood open to animals' (Potter 2004: 326). By interpreting Kimberley rock art under a relational approach, we are able to move past dichotomising notions of nature and culture and envision new interpretations of human and non-human relations. These emerging understandings are expanded by the study of performance that considers how humans and animals should be translated, in their context of production. As we have aimed to describe in this article, the mythological repertoire of Australian Aboriginal groups links Creation sagas to present practices, geographic features, and beings and phenomena inhabiting the landscape. These narratives are significant in understanding the interconnection between people and their surrounding landscape, in that they are used as a medium to explain natural and cultural phenomena. Consistent with Aboriginal belief systems we argue that human and animal relations are best analysed through a critical rationalism in which animals are to humans what humans are to animals. Interpreting their interconnection in this way opens a new range of relations that should assist researchers to better understand rock art origins and identity.

CRediT authorship contribution statement

Ana Paula Motta: Conceptualization, Formal analysis, Methodology, Investigation, Data curation, Writing – original draft, Writing – review & editing. Peter M. Veth: Resources, Writing - review & editing, Project administration, Funding acquisition. Balanggarra Aboriginal Corporation: Resources.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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A.P. Motta et al.

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