Enmeshed with stone: Implications of relational ontology for the archaeology of Australian stone artefacts

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Abstract

The endurance of stone artefacts makes them one of the key material traces that archaeology investigates. However, interpretative issues remain in this field of research. One such issue in Australian archaeology is the disconnect between mainstream scientific approaches, social explanations and, more pressingly, Indigenous knowledge and perspectives on stone artefacts. I establish the nature of this problem and its significance through an analysis focused on ontological difference and politics as well as postcolonial critique. My primary goal in this thesis is thus to formulate an alternative, theoretical orientation in response to the problem and to assess its core implications.

In establishing this orientation, I build on existing work within the broad fields of social and Indigenous archaeologies, and engage with contemporary social anthropological literature with a focus on relational thinking, ontology, and alterity. I specifically focus on relational ontology as the foundation for this orientation, which I argue has significant implications in archaeology because it grants priority to relations and process, and refuses the essentialist and dualist commitments prevalent in mainstream approaches. Engaging with relational thinking also leads me to consider processes of learning and skill development, which link to the concern with process, and furthermore, to examine the consequences of such an orientation for the study of stone artefacts as material culture.

By drawing a broad contemporary theoretical literature into conversation with archaeological and ethnographic examples, I evaluate the implications and value of a relational orientation embedded in robust understandings of ontology, learning and material culture. Such discussions are notably absent throughout much of Australian archaeology, especially when it concerns stone artefacts—this point of difference allows my thesis to make an original and timely contribution to this field of research. The relational orientation I develop in this thesis necessitates a shift in frames of reference and establishes new possibilities for the interpretation and understanding of stone artefacts in Australian archaeology.
# Table of Contents

Abstract ........................................................................................................................... i

Table of Contents .......................................................................................................... ii

Acknowledgements ....................................................................................................... v

Statement of Authorship ............................................................................................. vi

Chapter 1: Introduction ................................................................................................. 1

  Research Setting ......................................................................................................... 1

  Research Question and Aims ................................................................................... 7

  Scope and Significance ............................................................................................. 8

  Thesis Organisation .................................................................................................. 9

Chapter 2: Research Problem ...................................................................................... 10

  Introduction ............................................................................................................. 10

  Development of the Field and Current Approaches ............................................. 12

  Establishing the Research Problem ....................................................................... 26

  Chapter Summary ................................................................................................... 40

Chapter 3: Ontology .................................................................................................... 43

  Introduction ............................................................................................................. 43

  The Ontological Turn in Anthropology ................................................................. 44
Research Problem and the Value of Ontology ........................................... 135

Implications of Relational Ontology ......................................................... 137

Implications for Learning and Skill ......................................................... 140

Implications for Material Culture ......................................................... 144

Overview of Core Implications .............................................................. 148

Chapter Summary ............................................................................... 155

Chapter 7: Conclusion ....................................................................... 157

References ......................................................................................... 163
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Finally, I would like to acknowledge the invaluable support of my family, friends and colleagues (especially in the UWA Archaeology Department) for their patient encouragement and reassurance over the past two and a half years.
Statement of Authorship

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis submitted for award of any other degree or diploma.

No other person's work has been used without due acknowledgement in the text of the thesis.

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Chapter 1: Introduction

Research Setting

One of the old men came up and politely asked to see what I was picking up. He looked at me a little sorrowfully, and said in his Ngadadjara tongue, ‘Those are useless!’ He drifted away and half an hour later he returned with a small handful of primary flakes of the same stone and pressed them into my hands. To pick up worn stones [’kandi] my need must have been very great! (Tindale 1965:161)

The above passage from Norman Tindale’s diary in 1957 (published 1965) recounted his experience collecting worn, ‘archaeological’, stone artefacts in an area of the Western Desert of Australia where they were still in regular use. This passage reminds us, as Tindale noted then, of the contrast between ‘the living way of seeing things’, the Indigenous way, and how archaeologists see the same things. This disjunct has perplexed me for some time now and, as I will establish throughout this thesis, it indeed constitutes a research problem worth investigating in detail. Thus, this thesis serves as an opportunity to delve deeper into why this issue exists and to make some theoretical interventions to address it.

As this thesis is primarily a theoretical response it is important in this introduction to overview the concepts that will feature prominently. In the writing to follow I will cover a range of interconnected topics, including (in order of appearance): the importance of ontological engagement and the ‘turn’ to ontology; my engagement with postcolonial critique; the point of difference of relational ontology; and how the latter necessitates a focus on learning and material culture that is of value and relevance to archaeological practice.
Many of the critical revisions in archaeology have been methodological or middle-level theoretical changes (Trigger 2006:32). As Laurajane Smith (1995) argued two decades ago, Australian archaeology has never been particularly willing to tackle the problems of high-level theory, which has served to keep debates about archaeological knowledge and assessments of its legitimacy within a mainstream Western intellectual framework. (Though I note that the broader fields of cultural heritage management or social archaeology have been far better at this than mainstream scientific archaeology [e.g. Allen and Phillips 2010; David et al. 2006; Harrison and Rose 2010; Ross 2010].) The disjunct noted in the opening paragraphs remains unresolved today and to be clear, this is not a recent issue in archaeology. Julian Thomas (2004) has demonstrated that the development of the intellectual traditions of the modern West established the conditions for the possibility of archaeology. While Thomas (2004:28–29) was careful not to homogenise the Enlightenment (modernity’s defining project), he did make clear that most thinkers from that period ‘equated legitimate knowledge with experimental science’ and that the success and authority of the scientific revolution were considered self-evident. The consequence of these developments for contemporary archaeology is that ‘the privileged position that was afforded to science in the Western world during the eighteenth century has been maintained ever since’ (Thomas 2004:28). This situation, I would argue, is intensified by the vein of scientism in contemporary archaeological research—sometimes referred to as scientific ideology or the discourse of science (Ross et al. 2011:51). I single out scientism rather than science here as it is not merely the use of scientific theory and methods per se but the belief that those theories and methods have universal applicability and authority that seems to be the core issue (see also Smith and Waterton 2012). This issue is problematic because it allows researchers to establish an authoritative worldview that can be used to ‘denigrate various alternative forms of inquiry’ (Ross et al. 2011:51).
Engaging fully with the nuance of these long-term trends is beyond a single thesis. What I do in this thesis instead is take a step back to emphasise the importance of high-level theoretical revisions and engagement with ontology. As I will explore in depth in Chapter 2, the disjunct central to the research problem is more than a difference of perspective but rather stems from an ontological difference. This conflict particularly relates to the continuation of empiricist/rationalist ontological assumptions in mainstream archaeology (the backbone of so-called Western science, as discussed above), which denies the significance of other ontologies by asserting a claim of universal authority and subsequently denying its own finitude (Gero 2007).

Against such claims of universal authority, I look to the ontological turn, which has gained momentum in key related fields such as anthropology (Todd 2016; Viveiros de Castro 2014), human geography (Bawaka Country et al. 2016a; Hunt 2014), as well as in archaeology itself (Alberti et al. 2011; Marshall and Alberti 2014). The renewed interest in ontology has seen greater recognition given to its local and plural nature and its political consequences (Harrison 2015; Holbraad et al. 2014; V. Watts 2013). Crucially, this theoretical turn within the academy problematises the historical, situated nature of Western or essentialist ontology too, and as such could be vital for establishing a new position in archaeological thought that could help move us beyond the problem of disjunct that I introduced above.

The ontological turn has also highlighted the importance of taking Indigenous ontologies and perspectives seriously, a point upon which Eduardo Viveiros de Castro (2011) has been particularly vocal. However, engagement with Indigenous ontologies is still complicated and cannot simply be slotted into existing frameworks, as Kwakwaka’wakw scholar Sarah Hunt (2014:30) makes clear in this powerful statement:
The potential for Indigenous ontologies to unsettle dominant ontologies can be easily neutralized as a triviality, a case study or a trinket, as powerful institutions work as self-legitimating systems that uphold broader dynamics of (neo)colonial power.

Indeed, as Hunt (2014:30) has argued we need major shifts in disciplinary ontologies and epistemologies to destabilise dominant ways of knowing to make room for assertions of Indigenous knowledge. My interest in ontology in the context of Australian archaeology thus needs to be paired with postcolonial critique and movements toward decolonisation if I am to avoid replicating such issues (see also Sundberg 2014; Todd 2016). The postcolonial dimension of my thesis arises from a recognition of the local constitution of ontology (Bawaka Country et al. 2016a) and the rejection of universally authoritative frameworks of explanation. The latter are inseparably entangled in the project of colonialism and often feature an arrogant disregard for cultural diversity in favour of the rationalism characteristic of Western modernity more broadly (Thomas 2004:29; see also Ingold 2013a).

Postcolonial theory has had a widespread impact throughout much of archaeology and related disciplines. However, in the Australian context, it has primarily been applied to contemporary practical issues of collaboration, interpretation and ownership (Allen and Phillips 2010; Brady and Crouch 2010; David et al. 2006) rather than to deeper theoretical problems (L. Smith 1995) or, perhaps more importantly, to deeper time contexts. This situation is unfortunate because postcolonial theory has the potential to enlarge and enrich archaeological practice at all levels. While the ethical component in regards to Indigenous histories is perhaps obvious (McNiven 2016; McNiven and Russell 2005; Wylie 2015), there is also an epistemological issue at play. One of the fundamental consequences of the ontological turn is that it pushes back against the focus only on epistemology, which in archaeology has often limited attention to a narrow range of options deemed scientifically acceptable and causally
significant (Gero 2007). Following the principles of postcolonial theory, it is not enough to revise interpretations or consider the political context of research (Rizvi 2008b:2015), we also need to engage in strategic and critical revisions of core assumptions and impositions on our research topics (Hunt 2014). As Uzma Rizvi (2008a:197) has argued, we need a new archaeology ‘that lays bare and vulnerable the founding principles of the discipline to a critical engagement that accounts for histories of oppression, whether based on colonialism, race, class, gender, or sexuality.’ For me, this entails a degree of cognitive dissonance and emphasises why engaging with this problem from a theoretical standpoint (to begin with) is critical.

Following the impetus outlined above through engagement with the ontological and postcolonial literature, I aim to establish a theoretical orientation that might engage with the issue of disjunct in a more nuanced way. I mainly focus on ontology, relational approaches and alterity, which have been emerging in anthropology and archaeology as productive ways to achieve such an aim (Ingold 2011a; Thomas 2015; C. Watts 2014a).

One of the significant departures of relational ontology, which is useful in the context of this thesis, is that it contends that there is nothing essential about a human being (Toren 2012a). Rather, it holds that humans are always in the process of coming into being in relation to their contexts and social relations (Ingold 2004). As I will outline in detail in Chapter 3, a relational ontology has many noteworthy contributions to make to archaeology, particularly because it challenges some dominant aspects of contemporary Western thought and at the same time establishes new avenues to understand the past (C. Watts 2014a). For example, one of the key points I will make in Chapter 4 is that because a relational perspective conceives of knowledge as intrinsically linked and inseparable from the growth of a person and their practical engagement with the world (Ingold 2011a, 2013b; Toren 2012c), a focus on learning and skill
development becomes particularly important. In this instance, my discussion will touch on the anthropological literature on enskilment and embodiment (Downey 2010; Marchand 2010) as well as critical approaches in cognitive and developmental sciences (Adenzato and Garbarini 2006; Tomasello and Carpenter 2007). A further outcome of engaging with relational ontology is the impact on understanding material culture. My discussion in Chapter 5 will take a critical look at how archaeology *enacts* rather than *represents* the world through its conception of the things under study (Hicks 2010), the importance of making (Ingold 2013b), and movements toward a more detailed focus on materials and what things do (Barad 2007; Conneller 2011; A. Jones 2015).

By bringing these theoretical interventions to bear on the study of Aboriginal stone artefacts in Australia, I aim to establish a new theoretical orientation through which fuller and more contextualised understandings and narratives of stone artefacts will be evinced. My background in Australian stone artefact research aside, there are many reasons why stone artefacts are an excellent choice for such an ambitious theoretical project. Their status as the most abundant and robust class of material in the archaeological record is well known, as is the defining role that their study has played in the development of archaeological understandings of Indigenous Australian history and indeed the history of humanity more broadly. Furthermore, the research problem that I introduced above (the disjunct) is strikingly visible in the contemporary study of stone artefacts, which is not to say that it is an easy target for critique but rather that there is adequate source material with which to engage. For example, the currently dominant approach to stone artefacts focuses on classification, economics and functional descriptions. These approaches often utilise use-wear and residue studies, indices and techniques to measure reduction intensity, and feature an explanatory interest to link certain aspects of stone artefact technology to an organisational or economic context (e.g. Clarkson 2007; Hiscock 2006). While such approaches have, no doubt improved our understanding of the range
and variability of stone artefacts across Australia, substantial aspects of such research contradict and clash with Indigenous perspectives on the same materials (e.g. Bradley 2008; Harrison 2010; Taçon 1991) and from a postcolonial position the lack of Indigenous voices and perspectives is deeply problematic (McNiven 2016; Todd 2016).

A key argument I will advance in this thesis is that the significance of a relational approach is that it does not rely on scientific classification frameworks nor dualistic thought, which are generally incongruous with Indigenous ways of knowing (Ingold 2009; Porr and Bell 2012). A relational approach instead focuses on processes rather than essence and as such provides the opportunity to engage better and incorporate aspects of Indigenous knowledge of stone artefacts (Bradley 2008; Harrison 2015) and being human more generally (Hunt 2014; V. Watts 2013). By deconstructing the creation of archaeological knowledge alternative ways of knowing about the world can be asserted (Nakata and David 2010), which continues the currently productive postcolonial movement in archaeology (e.g. Gosden 2012; Lydon and Rizvi 2010; McNiven and Russell 2008) and Indigenous archaeology more specifically (McNiven 2016).

**Research Question and Aims**

Following the research problem and theoretical background outlined above, my main research question in this project is thus: *what are the implications of a theoretical orientation embedded in relational ontology for the study of stone artefacts in Australian archaeology?* In working to address this question I will first need to establish three key things:

1. The nature of the research problem in regards to explanations of Aboriginal stone artefacts in the Australian context;
2. The connections between my theoretical interests in ontology, learning, and material culture and their relevance to archaeology and the Australian research context; and,

3. How these components could form a coherent theoretical orientation that could be applied in the Australian archaeological research context.

Scope and Significance

This project employs some very specific limitations. Foremost, this thesis is a theoretical intervention, and little space will be devoted to methodological concerns; as such the full application and testing of the theoretical orientation developed in this thesis will remain a topic for future research. The ethnographic component of this project will focus on cases from Indigenous Australia, and I draw only from published literature. While other areas of archaeology have tackled such issues of disjuncture, for example, in post-contact cultural heritage and natural resource management (e.g. Byrne and Nugent 2004; Ross et al. 2011), my engagement with this literature will be somewhat limited due to space constraints. Furthermore, as I will not ‘apply’ this orientation to any one archaeological case, the archaeological research I discuss is suggestive rather than exhaustive and is focused primarily on examples from Australia or social and Indigenous archaeology elsewhere. While my approach is embedded in the contemporary literature on ontology, relational approaches and alterity there are numerous other theoretical approaches, such as speculative realism, object-oriented philosophy and assemblage theories (for a summary see Thomas 2015), which might also hold value in this context but I do not have scope to explore.

With the above limitations in mind, it is important also to emphasise the potential significance of this project. This research is not about revising the entirety of archaeological practice in Australia nor is it (yet) about conducting
new analyses of existing problems or better explaining particular kinds of stone artefacts. Rather it is aimed at unravelling some current tensions and establishing a new orientation that might be of use as a counterpoint; in this way, it continues productive work already developed in social and Indigenous archaeologies. It is my contention that approaching the research problem with an ontological rather than methodological critique will enable me to formulate an alternative orientation to serve as a potential mediator to the research problem.

While relational approaches and critiques of mechanistic understandings of human life have gained momentum in many fields, they still have a way to go in mainstream archaeology; particularly in the Australian context. The theoretical topics I engage with in this thesis appear to be growing in interest and demonstrated value throughout archaeology (Thomas 2015; C. Watts 2014a). By bringing these topics into the Australian archaeological context, this thesis makes a timely contribution aimed at continuing to advance and diversify the range of approaches available to understand the deep past of Australia.

**Thesis Organisation**

This thesis will unfold over seven chapters. In Chapter 2, I establish the research problem through a critical literature review of Australian archaeological research on Indigenous stone artefacts. The third, fourth and fifth chapters address my main theoretical interests of ontology, learning and material culture (respectively). Each of these chapters will elaborate on themes established in its counterparts and necessitated by the research problem identified in Chapter 2. This theoretical work will form the core of the orientation I am creating with this thesis. In Chapter 6, I will draw together these threads to discuss the implications of this orientation considering the research question posed above. Finally, in Chapter 7, I conclude with an overview of the significance of my findings and highlight future avenues of research.
Chapter 2: Research Problem

Introduction

In this chapter, I investigate the issues preliminarily raised in Chapter 1 to establish the research problem of this thesis. The advances already made in Australian archaeology (particularly in regards to the study of stone artefacts) are of immense value and provide a solid starting point for any research project on this subject. However, as this chapter will establish, there is a research problem engrained within the currently dominant research mode (also known as mainstream scientific archaeology). Thus, in this thesis, I find it necessary to advance an alternative orientation in response. At this point, it is important to note that I accept that there is a distinction between mainstream scientific archaeology (McNiven 2016) and otherwise positions (Povinelli 2012). The former align with a Western or essentialist ontology given its deep connections to the intellectual movements of Western modernity (Thomas 2004), while the latter include Indigenous and non-Western perspectives as well as the alternative schools of thought within archaeology that push back against the mainstream (e.g. post-processual, social or Indigenous archaeologies). I also note that the latter, otherwise positions frequently and productively overlap (e.g. David et al. 2006; Hunt 2014; Todd 2016).

This chapter is not a history of the discipline of Australian archaeology nor research interests involving stone artefacts. Rather this review is a critique aimed at establishing the nature of a research problem and in this introduction I will elaborate on some key elements of my analysis. It is important to note that this critique is not aimed at assessing truth claims about what happened in the past nor the methodological issues at play. Rather, I am concerned with determining the theoretical and ontological conditions that underlie approaches to stone
artefacts in this context, which also have implications for epistemological and methodological concerns.

Postcolonial theory forms the backbone of my approach to this chapter. Especially for engagement with Indigenous histories (including through archaeology), postcolonial theory has immense value for understanding the ‘cultural and historical legacies of Western colonialism’ (van Dommelen 2006:105) and how such legacies continue to affect contemporary research in contexts beyond the colonial period itself. Postcolonial critique is thus connected to my interest in ontology because it helps us to understand that we do not all live in the same worlds and do not all have the same approach to knowledge (Gosden 2012). Such recognition has political consequences (Bawaka Country et al. 2016a; Rizvi 2015). Postcolonial theory has benefits for the people whose history and material culture is under study but also as Rizvi (2008a) has emphasised, in regards to decolonising archaeology more generally, it makes our work more meaningful. While I cannot say whether my critique and overall thesis will be successful in the first sense, I do aim to produce something potentially valuable in the second. Rizvi (2008b:126) has also explained that to ‘decolonise does not only index a choice to change the discipline but also in a very real way, is a desire to safeguard ourselves from recreating forms of imperial knowledge production.’

My analysis and critique are also partially inspired by George Marcus’ and Michael Fischer’s (1986) notion of cultural critique. Following their direction, I tend to regard the ontological assumptions of the dominant mode of archaeological practice as a product of the society that produces them rather than reflecting a universal understanding of past or present reality. As Marcus and Fischer established for anthropology, it is important to assess from where the dominant ideas that direct thought and practice emerge and on what basis we accept their validity. There is no scope in this thesis to embark on a full sociological analysis of knowledge construction in archaeology. However, this
assessment is important to keep in mind particularly when examining the relationship between scientific and Indigenous knowledge because the former is typically afforded ‘natural’ authority over the latter (McNiven and Russell 2005), and we need to be aware of the constructed nature of such power dynamics.

In this chapter, I have two central goals, and subsequently, there are two main sections to this chapter. The first section engages with the history and development of the current state of research in Australian stone artefact studies, and will cover the debates surrounding the use of typology as a case study to establish a deeper understanding of the contemporary research scene (including existing alternative approaches). The second section will concentrate on ascertaining the research problem, and I will discuss the treatment of ethnography as a case study to illustrate the disjuncture between the dominant mode and both alternative social approaches and Indigenous perspectives. As noted above, postcolonial theory and elements of cultural critique will be relevant throughout as I seek to understand the deeper underlying issues that establish and reinforce the research problem.

Development of the Field and Current Approaches

Clearly, a history of Australian archaeology is outside the scope of this project; as is a detailed consideration of how the Australian situation does or does not connect to global issues, especially in stone artefact studies (for this see Brumm and Moore 2012; Dennell and Porr 2014). This section instead focuses on one key case study, namely the development and subsequent dismissal of typology as an approach to understanding Aboriginal Australian stone artefacts. This case will shed light on the development of more explicit scientific approaches in this context and allow me to characterise the contemporary field and to introduce some existing alternatives. Such work is crucial for establishing the nature of the research problem.
Establishment of Typology

The early development of research into Aboriginal stone artefacts in Australia mainly reflects the European roots of archaeology and the concern with order, sequence, classification and typology to describe objects (Thomas 2004:34). These archaeological principles are intimately connected to the establishment of objective science since the Enlightenment (Griffiths 1996; Ingold 2013a; Thomas 2004; Waterton 2005). Tom Griffiths (1996) has linked the collection and description of ‘nature’ and Aboriginal people by naturalists and antiquarians to the broader aims and ideology of Western imperialism—and indeed this kind of work was complicit in the particularly racist treatment of Aboriginal people in the colonial period (see also Trigger 2006:189–193). Griffiths (1996:19) explained that ‘the urge to classify and order the world of nature went hand in hand with the organisation and domination of far-flung human societies.’ Similarly, Thomas (2004:26) has established a clear trajectory between natural history and antiquarianism through classification in the later seventeenth century and argued that the absolute separation of human and non-human worlds, as well as culture and nature in such approaches, ‘provided the principal basis for ordering collections of material things.’

As was the case in many parts of the world (Thomas 2004:13–15), early archaeological approaches in Australia primarily arose as a response to antiquarianism (Griffiths 1996:3). These approaches employed cultural historical models and made substantial use of typology to understand Aboriginal material culture. One of the most distinctive consequences of these approaches in the Australian context, especially in comparison to contemporary practices, was the naming of archaeological cultures. The use of distinct implement forms to derive cultural groupings assumed that such artefacts revealed intentionality and could be treated as ‘culturally distinctive designs’ (Veth et al. 1998:14). Some examples of these culture groups include the ‘Bondaian’ described by Frederick McCarthy
(1948) defined by distinctive bondi points and the ‘Pirrian’ described by Tindale (1957) featuring pirri points.

These classificatory and naturalised approaches to the material culture of Aboriginal people were coupled with diffusionist and unidirectional cultural evolutionary explanations of change that saw innovative technologies as necessarily coming from outside Australia; Asia being the most common diffusion centre or ‘donor area’ explored (Hiscock 2008:146–152; McBryde 1976; McCarthy 1939). The lack of acceptance of independent innovation or development of sophisticated technologies in Australia was indeed part of a much broader colonial agenda of subjugation in which archaeology was complicit (Anderson 2007; McNiven and Russell 2005; see also Langley et al. 2011 for more discussion of sophisticated technologies in early Australian history). Subsequent analysis of the application of diffusionist and evolutionist models in Australia has highlighted that while such approaches can be understood as normative at the time, they are not supported in their original intention by the archaeological evidence (Veth et al. 1998; cf. McNiven 2006).

The cultural traditions established by Tindale and McCarthy paved the way for the later work of John Mulvaney (1961, 1977). While Mulvaney (1975) largely rejected the use of typology, he continued to operate within a culture history framework focused on the identification of phases, which he used to describe regional variation in material culture sequences. Mulvaney’s two-stage sequence was refined by colleagues such as Rhys Jones (in Bowler et al. 1970:52) and Richard Gould (1969:233). The division of Aboriginal [pre]history into two broad technological units, the Core Tool and Scraper Tradition and Small Tool Tradition, was widely accepted throughout Australian archaeology by the 1980s (Lampert 1981) and is still in the vocabulary of some contemporary researchers (e.g. B. White 2012). Earlier named cultural industries, such as Tindale’s (1937) ‘Kartan’, were explained as regional manifestations of these broader traditions
Such named industries are now out of routine application in contemporary approaches since there is limited archaeological evidence to support their continuation (Hiscock and Clarkson 2000; Veth et al. 1998; cf. Bowdler 2006).

**Parting ways with Typology**

The critiques of typology that led to its overall rejection in Australian archaeology were directly related to the rejection of culture history and its replacement by the scientifically oriented ‘New Archaeology’ (e.g. Binford 1962, 1968, 1987; Trigger 2006). These critiques focused on epistemological and methodological concerns and often emphasised the objective and empirical advantages of attribute techniques and technological approaches over the ‘flawed’ or ‘intuitive’ typological approach. Ronald Lampert (1981:52) provides an example of this appeal to objectivity; he explained that his use of attributes and statistical analyses to investigate so-called ‘Kartan’ assemblages on Kangaroo Island represented a more ‘rigorous description’ compared to the ‘intuitive classification’ of typology. Further, he argued that it allowed for hypotheses to ‘not only be generated but precisely stated and tested’. These arguments have obvious connections to the scientific appeal of the ‘New Archaeology’ established by Lewis Binford (1968), who held that the cultural affiliations of artefacts were secondary to their functional or adaptive purposes and that archaeology thus should focus on the latter.

In Australia, the equation of retouched artefact form with function or a desired and stable style was increasingly questioned. Early ethnoarchaeological work reinforced arguments against typology along these lines by highlighting the mismatches between the assumptions of archaeologists about function and their observations of stone artefacts in use in Indigenous societies (Binford and O’Connell 1984; Gould 1968, 1971; O’Connell 1974; J.P. White 1967; J.P. White and Thomas 1972). The development of use-wear studies also increased suspicion of
typology as a valid approach by demonstrating the lack of a simple relationship between form and function (Gould et al. 1971; J.P. White 1967). According to Simon Holdaway and Nicola Stern (2004:218) this combination of evidence ‘made archaeologists reluctant to continue using typologies in the analysis of artefact assemblage’ and directed attention to ‘the morphologies of tool edges’, which were considered to have actual functional importance.

The reluctance to use typology focused researchers’ attention not only on the edges but conceptually ‘backwards’, meaning that they were increasingly encouraged to attend to the analysis of attributes aimed at understanding the production or use of artefacts rather than only classifying the resultant forms (Hiscock 2007). The key argument that made technological approaches increasingly popular was the appeal to scientific authority and objectivity, which contrasted with traditional typological studies and the stylistic categories supposedly imposed by analysts (Hiscock and Clarkson 2000:98; Holdaway and Stern 2004:222). However, this argument seems to imply that typology was not a scientific approach when, in fact, it developed, like much of archaeological practice, out of the Enlightenment and scientific revolution (Thomas 2004:26). So perhaps, it is more correct to say the appeal of a more assertive science replaced typology rather than implying that this was the first introduction of science to Australian archaeology.

A final argument against typology in Australia was an appeal to the uniqueness of the Australian record. Holdaway and Stern (2004:275) have argued that because of the supposed uniqueness of the Australian archaeological record, Australia ‘archaeologists abandoned the methodological and theoretical frameworks employed by archaeologists in other parts of the world’. Holdaway and Stern (2004:275) argued that the justification for abandonment was a profound misunderstanding, which they countered by arguing that while the record itself may be unique ‘the tools needed to arrive at an understanding of it are the same
as those needed to arrive at an understanding of the archaeological record elsewhere in the world’. More moderate positions on the cautious utilisation of approaches developed internationally (including but not limited to typology) have highlighted that the aim was not to abandon or ignore but to be selective and modify methods to suit local conditions ‘rather than simply transferring wholesale the analytical approaches popular overseas’ (Hiscock and Clarkson 2000:99).

**Development of Current Approaches**

The above account of the rejection of typology leads me to consider the contemporary field of research that has developed since then. As indicated above, a key impact of the rejection of typology and culture history was the increasingly strict adherence to technological and economic frameworks along with metrical techniques (Flenniken and J.P. White 1985; Harrison 2010; Hiscock and Clarkson 2000). As such, the currently dominant approach to stone artefacts in Australian archaeology is principally concerned with processes of production and use, and in linking such processes to economic variables and human responses to changing environmental conditions. Within a rationalist framework these responses are assumed to be universal and particularly indispensable to all peoples who rely on stone for tools and the environment for their subsistence.

Materialist classification, strongly advocated by key researchers like Peter Hiscock since the 1990s (e.g. Hiscock 1994), and earlier still by Gould (1980), has been critical to the establishment of the currently dominant research approach. Hiscock (2007) has argued that a materialist approach avoids the normative and mentalist pitfalls of typology and instead divides an assemblage into classificatory categories based on observable features of the objects. Following this approach, it is argued, avoids any notion of idealised form, the mental predisposition of the maker or presumed goals by instead focusing on production and use, and understanding the history of the object (Hiscock 2007:201). Regarding
explanation, the distribution and variation of stone artefacts is no longer used to construct cultural sequences but rather to explain shifts in subsistence strategies and land-use patterns. Such shifts are often linked to environmental perturbations, for example, the severity of the Last Glacial Maximum or the increasingly volatile conditions caused by ENSO in the later Holocene (Hiscock 1994, 2006; Holdaway 1995; Veth et al. 2011).

Foraging theory has been progressively incorporated into current practice as an explanatory tool and has introduced ideas now central to the way stone artefact variability is typically interpreted in Australia. Key explanations for variability include, toolkit flexibility (Clarkson 2007), the relationship between tool maintenance and mobility (Mackay 2005), and forager responses to subsistence risk (Hiscock 1994, for further summary see Hiscock 2008:108). These approaches focus on the economics and organisation of technology, viewing it as a series of strategies and decisions that people made to survive and solve the problems they faced as mobile hunter-gatherers, such as ensuring access to resources when needed and being able to maintain or replace tools (Kuhn 1994, 1995).

The characterisation above is based on numerous published works, and two short case studies will help to ground this overview more explicitly. Firstly, the proliferation of certain small stone artefacts, such as backed artefacts, has been crucial in the establishment and testing of such explanatory frameworks. Hiscock and Attenbrow’s (2005) research at Capertee 3 is a good example of such frameworks in action. The proliferation of backed artefacts in the Holocene deposits at this site were suggested to represent a particular technological strategy implemented to deal with increased foraging risk brought on by the intensification of ENSO cycles. Hiscock (2008:160) subsequently emphasised that because non-backed artefacts were also reworked and reshARPened more intensely at the same time as the proliferation of backed artefacts, the latter could be considered as ‘merely part of an economic trend toward greater cost reduction
in stone tool production and use at that time, probably in response to increased raw material acquisition costs and greater foraging risk.’

The second case is a regional study conducted by Christopher Clarkson (2007) at several sites across Wardaman Country in the Northern Territory, which further highlights some core aspects of the contemporary practice of stone artefact analysis and interpretation in Australia. This study sought to provide an accurate description and explanation of technological change in this region through the application of detailed reduction sequence models (e.g. Clarkson 2002) and foraging theory to demonstrate and explain artefact variation. In contrast to pan-continental models, Clarkson (2007:159) found that there were gradual and continuous technological changes throughout the span of human occupation in this region. The application of reduction sequence models and utilisation of foraging theory and technological organisation in Clarkson’s (similarly to Hiscock and Attenbrow’s) study is broadly representative of the current dominant approach to stone artefact analysis and explanation in Australia. Indeed, many studies have since attempted to apply Clarkson’s approach in other areas (e.g. Matthews 2013 in nearby Jawoyn Country).

While so far framed as cohesive, I do need to emphasise that there is much diversity, internal critique, and constant revising of methods within current mainstream approaches. For example, Trudy Doelman and Grant Cochrane (2015) sought to re-evaluate models of scraper variation advocated by Hiscock and Attenbrow (2002) and demonstrated that the use of typology in the Australian context still holds some value. In a different study, Doelman and Cochrane (2014) incorporated design theory to explain why a particular kind of stone artefact, the tula, was invented and what purpose its ‘relatively rigid design’ served. The authors argued that while manufacturing a tula may have been ‘expensive’, the expense would be offset by the benefits of cooperative relationships it may have facilitated, including securing access to resources in an unpredictable
environment (Doelman and Cochrane 2014:272). While set-up as an alternative approach because of its concern with integrating social structures into the broader ‘environment' and highlighting the complexities of economic inputs and outputs, there is no radical departure from the norm in this research. The human behaviour in question is still measured in optimality and outputs of energy; social structures are invoked but are only appreciated for their role in an economised context, not in their own right. This treatment is problematic because it assumes universal driving mechanisms and continues to explain human behaviour in explicitly functionalist terms.

Mark Moore (2013) presented a clearer revision of methods in regards to changing technologies through time by questioning the appropriateness of the standard sequence approach to technological change in Australia, which identifies progression in flaking complexity and equates this to behavioural complexity (see also Balme and O’Connor 2014). Moore emphasised the lack of correlation between organisational complexity and stone artefact manufacturing sequences. Instead, he argued that changes from simple to hierarchical reduction sequences are more likely to have been strongly influenced by demographic change and its effects on information exchange and social transmission rather than the dominant ecological or foraging models, which only characterise proximate aspects of changes by linking them to environmental fluctuations (Moore 2013:146).

Another key example of internal critique comes from Holdaway and Douglass (2012) who drew attention to the overwhelming focus on retouched artefacts and formal tools in contemporary research, which is indeed curious because these objects were also the focus of typological approaches. Holdaway and Douglass (2012:110) showed that such a focus contrasts strongly with ethnographic information showing that Aboriginal people did/do not always place this level of significance (functional or otherwise) on these kinds of stone artefacts. What is
interesting to note about Holdaway and Douglass’ argument is that it highlights the extent to which contemporary archaeological research contradicts the ethnography on Aboriginal tool-makers and users in the recent past—I will discuss this disjunct between the archaeological and the ethnographical further below.

The papers highlighted above show a continued concentration on method and explanation over more explicit theoretical critiques. Holdaway and Douglass’ (2012:120) response to the issue they identified was to encourage methodological interest in artefacts often overlooked (i.e. the non-retouched flakes that represent the majority of artefacts in archaeological assemblages) rather than more substantial engagement with the reasons behind the situation. Similarly, Moore and Doelman and Cochrane advocated for more nuanced approaches to reduction sequences and explanations of variation. Methodological critiques and changes are indeed valuable but we also need to question whether it is satisfactory to leave revisions primarily aimed at the methodological level and ignore the underlying aspects, which are theoretical and ontological in nature.

I have set out in this section an argument that contemporary Australian stone artefact research is dominated by approaches that utilise economic frames of reference and a materialist, metrical and technological orientation, which derive from a Western scientific ontology. It is pertinent to make clear that while more explicitly scientific in nature and arguably more robust methodologically, the currently dominant approaches continue to operate within an ontological framework that essentialises human behaviour. The typological argument that fixed attributes of stone artefacts could be classified to identify cultural groups represented an assumption of an essential cultural constitution for all humans. The processual argument bases its technological classification of stone artefacts on functional rules that are assumed to apply universally across all cultures because all humans operate under the same essential laws, which is an
assumption of an essential functional or biological constitution (Ingold 2009:196). Effectively we have seen one form of essentialist classification replacing another. This continuation of high-level theoretical and ontological commitments despite methodological changes is common in archaeology. For example, Martin Porr (2011) established a similar pattern in John Shea’s (2011) ‘new’ framework for interpreting human behavioural modernity. Porr (2011:581) argued that it was a replacement of ‘one essentialist interpretation of the evidence with a different, more fundamental one that does not do justice to the richness of human lives and their interactions with their environments.’

Even given a certain amount of diversity within the contemporary field, I find that the dominant approaches retain essentialist aspects and assumptions about hunter-gatherer lives, and assume a stable relationship between behaviour and material culture. My contention is that this situation (the continuation of underlying issues) perpetuates a disjunct between different ways of knowing and indeed represents a research problem that requires attention.

Alternative Approaches

While the typically scientific approaches I introduced above are currently dominant in sheer volume of works and overall influence of ideas and arguments, it needs to be noted that these are also by no means the only approaches employed in this research context. In this section, I briefly review some of the contemporary alternatives to showcase the potential for more diverse approaches to stone artefacts in Australian archaeology.

Though embedded in the economic school of early archaeological research, Isabel McBryde’s (1978, 1984) work on axe exchange networks in Victoria is widely regarded as an important pioneering social approach to stone artefacts (Holdaway and Stern 2004:90–91). McBryde considered the social context of production and distribution of stone axes and argued that ‘technological or economic factors are not sufficient explanations in themselves’ (McBryde
This point is crucial, as too often economic and social factors are set up as opposing positions. McBryde, along with contemporaries such as Gould (1980), emphasised that these positions need to be considered together, and studying the exchange and sourcing of stone has been a key way many researchers have since tried to achieve this (see also Gould and Saggers 1985). Indeed, McBryde’s work has been carried on more recently by Adam Brumm (2010) who incorporated ethnohistoric sources and contemporary oral histories to highlight how axe technology, particularly the production and distribution of axes, was embedded in and underwritten by complex symbolic considerations and cosmological beliefs.

The early work of Donald Thomson (1983) and later R. Jones and Neville White (1988) at Ngilipitji quarry in East Arnhem Land highlighted the potential significance and interconnected meanings of the stone itself to Aboriginal people. Ngilipitji is perhaps one of the strongest examples of the symbolic and ceremonial significance of stone in Aboriginal Australia. R. Jones and N. White (1988:84) emphasised that the economic value of the stone from this quarry, while it does exist, was not sufficient to understand the site because its ritual role and the mythology in which it is embedded transcends the utilitarian. Connected to this example, is Paul Taçon’s (1991) research with Aboriginal people across Arnhem Land, through which he has highlighted the symbolic significance of stone sources, noting the aesthetic importance of stone and the connection of particular stone sources to creation stories and beings. Taçon (1991) emphasised the ceremonial significance of different stone materials and their aesthetic value, explicitly questioning how often archaeologists would tend to overlook these factors and assume a free distribution of materials. Taçon’s arguments and the Ngilipitji example highlight that decision-making about which stone sources to use and for what purposes cannot be reduced to economic-rationalist formulas. Furthermore, these cases underscore the need for archaeological understandings to be embedded in the world in which people live and for the causal significance
of social and cultural factors known ethnographically to be recognised. To do otherwise would continue the treatment of such factors as secondary to underlying functional causes; a clear underestimation of hunter-gatherer lives (David and Denham 2006; Kearney 2010; McNiven et al. 2006).

Gould’s (1980) well-known case study of ‘righteous rocks’ from the Western Desert is another powerful example of how archaeologists might attend to the social or sacred significance of stone. Gould (1980:141) explained that it was well-known that Aboriginal people obtained ‘stone for purposes or reasons that had more to do with their sacred life than with the more mundane considerations such as flaking or edge-holding properties.’ Gould’s example from the Western Desert centred around the use of exotic stone for adzes found at the archaeological site Puntutjarpa and which were still in use in the area in the 1970s. Gould noted (and demonstrated with replicative experiments) that exotic stone in addition to being harder to obtain was of lower quality than local stone. Thus, simple utilitarian arguments for the efficiency of use or ease of procurement could not explain the presence or use of exotic stone at this site. Ethnoarchaeological work by Gould, however, highlighted the totemic or mythological significance of such stone sources; the associations that made them ‘righteous rocks’. As Gould (1980:154) explained:

In every case, the Aborigine possessing such imported stone artifacts was able to name and describe the exact place where the raw material was collected and give its totemic affiliation (that is, he was able to name the ancestral mythical character connected to that place), even though the man being interviewed may not himself have gone to that place to collect this stone.

This example emphasises the important role of ethnoarchaeology, or in Gould’s words ‘living archaeology’, highlighting the value of investigating anomalies in the archaeological record rather than leaving them aside to focus on broader patterns (as was advocated by the processual movement). It furthermore shows
In addition to the significance of stone sources, there are also social approaches to particular kinds of stone artefacts, for example, Robert Paton’s (1994) exploration of the exchange of leilira blades in the Northern Territory. Paton’s (1994:178) research highlighted the social significance of these artefacts and the role that their exchange played in the transmission of knowledge across generations, with young people being introduced to different levels of meaning associated with these blades through time. Paton argued that the value of the leilira blades was not their utility but rather the messages they communicated; such messages could range from social mores to information on creation myths.

While there is limited space to cover fully this complex research, Paton’s (1994:174) ultimate point was that the ‘economic rationalist approach ... will always fail to recognise that artefacts can be foremost symbols communicating coded information’.

Another alternative to mainstream technological explorations of stone artefacts is the research of Rodney Harrison (2002, 2003, 2004, 2006, 2009). Theoretically, Harrison’s work aligned with Alfred Gell’s (1998) object agency and explored postcolonial notions of hybridity and mimesis, which are relatively uncommon in this research context (but see more recently Brady et al. 2016). Harrison’s research demonstrated the role of Kimberley points in the creation and maintenance of identity for Aboriginal men (2002), the hybridity that these particular objects seem to represent (2003), and the power of the objects to lure collectors and archaeologists alike (2006). This work has been met with some criticism (e.g. Akerman 2008), though mostly directed at the interpretation of ethnography rather than its theoretical arguments. More recently, Harrison (2010:525) has argued that we need to pay more attention to the meaning and material agency of stone artefacts and expand our focus beyond production and use. Metrical
analyses were accepted by Harrison (2010:521) to have improved understandings of the social and material processes involved in artefact production, however, he also argued that they draw attention away from the efficacy of stone artefacts. Overall, Harrison has on many occasions put forward compelling propositions that find little correspondence in the dominant literature on Australian stone artefacts.

The collection of works reviewed in this section illustrates some of the varied attempts to place stone artefacts into broader social contexts. A key issue that still exists in this literature is that utilitarian and social values are often treated as mutually exclusive. Disappointedly, it is still the case that only when a utilitarian function cannot be found, a social or ideational one is sought (e.g. Gould 1980; J.P. White 2011). While this redundant separation of factors has indeed been noted by other authors (e.g. McNiven 2011; Veth 2006; Veth et al. 2000), the continuation of such trends suggests that these arguments have largely gone unheeded. To be clear, this tendency toward separation is also prevalent within the more dominant orientation and indicates that there is a need to question this common, but often unjustified, assumption and reinforced dualisms across the board. Overall, while varied in nature, the literature surveyed in this section demonstrates that the scientific dominance of research on Aboriginal stone artefacts in Australia is not wholly representative of all research on this topic. Furthermore, what I have shown with these examples is that there is a fruitful literature to use as a jumping off point for an alternative orientation.

Establishing the Research Problem

In this section, I draw together the insights developed above to articulate the research problem more substantially. I argue that the lack of ontological and epistemological complementarity and integration, combined with the continued subjectation of the Indigenous past is noteworthy as it reinstates the colonial agenda of Australian archaeology and limits our interpretation to a narrow range
of scientifically ‘acceptable’ options (Gero 2007). I engage with the use of ethnography as a particular case study where the disjuncture between typically Western and Indigenous perspectives becomes most apparent. Ultimately, I highlight that there is both the need and space for more alternative approaches to be developed.

Clearly, there have been substantial revisions and improvements to stone artefact research in Australia. However, the ontological condition of knowledge in these approaches has not changed that dramatically. L. Smith (1995) argued that archaeological research in Australia has an overwhelming emphasis on methodological and technical aspects. Two decades ago she demonstrated, with the case of postprocessual theory and the critical debates it sparked, that Australian archaeologists had distanced themselves from the rest of the archaeological discipline, seemingly with the attitude that such theoretical revisions were not applicable to the Australian research context. This apparent distancing was even though an increasing number of Australian archaeologists, particularly those interested in Indigenous heritage, were already engaging in issues directly related to the postprocessual movement. Alice Gorman and Tom Sapienza (2011) have more recently suggested that the lack of deeper theoretical engagement in Australian archaeology perhaps stems from ‘cultural cringe’, or that Australian archaeologists have not ordinarily considered theory from ‘outside’ to apply to them. Regardless of what is behind it, the overall lack of theoretical engagement results in the ontological condition of knowledge (i.e. the assumptions we make about the world and what it is) being left to one side, which allows problematic underlying aspects (e.g. the essentialisation of so-called hunter-gatherer lives) to continue even though these issues are implicated in earlier rejected approaches, such as typology.

A critical component that is currently missing from the dominant approaches to stone artefact research in Australia is the sense that this field would value from
engagement with reflective or postcolonial perspectives. The flourishing of supposedly objective, scientific techniques that dominate over social or critical analysis is deeply concerning and increasingly untenable. For example, while there are some notable exceptions (e.g. Brumm 2010; Harrison 2006; McBryde 1997), engagement with ethnography has been limited and used to supplement archaeological evidence or to answer questions that the researcher deems of significance (such as the functions of tools). Such limited engagement overlooks more intangible but fundamentally significant aspects of human interactions in the world (Kearney 2010:101–102). This primarily seems to be because the way that archaeologists typically explain various changes and patterns in artefact production, use and distribution across Australia are still very much couched in functionalist understandings and are yet to seriously and consistently incorporate reflexive approaches (Head 2007:838) and, continue to treat non-ecological dimensions (such as spiritual or symbolic aspects) as epiphenomena (McNiven 2016:14; cf. Stump 2013:274). As I introduced earlier, these scientific approaches are forms of classification that still hold to the same rationalist notions implicit in a Western essentialist ontology, which was apparently the undoing of typological approaches. Harrison (2010:522) has argued that even though these studies make a significant contribution to our collective archaeological knowledge, if left on their own they ‘will lead to accounts that focus only upon production at the expense of consumption.’

Moreover, Harrison (2010:522–523) has argued that metrical studies (those that I have referred to as dominant earlier in this chapter) ‘privilege a particular attitude to manufacture, in which a mental design is imposed upon the material to create the form of the artefact’. This privileging comes at the expense of more dynamic understandings of artefact-maker relations. The imposition of a mental design is the hallmark of the hylomorphic model (Ingold 2013b:28). Aristotle established the classical hylomorphic model (where hyle = matter and morphe = form) and it refers to the understanding of matter taking a form imposed on it through the
process of making (Conneller 2011:126). While originating in classical philosophy, the ideas behind the hylomorphic model are intertwined with broader intellectual developments in the modern West. For example, this model relies on the assumption that material things have an unproblematic character that archaeology can access (Thomas 2004:27). Furthermore, it relies on the assumption that ‘the world is first of all composed of matter, to which human beings ‘give' meaning’, which Thomas (2004:41-42) referred to as a process of ‘un-worlding’, which renders the world a docile object onto which humans attribute meaning and description.

It is fitting now to take a closer look at the continuation of the hylomorphic model and privileging of so-called economics in contemporary studies of stone artefact use and maintenance. Reduction indices play a core role in current stone artefacts studies in Australian archaeology, these models of reduction are used to develop understandings of how core hunter-gatherer behaviour (e.g. mobility) is represented in the archaeological record (e.g. Clarkson 2007; Mackay 2005). It is important to note that describing stone artefacts through the lens of reduction and considering the transformations artefacts go through during their ‘use-life’ (cf. Dibble 1987) relies on assumptions of stable relationships between mobility and tool curation and, furthermore, stable and essential properties of stone as a material substance. In other words, this position depends on artefacts always being discrete and secular objects with essential properties, even though countless ethnographic accounts indicate that this is far from many Indigenous peoples’ experiences and knowledge of stone artefacts (e.g. Gould 1980; Paton 1994). Indeed, as John Bradley (2008) has demonstrated, for some (perhaps many) Indigenous peoples there is the potential for artefacts to substantially shift depending on context (this is discussed further below). The situation in contemporary stone artefact studies is a clear application of the hylomorphic model, which defines stone artefacts as being composed of inert material onto which humans impose form, function and use.
The continued focus on production and use, and specifically on things as end products, such as finished or exhausted artefacts and tools is also problematic (Harrison 2010; Holdaway and Douglass 2012). This field of research is still dominated by interest in the essence of things rather than the ongoing processes that form them and that may continue after they no longer have a utilitarian purpose. More specifically, the weight of concern still rests with the antiquity of certain kinds of artefacts and their distribution across space and time—an obvious example of this is the continued focus on backed artefacts in Australian archaeology (J.P. White 2011). The lack of genuine concern for more dynamic processes, those beyond technological descriptions of production and use, directly limits the engagement of this field of research with how stone artefacts relate to and are entangled with other aspects of human life (McNiven et al. 2006:17). Overall, I argue that the continued privileging of end-products produces a fetishised version of the Aboriginal past and substantially limits engagement with more dynamic understandings of life in general, and material things specifically (see also McNiven and Russell 2005). It is, once again, a continuation of the hylomorphic model, which is critiqued in both anthropology (Ingold 2013b) and archaeology (Conneller 2011) as a limited way of understanding material things.

Such impositions relate to assumptions about the importance of ‘economics’ in hunter-gatherer livelihoods. As Porr (2001:165) has noted, these assumptions have been at the expense of understanding the ‘complex interplay of the natural environment, the history of interaction, conscious choices of dependence and independence, and a fundamental economic and social flexibility’. Worryingly, we also encounter ingrained assumptions about hunter-gatherer lifeways in the past as well as the present in the Australian context (David and Denham 2006). Many authors have discussed the equation of hunter-gatherer peoples with nature (Anderson 2007; Griffiths 1996; Ingold 1995; Lourandos 2008; McNiven and Russell 2005), so I will only briefly comment on this issue. Generally speaking,
naturalising Indigenous people as *just* hunter-gatherers removes the ethical imperative to engage critically with how the ontological politics of the present impacts on our representation of their pasts (cf. Alberti 2014).

The lack of engagement with ethnography and with the perspectives of contemporary Aboriginal people, which is something I will discuss more in the next section, further reinforces the representation of timelessness and closeness to nature (Porr 2001, 2010a). Following Kay Anderson’s (2007:8–9) arguments, we can view this representation of Aboriginal people as linked to an understanding that connects human potentiality to cultivation/agriculture as the developmental threshold for the emergence of the great traditions of human civilisation. Anderson has argued that this tendency, to write Indigenous people into nature, continues in regards to Aboriginal Australia today. For example, the ignoring and delegitimising of urban forms of Aboriginality are understood to result from an essentialised understanding of being Aboriginal that does not allow for dynamism or change. Archaeology can play a role in this process too, in particular through the establishment and maintenance of notions like the ‘oldest continuous culture’, which reinforces the timelessness of Aboriginal culture (Allen 2015; Allen and Phillips 2010). However, these issues are not only related to notions of continuity across time but are malleable and much broader. For example, they can also be seen in the championing of traditional Aboriginal practices of caring for Country as ‘natural resource management’, which ignores the deeper human-Country relationships involved and operates under the assumption that Indigenous ways of knowing connect unproblematically to Western values (Suchet-Pearson et al. 2013; see also Ross et al. 2011).

I argue that it is unsatisfactory to leave the typically Western scientific orientation as the principle means for understanding stone artefacts in Australian archaeology. The conceptual remainder is too substantial and, furthermore, while consistent methodological adjustments are welcome, they do not shift the
theoretical foundation. The conceptual remainder relates to assumptions of universal human behaviour and causal mechanisms that appear to trump cultural differences. Mainstream scientific research often relies on (sometimes implicit) optimality models and theories drawn from the behavioural ecology literature (as do vast amounts of contemporary research in other specialities and areas of the world), which are inherently and often explicitly reductionist (Atalay 2008:33; Ross et al. 2015:188). What is deeply unfortunate is that many do not recognise the implicit assumptions and subjectation that their utilisation of such models imposes on people in the past (McNiven and Russell 2005:181). While such approaches may explain a certain proportion of the variation present in the archaeological record, this has created a false sense of security in the explanatory power of these models. The reduction of hunter-gatherer pasts in this way perniciously denies the complexity of such societies (for example, see Mathew and Perreault 2015), which is problematic if we understand that all research is a product of the society that produces it. So, we should ask: what is it about the contemporary Western society that reduces the histories of Indigenous peoples in this way? As Ian McNiven and Lynette Russell (2005:239) lamented: ‘People of the past somehow have become lost in the search for universal laws.’ The point I am establishing here is that the higher-level is where the research problem lies. In other words, the focus on epistemology and methodology in Australian archaeology at the expense of higher-level theoretical and ontological revisions has meant that the underlying issues of academic authority and universality of Western thought have continued.

**Ethnographic Engagement**

One key aspect of this research problem requires further space and elaboration: the treatment of ethnography. As I introduced above, ethnography and contemporary oral histories represent an important way that archaeology can engage with Indigenous knowledge on stone artefacts and more generally (David et al. 2006). However, there is ongoing pessimism concerning ethnography and
analogy in archaeology (Barker 2006; Wylie 2002), which appears to be behind the relative lack of contemporary archaeological studies that meaningfully engage with ethnography and by extension Indigenous perspectives on their material culture.

There are longstanding debates (i.e. ongoing for about three decades) in Palaeolithic archaeology on this topic (Porr 2001 and references therein), where ethnography and ethnoarchaeology are utilised in very limited ways that often separate processes assumed to contribute directly to the archaeological record from all other factors (see also Kearney 2010). The early work of Martin Wobst, for example, is critical for understanding the current approach to ethnography in so-called hunter-gatherer research and particularly this idea of pessimism. Wobst’s (1978:304) concern was with ethnographic information dictating or being made to fit archaeological data, which was problematic given the subjectivities of ethnographic fieldwork, the incomplete knowledge of informants, and the small-scale or ‘worm’s-eye view of reality’ that one gains from ethnography. Ultimately, Wobst (1978:307) concluded that: ‘Long after the ethnographic era of hunter-gatherer research will have passed into history, archaeologists will be busy removing the ethnographically imposed form and structure from their data and retrodicting both the ethnographic and archaeological record.’

Within Australian archaeology, one of the strongest arguments raised against using ethnography is the rapid trajectory of change in Aboriginal society brought about by European contact and invasion. The effect of such an argument is that it supposedly renders ethnographies written about Aboriginal people (or testimonies written by themselves) untrustworthy or suspicious, especially if the context they are being related to is the deep past (Hiscock 2008:1–19). While the impact of colonisation is undeniably immense, and indeed ongoing, it has never been convincingly established that this renders the potential contribution from ethnography and contemporary Aboriginal people to archaeology null and void.
(McNiven et al. 2006; Sutton 1988). Regarding the study of stone artefacts, critiques aimed at the uncritical application of direct ethnographic analogy, which is indeed an important issue (Wylie 2002), have seemingly condemned the practice to such an extreme that it is now something one uses cautiously or risks having one’s research rejected outright. For example, see Hiscock’s (2013) critique of Brumm (2010) who, as discussed in more detail previously, attempted to apply ethnohistorical information to interpret the archaeological distribution of greenstone axes. (Note also that the situation in regards to ethnography in other research areas, for example in rock art studies, is often different.)

I want to emphasise here that the application of a Western understanding of knowledge and ‘the World’ or reality to the deep past is itself analogical. Thomas (2004:1) has argued that archaeologists often lack an appreciation for the conditions under which we operate in the present and demonstrates how historical trajectories in Western thought have created the conditions for the possibility of contemporary archaeology (see also Waterton 2005:313). Furthermore, one of the characteristics of modern thought is the assumption that scientific knowledge is context-free and consequentially represents a single authoritative system of knowledge (Thomas 2004:18; see also Leach and Davis 2012). As Annie Ross et al. (2011:51) have made clear:

> ... Western science is dominated by a positivist, reductionist, theoretically constructed, reliable, independently verified, narrowly applied and heavily compartmentalized way of understanding how the world works. It is also clear that many scientists, if not most science practitioners, believe that this way of knowing is the only true and ‘correct’ way of thinking.

Authoritative ways of knowing, as described above, are problematic not only because they result from a very particular historical context but also because they leave little room for other ways of knowing, which is of concern when the research subject is the Indigenous or deep past (Atalay 2006:280, 2008).
Postcolonial critique and key movements directed by Indigenous concerns is particularly useful in this situation because it helps to question the assumed authority and universality of the dominant mode and its ownership of the past (Colwell-Chanthaphonh et al. 2010:233; Atalay 2008:32). It also shows how the treatment of Indigenous (and other) positions as merely alternative ‘perspectives’ is political and can be experienced by Indigenous people as epistemic violence (Bawaka Country et al. 2016a; Hunt 2014; V. Watts 2013; cf. Stump 2013).

Excluding Indigenous peoples’ contribution to scholarship on themselves and their history creates the opportunity for the dominant mode (in this case Western science) to reinforce the legitimacy of its own way of knowing (Todd 2016; see also Smith and Waterton 2012). Porr (2010a:31, see also 2011) has argued that engagement with hunter-gatherer studies in research on the evolution of modern humans ‘almost exclusively concentrate[s] on quantifiable data and exclude[s] a serious engagement with Indigenous interpretations and viewpoints’, which results in an understanding of being human in which culture and cultural goals are ‘distractions and distortions’. This engagement results in an impoverished view of both people and the societies they live in as well as biological understandings of evolution. As Porr (2010a:31) further explained:

> It is rather arrogant to assume that all cultural variations are just noise and disturbances observing a universal, genetically fixed substrate supposedly geared towards Western efficiency considerations and purely accessible through Western scientific, analytical thought.

This point links to arguments for a social archaeology of Indigenous Australia or an Indigenous archaeology to reverse the treatment of non-economic or secular aspects as epiphenomena (McNiven 2016; McNiven et al. 2006).

Considering ethnographic analogy more specifically, Alison Wylie (2002) has critiqued the apparent insecurity of archaeology to engage more deeply with
analogy and the limitations this places on interpretation. Wylie (2002:147) argued that the critiques of ethnography have been directed towards a particular kind of analogy: formal analogy or direct cross-cultural comparison. Briefly, the issue here is that the rejection of this form of analogy has added stigma to any use of analogical reasoning, even though formal analogy is not the only kind of analogical argument one could make. Steven Gamboa (2008:231) highlights that suspicion about analogy has a long philosophical pedigree, which he argued results largely from the perspective that analogy is not a rigorous form of reasoning that could stand up to logical inquiry and that it is thus ‘merely heuristic’. The importance of Gamboa’s (2008:240) work with relational analogy and disanalogy is that he removed the a priori argument that analogical reasoning is always heuristic, and thus allowed room for debate about the epistemic criteria needed to make an analogical argument convincing. This argument does not mean that analogies of this form are accepted without qualification, what it does mean is that they can be evaluated rather than rejected outright. As Wylie (2002:152) has outlined, there are clear criteria for assessing analogies and associated strategies for strengthening analogical arguments; she has particularly emphasised the value of relational analogies to archaeology in respect to the latter.

The mainstream archaeological treatment of stone artefacts has only incorporated certain aspects of ethnography, primarily insights into their function and use, which is in keeping with an overall tendency in archaeology to only use ethnography to supplement archaeological evidence (Kearney 2010; Nicholas and Markey 2014; cf. Stump 2013). The overzealous caution concerning engaging more deeply with ethnography further enhances the subjectation of the Aboriginal past. It sends the message that Aboriginal peoples’ knowledge about their history and material culture is suspicious, not empirically robust, open to critique and sometimes, ultimately, dismissal. This situation reflects a broader tendency in Western science to abjure any other way of knowing or experiencing
the world; as Tim Ingold (2013a:744) explains ‘scientists do all they can to avoid
listening, for fear that it would interfere with or compromise the objectivity of
their results.’ The dismissal of Indigenous knowledge in this situation provides an
opportunity for more openly scientific approaches to flourish (see also Colwell-
Chantaphonh et al. 2010). The basic argument here seems to be that if
ethnography and contemporary peoples’ perspectives cannot be trusted, then
scientific archaeology should have more weight and freedom to assert itself—
clearly, this is not well justified.

I want to provide now an example of what we might gain by engaging more
depthly with ethnography and oral history. Anthropologist John Bradley has
written persuasively about the fluidity of Aboriginal, specifically Yanyuwa
peoples’, understandings of the world and how these relate to archaeological
understandings of stone artefacts. Bradley’s (2008) work is one of the most vivid
examples of the disconnect between explanations of stone artefacts by Aboriginal
people and archaeologists. As Bradley reports, for the Yanyuwa stone artefacts
can be the Dingo:

This stone tool is my most senior paternal grandfather, this stone tool
is the Dingo, it is his fat, he was first to make these things, and we
people came behind, these stone tools are truly the Dingo... (Yanyuwa

As Bradley explains, for Yanyuwa people these ‘things’ oscillate according to
context between the vital, their everyday function, and the supervital, where the
thing becomes a phenomenon supercharged with meaning. In the Yanyuwa
understanding, organisms (both human and non-human) and objects are
embedded in webs of interconnectedness. This means that they have the
potential to be reconstituted and be related to everything else.

My argument here is that such points of contact with Aboriginal knowledge and
understandings have the potential to transform and enlarge archaeological
practice and our understanding of the relationships between human actions and material culture but only if we can first address the disjunct between these different ways of knowing (Atalay 2008). Bradley (2008:636) argues that archaeological views ‘left embedded in the dominant, and seemingly powerful, Western discourses and ‘tradition’ may blind us to other cultural alternatives’. This point links to Amanda Kearney’s (2010) research, also with Yanyuwa people, that demonstrated just how much can be missed when intangible aspects are ignored in favour of tangible/archaeological evidence. I argue that to reconcile this problem we first need to deconstruct the fundamental underpinnings of Western knowledge systems, where ‘things’ like stone artefacts are always discrete objects with essential properties, profanely rendered as utilitarian objects within an economic model (i.e. the dominant research approach in Australian archaeology) (see also Appadurai 1986). Furthermore, we need to appreciate that these are not just different perspectives on the same material but because of the ontological nature of these differences, they do in fact represent different understandings of the nature of reality.

I briefly take these lines of critique further especially concerning the entanglement of archaeology with the subjectation of Indigenous history. McNiven and Russell (2005:181) defined subjectation as the subordination and objectification of a particular group and, in this case, their history. Subjectation, for example, removes the authority of Indigenous people to speak for their heritage and instead emphasises the exclusive access of archaeology to the past. While it would not necessarily be the goal of any archaeologist to bring about such treatment of Aboriginal history and perspectives, it seems to result from the ongoing effects of decades of established and reinforced authority.

An example of the (perhaps unwitting) role that archaeology plays in the subjectation of the Indigenous past is the increasingly sophisticated techniques used in stone artefact analysis. The development of these techniques is aimed at
increasing the accuracy and reliability of descriptions and measurements of stone artefacts. These aspects are highly valued and currently achieved, for example, through performing numerous detailed measurements, complex statistical analyses and the use of 3D scanning technology. While there is nothing intrinsically ‘inappropriate’ about any of these techniques nor the aim to describe artefacts better, these developments also have a broader impact. By describing stone artefacts in increasingly abstract, mathematical terms that require specialist training and equipment to access and understand, the knowledge that archaeologists generate about these artefacts becomes inaccessible to most Aboriginal people, and most archaeologists outside the speciality sub-discipline; further removing these things from their cultural context. Scientific description and analysis have traditionally been attributed more authority (as I have previously discussed), so when the results of these techniques are left to sit side-by-side with Aboriginal explanations of the same things this broader impact is particularly problematic. This kind of subjectation creates an authoritative discourse (Waterton et al. 2006) that dislocates peoples’ views of their (or in this case their ancestors’) actions from the products of those actions—the latter are characterised as the results of fundamental causal mechanisms that transcend the individual, again rendering anything beyond the secular realm as epiphenomena.

In the example given above, it is not just the interpretation of archaeological data that is an issue but also that those things can be seen simply as ‘data’. This methodological approach stems from a theoretical orientation in which hunter-gatherers are assumed to be governed by universal, economising laws that can only be accessed ‘scientifically’—an assumption that economy does indeed define hunter-gatherer societies and neglection of cultural factors (Porr 2001:165; see also David and Denham 2006). Following postcolonial theory, one needs to deconstruct how knowledge is constructed and represented in archaeology and what issues this causes when the subject is the Indigenous past. That Aboriginal knowledge and description do not carry the most (and in many cases, any)
authority concerning their material culture should be cause for concern. The power differential between Indigenous peoples’ and archaeologists’ voices in regards to heritage was highlighted by McNiven and Russell (2005:229) as a critical issue that is often not recognised but indeed has significant implications for the construction of Indigenous identity/Aboriginality (Hunt 2014:29). This issue is widespread in heritage studies and is tied to the construction of ‘expert cultures’ through which archaeology and heritage professionals receive their authority (Waterton 2005:313) and in turn establish an ‘authorised heritage discourse’. Such discourse naturalises its own existence and effectively overshadows alternative discourses (Smith and Waterton 2012:170-171; see also Waterton et al. 2006). I suggest that taking seriously (sensu Viveiros de Castro 2011) oral history and ethnography could be one way to address the effects of subjection and move toward a relational orientation that would integrate such diverse knowledges and develop archaeological practices that are more ‘harmonious’ with the communities whose pasts are being studied (Atalay 2006:284; see also Hollowell and Nicholas 2008) leading toward more decolonised and democratic archaeological practice (Atalay 2008:43).

Chapter Summary

While the dominant approach in Australian stone artefact research is in many ways distinctive from the earlier antiquarian and typological approaches, I have demonstrated in this chapter that many of the revisions that have led to the contemporary mainstream have been primarily methodological rather than theoretical in nature. Without deeper theoretical engagement and change, only superficial corrections can be made and I argued that this is how the problematic essentialisation and categorisation of Aboriginal material culture continues. However, against this pessimism, I also presented a brief overview of some key alternative approaches and critiques against the dominant mode to highlight that there is room to continue to explore and expand research in this area.
In articulating the research problem, I engaged with postcolonial critique and the philosophy of science, and I focused particularly on the treatment of ethnography, which is one aspect archaeologists could better engage with to incorporate Indigenous perspectives on their material culture (McNiven 2016; see also Ross et al. 2011; Wylie 2015). Across this critique I identified many issues; two major ones are the continued reliance on essentialist approaches to stone artefacts in archaeology and the subjectation of Aboriginal history and pejorative treatment of ethnography. What this comes down to is the unjustified idea that Western essentialist ontology should have unfettered and unproblematic access to the past and that it can produce knowledge about the past that is authoritative and objective. Those assumptions are not substantiated.

The core aim of this chapter has been to establish the nature of a research problem in Australian archaeology, specifically related to the study of stone artefacts. The research problem is the disjunct between mainstream Western archaeological approaches to stone artefacts and Indigenous knowledge of the same things, coupled with a side-lining of alternative social approaches through appeals to the authority and universal applicability of scientific perspectives. I have also established that this problem exists not only because of the renewed enthusiasm for science in archaeology but also because there has been a focus on epistemology and methodology at the expense of higher-level theoretical and ontological revisions. This focus has perpetuated the underlying issues of academic authority and universality of Western thought. The disjunct is significant as increasingly there is an ethical imperative for archaeological research to move away from connections with models of assumed academic authority and universality of Western thought (McNiven 2016; Wylie 2015). The issue is not just that a disconnect between scientific, Indigenous and other positions exists. Rather it is that these differences are ontological and thus cannot be treated as mere conjecture and, furthermore, that this situation has a limiting impact on understandings of the past as it tends to restrict our options in
archaeology to a narrow range of scientifically acceptable possibilities (Gero 2007). I anticipate that resolving such issues will lead to more diversity in narratives and explanations of stone artefacts, and to contribute to an emerging relational position that neither privileges economic nor social considerations. And furthermore, that addressing this problem might lead to an overall more ethical research climate that engages more substantially with the perspectives of Indigenous people.
Chapter 3: Ontology

Introduction

In Chapter 2, the research problem I identified was the disjunct between mainstream Western archaeological approaches to stone artefacts and Indigenous knowledge of the same things, coupled with a side-lining of alternative social approaches through appeals to the authority and universal applicability of scientific perspectives. In other words, despite methodological and theoretical changes over time, there is still a common assumptive basis (that is ontology) underlying dominant approaches toward stone artefacts. Therefore, I argued that for a new orientation to be established there needed to be a focus on higher-level theoretical and ontological revisions rather than epistemological and methodological critique.

This chapter and the two that follow will form the theoretical core of this thesis. In this chapter, I focus on ontology, while Chapters 4 and 5 will concentrate on learning and material culture (respectively). I will examine these themes in detail and demonstrate how each is intrinsically linked to the next and necessitated by the research problem identified in Chapter 2. An undercurrent throughout these three chapters is my engagement with postcolonial thinking, which has not been routinely employed in areas of deeper time archaeology or much outside of specific colonial contexts (Porr and Matthews in press a; van Dommelen 2006). As such practitioners in this field of study do not routinely consider the impact of their work or how it may replicate and reinforce legacies of colonialism and Western modernity. While it is not my intention to conduct a detailed review of postcolonial theories on ontology (nor on learning or material culture) this general critical perspective will be present throughout my writing nevertheless.
At the most basic level, ontology is defined as the study of or discourse about the nature of being or ‘that which is’ (Graeber 2015). In philosophy, ontology has traditionally been associated with existence, entities and categories of being (McGuire and Tuchanska 2000), and most notably has been implicated in various arguments relating to the existence of God, such as the ontological argument of St Anselm (Russell 1946:410). Ontology has also found a home outside philosophy in digital domains where the term takes on a more technical meaning and relates to information sharing and the naming of data and digital entities rather than metaphysical questions of existence or reality (Knox and Walford 2016; Roe 2012). While philosophy and digital iterations of ontology will not be my concern in this chapter, this very brief overview helps to make an important point about defining ontology. As Patrik Aspers (2010) has explained, there are serious issues in the social sciences with ontology being used to ask questions about how we understand the world rather than what it is. The distinction to be clear about here is that one assumes reality as given and the other explores its potential.

My exploration of ontology in this chapter has four main aims: 1) to define the concept of ontology, from an anthropological perspective; 2) to look at the current engagement with ontology in archaeology; 3) to introduce relational ontology as a potential disciplinary ontology for archaeology; and 4) to discuss explicit case studies of Indigenous ontology in Australia. While I broadly divide anthropology and archaeology into separate sections, given the intertwined history of these disciplines there will be slippage between the two as well as incursions from other related disciplines (e.g. cultural geography).

The Ontological Turn in Anthropology

My primary interest in this section is the ontological turn in anthropology because anthropological theory holds much relevance for discussions of ontology in archaeology, especially given our often related subject matter and comparative approaches. In this section, I concentrate on establishing what the ontological
The ontological turn in anthropology arose in response to, what is distinctive about it and to highlight critical interventions it makes of relevance to my work. Since in this thesis it is not possible to provide a full analysis of the historical genesis of the ontological turn in anthropology, I instead aim to establish a clear understanding of how ontology is currently used in comparative socio-cultural iterations of anthropology, which seem to hold much value for archaeological applications.

As already noted, philosophical approaches to ontology are not the focus of this chapter. However, it is necessary to briefly discuss the departure of anthropology from philosophy. David Graeber (2015:15 original emphasis) has highlighted the contrast between philosophical definitions of ontology, as ‘a discourse (logos) about the nature of being’, and anthropology’s definition, which corresponds to a ‘way of being’ or ‘manner of being’. Along similar lines, Paolo Heywood (2012:143) used the work of analytical philosopher Willard Quine, who jested that if ontology is boiled down to the single question ‘what is there?’ then the simplest, logical answer had to be ‘everything’. Heywood’s point in exploring Quine’s position on ontology is to highlight how anthropology should not follow in his footsteps and to emphasise that the contemporary anthropological use of ontology is far removed from the original philosophical conception. Eduardo Kohn (2015:313) and Martin Holbraad (in Alberti et al. 2011:902) have respectively noted that the term still ‘concerns the study of reality’ or ‘pertains to the ‘reality’ or ‘existence’ of things.’

As mentioned in the introduction, there have been recent critiques of the use of the term ontology in the social sciences; this is also the case in anthropology. Kohn (2014), for example, has critiqued the distinction made between different kinds of ‘good’ and ‘bad’ ontology in the writing of Holbraad et al. (2014). Other anthropologists have asked whether ontology is just another (or a fancier) word for culture (Venkatesan et al. 2010). Elizabeth Povinelli (2014) has questioned the reoccurring equation of ontology with essence, asking whether anthropology has
already forgotten the work of Martin Heidegger and that ‘existence, remember, precedes essence’. Graeber (2015) has most recently taken up the debate in response to the ontological turn in anthropology suggesting that it is an extreme form of idealism. Graeber (2015:17) argued that the shifting meaning of ontology and the urge of proponents of the ontological turn to not impose their ontology onto others and accept the existence of multiple ontologies, moves us away from the original project of ontology and instead refers to a ‘tacit set of assumptions underlying the practice of natural and social science.’ Particularly of interest for my research, Graeber noted that rendering all Western philosophy as a monolithic entity positioned against any Indigenous or non-Western ideas is particularly problematic, especially given the diverse non-Cartesian philosophical influences of the ontological turn (e.g. Gilles Deleuze or Heidegger) and more pressingly the ethnographic and feminist roots of ontological concerns in anthropology itself (e.g. Strathern 1988).

More precisely, the issue that the ontological turn responds to is empiricist or rationalist thought and dualist positions, which are indeed foundational in Western science (Thomas 2004). Furthermore, as Michael Scott (2013:862) has highlighted, such positions are opposed to relational non-dualist ontologies, which broadly encompasses Indigenous and non-Western thought but is also now a growing part of the Western academy as well. From this short review of defining ontology in anthropology two things stand out: 1) that a lot of anthropological writing uses ontology in an opaque manner; and 2) that anthropology’s ontological turn has morphed the traditional meaning of ontology substantially. It is also important to note here that the ‘ontological turn’ in anthropology is not a cohesive school of thought or theoretical framework but rather is meant as a ‘heuristic analytical device’ (Pedersen 2012; see also Alberti et al. 2011).
I identify two key motivations in anthropology’s contemporary ontological turn: 1) alterity; and 2) epistemology. On the first, Giovanni da Col (2014:i) has explained that the ontological turn in anthropology is aiming to recalibrate ‘what the notion of ‘alterity’ (of people, of concepts) entails and examining the effects of this analytical process on the very reconception of humanity, sociality, self and non-self.’ In many ways, ethnographic encounters with Indigenous peoples, their knowledge and their incommensurable relation to Western notions fuels this aspect of the ontological turn. This point comes across strongly in Kohn’s writings about the Amazonian Runa and their relations with other life forms (other animals) as well as the forest itself (e.g. Kohn 2007, 2013; see also Viveiros de Castro 2014). The second motivation is a response to a preoccupation with epistemology (Toren and Pina-Cabral 2009). As Viveiros de Castro (2004:848; see also 2015) has argued, epistemological angst within anthropology relates to a simplification of ontology in this field over time. That said, we are also increasingly asked to pay attention to the intersection of ontology and epistemology; to recognise the ways that they are bound to each other (Toren 2012b:76) and are ‘always already’ outcomes of ‘socially constructed ways of knowing’ (Anderson 2007:7). That said, the two are often still written about separately, even though their connection is not disputed, which again reflects that the turn to ontology has often been a directed response to an overemphasis on epistemology and the need for ‘richer ontologies’ (Viveiros de Castro 2004:484).

Beyond definitional and motivational concerns, an important critique of the current anthropological uses of ontology and its contrast with epistemology comes from Haudenosaunee and Anishnaabe scholar Vanessa Watts (2013:24), who argued that the epistemological-ontological divide of the Euro-Western tradition ‘removes the how and why out of the what’. By doing this, V. Watts explained that—in contrast to a vast number of Indigenous ontologies—the Euro-Western tradition tends to assume that humans are separate from the world they
are in, which has been considered necessary to observe the world, according to philosophers such as Kant and Descartes (see Thomas 2004 for similar arguments in archaeology). V. Watts (2013:26) also argued strongly against the appropriation, abstraction and control of Indigenous conceptions of the world, which Western frameworks render as just stories, lessons, teachings or another way to view the world, whereas for Indigenous peoples, as V. Watts makes abundantly clear, these stories are ‘what happened’ (for an Australian discussion of this, see Sutton 1988). V. Watts (2013:26) has argued that what colonialism achieves by doing this is not just the delegitimisation of Indigenous stories but that it also makes ‘Indigenous peoples stand in disbelief of themselves and their histories.’ V. Watts (2013:28) explained that the issue is not about Euro-Western thinkers being colonial per se but rather that the assumptive basis of traditional conceptions of ontology and epistemology creates spaces for colonial practices to continue to occur. Clearly, to lessen epistemic violence and to engage meaningfully with Indigenous ontologies (or cosmologies, which is sometimes a more appropriate term), a reflexive approach to the dominant Western intellectual tradition is necessary—such a critique feeds into the broader postcolonial aims of my research.

Another strong critique of anthropology’s ontological turn comes from Métis scholar Zoe Todd (2015, 2016, in press), who has highlighted the lack of recognition of Indigenous perspectives in the work of key actors in the ontological turn (Bruno Latour in particular). There is an apparent disconnect in the literature, which cites insights from Indigenous people as the inspiration for the ontological turn, yet at the same time, routinely excludes the scholarship of Indigenous people on these topics, along with more substantial engagement with Indigenous thought itself, which academic anthropology often abstracts. Todd (2016) linked V. Watts’ work with that of cultural geographer Juanita Sundberg (2014) whose work focuses on post-humanism. Todd (2016:9) argued that both V. Watts and Sundberg provide practical tools for Euro-Western scholars to employ
Indigenous ontologies with care and respect—V. Watts by engaging with Indigenous Place-Thought and Sundberg by accounting for location.

Clearly, then, ontology is a political topic. This political awareness also necessitates the emphasis on ontological plurality in current anthropological discussions. Holbraad et al. (2014 original emphasis), in a series of papers on The Politics of Ontology, defined the anthropological concept of ontology as: ‘the multiplicity of forms of existence enacted in concrete practices, where politics becomes the non-sceptical elicitation of this manifold of potentials for how things could be.’ By accepting a multiplicity of different forms of existence, Holbraad et al. (2014) encouraged the recognition of ontological plurality and in doing so sought to broaden our conceptualisation of ontology and its impact. To reiterate that point, the recognition of ontological plurality is at the core of the ontological turn in anthropology, and it insists on a recognition that alterity is related to much more fundamental differences than the concept of culture has traditionally implied.

When one engages with more explicit decolonising approaches, insisting on the reality of multiple worlds becomes crucial. Sundberg (2014:38–39), for example, has argued that enacting the ‘pluriverse’, a world in which many worlds fit, is a strategy for moving away from universalising and colonising notions of the universe. Shifting briefly to archaeology, Harrison (2015) has also argued for the recognition of ontological plurality. From Harrison’s (2015:4) position in heritage studies, ontology is equated not with forms of existence but with modes of existence (following Latour 2013) or different domains of practice that ‘produce their own worlds and their own specific pasts, presents and futures’. Harrison’s articulation of plurality seeks to ground ontology further in practice and acknowledges that it produces the world rather than merely being a conception of the world received through a particular body of knowledge. Further to this point,
I would suggest that the grounding of ontology in practice means that we should recognise the formation of ontologies through life; they are not transcendental.

Recognition of ontological plurality, however, does not automatically resolve the political issues I have raised. Bawaka Country et al. (2016a:23) have laid out some of the implications of denying other ontologies:

There is a politics to what ontologies are recognized as existing; what pasts, presents and futures are made real; what configurations of place, time and being are validated; and what ethics underpin the reality of our connections with and as the world. And there is a powerful violence associated with their dismissal.

Engaging with and defining ontology is clearly a complex undertaking especially if these political implications are taken seriously. I take guidance here from Povinelli (2014) whose work is particularly useful for making clear where ontology is situated and what it concerns. Povinelli sets out that ‘ontology concerns me … as an arrangement of existents at/on/in the plane of existence.’ Critically for my research, Povinelli (2014) explained that the plane of existence is never singular and that this is because:

The plane of existence is the given order of existents-as-arrangement. But every arrangement installs its own possible derangements and rearrangements. The otherwise is these immanent derangements and rearrangements.

This understanding is of fundamental importance because it makes clear that every ontology must be local and situated and further complicates any ongoing adherence to essences or essential natures (see also Ingold 2004; Porr 2014). Every ‘arrangement’, in Povinelli’s (2014) words, could be understood as each individual and the possible derangements and rearrangements as a multiplicity of ontologies. To move beyond a rationalist assumption of a universal world, which would render Indigenous ontologies as simply being different perspectives on the
same ultimate reality, we need to recognise the seriousness of where ontological plurality comes from and what form it takes—that is, the source of the *otherwise*.

Povinelli’s concept of the *otherwise* appears at once enigmatic and straightforward, and it is also at the core of what I am working towards understanding in archaeological practice. If we take that there is a dominant mode (what I have been calling Western ontology but could also be called rationalist or dualist thought) then the *otherwise* are all those positions that are beyond and at odds with that dominant mode (Povinelli 2011:13). Other authors might also refer to the *otherwise* as subaltern, as belonging to the Other or representing alterity, which, as da Col (2014), Morten Pedersen (2012) and numerous others have explained, is a core motivation for anthropology’s ontological turn. Overall, I find Povinelli’s articulation of ontology to be more encompassing than much of the anthropological literature, particularly as it has developed from decades of collaboration with the Karrabing Indigenous community in northern Australia (Povinelli 1995, 2002).

At this point, we should also ask what impact this kind of thinking has; what is the significance of the ontological turn beyond academic curiosity? Hunt’s (2014:30) argument that Indigenous ontologies ‘can be easily neutralized as a triviality, a case study or a trinket’ is particularly pertinent to remember here. Hunt (2014:31) insisted that: ‘we must be cautious that ‘Indigenous’ does not come to signify engagement with ‘the other’ without an actual shift in disciplinary ontologies and epistemologies.’ Hunt (2014:31) also argued that non-Indigenous scholars engaging in this field need to unsettle the dominant forms of knowledge creation in which they are likely complicit. Such cognitive dissonance and self-reflexivity can expose gaps and destabilise the boundaries of what is ‘acceptable’ knowledge as these boundaries define what is allowed to be real and often implicitly allow epistemic violence to continue (see also Sundberg 2014; Todd 2016). This entreaty is a key motivation for my engagement with ontology in
response to the research problem of Chapter 2; I aim to take up Hunt’s call to unsettle dominant ontologies in order to formulate a new theoretical orientation. As I understand it, the ontological turn necessitates a fundamental self-reflexive component—for me this entails recognition of potential complicity with or sanctioning of the dominant mode or co-opting of Indigenous scholarship—particularly when the relational nature of knowledge production is incorporated into the construction of the Other and the source of the otherwise.

There are certain preliminary suggestions in anthropology’s ontological turn moving along the lines that Hunt recommends. For example, Holbraad et al. (2014 original emphasis) argued that to go beyond just presenting alternative ontologies as one would different cultures, it is necessary that we recognise the ‘full ontological weight’ of a different ontology in order ‘to render it viable as a real alternative’. In his discussion of the anthropology of ontology as religious science, Scott (2013:867) has noted that what one discovers in this discourse ‘are the resources for imagining alternative ways of thinking about religion and its others.’ Deborah Bird Rose (in Harrison and Rose 2010:266), writing in the context of intangible heritage, has similarly argued that we need to take things further and that ‘Indigenous ontologies push us to rethink, and to move outside of, the tangible-intangible boundary’ (see also Cruikshank 2012). Of course, there are many other boundaries to contend with, as Hunt (2014) and other key scholars (e.g. Sundberg 2014; Todd 2016; V. Watts 2013) have demonstrated. Bawaka Country et al. (2016a:26) articulated this point in the following way:

For to recognize the existence of diverse ontologies is not a matter of a superficial multiculturalism but requires a re-understanding of the self and the world, a different way of relating, not only to difference, but to the innermost essence of what is known and how and why.
Summary

My original concern in this section was to develop a clear and open understanding of ontology in anthropology. Ontology is still a discourse about the nature of being, although the anthropological discourse has morphed this investigation of reality beyond the bounds of philosophy. Drawing together the various iterations surveyed above, anthropology’s ontology refers to the way that persons (human and those other-than-human) understand and create their world (or reality), which is always already entangled with how they know that world—ontology, like everything, is immanent in existence. As such, ontology is necessarily plural and grounded in local contexts—that is to say, we are talking about worlds, not worldviews (Kohn 2013:10). A key message from the anthropological formulation of ontology is that there cannot be a single ontology or a single ‘world’ because accepting ontological plurality means rejecting the universalising assumptions of rationalist thought—it commits us to enact what Sundberg (2014:38) has called the pluriverse.

The ontological turn in anthropology opens our attention to those worlds otherwise and necessitates that we seek out realities beyond ourselves to more adequately account for and understand alterity. It entreats researchers to accept risk in the search for such worlds and not just to take them seriously but to engage with their full ontological weight by rendering them real alternatives and recognising the pasts, presents and futures that these worlds create (Harrison 2015; Holbraad et al. 2014). These approaches, however, are not without critique from Indigenous scholars and the potential incongruence of the typically Western academic formulation of ontology with their intimate understandings of Indigenous thought need to be taken seriously (Hunt 2014; Todd 2016; V. Watts 2013). The critiques that Indigenous scholars raise (which I have woven throughout this section) are a significant challenge to the emancipatory image of ontology that often appears in the anthropological literature. This challenge also suggests that many scholars engaging with ontological approaches are not always
paying attention to their practices of knowledge production and, more substantially, are guilty of treating ontology as something only their ‘subjects’ possess. The need to embrace structural changes, not just good intentions (Todd 2016:17), reinforces the idea that any ontological orientation needs to keep ethics, flexibility and responsiveness at its core. Thus, one of the key impacts of the ontological turn in anthropology on my research is that it necessitates critically rethinking and unsettling the dominant as well as alternative positions on knowledge creation.

The Ontological Turn in Archaeology

The question is now, how is the ontological turn of anthropology paralleled in archaeology? I address this question by considering what motivations archaeology has to engage with ontology and what constraints we face in doing so compared to anthropology. I also want to discuss some of the ways that archaeologists currently engage with ontology (focusing specifically on animism/New Animism) to emphasise the potential importance and political nature of such engagement.

Anthropology is concerned with the challenges related to knowledge production that comes with an acknowledgement of ontological plurality and alterity, and theoretical archaeology is also taking such challenges seriously (Joyce 2015b). I suggest that this is the case because archaeology, particularly the archaeology of Indigenous history and societies, deals with alterity in many different forms and across different historical and spatial scales. While archaeology also engages with contemporary Indigenous communities, there are radical differences in the archaeological record itself (e.g. resulting from taphonomic or spatiotemporal variability) and especially so when deep-time archaeology is compared to different contemporary contexts. So, when we come to question how archaeology might operationalise theoretical insights on ontology we need to bear in mind that archaeology unavoidably engages with different forms of alterity as a matter
of discipline. This point is related to an argument made by Severin Fowles (in Alberti et al. 2011:898) who suggested that we need to think carefully about what a distinctively archaeological intervention might look like rather than co-opting existing debates in anthropology.

Given that much of the archaeological record falls outside of the context of anthropological participant observation, the turn to ontology in archaeology is perhaps more complicated than in anthropology. Bruno David (2006) suggested that the perceived danger of leaning too heavily on ethnographically documented ontologies and experiences of contemporary Indigenous groups led to a cautiousness in archaeological theory to peruse such complex topics. David (2006) argued that we should recognise the importance of ontology for understanding the past meaningfulness of things and to do so in deep time contexts we need to engage in an ‘archaeology of ontology’ that recognises the importance of historical specificity. This point connects to my argument in the preceding section that ontologies are constructed locally and therefore in practice, if we accept that argument, it follows that ontology must also be historically specific.

While David in 2006 argued that there has been a lack of daring to address such hard questions in archaeology, this has changed and increasingly critiques are being mounted against traditional practices to make room for greater ontological engagement. Vesa-Pekka Herva (2009), for example, argued that dissatisfaction with traditional approaches, particularly the limitations of dualisms like subject/object, may not adequately describe what the world is ‘really’ like and how people relate/d to it, which gives rise to considerations of alternative ontologies and epistemologies in archaeology. Similarly, understanding alterity is fundamental to Benjamin Alberti’s (in Alberti et al. 2011:901) formulation of ontology in archaeology, in which he argued:
... that a crucial part of archaeology’s contribution to ontological approaches is providing an open-ended question, an invitation to think difference. Any suggestion of having found the answer or of having discovered an alternative ‘ontology’ should motivate us to push the question further.

What is becoming apparent is that in archaeology we are not ‘looking’ for ontology as one would look for an artefact or sediment change while excavating, rather archaeologists are interested in how engagement with ontology can help us learn about ourselves as well as the past.

Alberti (2014) has also questioned the consistent focus of archaeology on methodology; how we use things to get at past human lives. Alberti argued that the problem is that: ‘We have an apparently endless sea of possible ‘other worlds’ but they are sand-bagged by the problem of confirmation.’ According to Alberti, for archaeology to get at ontology we need to question the status of materials in our ontological accounts, which he argued is where alterity lies. Furthermore, Alberti explained that we need to embrace risk in order to get political enough to access otherwise worlds (see also Povinelli 2012). This point links to arguments made by McNiven et al. (2006:19) that the departure of social archaeology (particularly in the context of Indigenous Australia) is how it filters ‘our epistemological approaches ontologically’. These arguments link well to those I made in Chapter 2, calling for deeper theoretical shifts in archaeology rather than consistently methodological ones; a key benefit of engaging more deeply with ontology.

One of the ways archaeology (and anthropology) has engaged with ontology (although not always explicitly) in the last two decades is the idea of animism and more recently the return to animism, labelled New Animism (Alberti and Bray 2009). The traditional focus of animism is human-animal relations and especially the unique qualities of personhood attributed to the latter by Indigenous people,
particularly hunter-gatherer groups (Guenther 2015). Animism has been variously characterised as religion, as totemism, as structuring human social relations or as reflecting broader experiences of being-in-the-world (Willerslev 2013). Viveiros de Castro (2004:481) described animism as the ontology where ‘the space between nature and society is itself social’ as opposed to Western ontology where relations between nature and society are rendered natural. Mathias Guenther (2015:280) described the New Animism as being ‘concerned with how being is, and beings are, conceived of, either conceptually or experientially, in relation to non-human beings, particularly animals.’ Guenther (2015:309) also emphasised the need to be careful that New Animism conceives of its subject not as ‘anything like a cosmological and ontological complex ‘writ large’ but as variable as the many cultures wherein each is lodged, with animisms as many and as varied.’ In regards to the archaeological literature, Porr and Bell (2012:161) defined animism as occurring when inanimate objects or non-human beings are animated by some life-energy and can act like persons and participate in social interactions (see also Strathern 1988). Archaeology’s engagement with animism generally arises through working closely with Indigenous people and has additionally been approached through archaeological materials such as hunting and faunal studies (McNiven 2010; Whitridge 2014) or depictions of animals in rock art (Dowson 2009; Porr and Bell 2012).

Related to the New Animism movement is the call for researchers to ‘take seriously’ other perspectives (Viveiros de Castro 2011). Taking seriously in this context does not directly equate to naïvely believing or accepting people’s beliefs; in fact, Viveiros de Castro (2011:133) argued that the concept of seriousness should not be tied to the notion of belief. Matei Candea (2011:147) further explained that ‘the suspension of the traditional relativist problematic of belief is the very condition of ‘taking seriously’ in this new sense’. This suspension of assent or critique moves Viveiros de Castro’s configuration of ‘taking seriously’ beyond old-style relativism and toward relationism, which Candea described as ‘a precise and
controlled instance of asymmetry’. Taking seriously Indigenous thought suggests that we should not take seriously other kinds of thought. Within this discourse, not taking seriously means that we interrogate or ‘have normal social interactions’ with a particular way of thinking; for example, this would reflect how we still approach Western forms of knowledge (Candea 2011:148; cf. Stump 2013). By suspending criticism of Indigenous knowledge, we can continue to unpick and remake ‘our’ own—this idea is particularly useful for positioning my critique of Australian archaeology and attempts to establish a new orientation.

However, one major issue with this line of thinking in New Animism is that it potentially takes things too seriously and denies that some Indigenous people do speak in metaphor and do not ‘literally’ think that animals, plants or material objects are persons (Peterson 2011). Rane Willerslev, based on his experience working with the Yukaghirs of Siberia, raised the issue of anthropology going beyond what Indigenous people actually say about their religious beliefs to fit in with the popular approaches of animism or the ontological turn. This issue falls into the trap of using Indigenous knowledge for ‘insights’ but not listening to what people are actually saying (Porr and Bell 2012; Todd 2016; V. Watts 2013). For example, Willerslev (2013:49) has highlighted issues with Ingold’s framework for analysing animism as ‘being-in-the-world’ as absorbing and merging self and world. Willerslev argued that the absorption of difference and the notion of a ‘unity between self and world’, in fact, refutes Yukaghir and other hunter-gatherer peoples’ ways of thinking. Willerslev (2013:50) explained that: ‘Their modes of relating to animals, spirits, and souls are such that the otherness of these beings is integral to the meaning they have at the most primordial level of experience.’ This example emphasises the need for anthropologists not to follow their preconceptions about how certain beliefs should be but rather to pay attention to how Indigenous people themselves relate to and practice their beliefs. Furthermore, one can read Willerslev’s argument as a call for animism not to be essentialised or treated as a singular, static worldview; rather the Yukaghir
position appears as an ongoing dynamic engagement with the world that is also reflexive and open to critique by members of the society themselves (for a similar argument from Madagascar see Graeber 2015; and from Australia see Peterson 2011).

This interrogation of ‘taking seriously’ has implications for the orientation I am developing in this thesis. While Viveiros de Castro’s (2011) original articulation of ‘taking seriously’ concerning anthropology was indeed nuanced, the plethora of approaches his work has inspired under the umbrella of the ontological turn or New Animism are not always so. It is of vital importance that any theoretical orientation established by non-Indigenous academics should not run-off with any particular idea without historical grounding or specificity (Weismantel 2015). Many of these theoretical ideas may not be universally applicable; in fact, I would argue that they most definitely are not—in the sense that we cannot be so naïve as to continue thinking that any ‘we’ group has the means to establish a universal theory. This understanding, therefore, emphasises the need to be clear about disciplinary ontology or orientation as distinct from but responsive to Indigenous ontology and thought. I am careful to ensure that relational ontology (which I will discuss in the next section) is not attempting to replicate any Indigenous ontology but rather I aim for it to be more flexible to engage substantially with alterity and the otherwise in archaeological research.

While many of the contemporary attempts to engage with animism are well intentioned, the notion does carry with it a danger of fetishising Indigenous worldviews ‘as a distinct and essential mode of thought that represents an alien way of perceiving and experiencing the world’ (Porr and Bell 2012:163). As discussed in the previous section, V. Watts (2013:28) has put forth a strong argument against the use of Indigenous knowledge as an abstracted tool in the academy, which the uncritical popularity of animism as a sanitised academic version of Indigenous thought represents. Moreover, Porr and Bell (2012:163) have
suggested that the failure to engage seriously with Indigenous knowledge relates to a lack of recognition of the fundamental challenges of accepting Indigenous ontologies and embracing a relational position, which stands against essentialist or dualist traditions in Western thought (see also Hunt 2014). Overcoming such issues is fundamental if archaeology is to engage with more dynamic ontological positions without the problematic baggage that currently accompanies such attempts.

The arguments outlined above connect with Povinelli’s (2012) concern about the risk entailed in being ethically otherwise. The problem of the lack of substantive engagement with Indigenous perspectives can be related to the risk involved in deconstructing the power and authority currently afforded to the dominant mode, which limits our ability to value and prioritise the otherwise. While postcolonial archaeologists (and other kinds of ‘emancipatory’ practitioners) have argued for a decentring or subversion of traditional power discourses for some time now, this is not yet a typical practice and in many cases, only lip-service is paid to the idea without any real deconstruction occurring (Todd 2016). Rizvi (2015:159) has labelled such positions ‘epistemically lazy’:

Most decisions to maintain and reify power structures are not maliciously intended, but they are the byproducts of prioritizing research over inequality and disenfranchisement, and, in a callous sense, of prioritizing our research over the present, past, or future of others.

One example of the decentring power of a focus on ontology comes from heritage studies. Harrison (2015:3) has argued that by looking at the alternative modes of heritage-making, we can consider how ‘they might provide windows through which to reconsider the assumptions of the universality and homogeneity of existing, dominant (so called ‘modern’ or ‘Western’) models of heritage.’ Harrison’s work acknowledges both ontological perspectivism (in Viveiros de
Castro’s meaning) and ontological pluralism, and by doing so it ‘undermines and complicates such simple dichotomies’ as Western and non-Western, and instead engages with plural ontologies as real alternatives to the dominant mode. The value of this is immense for the archaeology of Indigenous history and coupled with an understanding of ontologies as historically contingent has the potential for future applications in deep-time research.

Summary

Throughout this section, I emphasised that archaeology has its own motivations to engage with ontology to better understand the various forms of alterity (defined as radical difference or otherness) it encounters. However, the nature of deep-time archaeology also throws up some unique challenges, which include the configuration of the archaeological record itself and the relative (compared to anthropology) lack of discursive challenges from research subjects and partners (cf. Wylie 2015). There are increasing attempts to engage with ontology in archaeology, and New Animism is one prominent example of these, although not all attempts have been successful as the discussion of ‘taking seriously’ illustrated. What needs to be more widely recognised is that engaging with ontology requires deep theoretical shifts, especially if one works in the context of Indigenous heritage or history (Harrison 2015; Hunt 2014). I suggest that if we fail to engage meaningfully and ethically in the contemporary setting where there are, for example, Indigenous scholars publishing clear and accessible articles on this topic, then our attempts to do so in deep-time contexts, where we do not have such a luxury, are already compromised.

Relational Ontology

While not a unified theory, relational ontology and relational perspectives, in general, have been gaining momentum across archaeology (Gosden and Malafouris 2015; C. Watts 2014a). In this section, I draw together a more cohesive
picture of relational ontology, highlight the ways it is distinctive, and how it could address some of the issues raised above as well as the research problem more directly. To be clear from the start, establishing a relational ontology is about developing a disciplinary ontology—it is not a characterisation Indigenous thought or the ontologies of any past peoples studied through archaeology. This distinction is very much related to the ideas established above that ontology is a discourse about the nature of being and in that sense, is developed rather than received. Furthermore, as I emphasised earlier, it is critical to make clear that ontology is not something only our ‘subjects’ possess.

Relational ontology as I articulate it is not a replication of any ontology of a particular group in history, however, I do take guidance from Indigenous ontologies and the writing of Indigenous scholars. I do this in response to the growing awareness of the uncanny pervasiveness of Western dualist and rationalist thought in the modern world (Scott 2013) and the overall neglect of Indigenous scholarship (Todd 2016). A relational ontology reconceptualises our understanding of being and becoming human. I emphasise that this reconceptualisation has fundamental implications for what any investigation of the deep past can hope to achieve, as Christina Toren (2012a:24) has argued:

How are we to conceive of human beings? The answer we give to this question is important because it structures not only what we currently know about ourselves and others but also what we are capable of finding out.

By way of definition, relational ontology at the most basic level holds that the relations between entities are ontologically more fundamental than the substance of the entities themselves. At a more radical level, relational ontology contends that there is nothing that precedes relations (Barad 2007:332). As taken up by social anthropologists, particularly Toren and Ingold, relational ontology asserts that there is nothing essential about a human being (Toren 2012a) and rather,
that humans are always in the process of coming into being in relation to their social contexts and relations (Ingold 2004). In archaeology, Herva (2009:388) defines relational ontology as a recognition ‘that all entities in the world (organisms and things) are continuously changing, or coming into being, and that the identities and properties of entities are determined by relationships between entities.’

Relational ontology is also then a monist ontology. The emphasis relational ontology puts on coming into being is important because it reinforces its continually unfolding nature rather than the essential bounded nature suggested by dualist thought. Monism takes this further by refusing dualist separations of the world (e.g. nature/culture) and instead focuses on establishing a unity of all matter. Andrew Jones (2015:334), who has applied such thinking in his archaeological research, made the distinction between monism and dualism clearer through discussing the philosophy of Spinoza who:

… argues for the view that there is fundamentally only one thing in the world; concomitantly, you and the table, for example, are merely modes of states of properties of this single substance. A monistic universe is therefore composed of intersecting affective relations. Humans take their place in this universe alongside other things, but they are not situated centre stage.

Rosemary Joyce has also established the importance of combining monism and relationality in the context of her work on new materialism. On the distinction between monist relational ontology and more mainstream Western ontology, Joyce (2015a:6) noted the following:

Where subject–object dualism has reserved for humans a special kind of being, a ‘human nature’, new materialism calls for a theory of being that includes humans and nonhumans in one (monist) framework. Many, if not all, new materialists employ a ‘relational ontology’ that
sees beings defined by the relations they enter into, rather than by some sort of inherent being, nature, or essence.

While monism may suggest an exclusive or singular approach, it is not to be confused with assuming a universal position or moving against plurality or the pluriverse. Within the philosophical literature, there are many iterations of monism, and it does not exclude the possibility of there being further monist standpoints. So, to be clear, there is no reason why a monist relational ontology would be at odds with the broader recognition of ontological plurality. Overall, this philosophical standpoint is important because it fundamentally reverses the dualist division of the world that is deeply embedded in mainstream Western thought, and indeed the research problem of this thesis.

Relationality itself deserves further attention here as it has indeed become familiar across archaeology (C. Watts 2014b:1) but we need to clarify what is so different about it. One of the critical departures identified by many authors (e.g. Gosden and Malafouris 2015; Ingold 2014; Porr and Bell 2012; C. Watts 2014a) is that relational approaches are concerned with process rather than essence. In other words, how something comes into being rather than its assumed essential nature. In this way, a relational ontology fundamentally alters the way we understand humans, non-humans, and things (the nature of being more broadly), by moving us away from an analysis of ‘interaction effects’ among pre-existing, self-contained entities and toward a consideration of the transactions, translations and transformations that occur between different materials and entities in the world—in short, their relationships. This focus on relationships follows the reasoning of Ingold (2013c:8) who argued that we should not be talking about human ‘beings’ in the sense of completed entities but rather human ‘becomings’, which acknowledges the constant unfolding and situated character of life. ‘Becoming’ also relates to the understanding that ontology is tied to local existence rather than context-independent essences.
Relational positions also feature a robust anti-essentialist and anti-dualist critique, which serves as a fundamental challenge to understanding in the modern Western tradition (Porr and Bell 2012:163). For example, Christopher Watts (2014b:1) defined relational archaeologies as: ‘a suite of approaches aimed at conflating the abstract and immutable dualities of modernist ontologies (e.g. nature and culture, self and other, subject and object, mind and body).’ Relational approaches instead recognise the ways that these concepts are fundamentally and inextricably entwined (Cruikshank 2012:244; see also Alberti and Bray 2009). Furthermore, as Porr and Bell (2012:171) have argued, by accepting a relational ontological framework, the previous distinctions between modern and non-modern, and between Western and non-Western, become meaningless. This argument is a strong challenge to mount as dualist and categorical thinking is deeply ingrained within the archaeological endeavour (Thomas 2004). For example, it can clearly be seen in the dominant approaches on how to identify anatomically and behaviourally modern humans, which often rely on essentialist notions of what it is to be human in the first place (Ingold 1995; Porr 2014).

While critiquing the essentialist tendencies in Western thought seems to be broadly accepted, how to approach essentialist categories in Indigenous thought is not so clear. As V. Watts (2013:31–32) has pointed out we need to be cautious about dismissing the essentialising elements of Indigenous thought:

Essentializing categories of Indigenous cosmologies should not be measured against the products of Euro-Western mistakes. Nor should Indigenous peoples be the inheritors of these mistakes. Rather, to decolonize or access the pre-colonial mind, our histories (not our lore) should be understood as they were intended in order for us to be truly agent beings. To disengage with essentialism means we run the risk of disengaging from the land.

This example is a reminder that while critically examining the essentialist conventions in Western thought is an important endeavour given the significant
impacts of such conventions (discussed above), we need to be careful not to deny that essentialism may play a major role in Indigenous thought (and more broadly, religious thought). For example, one of the essential elements V. Watts’ (2013:27) has emphasised is the connection between the land and the feminine:

Our truth, not only Anishnaabe and Haudenosaunee people but in a majority of Indigenous societies, conceives that we (humans) are made from the land; our flesh is literally an extension of soil. The land is understood to be female: First Woman designates the beginning of the animal world, the plant world and human beings. It is the femininity of earth itself that institutes all beings as literal embodiments of localized meanings...

The essentialising elements are central to this Creation story, this truth, if they were to be removed through Euro-Western analysis the power of Place-Thought would be substantially undermined. This example is not just a cautionary tale; it is also a reminder of the ethical and political challenge of engaging with alterity.

Colwell-Chanthaphonh et al. (2010:231) have discussed the issue of essentialisation in relation to Indigenous archaeology and made the point that there is a false choice between absolute essentialism and absolute flexibility in this archaeological approach, and suggested that a ‘third-way’ focusing on cultural routes would be more appropriate in this context (see also Nakata 2002; Nakata and David 2010). It seems clear that retaining a sense of flexibility and accountability is key. This discussion of essentialism directly relates to arguments I raised in the previous section about ‘taking seriously’ (Viveiros de Castro 2011). The controlled asymmetry and suspension of traditional academic approaches to critique embedded in the notion of ‘taking seriously’ (Candea 2011) are vital to keep in mind when approaching V. Watts’ argument.

Relational ontology also offers academic arguments a point of departure for understanding material culture as much as it does for living entities, which is, of
course, necessary for establishing any archaeological application. In a relational orientation, no object or entity has any essential quality or characteristic that is independent of context. Objects are things that are fundamentally constituted as relationships. Things do not *have* relationships; they *are* relationships (Ingold 2011c:70). As I will go on to explain in more detail in Chapter 5, this relational understanding of material culture offers a radically different approach to a typical Western ontology in which the universe is composed of bounded and autonomous physical objects, organisms and things (Herva 2009). Herva (2009:395) noted that relational thinking ‘provides a new perspective on material culture and thus encourages reassessing the ‘meaning’ of things’, so much so that it ‘[c]an help us to reconsider attitudes to, and our understanding of, the material world in a more contextual manner’. More recently, Chris Gosden and Lambros Malafouris (2015:703) have proposed a Process Archaeology (P-Arch) that grants priority to process over substance and holds that “things’, ‘materials’, ‘artefacts’ and ‘objects’ should be understood in this open and dynamical sense of occurrences in space and time’, which they propose could be used to explore longer-term material engagement and change.

**Summary**

In this section, I laid out my understanding of a monist relational ontology as the foundation for my theoretical orientation. Two important aspects of this disciplinary ontology are: 1) granting priority to relations and processes; and 2) refusing essentialist and dualist thought. However, while relational approaches have notably featured an anti-essentialist critique, some caution is needed here not to erode core aspects of Indigenous ontologies for which essentialist elements might be central (V. Watts 2013). Furthermore, even though a monist understanding emphasises unity, it should not be confused with a universalising stance and remains fundamentally open to the idea of a pluriverse.
In summarising the impact of relational thinking, Porr and Bell (2012:171) contended that a relational perspective is not ‘another kind of method’, rather they asserted that, ‘[i]t leads towards ‘perspectivism’ and accepting that knowledge is local and dependent on local embodied conditions of knowledge acquisition’. This point—‘not another kind of method’—leads me to argue that we should be speaking of relational ontology as a discourse about the nature of being, aimed at reconfiguring the core of our practice rather than another framework or method.

The Dreaming and Indigenous Cosmologies

In this section, it is not possible to cover the vastly nuanced nature of cosmologies across Indigenous Australia, so what I attempt instead is to provide a general discussion of key elements that might serve to ground, and perhaps even extend, my theoretical engagements thus far. I start by discussing some of the literature and issues surrounding the term ‘Dreaming’ before moving onto a more detailed case study of Yolŋu relational ontology.

Most people are familiar with the Dreaming and Dreamtime stories that are of great spiritual and mythological importance for Indigenous Australians. That these are well-known and popular aspects seems to have unfortunately worked against a more balanced and nuanced understanding of Aboriginal cosmology outside of anthropology. As anthropologist Diana James (2015:36) explained, ‘the usefulness of the terms ‘Dreamtime’ or ‘Dreaming’ is limited by the common connotation of ‘dream’ as a world of unreality.’ While many have defended their use of the term in an expanded form (e.g. Stanner 1959), the legacy of such connotations can be recognised in the ongoing conflicts between so-called Western and Indigenous ways of knowing (see also Sutton 1988). Other contemporary authors take James’ criticism of the Dreaming further. For example, Jeff Doring writing in collaboration with senior Ngarinyin Elder Paddy Nyawarra (Doring and Nyawarra 2014:5–6) argued that the term has ‘many
inappropriate colonial connotations’ because ‘it suggests childlike fantasy and a complete lack of any chronology in events, thereby installing myth to replace all Aboriginal history.’

For the Anangu Pitjantjatjara Yankunytjatjara peoples of the Western Desert, with whom James works, their creation ontology Tjukurpa is often translated to Dreaming. However, this translation obscures some of the complexity of the concept. Nganyinytja Ilyatjari, a Senior Pitjantjatjara Law Woman explained Tjukurpa and its connection to history as follows:

We have no books, our history was not written by people with pen and paper. It is in the land, the footprints of our Creation Ancestors are on the rocks. The hills and creek beds they created as they dwelled in this land surround us. We learned from our grandmothers and grandfathers as they showed us these sacred sites, told us the stories, sang and danced with us the Tjukurpa (the Dreaming Law). We remember it all; in our minds, our bodies and feet as we dance the stories. We continually recreate the Tjukurpa (1988 quoted in James 2015:33).

Here we find a way of knowing history that contrasts significantly with the understanding of Western scholars reliant on written texts or material evidence (see also Milroy and Revell 2013). James emphasised the need to attune our senses to other ways of knowing history, which links to the notion of two-way thinking (Porr and Bell 2012) and has important implications for archaeology (Porr and Matthews in press b).

Two-way thinking was developed by Porr and Bell (2012) as part of their response to animistic or New Animist approaches to rock art (as discussed in the previous section). This approach was inspired by senior Ngarinyin lawman Bungal (David) Mowaljarlai: ‘Two-way thinking is based on the precept that two cultures can collaborate as Mowaljarlai says, ‘side-by-side, not one on top the other” (Porr and
Bell 2012:193). This concept encourages the idea that academic discourse needs to become more complementary and expanded to include elements and methods of expression outside of its accepted boundaries, which is what Indigenous archaeology attempts (McNiven 2016). For example, Ngarinyin ontology ‘is fundamentally premised on being fully present in the present, relies on prior experience, sensory and extrasensory responses including observation, and openness to the gestures of non-human others who share being in the world’ (Porr and Bell 2012:168; see also Bell 2009; Mowaljarlai and Malnic 1993; Mowaljarlai et al. 1988). However, many attempts to engage with such Indigenous ontologies too often fall back on formal objectified notions of animism and more substantial intellectual work is required to engage without objectifying (Porr and Bell 2012).

An important author engaging in such substantial intellectual work is Rose (2005, 2007), who through her collaboration with many different Aboriginal communities, particularly in the Victoria River District of the Northern Territory, emphasised the importance of understanding Aboriginal notions of ‘Country’ in their own terms and highlighted the contributions such knowledge could make to debates in Western science and philosophy. A significant and useful aspect of Rose’s (2005:303) account is that metaphysical concepts are always grounded in local experience and knowledge of the world. The inseparability and connection between Country and Law become more powerful through this grounding:

The connections between and among living things are the basis for how ecosystems are understood to work, and thus constitute Law in the metaphysical sense of the given conditions of the created world. I should like to give the last words here to my teacher Daly Pulkara: ‘We been listen to [your] story. You, you whitefella, [you] can listen to story too.’ The story he wanted us to listen to is clear but not simple: ‘I tell you, nothing can forget about that Law’.
Explicit discussion of Indigenous ontology or cosmology has emerged recently in the field of cultural geography, which is also increasingly attending to the implications of relationality. The work of three non-Indigenous cultural geographers, Kate Lloyd, Sandie Suchet-Pearson and Sarah Wright, in Bawaka Country with Yolŋu people, especially Laklak Burarrwanga, has been particularly enlightening. These collaborators have been working on a range of projects including the potential for Yolŋu ontology to inform natural resource management (Suchet-Pearson et al. 2013), the nature of collaboration between academics and Indigenous people and Country (Lloyd et al. 2012), the impact of Indigenous and more-than-human methodologies (Wright et al. 2012), the understanding of relational place/space (Bawaka Country et al. 2016b), and the nature of learning and making through basketry (Burarrwanga et al. 2008). While certainly not the only contemporary research to look specifically at questions of ontology and relatedness in Indigenous Australia, what is particularly useful about these works is the emphasis on ethics and the discussion of how coming into relation with Bawaka Country and Yolŋu teachers has morphed the non-Indigenous research/ers.

These authors engage directly with issues of ontology and radical alterity in exploring the Yolŋu ontology of co-becoming. In Lloyd et al. (2012:1079), Yolŋu relational ontology is described as ‘an ontology of connection, where everything is not only understood as connected but brings with its relationships expectations of an ethics of responsibility and reciprocity.’ For Yolŋu people, ‘relation’ and the concept of gurrutu or kinship, refers to more than family ties but ‘includes humans and more-than-humans, and how they are connected to each other, how they fit, where their ties and obligations are, where their responses and responsibilities lie’ (Bawaka Country et al. 2016b:460). Gurrutu includes everyone and everything in patterns of kinship that flow and emerge but not in an infinitely open way. Rather, as the authors continued to explain in their Bawaka Country et al. (2016b) paper, there is ‘structure, pattern, meaning to its emergence’, for
example, the core patterns of Yolŋu ontology, the Yırritja and Dhuwa moieties or yothu-yindi (mother-child) relationship.

This reference to the core patterns of Yolŋu ontology is of particular importance to think about because there is a tendency in anthropology to run-off with theoretical ideas about relational ontology or animism as reflecting indefinitely open and fluid relations. For example, Nicolas Peterson (2011) discussed the tendency for anthropologists to say that Aboriginal people think that the landscape is sentient. Through a detailed discussion of Warlpiri ethnography, Peterson (2011:177) argued that this tendency ‘fails to reflect the complexity of their highly intellectual and richly metaphorical ontology, replacing it with an overly literal ‘relational’ ontology’. As previously discussed, Willerslev (2013) has also highlighted this issue, which emphasises the crucial importance of listening and paying attention to what Indigenous people actually say about their core beliefs rather than applying normative or essentialised views of animism or ontology.

Returning to the Yolŋu case study, another core concept that helps us to understand what co-becoming means is wejt. Wejt is introduced in Suchet-Pearson et al. (2013:186) as directly translating to ‘sharing’ but is understood in a relational, more-than-human way. The authors (2013:187) continued to explain that, ‘Wetj springs from and supports a Yolŋu ontology of co-becoming which sees all beings, including human beings, as coming into existence through relationships.’ Everything in this world is described as being a manifestation of wetj and an ontology of co-becoming; what is also made clear through this concept is that everything is not necessarily a ‘thing’ or even an isolated ‘being’ but rather things are ‘entangled’ becomings (for a related line of reasoning in anthropology, see Ingold 2011a, 2014). This idea of co-becoming points to an agentic world, involving human and more-than-human agency and connecting theoretically to post-humanism (Barad 2003; Haraway 1990); the authors and
Bawaka Country also invoke the idea of ‘meshwork’, familiar from Ingold’s (2008) work.

The Yolŋu case study reinforces a point I suggested in Chapter 2 concerning Bradley’s (2008) work with Yanyuwa people, that when taken seriously engagement with Indigenous thought has the potential to enlarge the practice of non-Indigenous researchers. Categories of living/non-living are particularly subverted in the case Bradley (2008:634) presented, stone blades for Yanyuwa are not just a part of country but are also called ‘Country’; they are part of the kinship and emotional wealth of Country. Divorcing these so-called ‘objects’ from their kin relations through typical archaeological stone artefact analysis should thus be avoided.

Destabilising Western binaries is also an important lesson from Bawaka Country. Wright et al. (2012:39) have argued that engaging with Yolŋu relational concepts of Country necessitates moving beyond the human/non-human binary, where ‘acknowledging and engaging with the embodied, more-than-human nature of research contributes to an enlarged understanding of how knowledge is co-produced, experienced, and storied.’ Wright et al. (2012:56) explained that:

The interdependency and mutuality encapsulated within Country provides a useful basis for thinking beyond binaries that designate who (which humans) and what (humans, animals, weather) can ‘speak’ in the research space, and for acknowledging the coalescence of subjectivities and agencies that makes our research possible.

This point is also taken up in Suchet-Pearson et al. (2013:188) who emphasise that relational ontologies constitute a deeper ontological commitment and require ‘deeply, entirely, rejecting the separation of humans from ‘nature’ and ‘the environment’, of the ‘natural’ from the ‘cultural’.’ Through this understanding these distinctions become nonsensical.
This push to reject dualisms connects to work by environmental philosopher Val Plumwood (2003), who argued that the dualistic treatment of the world (e.g. the normalisation of the culture/nature dualism) led to the instrumentalisation of nature and its exclusion from having any ethical significance in Western culture (see also Ingold 2011c; Milton 1996:39-40, 213ff). Plumwood established that overcoming dualisms required a deep understanding of their history and operation, and furthermore the recognition of continuity and difference within the dual pair. As more approaches move toward relationality, dualistic thinking continues to be an issue and is increasingly untenable in such theoretical and ontological orientations (Porr and Bell 2012:170).

Summary

I began this section with a broad discussion of ‘the Dreaming’ through which I emphasised the importance of more balanced and nuanced understandings of Indigenous cosmology and introduced two-way thinking and the importance of working toward more complementary academic discourses that take Indigenous cosmologies seriously. I used the Bawaka Country/Yolŋu case study to ground my engagement with Indigenous cosmology further. Lloyd, Suchet-Pearson and Wright’s work with Burarrwanga and Bawaka Country is a response to calls for ‘radically contextualised’ research, for Indigenous authorship, and for theories that might emerge from beyond the Anglo-American or Euro-Western nexus (Wright et al. 2012:26). While I have devoted some space to the intricacies of Yolŋu ontology there are no guidelines for how to embrace Yolŋu ways of knowing, and indeed Lloyd, Suchet-Pearson and Wright make clear that it is simply not appropriate or possible for non-Yolŋu people to fully live the ontological realities of gurrutu (this is related to the point I made in the preceding section about relational ontology not aiming to replicate any Indigenous ontology). In Bawaka Country et al. (2016b:469), the authors emphasise that Bawaka Country is not a case study of a ‘different’ way of understanding space, rather it is important ‘for what it can teach us about how all
views of space are situated, and for the insights it offers about living in a relational world.’ Overall, this case study subverts the distinction that is common in Western research traditions between researcher and researched, and highlights that there are meaningful ways to take such alterity seriously in academic contexts.

Chapter Summary

In this chapter, I have highlighted that contemporary ontological turns have shown that the meaning of this concept can be adaptable depending on research context. The ontological turn in anthropology, which was brought about by an increasing concern with alterity and dissatisfaction with an overemphasis on epistemology, appears as a shifting ground of approaches rather than a unified school of thought. While certainly morphed from the original philosophical definition, anthropology’s use of ontology still pertains to the nature of being and reality, and has influenced and inspired new discourses regarding such fundamental topics. Through discussion of the ontological turn in anthropology, I have emphasised that researchers need to pay attention to how ontology is defined and to consider its political implications. As Hunt (2014) has argued, engagement with Indigenous ontologies can unsettle dominant ontologies and ways of creating knowledge, the political impact of this unsettling could offer substantive revisionist potential for academic knowledge production.

Anthropology’s approach to ontology and concern with alterity is connected to similar issues in archaeology but I have also argued that archaeology has different kinds of alterity to engage with and faces different challenges in attempting to do so. In regards to an ontological turn in archaeology, I have emphasised the need to recognise historical specificity, especially since I understand ontology as being formed locally and through practice. I highlighted that one of the ways archaeology has considered ontology is through the concept of animism but that such engagement has been problematic because many researchers have not
recognised the challenges and risks that engaging with otherwise positions poses to their established, dominant and dominating ontologies (Porr and Bell 2012; Povinelli 2012; Sundberg 2014; Todd 2016).

These theoretical discussions lead me to argue that a new archaeological orientation must consider its ontological basis (i.e. not just mid-level theory or methodology) to move beyond the limitations of the dominant ontology of archaeology. I have introduced relational ontology as a general ontological position for archaeology and as one way to achieve this. The monist relational ontology I have defined reconceptualises our understanding of being and becoming human and engages substantially in the risky business of decentring power away from the traditionally dominant Western essentialist ontology. Relational ontology offers a way to work toward some form of complementarity and integration with Indigenous ways of knowing, to critique the foundations of Western thought as they manifest in archaeology, and to arrive at a fundamental appreciation of the variety of ways of being, knowing and becoming human.

I closed out this chapter by engaging with case studies of ontology from Indigenous Australia to embed my previous theoretical discussions in a local context. The Yolŋu case study, while not meant to be representative of all of Indigenous Australia, has allowed me to ground but also complicate my theoretical engagement with relational ontology, which is a critical component of any research that takes seriously the ongoing nature of decolonising. This means I cannot offer any firm or final answers on how to engage with relational ontology. Following fundamental critiques raised by Indigenous scholars such as Todd (2016), I have been motivated to engage with Indigenous thought itself rather than idealised academic distillations of it for tokenistic ‘insights’. This point directly relates to the need for respectful engagement with Indigenous thought. One of the practical ways I have attempted to do this throughout this chapter is by intentionally citing Indigenous scholars or collaborative projects involving and
prioritising local Indigenous communities when writing about Indigenous thought, rather than only citing non-Indigenous anthropologists who studied particular communities decades ago, as is too often the case (Todd 2016:13–14).
Chapter 4: Learning

Introduction

In this chapter, I engage with the next logical component of a relational orientation—learning and skill development. This component is necessitated by my engagement with relational ontology as it places emphasis on the processes of life and becoming. As I have set out so far, a relational perspective emphasises that humans do not arrive in the world ready-formed but rather come into being through their engagements in the world. Concerning knowledge and skills, this means that these aspects need to be understood as developed and grown in and with a person throughout their life. Engaging with learning from a relational position provides the opportunity to broaden our conceptual framework for how we understand humans and their material culture.

Learning, in one form or another, is a given for all humans but we still need to establish why archaeology should be interested in it. Studies of human learning are of interest because they concern what knowledge is and how it is acquired—these are fundamental questions for archaeology and are cornerstones in anthropology too. As archaeologist Patricia Crown (2007:198) has argued, the ‘material consequences of learning vary with what is learned, how it is learned and why it is learned’. Most archaeological reasoning, however, generally works from the assumption of an orderly and direct transmission of knowledge (i.e. faithfully from one generation to the next) without concern for the mechanisms at play. However, as Crown (2007) has argued, the complexities of learning are manifold and directly influence the material record with which archaeologists concern themselves and thus should also be of concern. By reviewing the connection of learning and skill development to the making of artefacts in a
relational ontology, I aim to develop a research orientation in archaeology that would incorporate such critical aspects.

To achieve the aims of this chapter, I first need to establish what learning is and how it has been understood in a range of key disciplines. How humans learn has traditionally been the realm of the cognitive and developmental sciences, as such I will briefly cover how learning is regarded in these fields and what insights this provides for archaeological research. I will then focus on developing a relational position on learning and exploring what conceptual advantages this offers for uniting a relational ontology with a deeper understanding of the processes of learning and skill development. This component relates back to relational ontology’s fundamental reconfiguration of what it means to be and become human. Finally, I will unite these theoretical perspectives with consideration of practical, corporeal engagement in the world and particularly with making, because, as I will demonstrate, this holds great potential for developing stronger interpretations of material culture—the consequences of this for material culture studies will be developed further in Chapter 5. Clearly, these aims cover an extensive range of research topics, so to narrow my scope I will focus primarily on skill development in relation to making things (especially stone artefacts) and ground my theoretical discussions in ethnographic and anthropological research from Indigenous Australia, since this has a more immediate connection to Australian archaeology.

Cognitive and Developmental Approaches to Learning

I start this section by briefly reviewing traditional cognitive accounts of human learning before surveying more contemporary positions. Establishing an understanding of two key aspects of this literature is critical to this section: 1)
what the mind is to establish how humans learn; and 2) what knowledge is to establish what are we learning.

Cognitive science research has played a key role in the development of deeper understandings of learning and knowledge as this field is generally considered to be best placed to tackle questions of ‘the mind’. Lawrence Shapiro (2011) referred to the dominant mode of such research as ‘standard cognitive science’, which he contrasted with the new research program of embodied cognition (discussed further below). On how this relates to learning, Trevor Marchand (2010:S4) explained that the traditional understanding of human learning as a cognitive process had focused attention on the mechanics of thought and activity. This focus has tended to conceive of knowledge as information acquired through various mechanisms, and which comes to fill the brain of an individual. Standard cognitive science thus has needed to conceive of the brain, and more specifically its cognitive architecture and functioning, in a particular way. Leda Cosmides and John Tooby (1994:329), for example, described the brain using a model of ‘a large and heterogeneous network of functionally specialized computational devices.’ While Daniel Sperber (2001:27, 50), drawing from Cosmides and Tooby, explained brain function using the concept of massive modularity. Massive modularity holds that the brain is composed of innately specified, hardwired and autonomous mechanisms, which Sperber argued explains the complex functioning of the brain. In this view, the cognitive specialisations within the brain determine what kinds of information will be learnable or easily replicated from mind to mind. These specialisations are claimed to derive from the ‘invisible hand of natural selection’ (Cosmides and Tooby 1994:328) or as an evolved mechanism with a distinct phylogenetic history (Sperber 2001:27). The notion of transmission is intimately related to this conception of knowledge as information, and of the brain as an evolved computational device. In these accounts, transmission is a metaphor for how learning takes place or, more plainly, how the information in one individual’s brain ends up in another’s brain.
The particular iteration of standard cognitive science introduced above and the understanding of learning and knowledge it produces can be related to a particular ontological position, which is very much characteristic of Western science and distinctively relies on fundamental dualisms, functionalist assumptions, and rationalist reductions of rather more intricate cognitive processes. Shapiro (2011:18) explained that:

The domain of standard cognitive science is fairly clearly circumscribed (perception, memory, attention, language, problem solving, learning). Its ontological commitments, that is, its commitments to various theoretical entities, are overt: cognition involves algorithmic processes upon symbolic representations.

The subject matter and ontological commitment of standard cognitive science combined with standardised methodologies (e.g. time experiments, recall tasks, dishabituation paradigms) serve to constrain and define the nature of such research (Shapiro 2011:19). Shapiro has further explained that what is at stake if we push the boundaries of cognitive science ‘are nothing less than profound and entrenched ideas about what we are – about what it means to be a thinking thing.’ George Lakoff and Mark Johnson (1999) have made very similar remarks about how new findings in cognitive science necessitate a re-evaluation of central aspects of Western philosophy to do with who we (humans) are and the nature of reason—and I would suggest this could be taken further as it also relates to the nature of being in an ontological sense.

The ‘new findings’ that Lakoff and Johnson were referring to are the foundations of embodied cognition. Neuroscience researchers Francesca Garbarini and Mauro Adenzato (2004:101), who have been developing embodied approaches, described the relationship between their research and standard cognitive science as first generation (disembodied mind) and second generation (embodied mind) (see also Clark 1997; Lakoff and Johnson 1999:553–557). Adenzato and Garbarini (2006)
made a clear distinction between the paradigm of embodied cognition and standard cognitive science highlighting the refusal of the latter’s founding principle, functionalism. Functionalism holds that there is a distinction between function and organ and that the brain is a biological substrate system or synaptic information processor. Garbarini and Adenzato (2004:101) argued that the ‘second generation cognitive science differs from the first, not only in its refusal of computational functionalism but also in the actual conception of its subject, human cognition.’ What this means is that they are shifting focus away from abstract mental processes and toward cognitive processes considered in light of their intrinsic ties to the body’s action and sensorimotor experience.

In cognitive archaeology, similarly new and dynamic understandings of mind are also being developed and applied. These new approaches primarily relate to human cognitive evolution and are aimed at breaking down the dualistic separation of mind and body prevalent in such research (e.g. Dunbar et al. 2010), which holds value for unpacking and problematising traditional accounts of learning and knowing more generally. For example, according to Malafouris (2013:6), what these new approaches move against is the ‘internalist, representational, or computation thinking that characterises cognitive sciences in general and cognitive archaeology in particular.’ In outlining his material engagement theory, Malafouris (2013:3) argued that studies of the mind should not ‘stop at the skin or skull’. Rather, he suggested it would be ‘more productive to explore the hypothesis that human intelligence ‘spreads out’ beyond the skin into culture and the material world.’ These embodied perspectives on cognition have played a part in the understanding of memory and meaning in archaeology, where memory is understood not as data stored in the mind but as emerging through the engagement of persons and the world, which could be studied archaeologically (Porr 2010b:88). Such perspectives have, for example, been discussed in relation to European Upper Palaeolithic mobiliary art where these figurative objects are seen not as ‘passive reproductions of collective ideas’ but
rather as ‘products of an active individual and intense concern with the field of meanings and associations of cultural memory’ (Porr 2010b:87).

Adenzato and Garbarini’s (2006) pragmatic constructivist version of the theory of knowledge is one key perspective in contemporary cognitive science that holds great value for broader fields of research into human learning as well. In this theory, drawn from interdisciplinary research in neuroscience, cognitive science, anthropology and ethnology, simulation plays a key role in knowledge creation. New research on canonical and mirror neurons has shown that an ‘as if’ schema (a resonance system where the neural system activates ‘as if’ the observer was performing the action they are observing) is required to perceive, categorise and understand the world, which has significant implications for understanding learning as well as what knowledge is. Adenzato and Garbarini, along with many others (e.g. Clark 1997; Lakoff and Johnson 1999; Varela et al. 1991), no longer see the mind ‘as a set of logical/abstract functions but as a biological system, which is rooted in body experience and interwoven with action and interaction with other individuals’ (Adenzato and Garbarini 2006:748). In such a view, cultural and cognitive categories are not symbolic or arbitrary but rather are ‘grounded in people’s practical capacity and in their dynamic interaction with the structure of the local environment in which they act, think and live’ (Adenzato and Garbarini 2006:750). This pragmatic version of knowledge underscores the role of action (especially simulation and interaction) in the process of developing knowledge.

Within social anthropology, there have been numerous critiques of standard cognitive science understandings of human learning (e.g. Marchand 2010 and references therein). Of most concern seems to be that standard cognitive science appears to render the human brain a repository of information and the passing on of knowledge from one person to the next as an information transfer procedure as if between two computers. Indeed, as discussed above, critiques of computational and brain focused accounts are also common in cognitive science itself (Shapiro
In anthropology, Ingold (2001:138) has made numerous critiques of the metaphor of transmission, including that it requires ready-made cognitive architecture to receive any knowledge, which he argues is impossible to isolate from the dynamic processes of growth in which learning plays a key role. Furthermore, the assumption that the notion of transmission makes is that all humans are universally equipped with a suite of capacities (e.g. language) to be filled with cultural content over a lifetime (Ingold 2009:194)—as I will discuss in more detail below this is a problematic use of the concept of ‘innateness’ too. However, even with such critiques, the metaphor of transmission continues to be used as shorthand in many fields for the various complexities of learning and the cognitive processes that go along with it (cf. Tehrani and Riede 2008).

Moving beyond cognitive science now, it is also important to review some developmental science literature to form a stronger engagement with contemporary perspectives of learning from another relevant context. A key concept in such literature is the distinction between individual learning (learning by trial-and-error) and social or cultural learning (learning from other individuals). In the context of evolutionary development, the latter with its connection to cooperation has been argued to be crucial in the remarkable development and expansion of the human species. While chimpanzees (our closest primate relative) are known to partake in social learning, they predominantly engage in individual learning (Sterelny 2012:173). Robert Boyd et al. (2011:10918) argued that: ‘We [humans] owe our success to our uniquely developed ability to learn from others.’ In addition, numerous authors point to the highly developed social learning of humans as making us unique in our ability to adapt to novel environments (crucial for expansion across the globe) and to develop vast ranges of new knowledge, tools and social arrangements (Boyd et al. 2011; see also Boesch 2003; Flinn 1997; Mithen 2008; Nakahashi et al. 2012; Sterelny 2012).
A dominant element in research on social learning is determining when and why individuals should partake in it. The ‘functional rules’ that guide this decision-making process have been of immense interest to a range of fields including biological anthropology, evolutionary biology, economics and artificial life studies (Rendell et al. 2011). However, such questions tend to lean back toward classic functionalist understandings of learning and cognition, and, as such, are of less concern to my research than an overall understanding of why social learning matters. Indeed, recent research by Sarah Mathew and Charles Perreault (2015) has highlighted that non-cultural mechanisms such as environmental changes, which are often emphasised by functional studies, are not particularly well suited to explaining human behaviour.

Mathew and Perreault’s investigation of behavioural variation in 172 Native American tribes considered the contribution of cultural history and environmental factors to human behaviour. The behavioural traits in the study were diverse and included: ‘technology and material culture, subsistence, economic organization, settlement pattern, marriage and family organization, kinship system, political organization, sodalities [non-kin groupings], warfare, ceremonies and rituals, and supernatural beliefs’ (Mathew and Perreault 2015:2). Mathew and Perreault’s analysis of the determinants of behavioural variation clearly showed the dominant influence of cultural history and the importance of social learning operating over multiple generations as the primary mode of human adaptation. This finding led the authors to argue that ‘theories that exclude these mechanisms may thus be useful to study other species but are ill-equipped to deal with humans’ (Mathew and Perreault 2015:5). This conclusion ties into broader arguments against environmentally deterministic paradigms and recommends paying closer attention to the local cultural setting and, where appropriate, local Indigenous knowledge (Ross et al. 2015:189).
While social learning is no doubt crucial to understanding how humans learn, as mentioned above, there are other animals (e.g. chimpanzees) who also partake in social learning, which raises the question of the uniqueness of social learning in humans (Boesch 2003; see also Sterelny 2012). In response to some of these concerns, Michael Tomasello and colleagues examined shared intentionality as a more intrinsic aspect of what makes human learning and life unique. Shared intentionality, according to Tomasello et al. (2005:675), requires a reading of intentions and cultural learning but also a unique motivation to share psychological states with others and unique forms of cognitive representation to do so. It is this combination of skills and motivations that led to a species-unique form of cultural cognition and evolution. Tomasello and Carpenter (2007:124), in their review of shared intentionality as a concept in developmental science, concluded that its development did not create entirely new cognitive skills in human evolution but instead involved the transformation of existing skills into collective based versions that now are the cornerstones of cultural living. Shared intentionality is thus another core concept to be clear about for developing deeper understandings of human cognition.

An interesting aspect of shared intentionality is that it appears to be incredibly robust across different cultures; just like other key developments such as language learning. This robustness means that even though children in different cultures all have different learning experiences, they mostly all end up being able to share psychological states and to collaborate with others. Tomasello et al. (2005:689) argued that this means ‘the ontogenetic process for sharing emotions and intentions with others may be fairly robust in the face of different particular human social environments.’ This point is similar to another key argument for what makes human cognition and learning unique, namely language. Susan Goldin-Meadow’s (2003) work on the creation of language by deaf children has been particularly significant for emphasising the robust nature of language as an adaptation for human social life. The link between Tomasello et al.’s and Goldin-
Meadow’s arguments is that they do not invoke a simplistic idea of genetic innateness, rather they set out an arguably more complicated, nuanced understanding of process. Indeed, Tomasello et al. (2005:688) wrote that they:

... believe that to understand the origins of a human cognitive skill we must go beyond simply labelling it as ‘innate’. Indeed, although we concur that understanding actions as goal directed is a biological adaptation, this says nothing about the ontogenetic process.

Goldin-Meadow (2003: Chapter 8) has also argued that there are limitations with how ‘innate’ is operationalised and that assuming or searching for a genetic base for fundamental human skills is not useful for understanding those skills. Instead, Goldin-Meadow anchored the concept of innateness to the notion of developmental resilience and used it to mean ‘developmentally buffered against certain kinds of experience’ (Goldin-Meadow 2003:220). This conception acknowledges that there are limits to language learning (e.g. that children raised without human interaction do not develop it or that some children may be born with certain impairments that preclude its development) but that typically ‘all intact children in almost all linguistic environments eventually develop language’ (Goldin-Meadow 2003:216). The arguments of Tomasello et al. and Goldin-Meadow align with more relational positions on human beings, by emphasising the importance of understanding contextualised process over presumed essence.

Summary

Traditional accounts of learning and what is knowledge stem from a dominant Western ontology and, while rejected in many fields, key concepts such as ‘transmission’ (as outlined above) continue as shorthand for demonstrably more complex processes. It is evident, even from the small sample of the literature I have reviewed here, that contemporary cognitive science has moved beyond such traditions and that embodied and distributed positions are becoming the new norm. Adenzato and Garbarini’s pragmatic constructivist approach to the theory
of knowledge and the demonstration of the role an ‘as if’ schema plays in human learning has been of value for deepening understandings of the mind as a biological—or even a biosocial (e.g. Ingold and Palsson 2013)—system, which has fundamental connections to a relational perspective on human becoming. Development science also provides many valuable concepts for expanding our understanding of learning and knowledge. Two key concepts I highlighted were social learning and shared intentionality, and I demonstrated how these are relevant for deepening an understanding of human learning and cognition. Importantly, within the developmental approaches I reviewed, there is a critique of uncritical invocations of innateness, a concept ultimately found to be unhelpful. Instead, most contemporary approaches refocus our attention onto process and the robustness of crucial cognitive skills across variable human environments.

One of the principal difficulties in reviewing this literature is that ontological commitments are rarely made explicit, and it is beyond the scope of this thesis to analyse and attribute a particular ontology to the various approaches reviewed here—indeed naming ontologies is a particularly fraught process with limited practicality. One thing that is clear, however, is that standard cognitive science shares many principles with Western science more broadly, and that embodied cognition and more nuanced approaches in developmental science challenge core ontological and epistemological traditions affecting how we understand the mind and the nature of knowledge. In the next section, I will focus on how a broadly defined relational ontology might build on these insights to develop a distinctive relational perspective on learning.

**Relational Perspectives on Learning**

Building on the contemporary cognitive and developmental science perspectives presented above, I now work toward developing a relational position on learning. This position places emphasis on the entwined relationship between the growth
of a human body and the development of knowledge and skills. Toren (2007:106 original emphasis) has argued that ‘what a child learns has everything to do with how it learns, and this what and how are embedded in social relationships.’ A key point Toren (2012c:402) made is that a human being is a product of a long history of social relations and, therefore, genetic inheritance and variability cannot be understood outside the history of relations that make us the particular children of particular parents, back through generations. This point does not dispute the immense value of understanding genetic inheritance; it does, however, insist on embedding that knowledge in all the dynamic relations that make humans human. From this position then all human learning is social; infants are immersed in relations from birth and even when learning is supposedly asocial or individual, this dynamic system of relations cannot be put on hold and ignored (although analytically it often is).

Autopoiesis or self-making is an important concept for a relational position on how development and learning relate to bodily growth. Toren (2001:156) argued that ‘the biological, the psychological and the sociocultural are not discrete functional domains, but fused aspects of a unitary phenomenon – the phenomenon of human autopoiesis.’ An example of this is the growth of a foetus, which is an autonomous process but one that is never independent of the conditions of the womb and the health of the mother. This kind of dependent growth continues throughout life, in Toren’s (2001:157) words: ‘we become ourselves in relations with others.’ Barad also highlights the importance of a more holistic understanding of how learning takes place. Barad (2003:828 original emphasis) wrote that: ‘Practices of knowing and being are not isolatable, but rather they are mutually implicated. We do not obtain knowledge by standing outside of the world; we know because ‘we’ are of the world.’ This point is where the divergence of relational ontology from traditional ontologies of Western science is perhaps clearest—the former requires a fundamental shift in how we conceive of the ways humans become human.
This shift also requires that attention is paid to children. As Toren (1993:461) explained, there is often an assumption that the endpoint of child socialisation is already known—they become their elders. But Toren argues that the process is fundamentally open-ended. Through her ethnographic research in Fiji (along with a detailed investigation of other ethnographic cases), Toren (1993:466) demonstrated that a child's ideas were related to but did not 'precisely mirror, those of its peers and seniors.' Rather, she explained, 'a child's notions properly belong to the child as a function of its age, cognitive abilities and the history of its relations with others in an environment that has specific cultural history.' The shift of attention to children in Toren’s work is related to the fundamental idea that ‘over time every one of us makes meaning for ourselves (i.e. autonomously) out of meanings that others have made and are making’ (Toren 2012b:71). These arguments and insights relate to the concept of autopoiesis as discussed earlier.

A relational perspective thus draws into question the analytical distinctions between different kinds of learning that are central to developmental science. Perhaps it is useful in comparative anthropology and evolutionary biology to speak of social learning in humans as unique from other kinds of learning. However, I would argue that from a relational position we need a more dynamic and complete picture of learning. Indeed, within comparative psychology, this kind of dynamic understanding is increasingly common. For example, Over and Carpenter (2012) investigated the so-called paradox in children's social learning and imitation. The paradox is that children sometimes copy actions selectively from others (i.e. they copy intentional actions but do not reproduce mistakes or failed actions) and at other times they copy faithfully (i.e. they reproduce actions precisely including mistakes or causally irrelevant actions), seemingly without a reason for the switch. Over and Carpenter found that this paradox was easily understood when viewed through a social lens and by paying attention to three key factors: the child’s learning versus social goals in a situation; the child's identification with the model performing the action; and the social pressures a
child feels to imitate actions in particular ways. Over and Carpenter (2012:182) concluded that: ‘The complexity of children’s imitation can only be fully understood by considering the social context in which it is produced’. This finding relates to Tomasello et al.’s (2005) notion of shared intentionality, through which they established that the motivation and skill to share psychological states with others is a core component of human life. Again, there is no non-social world (Toren 2012c:76).

While discussing relational ideas on becoming human, it is important to highlight that there are political and ontological tensions embedded in this work. As Affrica Taylor (2013) noted in the Indigenous Australian context, there are many taken-for-granted assumptions about childhood that are developed exclusively in the Western context and do not readily apply to Indigenous contexts. Taylor’s argument was informed by her experiences teaching at the Yipirinya School, a two-way education school set-up by Arrernte Elders in Alice Springs. Taking up Povinelli’s notion of the otherwise and geo-ontology, Taylor (2013:366) noted that Arrernte children are otherwise because they are at odds ‘with the normative humanist framings of western childhoods’ and furthermore that ‘they are constituted by otherwise ways of knowing, belonging, being and becoming – or otherwise onto-epistemologies.’ By this Taylor is referring to the children’s developing kinship identities and connections to Country, which are directed by their Elders (especially women Elders) in the classroom as well as through regular on-Country excursions. Taylor’s (2013:370) experiences and recollections are illuminating on how Arrernte Elders bring up ‘their children properly’:

It slowly dawned on me that all of these routine Yipirinya practices were important aspects of ‘growing children up properly’. Having grandmothers present in the classroom, visiting important sites of kinship and heritage, learning the ancient caterpillar stories from the elders, and simply being together in these significant places, were all part and parcel of becoming caterpillar children.
Taken-for-granted assumptions about childhood are stark when considered alongside the Yipirinya School example. Taylor (2013:367) argued that Western scientific knowledge has created an ‘essentially natural child’ that is ‘upheld as the universal benchmark of childhood’ and used to determine ‘the baseline truths about all children everywhere’. Considering the ways that learning is mediated ontologically as well as culturally has implications for the development of my concern with the local and my attempts not to impose Western assumptions and structures of development (in this specific case) onto Indigenous contexts.

Moving to discuss relational perspectives on learning more generally now; a key point is that understanding is embedded in the context of practical engagement in the world making it inseparable from doing (Lave and Wenger 1991). Ingold (1996:179) has argued that learning takes place in practice through a mixture of improvisation and imitation, sometimes referred to as guided rediscovery or the Gibsonian concept of the ‘education of attention’ (Gibson 1979). If all knowledge is founded in skill, as Ingold (2001:138) has argued, then learning must be conceived as a process of *enskilment* rather than *enculturation*. In this sense, the expert is superior to the novice not because of the amount of information the expert has acquired but because they have developed a perceptual system attuned to ‘picking up’ features in an environment or practical context that a novice misses (Ingold 2001:142). This notion of the development of knowledge crucially relates to Adenzato and Garbarini’s (2006) ‘as if’ schema, which highlights the role of simulation in human cognition and learning.

Jean Lave and Etienne Wenger (1991) have devised an encompassing relational perspective on learning based on their educational research. Lave and Wenger argued that learning is a situated activity and that the central defining characteristic of learning is the process of ‘legitimate peripheral participation’. Legitimate peripheral participation relates to the process of becoming part of a community of practice and describes the relations between learners and the
established community members from whom they learn. Clearly, legitimate peripheral participation is not an educational form but an analytical viewpoint on learning, as such legitimate peripheral participation takes place regardless of the educational form (e.g. formal teaching or informal demonstration) that gives the context for learning (Lave and Wenger 1991:40). This concept moves our understanding of learning further away from universal mechanisms and instead grounds learning in a local context, which acknowledges that all learning need not proceed in the same way but rather emphasises its situated nature.

Besides legitimate peripheral participation, another important concept put forward by Lave and Wenger is that learning is ‘situated’, which they argue is a more encompassing concept than the simple entreaty of ‘learning by doing’. For Lave and Wenger (1991:33) all activity is situated and in this context ‘situated’ implies an ‘emphasis on comprehensive understanding involving the whole person rather than ‘receiving’ a body of factual knowledge about the world; on activity in and with the world’. This notion of situated learning has obvious links to arguments against ‘transmission’ and standard accounts of how cognition develops and operates, which I set out in the previous section. Lave and Wenger (1991:122 original emphasis) concluded that:

Knowing is inherent in the growth and transformation of identities and it is located in relations among practitioners, their practice, the artifacts of the practice, and the social organization and political economy of communities of practice.

Summary

In summary then, while more traditional approaches considered knowledge as information that is transmitted between individuals, the critical departure afforded by relational ontology is that knowledge cannot be conceived of as something that exists outside of a specific context or community of practice. As a result of this recognition knowledge cannot be transmitted to or between
repositories; otherwise known as brains. Following advances in the cognitive and developmental sciences, it is becoming increasingly common for researchers in the social sciences to embed our understandings of human learning in complex developmental contexts (such as suggested by the concept autopoiesis) and in practice to recognise the more dynamic qualities of human cognition. Moreover, the revisionist direction of my research led me toward relational perspectives, which challenge taken for granted or naturalised assumptions about learning. This shift additionally resulted in engagement with some of the anthropological literature on children and consideration of the political and ontological tensions of otherwise ways of becoming.

From the relational perspective presented in this section, it appears most fitting to speak of human knowledge as skill and the learning of skills as enskilment. Enskilment is not the passing down of a ready-made corpus of information but a fine-tuning of action and perception through active participation within a community. Learning and developing skills can thus transform existing processes and bring about new ones. In this conception, the learner is not a passive object of socialisation or an empty vessel to be filled but rather is actively engaged in the process of autopoiesis, where the growth of an individual body in the world is inextricably linked to the growth of knowledge as skill in the same individual. Overall, in this section, I have presented a grounded perspective on learning and emphasised the need to recognise that the theoretical relationship between ontology, learning and knowledge brings us to this relational position on what it is to become human.

Making Skills, Becoming Human

I now focus on connecting a relational understanding of enskilment to a practical and grounded focus on making and becoming human and will show how this connection contributes new insights for archaeology. Learning and skill development are intimately connected to practical engagement with materials
through making. If we accept that human knowledge is grounded in skill, as I argued in the previous section, then a more detailed understanding of the process of enskilment must be established. While my focus in this section is on making, I also discuss broader anthropological examples from Indigenous Australia on becoming and unbecoming, not only to ‘ground’ the theoretical discussion further but to emphasise the complex nature of relational understandings of becoming human.

First, it is important to clarify how we conceive of skills in making things. Jacques Pelegrin (1990) approached this issue in regards to stone knapping by setting out that skilled knapping involves both knowledge (*connaissance*) and know-how (*savoir-faire*, which translates as to ‘know how to do’). Pelegrin (1990:118) understood knowledge as concepts, mental representations and a register of action modalities, while know-how related to processes of evaluation, decision and the execution of gestures and intuitive operations. This distinction is important because it has become influential in archaeological approaches to skilled making. For example, Douglas Bamforth and Nyree Finlay (2008:3), in their examination of archaeological approaches to skill in stone artefact production, argued that: ‘Skill in flintknapping is found in the intersection between knowledge and practice; the relationship between them changes in terms of experience and the complex interplay of mind and material as each flake is struck.’ While this conception has value for understanding what skill is, a relational approach would question whether these aspects can be so neatly divided. While I do not take Bamforth and Finlay to mean to be programmatic about this, we do need to ask whether we gain a more comprehensive understanding of these complex processes by reducing them to two related but ultimately separate domains.

So, what would a more relational position on skill be? Ingold (2001:8) suggested that skill ‘lies in the embodied sensibility that enables practitioners to respond
with precision to environmental perturbations that would throw the performance off course were it confined to the execution of fixed motor programme’. Expert makers may not need to follow the rules that they impart (verbally or by demonstration) to novices but they do indeed follow ‘rules of thumb’. Ingold explained that while these are rules per se they do not prescribe practice in every detail, and it is this lack of prescription that allows an attunement of action to the situation at hand. Skill in making can thus be conceived as both attuned perception and attuned bodily movement but only if we clarify that the two aspects are part of one phenomenon (Ingold 1996:179).

Earlier in this chapter I introduced the concept of enskilment, which takes place through practice. Regarding making and developing skills, it is important to bring this theoretical concept (enskilment) into the context of practical engagement with materials and to engage with the idea of embodiment. Embodied knowledge, according to Greg Downey (2010:S22), refers to the fact that ‘gaining bodily skills requires more than ‘knowledge’ [it] also changes physiology, perception, comportment and behaviour patterns’. It is thus crucial to talk about bodily processes in this context. Maxine Sheets-Johnstone (2011:119–120) has argued that embodiment has, to an extent, been used in anthropology as a ‘lexical Band-Aid’ with so-called ‘embodied approaches’ failing to consider the living body at all. The result of this, she contended, was ‘a complete lack of awareness of how fundamental human concepts are derived from corporeal experience’. Sheets-Johnstone (2011:122) hinged her argument on the experiences of infants and children, and she wrote that: ‘We all came into the world moving and made our way in the world by first learning our bodies and learning to move ourselves.’ Humans move and grow then in ‘kinaesthetically knowledgeable and informed ways’. The arguments of Sheets-Johnstone provide a powerful link between a relational ontology and the concept of enskilment, which relates to the formation of a view that humans are becoming through corporeal experience in the world,
in direct contrast to classical accounts of learning and knowledge in both cognitive and anthropological research.

To return to Downey (2010) and the concept of enskilment, it needs to be conceived of as more than a transfer of knowledge. Indeed, Downey (2010:S36 my emphasis) conceived of enskilment as ‘the patient transformation of the novice, the change of his or her muscles, attention patterns, motor control, neurological systems, emotional reactions, interaction patterns and top-down self-management techniques.’ These insights relate to the research program of embodied cognition and could be included in archaeological conceptions of skill in practice, actual hands-on-materials practice. However, I think many archaeologists would recognise an issue of scale in such a conception. Clearly, Downey was referring to the transformation of individual learners, while others who have approached such matters in the deep human past tend to do so from the level of the social group owing to the visibility of cultural traditions in the archaeological record (Porr 2005:80). While embodied enskilment can be seen to operate at the micro-historical level, it is important to be able to link such an understanding to broader scale processes and explanations. In past research, these micro-dynamics have been ignored in favour of generalisations about learning, which is typical in a reductionist approach to human behaviour. From a relational perspective, I argue for the reversal of this trend. These corporeal micro-processes and operation of autopoiesis are at the basis of everything and thus the analytical movement of scale would be more productive from the bottom-up to fully acknowledge and indeed operationalise this understanding.

How then might such skills in making be developed and then recognised analytically? The model of apprenticeship is so often invoked in discussions about learning to make things that in the early 1990s Lave and Wenger (1991:30) suggested that it was in danger of becoming ‘a meaningless panacea’. That apprenticeship is such a popular concept should not be a surprise since this is the
principle means of training craftspeople in many contemporary societies. However, we need to be careful here that apprenticeship is not only equated with formal apprenticeships or specific historical instances of apprenticeship (Lave and Wenger 1991:31) and, that ‘apprentice learning does not require explicit instruction or formalized institutions’ (Sterelny 2012:35). Kim Sterelny (2012:35) argued that apprentice learning should be thought of as a mode of social learning that allows for high volume, high capacity social learning. Some of the ways Sterelny proposed apprenticeship takes place in foraging societies, for example, is through watching, helping and listening to experts, and through supervised and organised trial-and-error practice, which connects to Lave and Wenger’s (1991) argument about participation rather than tutelage.

A more detailed explanation of how ‘apprenticeship’ relates to Indigenous knowledge is provided by Ross et al. (2011:34 original emphasis):

Despite the highly personal and even individualized character of this knowledge, however, the acquisition and preservation of Indigenous understandings are usually mediated by social others in informal apprentice relationships. Such apprenticeships, in turn, are structured by highly repetitive and often unspoken demonstrations by, and silent imitations of, local experts. In similar terms, Indigenous knowledge is often pragmatic rather than abstractly theoretical — a knowledge how rather than an abstract knowledge of or knowledge about.

These authors make clear the contrast between Indigenous knowledge or know-how and scientific knowledge, which is often ‘more abstract and universalizing, rigorously empirical and experimental rather than simply experiential’. Apprenticeship is thus more than just a way to understand how people learn to make things but can also emphasise the importance of experiential knowledge more fundamentally—the value of this for archaeology is unpacked below.
I find in apprentice learning many of the relational principles of skill development. For example, the notion of ‘guided rediscovery’ (Gibson 1979; Ingold 1996), which holds that an expert is not ‘teaching’ or ‘transmitting’ information to the novice but rather that by guiding their actions and attention in the process of making the expert is helping the novice discover and develop these skills in themselves. This process is thus a rediscovery of the skills of the expert in the actions and growing understanding of the novice, and it requires the commitment of both individuals. In reality, more than two persons are usually implicated; as Lave and Wenger (1991) made clear, entire communities of practice (however those may manifest in any given society) can be involved in the development of skills in novice learners.

A clear example of the application of these principles comes from the work of Valentine Roux et al. (1995) on contemporary stone-bead knapping in Khambhat, India, which they compared to archaeologically known Harappan beads to consider the skills of both sets of makers. In the modern context of Khambhat, the quality of stone-beads was argued to be directly related to the apprenticeship duration, with those knappers who produce inferior quality beads only having 2-3 years of apprenticeship while the highest quality beads were produced by knappers having undergone 7-10 years of apprenticeship (Roux et al. 1995:66). Experiments conducted by these authors with the two groups of knappers of different apprenticeship durations found great differences between the dexterity of skill in the two. Roux et al. (1995:80) argued that the distinction between the groups was not the learnt movement or execution of knapping actions, which are relatively straightforward; rather, what distinguished the knappers of high-quality beads was their ability to adapt their skills to the local configuration of the material. This understanding of apprenticeship and the results of it in terms of material culture was extrapolated to the archaeological context to consider likely learning processes of Harappan bead knappers and the probable value of the high-quality beads they produced (Roux et al. 1995:83). This case study makes
clear that the actions of skilled apprentice workers can be identified and contribute to our understanding of material things in both contemporary and archaeological contexts.

Kathryn Weedman Arthur provides a further example of how the principles of apprenticeship relate to the making of stone artefacts from her research with Konso women in Ethiopia. Arthur (2010:228) highlighted longstanding prejudices in archaeology toward women’s knapping, which has predominantly been viewed as non-existent or ‘as unskilled, expedient, and of low quality.’ Arthur’s ethnoarchaeological work demonstrated that, in fact, the opposite holds. For Konso women, learning to make and use stone artefact technology for hide-working occurs within a restricted knowledge-based system that often begins around age 14 and requires 10 to 15 years of practice before a novice is deemed proficient (Arthur 2010:237). It is also important to note that the women Arthur (2010:231) worked with ‘selectively choose the individuals to whom they will teach the skills of hide-working and discourage others, creating a community of practicing expert knappers through scaffolding’. Both novices and elderly women, the latter having lost much of the strength required to knap, produced demonstrably different assemblages of stone artefacts compared to expert knappers in their prime—highlighting a clear material signature linked to skill (Arthur 2010:235). Importantly, the ethnographic account Arthur (2010:237) presented parallels common assumptions of male knapping activities, which are that it is a ‘time consuming and sophisticated skill that begins prior to puberty.’ This case study is a significant challenge not only to gendered assumptions about the past but also to the notion that access to knowledge about stone working would have been open to all within a community.

In a final case study, I switch to a non-archaeological example to connect the theoretical ideas related to ‘becoming’ discussed throughout this chapter with a more grounded discussion of experiences in Indigenous Australian societies. This
example comes from the work of anthropologist Yasmine Musharbash (2011, see also 2008) who provided a detailed discussion of the process of becoming and unbecoming a Warlpiri person, highlighting the importance of understanding this process as part of a lifecycle rather than a cumulative lifespan. The Warlpiri word, warungka is important for better understanding this idea. Musharbash (2011:63) explained that warungka is used to refer to ‘children from their conception until they become social persons’ but also to ‘old persons when they begin to lose their social capacities’. Furthermore, Musharbash highlighted that ‘these two phases are viewed as thresholds between corporeal and non-corporeal life, and warungka – with its connotations of mindlessness, craziness and not-knowing – brackets and is contrasted with full social personhood.’ This understanding also connects to the fundamental structure of the Dreaming or jukurrpa as well. Musharbash (2011:78) explained that:

The behaviours of Warlpiri people towards individuals indicate that we should look at a Warlpiri person’s life as a cyclical journey, from jukurrpa into and through the social world, and back to jukurrpa.

This understanding of becoming/unbecoming further reinforces the importance of the local and the relational nature of becoming a full person in this society (and, of course, the Warlpiri situation cannot stand for all Aboriginal societies). Musharbash has highlighted the disjunction between the typical treatment of children in Western scholarship in comparison to how Warlpiri understand their position and the overall process of life. As Musharbash (2011:79) explained:

Academic research, policy, as well as on-the-ground programmes such as substance misuse prevention, youth initiatives and so forth (as a rule) focus on and perceive the current young generation of children and youth as ‘the future’. If nothing else, I hope to have shown that the Warlpiri perspective centres on the place of children within a multigenerational setting. From this perspective, what counts is that, in the future, children will be older – while other children will be born
and other young, older and old people will be around. When researching children and youth, we need to keep in mind those who shape them and those they will shape in turn as well as the Indigenous framing of temporality and the life cycle that guides people’s behaviour.

This example further problematises many assumptions about the process of becoming human and deeply connects to the principles of monist relational ontology as introduced in Chapter 3—though I would not label Warlpiri ontology as such. Furthermore, this example highlights that knowledge, skill or being human are not solidified as achievements but rather are ongoing processes and practices (becoming and unbecoming in the Warlpiri case).

Summary

In this section, I have demonstrated how a relational understanding of knowledge as skill combines with practical engagement with making as the process of enskilment; how making, makes skill. By reviewing the typical conception of skills in archaeology from a relational perspective, I have set out a more cohesive position on how we can understand skill. A key concept in this context has been embodiment. In the kinaesthetic sense developed by Sheets-Johnstone and as applied by Downey, embodied skill and the recognition of corporeal experience have critical links to the relational constitution of the world and human becoming. I also highlighted how apprenticeship is an important concept for understanding the development of skill. While it has historical limitations and needs to be applied with care, apprenticeship connects well with the notion of guided rediscovery and experiential understandings of learning and knowledge development. Apprenticeship also highlights the importance of the relationship between the novice and expert in a situated community of practice, which the Harappan and Konso case studies illustrate in archaeological contexts.
Theoretically, I have established that conceiving of knowledge as skill and the development of skill as enskilment (i.e. that it is necessarily embodied) provides key conceptual advantages for understandings of material culture and human knowledge more broadly. However, I have also continued to push this theoretical work towards an orientation that might be more complementary with Indigenous understandings by exploring the importance of the lifecycle of becoming and unbecoming within Warlpiri society. Even given that the Warlpiri example does not begin to cover the diversity of Indigenous Australia, it still demonstrates a challenge to the dominant discourse, which often takes for granted that the nature and process of learning and becoming human in Indigenous societies will be identical to modern Western societies—an assumption that simply does not hold.

Chapter Summary

Throughout this chapter, I have sought to make clear that by engaging with relational ontology one must also consider processes of learning and enskilment because this ontology draws attention to the processes of becoming human. Learning is a given for all humans but it is a complex topic and draws into question what we know and how we know it, which are fundamental concerns for archaeology and anthropology. Furthermore, as I have demonstrated throughout this chapter, the processes of learning and skill development have material consequences and thus need to be taken seriously by archaeologists. In this context, my discussion of learning has been related to how we understand and place people and their material culture in a relational context.

Through discussion of cognitive and developmental approaches to learning and knowledge, I emphasised that classical functionalist accounts are making way for more radical approaches in which the divisions between mind, body and the external world are dissolving, and embodied perspectives are solidifying. This point also represents a significant challenge to Western dualist thought, which
has naturalised such separations. Concepts such as social learning and shared intentionality have been important for highlighting the current concern in these fields with process and the robustness of critical cognitive skills and motivations in humans. My relational approach to learning builds on this foundation by conceptualising humans as actively engaged in the process of autopoiesis (self-making) and by developing an understanding of knowledge as skill and the getting of skill as enskilment. I have linked these theoretical concepts with a practical focus on making to show how they can be connected and viewed through material culture. By doing so, I necessitate engagement with concepts such as embodied knowledge and corporeal experience to ground this understanding in the reality of how making transforms bodies and materials. Notions such as apprenticeship, the education of attention and guided rediscovery have been shown to be important theoretical tools for explaining and investigating how these processes manifest in the things people make.

Overall, this chapter has been oriented towards establishing a fundamental aspect of my relational orientation in regards to learning and skill development. Through this relational approach, I have continued to challenge essentialist understandings of being human that derive from the ontological commitments of Western modernity and science. I have, furthermore, refused the universalising narratives and appeals to common-sense authority that also characterise mainstream approaches to learning and knowledge, which I have demonstrated are suspect in light of more nuanced and grounded examples from Indigenous societies in Australia. Indeed, I have stressed the importance of a locally situated and materially entwined understanding of learning and underlined how this helps reconceptualise what it is to be and become human; fundamental for all social science. Throughout this chapter, I have also highlighted that this theoretical work has value for archaeology since the processes of learning are accessible to us through material culture and in the next chapter I will explore this aspect more substantially.
Chapter 5: Material Culture

Introduction

In Chapters 3 and 4, I began setting out the basis of my theoretical orientation by establishing the relevance of ontology and subsequently learning. Continuing that work, in this chapter, I focus on the implications of such an orientation for the study of material culture. Throughout this chapter, I engage with different aspects of the diverse field of material culture studies, as well as with pertinent critiques and insights from anthropology and archaeology.

To provide a clear structure for this chapter, I have four primary questions that I seek to satisfy in this review. The first question asks, what are the things we study? This question refers to the implications of the concepts we rely on in archaeology. Related to this is the second question, which is simply: what is making? By addressing this question, I aim to establish a deeper connection with Chapter 4 on learning and skill by considering how these aspects are fundamentally interconnected and can be related to the archaeological context. If we ask what it is to make, then perhaps the next logical question (and my third) would be: what do we make with? I am particularly concerned here with debates about the concept of ‘materiality’ and recent appeals to take materials seriously and to move beyond the traditional hylomorphic model in archaeology, which I first introduced in Chapter 2 and will discuss further below. This question on materials also has important ontological implications because it relates to how we conceive of phenomena and how they bring forth our worlds. Thus, the fourth question that is drawn out by this exploration is, what do things do? This final question directly relates to the growing interest in the efficacy of things rather than their classificatory status, and as such it is firmly situated in the current relational strand of archaeology emphasising dynamism and process over stasis.
and essence (C. Watts 2014b:10; see also Gosden and Malafouris 2015). Things, obviously, do many different things and while I cannot attempt a comprehensive overview of every possible response to this question, what I do aim to draw out is the recognition of the efficacy of things in a few anthropological and archaeological case studies.

What are the Things We Study?

A key challenge in the literature is how we conceive of material culture. This challenge includes the use of that particular term. Joyce (2015b:182) has argued that the rendering of things as material culture is, in fact, holding archaeologists back from making a more substantial contribution to understanding materiality. The literature (and my concern in this section) is focused on what these terms (objects, things, material culture) allow us to say and their conceptual advantages and disadvantages rather than the supposed accuracy of their descriptive powers. For example, the distinction between object and thing tends to relate to two contrasting ways of viewing artefacts, the former as being determined by essential or inherent qualities and the latter by their relationships or entanglement with other things (Hodder 2012; Ingold 2013b). These terms and the disciplinary history surrounding their use matters because it relates to how we conceptualise what we study in archaeology and thus colours our interpretative frameworks.

There are many longstanding debates on this topic in archaeology and anthropology, as well as in related fields such as geography, architecture, science and technology studies (Chua and Salmond 2012; Hicks and Beaudry 2010) and philosophy more generally (for example Heidegger’s 1971 [1949] treatise on ‘things’). In this chapter, I will not attempt a history of approaches to material culture in archaeology. Indeed, such work has been covered elsewhere (Hicks and Beaudry 2010; Tilley et al. 2006) and a particularly useful overview is provided by Liana Chua and Amiria Salmond (2012). They elaborated on the history of ideas about material culture in anthropology, including the social lives approach (e.g.
Appadurai 1986), the agentive turn and related interests network theories, various phenomenologically inspired approaches (e.g. Thomas 2006), the diverse field of material culture studies, and artefact-oriented and materialist approaches. We can also now include the currently influential field of new materialism in this list (Joyce 2015b; Witmore 2014). My discussion here will only deal with some pertinent aspects drawn from such a vast literature, and I will mainly restrict my discussion to a few contemporary theoretical perspectives that are of use for the orientation I am developing.

One critical issue related to how artefacts are conceptualised and dealt with is the anthropocentric tendency only to see things as important for what they mean to humans or how they connect to human social lives. In material culture studies, Dan Hicks (2010:69) has described the emergence of an abstract and dematerialised quality where ‘things appear to disappear into spectral fields of social relations or meanings, and the complexities of materials and their change over time are not accounted for’, or where their form is ‘reduced to a distinctive kind of conduit for social relations’. Objectification is a fundamental aspect of this treatment of artefacts. The tendency towards objectification is core to the traditional treatment of artefacts across much of archaeology, and researchers typically assert that it provides a way of understanding subjects and objects as connected but separate rather than opposing entities (Chua and Salmond 2012:108; Tilley 2006:61). It also, according to Hicks (2010:70), justified ‘the heuristic distinction between materials and culture implied by the use of the term ‘material culture’.

An important issue that this literature brings up for me is how certain conceptualisations of things allow us to understand them archaeologically. Here I briefly want to discuss classification since this has a significant influence on the history of approaches to stone artefacts—the debate over typological and technological classification in Australian archaeology discussed in Chapter 2 is an
obvious example of this. The comparison between archaeological and ethnohistoric classification is particularly relevant considering this thesis’ broader aims and below I focus on a single case study to flesh out this relevance.

In the 1970s, Valda Blundell (1975) recorded both archaeological and ethnographic information about stone artefacts in the West Kimberley, primarily with Worora and Ngarinyin informants. One of the things I find interesting, and very relevant, about Blundell’s work, is the vast discrepancy between the classification systems both she and her informants used—a point she also made. Following well-established archaeological procedures of the time, Blundell (1975:245) set out a classification system for stone artefacts that focused on formal attributes and manufacturing processes. In this system each artefact analysed was placed in a single category; the system comprised 14 artefact classes (e.g. cores and nodules, blades, cortex flakes, etc.) most of which had numerous sub- and even sub-sub-classes (121 in all) and could be further divided by the various stone materials used. Blundell’s principal informant, Sam Woolagoodja (a Worora Elder), had a far more flexible system of only three main types: Ninduldja which refers to nodules, pebbles and cores from which flakes have or could be removed; Jilera referring to flakes and blades that have been removed from nodules and cores, generally considered ‘potential’ tools; and Djumbanari, artefacts that are considered to be complete and ‘ready to use’ (Blundell 1975:398–399). While there are particular names for specific tools or, in the case of Jilera, artefacts in different stages of manufacture, as Blundell reinforced throughout her work the local classification was indeed much more open and depended on the use or envisioned use of any particular artefact. Blundell (1975:397–398) reflected on the differences between her’s and Sam Woolagoodja’s systems:

The native classification of stone artefacts is extremely flexible. The use to which an artefact is, or might be, put often determines the term that will be employed to designate it. ... Throughout the sorting sessions, I was impressed by Woolagoodja’s lack of adherence to
strict, formal rules in designating tool types. In fact, until I fully grasped the functionally relative and shifting nature of the native concepts and terms, I often felt that Woolagoodja ‘changed his mind’.

This example relates more conceptually to arguments made by Ingold (2009:199) about the storied nature of knowledge and how stories can connect the things that classifications divide:

> In a classification ... every entity is slotted into place on the basis of intrinsic characteristics that are given quite independently of the context in which it is encountered, and of its relations with the things that presently surround it, that preceded its appearance, of that follow it into the world. In a story, by contrast, it is precisely by this context and these relations that every element is identified and positioned.

The case study discussed above, in which local Indigenous concepts of stone artefacts are flexible based on the context of an encounter (i.e. use) rather than any formal attributes, is a clear example of Ingold’s point here. The archaeological classification system presented by Blundell focused on characteristics that are assumed to exist independently (and meaningfully) of context and related to a particular conceptualisation of what these things are; in comparison, Woolagoodja’s system was open and depended on current or future relations with the artefacts.

This discussion of classification draws attention to how we conceptualise what we study and draws out the importance of discussing the distinction between object and thing. Ingold (2011b:4) argued that the problem with objects is that they are easily conceptualised as complete, final and separate; he has instead asked us to think about how something is considered ‘thingly’ (Ingold 2007:9). In classical approaches, the multiple trails of growth and transformation that are involved in creating something are often ignored, and we are presented with (or rather, we create) a generalised object. Ingold’s entreaty is to look at the tangled webs of
complexity that are the ‘very processes of the world’s ongoing generation and regeneration’. Ingold also grounds our understanding in a world that is in flux, one that it is continuously being made and remade. Objects in the world in this conception are viewed not as constellations of bounded entities reliant on each other in some way but rather as things within a meshwork of relations (C. Watts 2014b:12). This view offers many conceptual benefits that speak to the recognition of a dynamic world that does not need or rely on any human ‘agency’.

Within archaeology, one of the most recent and detailed theorisations on things, which tried to break down the dichotomy discussed above, is presented by Ian Hodder in his 2012 book *Entangled*. In this book and the ‘entanglement theory’ it presents, Hodder sketched a picture of the complex web of entanglements between entities and humans in the world. Given the disciplinary history surrounding the word ‘object’, namely being tied up in opposition to a ‘subject’, Hodder (2012:8) contended that the term ‘thing’ is more appropriate for archaeology to explore ‘the ways that entities connect to each other and to humans’ rather than emphasising a bounded or static experience of them. The contrast between thing and object according to Hodder is that, while they obviously overlap, the term object is commonly used for things that are relatively stable (e.g. a chair as opposed to a speech). ‘Thing’ conversely for Hodder (2012:7) refers to ‘an entity that has presence by which I mean it has a configuration that endures, however briefly.’ Briefly, five themes are central for understanding Hodder’s (2012:4–7) idea of entanglement as it relates to archaeology: 1) things are not isolated; 2) things are not inert; 3) things endure over different temporalities; 4) things often appear as non-things; and 5) the forgetfulness of things, or rather our forgetfulness in relation to them. One of the key aspects of entanglement theory is that it compels us to pay attention to the idea that things are always specific, local and open-ended, and refocuses attention on dependence and dependency as inescapable and contingent forms of entanglement (for further elaboration see Hodder 2016).
I suggest that Ingold’s (2011c) concept of meshwork takes the points raised by Hodder further. In recognising things in a meshwork rather than objects in a network, we are also engaged in acknowledging a relational constitution of being more broadly. Network thinking tends to emphasise relations between things, which in itself is not a negative. However, the problem is that in network thinking (such as the agent-object network in material culture studies or Latour’s actor network theory), the relations between elements (things, organisms, people, etc.) have to be separate. In contrast, Ingold (2011c:70) has argued against such a distinction between things and their relations, and instead emphasises that: ‘Things are their relations’. This understanding is directly related to a particular kind of ontology, which Ingold calls an animic ontology; but, following Barad (2003, 2007; see also Joyce 2015b) and my arguments advanced in Chapter 3, I would refer to this as a relational ontology.

We now find that behind the conventional image of a network of distinctive interacting entities or objects are the entangled lines of life, growth and movement (Ingold 2011c:63; Hodder 2012). This meshwork continually unfolds as lives proceed and undergo perpetual formation (Ingold 2009:210), which relates to the concept of autopoiesis introduced in Chapter 4. The concept of a meshwork is also a way of describing a storied world and the lines of wayfaring, or how we make our way in the world—the meshwork of lines converge in places conceived as ‘knots’ where the lines of wayfaring converge (Ingold 2011c:149). As formulated by Ingold (2011c:151), the lines of the meshwork are not connectors between different places or things but rather: ‘They are the paths along which life is lived.’ By conceiving of things as being meshworked the strict boundaries between materials, things and living beings are blurred; this blurring draws our attention to their entangled, non-static and continually unfolding nature. C. Watts (2014b:13) has argued that ideas like meshwork (and relational archaeology more broadly) ‘can be seen to muddy the waters surrounding the ‘social’ by drawing other phenomena into our field of view.’
The points raised above about how we treat and conceptualise the things we study also echoes an observation made by Hicks (2010:79) that ‘archaeology and anthropology enact, rather than purely represent, the world.’ Furthermore, Hicks (2010:95) has argued that: ‘No new grand theory of material culture is required: instead, a more modest acknowledgement of how our knowledge is formed through material practices, which are always historically contingent’. Chua and Salmond (2012:112) arrived at a similar conclusion; they argued that the study of things is not neutral but ‘both echoes and influences the ebb and flow not just of (inter)disciplinary, but also broader sociocultural politics.’ A strong example of these points comes from Fowles (2016) who critiqued so-called thing theory and the growing focus on objects as subjects in anthropological research (see also discussion in Hodder 2012:41). Fowles (2016:25) argued that such approaches emerged through the crisis of representation in the 1980s and related postcolonial critiques. In other words, so-called thing theory arose when ‘the West lost its ability to write about non-Western people however it liked’; objects it was argued thus became anthropology’s ‘perfect subjects’. Fowles’ assertion here links to arguments made by Thomas (2006:235) that ‘the question of how we conceptualise people in the past is also an ethical one’ and as such the relationship archaeologists establish between material things and past human behaviour cannot be assumed to be neutral. We need to pay attention then not just to ‘things’ but to the motivations behind research interests in them and evaluate their implications. Overall, these arguments connect to the core intention of this section, which was to understand how the various theorisations on the things archaeologists study contribute to a deeper understanding of the contingencies of how we create knowledge about them.

Summary
In this section, I briefly explored some key aspects and disciplinary histories related to how archaeology has conceived of the things we study and how that has affected the ways we understand them. The short case study I presented on
classification drawn from the Australian archaeological literature highlights some implications of how we think about things and the potential for conflict with Indigenous ways of knowing. These definitional and conceptual challenges are more than semantics. They are important to pay attention to because they structure how archaeology enacts the world and establishes a relationship between the things we study and people in the past, which as mentioned above is always an ethical question as much as it is an epistemic one (Fowles 2016; Thomas 2006).

I have used the work of Hodder and Ingold to highlight that the concept ‘object’ has a problematic disciplinary history because it tends to emphasise the statically bounded nature of entities without necessarily making room for recognising their more dynamic aspects. In this context, Hodder’s theory of entanglement is one framework that has been making progress by emphasising the contingent nature of things and their relations of dependence and dependency with other things and with humans. Ingold’s conception of a meshwork of things continues to move us beyond considering things as bounded entities and toward a relational conception of being that draws attention to the constantly unfolding, non-static web of complexity in which all things are enmeshed. Ingold’s (2011c:70) argument that things are their relations further challenges us to embrace a relational ontology more substantially.

What the relational approach calls into question is the received and established forms of inference upon which archaeology relies to create knowledge about past human behaviour and motivations, through the study of material things. These inferences and enactments are as contingent on the archaeological record as they are on disciplinary politics and the intellectual histories of the modern West, and this has been an important aspect to be clear about while exploring the potential of alternative approaches.
What is Making?

In Chapter 4, I set out that through embracing a relational position we could more productively understand knowledge as skill and the acquisition of skill as embodied enskilment, which takes place within a community of practice. I continued exploring this relational orientation in the section above where I established the relevance of a meshworked understanding of things. I now want to argue that these aspects could be combined and built upon and that to do so requires us to answer the next logical question: how do things come into existence or more directly, what is making?

Ingold and Hallam (2013:1) raised the problem that most makers cannot simply answer the question, ‘what are you making?’ The question, they noted, invites a response from contemporary craftspeople of an end-product, a final form and the cessation of a project. Makers tend to give basic answers like ‘a table’ or ‘a handaxe’. But these are typically object-centred diversions and do not help us to understand any better what it is to ‘make’. Ingold and Hallam (2013:1) put it this way: ‘Making things, for them, often feels like telling stories, and as with all stories, though you may pick up the thread and eventually cast it off, the thread itself has no discernible beginning or end.’ I think if we want to utilise a more dynamic understanding of things then coming up with a better answer to this question of making is fundamental.

We need to recognise here that the contemporary Western perspective derives from the fact that most objects in our environment are not actually, or are not perceived to have been, made by people with whom we have relationships. Again, there is an ethical responsibility here to recognise that this understanding is, in fact, historically specific and cannot be assumed to hold for all times and places (Thomas 2006:1). The difference in more traditional or small-scale societies is that every object is more likely to be made by a person who has a history with you. Nancy Wachowich (2014:143, 144) has provided a vivid example of this point.
Wachowich traced Inuit social relationships through caribou skin clothing highlighting the ‘intimate ecology of relations between hunters, seamstresses, animals and skins’ and explaining how animals and people ‘were made and grown in this process.’ In contemporary industrialised societies things rather seem just to exist as objects (e.g. they are made by machines or ‘invisible’ workers in factories) and their entangled and dependent nature is often forgotten (Hodder 2012:6–7). The essentialist ontology at the core of such perspectives creates its own material reality that reinforces its particular perceptual schema. I argue that a relational perspective allows us to see these relationships and entanglements (Ingold and Hallam 2013) and to think critically about how we might understand these aspects when we look at deep-time things. The modern Western experience of things as ‘objects’ and the process of ‘objectification’ shapes our perception of the material things that we study and the questions we ask of those particular things (Hicks 2010). What I am highlighting here is that we need to be alert to whether we are retrofitting our experiences and understandings onto an otherwise past. Furthermore, we need to examine how the dominant mode of archaeology has tended to privilege a particular conceptualisation of things—another reason why a postcolonial angle is critical to the overall aim of this thesis.

I return now to the question, what are you making? Harrison (2015) has argued that we need to pay more attention to the future lives of artefacts and things beyond their supposed finishing. That a thing might be ‘made’ implies that it is done, that the processes that brought it into being are finished, and it will now remain stable. However, we intuitively know that this is not really the case. Things break down or decompose, they are repaired, their meaning and value change with time, they are lost and then found again, they are forgotten and later remembered. It is these various ongoing processes that continuously ‘make’ the things we work with as archaeologists, and furthermore illustrate that work with artefacts is also another kind of future process. A wider conception of making is indeed necessary for a new, relational framework.
What might a new conception of ‘making’ be? Ingold and Hallam (2013:3) have argued that the form of things (artefacts) is not applied to the material but should be thought of as emergent within the field of human relations; it is ‘anthro-ontogenetic’. The traditional notion of material culture as objects, according to Ingold (2006:5) ‘rests on the premise that as the embodiments of mental representations, or as stable elements in systems of signification, things have already solidified or precipitated out from the generative fluxes of the medium that gave birth to them.’ These critiques draw into question the classical hylomorphic model, which understands matter as taking a form imposed on it through the process of making (Conneller 2011:126). Following a relational orientation, we can work to avoid the hylomorphic characterisation of material culture as form-received passivity and instead focus on it as form-taking activity (Ingold 2013b:28).

Within archaeology, particularly in stone artefacts studies, these arguments might already resonate. For some time now, there has been scepticism of the assumptions that: 1) mental templates exist and the form of an artefact directly reflects a pre-existing template in the maker’s mind; and 2) if 1 holds then the archaeologist should be able to access these mental templates through studying the artefacts that result (Hiscock 2007). The neglect of the use-life of artefacts, for example, the processes of continued resharpening or re-purposing of tools (e.g. Dibble 1987), and the quarantining of the process of making stone artefacts as a solely mental activity, have been raised as key concerns against such assumptions. While it is not that researchers have argued that people embark on making a stone artefact blindly or that an individual knapper may not have a clear goal in mind, rather the issue is that the most complicated factors of making stone artefacts are glossed over by many analytical approaches.

Related to the concept of autopoiesis discussed in Chapter 4, the flow of the material and the will of the maker are never independent domains; they are
inescapably fused aspects of the one phenomenon. From a relational perspective, for example, the making of stone artefacts is entwined with bodily processes, the flow of materials and with the social context that the performance of knapping takes place in (see also Conneller 2011:77). I would argue that there are mutual flows in making, where the skills of the maker are brought into conversation with the material. The material, from the perspective of a skilled maker, can also be thought of as skilled. It is not merely inert, brute material that either does or does not afford the actions and intentions of the person but rather when a skilled maker engages with their material her attention and actions are as much directed by the material as by her own choices. The skill of the maker then affords the stone the potential to become transformed, just as the reverse holds that the stone affords the maker the potential to transform herself through her engagement with it.

We generally understand that artefacts are made by people; makers, as referred to above. We also know that making involves and indeed develops skills in the maker through practice. But do the artefacts we study in archaeology only ever come about through making? Perhaps they also grow.

Harrison (2010:523) has argued that artefact forms can ‘grow’ like organisms, have their own lives, and exist as things beyond their histories with people. He provides the example of contemporary Indigenous Australians’ connections to stone artefacts in the heritage sector, where many work as field labourers on archaeological surveys and excavations. For Harrison’s (2010:535–537) informants the stone artefacts they encounter in these settings have an efficacy beyond their production and use by their ancestors. The artefacts are said to have a life or agency of their own. By moving beyond the processual focus of current archaeological research on stone artefacts, Harrison directs our attention to the potential lives of things. In my mind, this example also emphasises the importance of Povinelli’s concept of the otherwise and recognition of ontological
pluralism (introduced in Chapter 3), since the efficacy Harrison refers to comes from an ontological position at odds with Western essentialist ontology.

A further example of a relational position on things comes from Paolo Fortis based on his extensive ethnographic work with the Kuna people of Panama, which also serves to problematise the common-sense view that things are ‘made’. According to Fortis (2014:90), the Kuna use the idiom of birth to describe making artefacts because for them giving form is a way of making but also growing since it ‘entails fertile capacities of persons’. Fortis described how ‘far from being conceived only as the product of the creative human mind, form is better apprehended as a state of being within a network of relationships, including human beings, objects, animals and trees.’

This ethnographic example links to a more political point raised by Ingold and Hallam (2013:12) who argued that the world of museums (which bears many similarities to the world of archaeology) treats natural objects differently from artefacts or works of art and that this ‘separation of natural from artefactual was deemed necessary to the organisation and advancement of knowledge’ in such institutions. Fortis (2014:96) highlighted the implications of this separation in the case of the Kuna for whom the creation of human bodies is conceived as an active process of fabrication and likewise the status of artefacts as persons who are ‘endowed with agency and key in mediating relationships between human beings, animals and spirits.’ When it comes to understanding making, a relational orientation would also emphasise that we need to be open to multiple ways of conceiving of these processes and of bringing them to bear on the material things that archaeologists study. Furthermore, this example reinforces the need to take seriously Indigenous conceptualisations and not just regard descriptive classifications as having primary access to the causalities affecting human behaviours and material things—this is an important departure of a relational approach with an emphasis on the local constitution of making.
Summary

It is fundamental to explore what we mean by making to integrate relational understandings of knowledge and skill with the study of things. In this section, I argued that to achieve such integration a wider conception of making that goes beyond the traditional bounds of the hylomorphic model is necessary. While critiques of the hylomorphic and mentalist tradition are widespread in archaeology, these can be taken further in a relational approach to making, which prioritises process and flow. By linking the process of making to the concept of autopoiesis, I argue that material and maker are not independent domains but fused aspects of one phenomenon that we typically recognise as making. Furthermore, in some otherwise ontologies this idea could have more enlivened, radical implications, as the examples from Harrison and Fortis illustrate.

What do we Make with?

Establishing a relational understanding of making also draws into question how we conceive of materials: what do we make with? In this section, I will briefly touch on debates concerning materiality before considering some of the promising ways researchers are theorising materials in archaeology.

While materiality has become increasingly embedded in the language of material culture studies (e.g. Miller 2005; Tilley 2004), it often appears without a firm definition of what researchers actually mean by it. This lack of definition has become problematic because of the proliferation of multiple competing and sometimes contradictory interpretations of this fundamental concept (I made a related point in Chapter 3 in regards to defining ontology). An important critique of such literature comes from Ingold (2007), who lamented the lack of concern with the materials themselves or any dynamic understandings of what it is to ‘make’. Ingold’s (2013b:27) argument was that we are presented with two sides to materiality: 1) raw physicality, such as the material character or substance of
things or objects; and 2) socially and historically mediated agency of humans who appropriate raw physicality for their own purposes, such as the projection of meaning, design or style onto materials. Ingold notes that this duplicity in materiality mirrors debates about human nature, which are also consumed by similarly unhelpful binaries.

What is materiality? Christopher Tilley (2007:18), responding to Ingold, explained materiality as the movement from ‘a brute consideration of material to its social significance’. Tilley continued to explain that materiality was about ‘developing a holistic and conceptual theoretical and interpretative framework’ that goes ‘beyond the stone itself and situating it in relation to other stones, landscapes, persons and their doings’. Other researchers, such as Daniel Miller (2007:24) have argued that such a definition is not possible; he writes that ‘Ingold complains that no one tells him what materiality is. That is because we are not philosophers and also do not accept this static concept which elsewhere he criticizes.’ While materiality might not be a static concept, it is not defensible to argue that we do not need a definition since so much of the literature utilises this concept in an opaque manner.

More recently the new materialism movement (Dolphijn and van der Tuin 2012) has reinvigorated concerns with materiality in archaeology and provides arguably more interesting responses to the definitional question of what it is. Joyce (2015b:181) has argued for a movement away from archaeology’s fascination with things and toward ‘understanding materiality as the embodied, experiential, and dynamic medium of practice’. Joyce (2015b:184) elaborated on this point by explaining that:

... we need to disentangle studies of materiality as things, as materials, and as technologies, in order to re-entangle the social relations that form around mobilizing materials in social life.
Taking this idea of mobilising materials in life, I turn now to think about materials more explicitly. Chantal Conneller (2011) has also taken issue with the traditional understanding of materials and things in archaeology. According to Conneller (2011:1) typical understandings take one of two forms: 1) materials as a formless substrate onto which human mental representations are imposed, where human action is accorded primary significance; and 2) materials as having natural, essential properties that constrain or enable human action (and technical action at that). Importantly, Conneller (2011:2) also highlighted two key assumptions that have guided such traditional archaeological approaches to materials, which are ‘that archaeological specialisms reflect past material categories and that the ‘real’ properties of materials can be grasped through scientific analysis’ (aka uniformitarianism). These assumptions need to be challenged if a meaningful transformation of archaeological approaches toward materials is to occur.

Conneller concentrated on tracing the complex processes whereby materials and things come to have an effect. Drawing from an archaeological perspective on the Upper Palaeolithic of Europe, Conneller (2011:126) suggested that we need radical approaches that address the specificity and variability of different interactions rather than formulating another meta-theory. By arguing that we need to take others’ articulations of the properties of materials more seriously, Conneller (2011:4) does not only mean that we should just acknowledge their existence but rather is getting at the need to establish a deeper, ontological concern with ‘varied configurations glimpsed through tracing the connections of people and materials in past technological processes.’ The position that Conneller took fits very well with the relational and micro-historical position that I have been advocating for in Chapters 3 and 4, and the emphasis placed on process also directly connects to my concern with making as discussed in the previous section.
The discussion of materials and relational understandings of the world in Conneller’s work link well to examples first introduced in Chapter 2 on the significance and meaning of stone to Aboriginal people. The example of Ngilipitji quarry (R. Jones and N. White 1988), Taçon’s (1991) illustration of the aesthetic importance of stone and the connection of particular stone sources to creation stories and beings in Arnhem Land, and Bradley’s (2008) in-depth consideration of Yanyuwa people’s understanding of stone tools oscillating according to context are especially relevant cases to recall now. These examples highlight the significance and value of stone as a material beyond the utilitarian realm. Furthermore, the authors of all three papers explicitly questioned how often such factors would tend to be overlooked by archaeologists. I briefly return to these cases here since they emphasise the importance of more nuanced and relational accounts of materials in archaeology and hint at how a deepening engagement with materials within a relational approach might be a way to engage better with otherwise understandings.

Another key example of the ontological significance of materials comes from the work of Barad, whose new materialist work is becoming increasingly influential in archaeology (e.g. A. Jones 2015; Joyce 2015b; Marshall and Alberti 2014). Barad has been vocal against the ignoring of materials, and matter more specifically, in discussions of things. Barad (2003:801) has argued that: ‘The ubiquitous puns on ‘matter’ do not, alas, mark a rethinking of the key concepts (materiality and signification) and the relationship between them.’ Barad continued to point out that: ‘Language matters. Discourse matters. Culture matters. There is an important sense in which the only thing that does not seem to matter anymore is matter.’ In contrast, Barad (2003:827) ‘challenges the positioning of materiality as either a given or a mere effect of human agency.’ For Barad (2003:828) matter is not a fixed essence, it is ‘not a thing but a doing’. What this means, according to Barad, is that: “We’ are not outside observers of the world. Nor are we simply located at particular places in the world; rather, we are part of the world in its
ongoing intra-activity.’ Barad’s argument about intra-activity links to a point raised by John Law (2010:173) in science and technology studies, who argued that matter and relations had to be ‘done’, by which he meant that ‘materiality cannot be prised apart from the enactment of relations or, more generally, the practices that do these relations.’ Overall, these arguments connect nicely to those of Ingold and Conneller on the importance of putting materials back into our accounts of so-called materiality and draws attention to the local quality of this engagement, which cannot translate into universal characteristics or behaviours of the world or people.

Critically for my development of a relational orientation toward materials, Barad (2003:812) has taken issue with the ‘thingification’ of the world, which she described as ‘the turning of relations into ‘things’, ‘entities’, and ‘relata’ that infects much of the way we understand the world.’ For Barad phenomena are ontologically primitive relations; meaning that they are relations without any pre-existing relata. To put that differently, Barad’s point is that relata (things in the world) do not pre-exist their relations but rather they are understood as emergent: as relata-within-phenomena through specific intra-actions. If we follow this argument logically, as Barad urged us to do, then we reach the point where phenomena constitute reality. Indeed, as Barad (2003:817) explained: ‘reality is not composed of things-in-themselves or things-behind-phenomena but ‘things’-in-phenomena.’ This position is a radical relational understanding of what the world is. It demands that we accept that things do not have relations but more fundamentally they are relations (Ingold 2011c:70); a critical step in exploring the implication of a monist relational ontology in archaeology. Furthermore, I argue that with the conceptual tools Barad provides we could also unfasten the assumption that traditional Western accounts (or any single account for that matter) could provide a single authoritarian account of ‘reality’, which not only is a move toward unity but also a critical intervention against mainstream universalism (see also Sundberg 2014).
To close out this discussion, I briefly revisit the Yanyuwa case study I first discussed in Chapter 2 to reinforce the political significance of these approaches to materials and matter. As Bradley (2008:636) highlighted, powerful Western discourses can blind us to alternative understandings, such as the Yanyuwa understanding that stone artefacts can oscillate according to context and be the dingo as much as they can be a functional tool. As I emphasised in Chapter 2, if these points of contact with Indigenous knowledge are to transform archaeological practice then we need approaches that not only recognise the importance of different understandings of materials but that also appreciate the significant ontological nature of those differences. It is critical that different examinations of materials or materiality are always embedded in this political milieu. The approaches towards materials and matter discussed above could thus have a substantial impact in such cases where traditional power dynamics unquestionably require unsettling in a theoretically meaningful way.

Summary

Throughout this section, I have explored how to engage with materials from a relational orientation. The materiality debate has been important for contextualising why this is of concern and illustrates some of the key issues at hand. Currently, archaeology seems to be embracing broader understandings of materials and as Joyce (2015b) demonstrates has much to contribute to discussions in new materialism (see also A. Jones 2015). Conneller has highlighted the potential of critical approaches to materials focused on process in contrast to traditional understandings focused on essence, and I have used the work of Barad to take Conneller’s position further by exploring the ontological significance of matter and materials in the very constitution of reality. Barad’s reformulation of materials and thus the contingency of things has great potential for archaeology and I have juxtaposed my theoretical discussion in this section with two brief reminders from Chapter 2 on the importance of stone for Indigenous Australians. These examples highlight just some of the ways these theoretical discussions may
articulate with my research context and further emphasise the importance of keeping the political and theoretical united. Overall, moving to embrace more radical positions on materials, materiality and matter puts us in a position to develop more complex archaeological accounts of the world.

What do Things do?

We have covered so far how to conceptualise things, how things are made and what they are made of, and now I want to turn briefly to what things do. Focusing on what things do, as opposed to what they categorically or compositionally are, is currently gaining favour in the relational strand of archaeology since it is a logical consequence of the perspective that materials and things are dynamic rather than static (C. Watts 2014b:10). This point also relates to the disjunct at the core of the research problem that prompts this thesis; ethnographically we know that, particularly in Indigenous societies, things can be far more than lifeless objects but are meaningful and even animate in ways Western approaches do not appreciate (e.g. Bradley 2008; Fortis 2014; Herva 2009). Conneller’s approach to materials in archaeology also draws out the importance of recognising dynamism and process. She (2011:19 original emphasis) wrote that: ‘Broadly this Deleuzian perspective leads to a focus on matter not in terms of what it is (or the forms it is represented as) but what it does, and in particular, in what it does in connection with other things.’ To structure this section, I explore three different case studies of how anthropology and archaeology are engaging with what things do. While no single case study holds a definitive answer to this question (and I think that is an impossibility anyhow), what these examples do demonstrate is the variety and vibrancy offered by discussing material culture from a relational position.

How Things Constitute Relations

James Leach’s (2012) research engages an aspect of understanding things that I have not discussed in much detail: how things, and indeed other living entities,
can be understood as persons and be intimately involved in constituting relations (see also Coupaye 2013; Fortis 2014; Viveiros de Castro 2004). The particular things that Leach discussed were slit gong drums or *garamut* that are made and used by the Reite people of the Rai Coast of Papua New Guinea. The significance of these thing-persons, as Leach referred to them, is crucial for helping build a broader understanding of what things do as being intrinsically tied to the relations through which they emerge.

Leach explained that many people in Melanesia consider things as persons, even though people recognise differences between thing-persons and person-persons. To understand how this is the case, Leach (2012:3) suggested that the solution cannot be to evoke any argument of secondary or mediated agency for objects, such as Gell (1998) famously advocated. Leach (2012:3) argued that approaches like Gell’s do ‘not take seriously enough all those places and people who assert the actual or real person-status of things.’ Those kinds of approaches do not let people have the full force of reason and instead tend to explain away what they actually say. This point relates to a common thread in the New Animism literature (e.g. Peterson 2011; Willerslev 2013) and ontologically engaged anthropology (e.g. Candea 2011) and emphasises again the need to take what people say about things seriously.

A *garamut* is made for a man by his affinal kin and through its emergence from very specific and particular transformations, a *garamut* ‘leaves a man with an audible presence in a landscape’ (Leach 2012:11). Leach (2012:4) explained this concept in the following way: ‘It can speak for the person of its owner in a manner impossible without its physical presence.’ In this sense, drums do not represent persons but rather they are specific and unique things in their own right because of their relational position in the community and their very fabrication. ‘*Garamuts* are an instance of a thing taking attributes of, being formed within,
and thus being seen as, a person – and a gendered and specific person at that’ (Leach 2012:11).

*Garamuts* and their form are explained as a unique transformation of relations between key parties (a man and his affines). This case study gives us an explicit example of the role things can play in relations, special things like *garamuts* are not *just* objects but are and do much more in their community. Leach (2012:17 my emphasis) wrote that these things have a temporal and relational—not essential or symbolic—irreplaceability:

> *Garamuts* are not objects in the sense that Gell means when he presents art works as indexing the agency of the creator. *Garamuts* are emergent moments in relationships that belong to no one party. They belong to and are the affinal relation itself.

**How Things Make Us See**

Mary Weismantel’s (2014, 2015) research on carved stone monoliths (or pillars) at Chavín de Huantar in Peru draws out aspects of how the material efficacy of such stones can be just as significant as the images they bear. In this work, Weismantel explored how the perspectivism of Viveiros de Castro (e.g. 2004) might provide new insights on these stones. In juxtaposing perspectivism with the monoliths, Weismantel examined interactions between humans, animals and things as they emerge from interactions with the monoliths rather than just perceptions of them or what they supposedly represent. However, it is important to note that Weismantel (2015:151–154) did not take perspectivism at face value as presented by Viveiros de Castro, rather she critiqued its ‘romantic primitivism’, reliance on stereotypes, and lack of concern with people, materiality, and history. In doing so and by bringing this theoretical notion into conversation with the archaeology of Chavin de Huantar, she created the conditions for what she called an ‘archaeological perspectivism’. Weismantel (2015) achieved this by grounding perspectivism in archaeological and ethnographic detail and taking an active
stand in making theory, which has strong parallels to my concern for a new disciplinary ontology in archaeology. In the writing to follow, I briefly explore some of the ways Weismantel applied her critical relational perspective and discuss how this allows us to understand better what things in this context do.

The monoliths at Chavín de Huantar were carved with human/non-human bodies. Weismantel (2015:140) explained that while they may seem fantastical to Western viewers, images of multi-species beings were ubiquitous in the Pre-Columbian Americas. Weismantel (2014) has integrated an iconographic analysis of the carvings with a consideration of the materiality of the stones they are carved on—that is, she considered the material, size, surfaces, spatial context and what interaction forms the pillars demand of the viewer. By doing so, she was concerned primarily with bodily and sensory experience and specific ways of seeing the stones. Weismantel (2014:23) treated stones as 'something like life forms' not merely representations. To be clear, this does not mean she ascribes them agency or a life-force but rather she writes about them in this way because ‘that is how they were treated by the people who made them, and by those who travelled great distances to see them.’

A key example of what stones do is established through understanding their spatial context. Weismantel (2014:33–36) argued that each stone creates a kinaesthetic dialogue with the viewer. The Lanzon at Chavín de Huantar, for example, is in a small enclosed space that forces the viewer into an inescapable intimacy with an oppressively powerful figure formed by the pillar and the hybrid form carved on it. The eyes of the carved beings on such pillars are also important for understanding how they engage the viewer in perspectival seeing (a reciprocity of vision). Weismantel (2015:141) explained her idea like this:

> When a person encounters this artefact in animal form, a physical and perceptual relationship between two bodies is established. The human looks and sees the animal/artefact looking back; this exchange creates
a new, unstable assemblage that incorporates not only the human/bird/jaguar body but also the perceiving human body.

Ultimately, Weismantel (2015:150) has encouraged us to see like an archaeologist and demonstrated that we could achieve this by seeing things like these pillars ‘not only as images or animals but as objects with a distinctive material history’.

How Things Intra-Act

A case study that brings together many of the threads discussed throughout this chapter is provided by A. Jones (2015) who discussed the relational characteristics and ontological status of archaeological evidence at a rock art site in the Kilmartin region of Scotland. A. Jones (2015:324–325) began by drawing attention to the problematic idea that ‘the past remains ‘dead and gone’ without the input of archaeologists’, which he explained ‘relies upon the allied assumption that materials are mute and inert without a human presence.’ A significant factor of A. Jones’ (2015:325) research was the challenge to traditional characterisations of materials as being distinct from culture and society, and the privileging of human presence in relation to them, which is an outcome of Enlightenment dualist thinking (see also Thomas 2004). A result of this challenge, and of taking Barad seriously, A. Jones (and the researchers he worked alongside) adopted a monist rather than dualist perspective. Monism (as introduced in Chapter 3) holds that ‘there is fundamentally only one thing in the world’ and the world is then seen as being ‘composed of intersecting affective relations’ (A. Jones 2015:334). This perspective has significant implications for how archaeologists approach materials, as A. Jones (2015:334–335) explained:

… if we instead think about materials in a monistic sense then we accept that materials are authors of their own activities; we do not have to assume that materials can only be understood because of their mediation by human cultural or social activities. We can still study human social and cultural activities, but we are instead examining
how these activities intersect with the activities and potentialities of materials. A more useful way of thinking about this relationship archaeologically is to consider materials as components of archaeological assemblages.

A key example discussed by A. Jones focused on the interpretation of quartz artefacts recovered near the rock art site at Kilmartin. According to A. Jones (2015:331), little work had been done on quartz technology in this region and given how different quartz is compared to the more dominant flint, his project’s stone artefact analyst, Hugo Lamdin-Whymark, needed a different approach to understand this assemblage. Through a series of replication experiments Lamdin-Whymark was able to account ‘for the peculiar groups of knapped lithics erroneously assumed to be the result of tool production strategies’ demonstrating that the assemblage resulted not from stone artefact production but rock art making (A. Jones 2015:332). A. Jones highlighted the importance of Barad’s notion of intra-action for their approach to understanding this assemblage: ‘It was through a process of intra-action with the unknown and unexpected character of quartz that interpretations of the Kilmartin assemblage were advanced.’

Overall, this case study demonstrates the value of moving away from treating artefacts and materials as inert props that illustrate broader processes. Instead, by incorporating ideas like Barad’s, A. Jones (2015:336) focused on ‘how past social or cultural lives were conducted with materials’. A. Jones’ utilisation of Barad’s ideas links nicely to those advanced earlier in this chapter on the generative nature of archaeological approaches to material culture and the importance of taking those seriously.

Summary

In this section, I have elaborated on why it is important to move away from a descriptive concern with forms and classifications to a deeper understanding of the connection and efficacy of things, particularly if we want to understand the
causal relationships between the material of archaeology and the human practices to which they relate. As I wrote at the start of this section, there is a growing concern in relational archaeology to consider what things do as opposed to what they are. The case studies I have presented require us to make a serious shift in how we view material culture so that things cease to fall into neat categories, and thereby their relations with people (since this is still our primary concern in archaeology) can be better understood. It is important to note that while I find these case studies individually compelling, there is no reason to assume that all things would or should act in these ways or that there are no other ways for things to act—there can be no exclusionary universals in a relational approach. As I also emphasised in the preceding section on materials, paying attention to specific, local conditions and articulations of relations is paramount for a relational orientation to take form.

Chapter Summary

Throughout Chapter 5, I have been concerned to move my discussion more explicitly toward the archaeological context by connecting the theoretical work on ontology and learning to the study of material culture. Through exploring the four questions I used to structure this chapter, I have demonstrated how a relational position is distinctive from more traditional approaches to material culture and highlighted the potential for more compelling accounts and interpretations.

In response to how we conceive of material culture or the things we study, I emphasised that the distinction between, for example, ‘object’ and ‘thing’ is more than semantics because how we conceptualise what we study has significant interpretative consequences. I also highlighted how relational or meshwork thinking could hold much value for establishing a more dynamic understanding, which would appreciate things not merely for the role they play in human lives.
but instead would reveal these bounded entities as continually unfolding things fundamentally constituted in relations.

Stepping back from the question of what things are leads us also to explore how they come into existence and what it means to make. In this chapter, I emphasised how a focus on making as a process combines a relational understanding of knowledge and skill with a more flexible understanding of things. Exploring the process of making also necessitates considering what people make with and through my discussion of materiality I sought to emphasise why focusing on materials is necessary for relational archaeology. Conneller’s (2011) research has been especially useful for highlighting why materials are valuable to think with when approached as being dynamic and contingent. Continuing this focus on matter, Barad’s (2003, 2007) new materialist theory considers in greater detail why matter matters and unites a consideration of materials with deeper ontological concerns. These dynamic perspectives on what we think things are, how they come to be and what they are composed of, gain more significance when unified with a concern with what things do. As I explored through three key case studies, things do so much more when viewed from a relational perspective or as Leach highlighted when we listen and do not explain away what people tell us about them. Or more substantially, as A. Jones suggested, when we intra-act with them.

What I have tried to make clear in this chapter is that there is much scope and vibrancy within current archaeological and anthropological research to explore and further develop dynamic relational approaches in regards to things. I have demonstrated how such approaches can subvert the claims of universal applicability and authority of scientific approaches (a key aspect of the research problem of this thesis). This subversion comes about by considering and critiquing the impact of high-level theoretical and ontological commitments on what we study and how we enact the past through things rather than focusing on
methodology and how archaeology represents or describes material culture. The remaining challenge is to assess the implications of these theoretical insights, alongside those in Chapters 3 and 4, in relation to the research question. The latter will be the focus of Chapter 6.
Chapter 6: Discussion

Introduction

The goal of this chapter is to draw out the consequences of the orientation I have established throughout this thesis and thus address the research question proposed in Chapter 1, namely: *what are the implications of a theoretical orientation embedded in relational ontology for the study of stone artefacts in Australian archaeology?* Throughout each chapter, I have worked to establish the three elements critical to answering this question: 1) the nature of the research problem in regards to explanations of Aboriginal stone artefacts in the Australian context; 2) the connections between my theoretical interests in ontology, learning and material culture and their relevance to archaeology and the Australian research context; and 3) how these components could form a coherent theoretical orientation that could be applied in the research context of Australian Indigenous archaeology.

As discussed in Chapter 1, testing and full application of this orientation in dedicated archaeological case studies is beyond the scope of this thesis. Rather, I frame my discussion in this chapter around how this theoretical orientation affects the study of stone artefacts in Australian archaeology using examples from the published literature. This chapter will follow a structure I have established throughout this thesis. That is, I will briefly discuss the research problem and how I approached it before moving to examine the implications of engagement with the core theoretical topics (ontology, learning, and material culture), which I follow with an overview of the broad implications.
Research Problem and the Value of Ontology

In Chapter 2, I introduced the research problem in far greater detail than I will enter into here. To briefly recap the problem and foreground the subsequent discussion of implications in this chapter: the research problem I identified is the disjunct between mainstream Western archaeological approaches to stone artefacts and Indigenous knowledge of the same things, coupled with the side-lining of alternative social approaches through appeals to the authority and universal applicability of scientific perspectives.

One of the key points I established in Chapter 2 was that a continued focus on epistemology and methodology at the expense of higher-level theoretical and ontological revisions had meant the underlying issues that perpetuate the disjunct have continued unabated. In regards to the disjunct, one of the key points I made was that we are not merely looking at different perspectives on the same things but because of the ontological nature of these differences we are considering different understandings of the nature of reality. Hence, I sought to engage with the ontological turn as I recognised a need to engage with alterity in a more meaningful way and to respond to the overemphasis on epistemology. A key implication of considering ontology more substantially is that it directs our attention away from problems of confirmation and to a higher-level where our core assumptions and understandings about being human and the nature of the archaeological record can be critically discussed and evaluated.

In addition to explaining the nature of the research problem in Chapter 2, I also introduced some of the wealth of existing alternative approaches. My point in doing so was to highlight two things: 1) that mainstream scientific approaches are not entirely representative of all research on this topic; and 2) that there is a fruitful literature to use as a jumping off point for establishing a relational orientation. The implications of this move will play a role in this discussion where I will attempt to show how both sides (i.e. scientific and social approaches) might
benefit from greater ontological engagement. This work is following recommendations from Thomas (2004:224) who argued it is problematic to call continually for a ‘new’ archaeology or a new paradigm. Instead, Thomas recommended that we might try to transform archaeology ‘by enriching it with new and complementary ideas and ways of working’. Thus, my concern in addressing the research problem has focused on re-orienting attention onto critical aspects of the ontological turn and new materialism that are proving useful throughout other areas of theoretically informed archaeology (e.g. Conneller 2011; Jones 2015; Joyce 2015a, b; Marshall and Alberti 2014) but have not yet made a substantial impact in Australian archaeology (for exception see Porr and Bell 2012).

The critical stance I have attempted to take on ontology is directed by critiques from Indigenous scholars (esp. Hunt 2014; Todd 2016; Watts 2013). These critiques insist that it is not enough to simply be interested in ‘other’ ontologies or recognise that alterity exists, rather there is a need to re-evaluate dominant ontologies and deconstruct their production of knowledge. This positioning is a key point of difference between an archaeology of ontology and an ontological archaeology. The distinction is that the former is looking for ontology in the past while the latter recognises that ontology is not something that just our ‘subjects’ possess. I argue that the latter offers critical insights into how archaeology could become otherwise and directed my attention to relational ontology as a disciplinary ontology and as a reconfigured discourse about the nature of being.

One thing I have tried to be clear about throughout this thesis is that I am not advocating that archaeology practiced by non-Indigenous researchers should move to adopt Indigenous ontologies. Plainly, it is not appropriate or possible to fully know and live an Indigenous ontological reality as a non-Indigenous researcher. Instead, my focus has been following the idea of two-way thinking, as suggested by Porr and Bell (2012), through which non-Indigenous researchers
should aim to be more complementary and deeply engage with historically contingent power dynamics rather than falling back onto objectified versions of Indigenous thought (see also McNiven 2016:34). I also take particular guidance from the Bawaka Country collective (2016b:469), who have highlighted that engaging with Indigenous ontology (in their case Yolŋu) is significant ‘for what it can teach us about how all views of space are situated, and for the insights it offers about living in a relational world’. The key implication here, connected to Hunt’s (2014) argument noted above, is that engagement with ontology is political and should invoke self-reflexivity and critique of the dominant mode. Engaging with the political consequences of ontology can be especially powerful for postcolonial positions in archaeology as it continues to shift the narrative away from singular authoritative or universal stances and towards awareness of plurality and locally grounded narratives. In other words, it entails a commitment to enact the pluriverse (Sundberg 2014:38)—achieving this will not be straightforward or particularly comfortable for those currently occupying the dominant mode but arguably if it brings about a more decolonised or democratised archaeology then it will be worthwhile.

Implications of Relational Ontology

Engaging with a relational ontology as the backbone of a theoretical orientation is about establishing a disciplinary ontology for archaeology. In other words, this move is focused on altering the archaeological discourse about the nature of being. This point recognises that ontology is not something that is received but is developed and, furthermore, is not just something archaeology’s ‘subjects’ possess. My contention in Chapter 3 was that we should be speaking of relational ontology, not as just another kind of framework with which to interpret archaeology or generate new methods but rather as high-level theory aimed at reconfiguring the core of our practice. Relational ontology engages in the risky
business of decentring power away from traditionally dominant approaches; that is, the mainstream essentialist ontology of the modern West.

As I have defined it in Chapter 3, relational ontology at the most basic level holds that the relations between entities are ontologically more fundamental than the substance of the entities themselves. As I previously set out, relational ontology is thus also a monist ontology. The emphasis relational ontology puts on coming into being is important because it reinforces the continually unfolding nature of being rather than the essential bounded nature suggested by dualist thought. Monism establishes this more fundamentally by refusing dualist separations of the world (e.g. nature/culture) that are prevalent in the dominant discourse and instead insists on a unity of all matter.

Relational monism has significant implications for how we understand living entities as well as material things, which is crucial for the research problem at hand. I have written previously about the hylomorphic model (especially in Chapter 5) and it is important here to reiterate and examine the implications of relational monism for archaeological understandings of the world. Thomas (2004:202) highlighted that the effect of Aristotle’s view of the opposing relationship between form and matter was to ‘open up the possibility of a view of material things as passive recipients of labour, something that had not been present in the world of the pre-Socratic Greek philosophers.’ Subsequent developments, especially since the scientific revolution of the seventeenth century, are emphasised by Thomas (2004:214–216) as key to understanding archaeology’s view of things, particularly Newtonian physics and Cartesian metaphysics, which are drawn into what he calls the ‘substance ontology’ of Western modernity. A key point Thomas (2004:219) has made is that:

As inhabitants of the modern West, the tendency will be for us to understand past societies through the lens of an ontology that stresses
the production of things as formed matter, transforming dead
substance by imbuing it with meaning.

This account of the establishment of Western understandings of matter and artefacts particularly highlights the ontological assumptions embedded in archaeological research, which have subsequently gone unchallenged and are treated as common-sense or natural. For example, this issue exists in the underlying commitment to essentialism of both typological and technological approaches to stone artefacts in Australia (for a global archaeological perspective, see Conneller 2011). I argue that while there might not be anything inherently ‘wrong’ with these assumptions or understandings, there are significant political implications arising from naturalising them (Atalay 2008:34). These implications particularly relate to the position of otherwise (particularly Indigenous) ways of knowing in relation to a naturalised and authoritarian Western viewpoint. It seems to create a situation where the otherwise can be dismissed as an alternative ‘perspective’ rather than a viable alternative that should be taken seriously; a key issue a politically engaged ontological turn could potentially remedy (Holbraad et al. 2014). Challenging these assumptions has significant implications for how archaeology understands material culture as well as the core of archaeology.

The question is then, how does relational monism offer an alternative? A. Jones (2015) highlighted that monism refuses the anthropocentric idea that material things are only meaningful through human interaction with them. Rather, thinking about materials in a ‘monistic sense’ entails that ‘we accept that materials are authors of their own activities; we do not have to assume that materials can only be understood because of their mediation by human cultural or social activities’ (A. Jones 2015:334–335). Beyond the bounds of the hylomorphic model, which insists on the form-received passivity of material things, is the understanding that the process of becoming thingly is a dynamic form-taking activity. A monist relational ontology makes an important move to subvert the
dominant mode and establish new ways of thinking in archaeology about making, materials, and the relational constitution of being more broadly.

In light of numerous examples from Aboriginal Australia on the meaning of stone sources—for example, the ritualistic power of stone from Ngilipitji quarry (R. Jones and N. White 1988) or the Yanyuwa understanding that stone artefacts can be the dingo (Bradley 2008)—the move to relational monism could be significant because it expands our understanding of what stone as dynamic matter is capable of doing as much as meaning. A relational orientation focuses on the liveliness and specificity of stone rather than seeing it as inert matter upon which form has been imposed; this focus seems to find synergy with many Indigenous accounts, and also broader theoretical accounts of stone (e.g. Cohen 2015). While it is often difficult for archaeologists to deduce how people in the past saw and experienced the stone they worked with (especially in the case of non-Indigenous archaeologists working on Indigenous history), the availability of ethnographic and contemporary oral histories provides vital suggestions at its being more dynamic than mainstream approaches currently allow. These accounts should particularly embolden Australian archaeologists to pay closer attention to the growing revisionist approaches in theoretical archaeology, which seek to realign archaeology’s ontological commitments in ways that appear to be more complementary rather than divisive in relation to these ethnographic insights. Indeed, such revisions are also politically aligned with the impetus for increasingly decolonised and democratised archaeologies (Atalay 2008; Rizvi 2015). Thus, an implication of a relational ontology is the effect it has on opening up archaeological accounts of materials like stone and challenging the taken-for-granted metaphysical foundation of Western science (Thomas 2004:46).

**Implications for Learning and Skill**

As I detailed in Chapter 4, another core implication of a relational orientation is the shift in focus toward learning and skill development. These aspects are
necessitated by, and also fundamentally reconfigured in, a relational approach. For example, skill development comes to be understood as enskilment, which connects to the notion of embodiment and imbues our understanding of becoming human through corporeal experience in and with the world. Regarding archaeology, this point is understood to be tied to practical engagement with materials through making, which has clear implications for how archaeology thinks about material culture. In Chapter 4, I provided examples of how skill has been identified in the archaeological record. However, in the current section, I am more concerned with bigger picture implications and especially how this orientation shifts our attention away from essence and onto process thus bringing into play a keener awareness of the importance of making.

There are numerous interventions that a relational orientation makes in regards to traditional conceptions of learning and skill development, and how these aspects manifest archaeologically. For example, a relational position on skill changes how we might think about ‘technological traditions’ or broad scale variability in the prevalence of certain kinds of stone artefacts over time, as well as smaller idiosyncratic changes that do not match the prescribed or expected trajectory of change. The tendency in mainstream archaeological approaches to stone artefacts has been to look for broad scale explanations of variation across time and space. Often the meta-narratives that result from this tendency focus on specific relationships between the objects and universal driving forces, for example, between the development of certain kinds of stone artefacts and changing environmental factors.

The tendency introduced above can be seen, for example, in explanations of why the tula developed (Doelman and Cochrane 2014; Veth et al. 2011), which are often linked not to local trajectories but to continent-wide changes in Aboriginal societies, which occurred in the mid- to late Holocene. On a broad-scale these arguments for universal driving forces appear reasonable, however, what they
achieve moreover is a silencing of local scale variation, independent invention and idiosyncratic responses to different circumstances. While the fact that a broad range of changes in Aboriginal societies occurred during the mid- to late Holocene is widely accepted (tulas are indeed only one example), it is less convincing that we should continue to seek out a single driving force as the mechanism behind these changes. Continuing to evoke universal explanations is particularly problematic as it discounts the regional or local significance or cultural nuances of any changes and instead co-opts these histories into a grand narrative controlled by mainstream archaeology. What we see here is a result of the past not being considered in its own right but more often being seen for how it connects to archaeological meta-narratives about trajectories of change over time and pre-established Western ideas about the nature of hunter-gatherer lifeways (David and Denham 2006).

One notable example to the contrary comes from Moore’s work on the development of bifacial points in the last few thousand years in the Kimberley region of WA. Moore (2015:944) focused on the regional context and the social dynamics and symbolic references related to the process of knapping itself rather than continental narratives and ‘poorly correlated … environmental perturbations or subsistence contexts’ to explain why this new technology developed. A key point Moore (2015:939) made is that the practice of knapping could be just as important as the results. He wrote that: ‘The key to understanding the innovation of invasive bifacial flaking in the Kimberley may have as much to do with the social contexts of the manufacturing process as the form of the finished points.’ With references to detailed ethnographic texts as well as consideration of the technocomplex or plan of action for making bifacial points understood archaeologically, Moore argued that the audience of manufacturing is crucial for understanding the independent emergence of this technology in the Kimberley. The audience, he argued, alternated between being ‘restricted to socially intimate audiences’, for preparing cores and highly skilled percussion thinning of points at
quarry sites, to open and ‘skilled demonstrations of pressure flaking’ linked to social messaging and masculinity (Moore 2015:940; see also Harrison 2002). These arguments about the importance of practice and knapping audience are strongly linked to aspects I have identified as critical within a relational orientation; namely, the importance of attending to the processes of making and local-scale or micro-historical social aspects of past human lives.

There are significant differences between how in my relational orientation I conceive of matter and making and Moore’s case introduced above. For example, Moore has tended to rely on a hylomorphic model to characterise the process of how form is applied to the inert stone material, and his technological descriptions of the process of making are indeed more rigidly defined than a relational approach might advocate for. This reliance on the hylomorphic model does not, however, condemn Moore’s approach rather it demonstrates a point I raised earlier in this chapter about how certain dominant ways of understanding these things are naturalised. This case is still an important demonstration of the value of smaller-scale investigations of stone artefacts, of incorporating ethnographic information into archaeological explanations, and of focusing on the process of making rather than just the results, which as Moore (2015:944) established can be far more important for our understanding of peoples’ lives in the past. I suggest that the contribution of an ontological critique to attempt to address the taken-for-granted aspects of Moore’s research could be a productive way this case could be used as a model for future research. Overall, I find this example highly encouraging as a reminder that archaeological approaches to stone artefacts already have well established means to prioritise making and local contexts in ways that the dominant mode and its interest in universalising explanations tends to gloss over.

One of the primary implications of a relational orientation in this arena is that it highlights the neglect of past human lives and more complicated factors such as
enskilment and technological practice within the dominant archaeological metanarratives. What a relational approach does instead is shift attention to these neglected aspects through a focus on understanding the processes of how things come into being instead of producing descriptions of their outcomes. Furthermore, such an orientation insists that these processes cannot be reduced or subsumed into a classification or universal narrative that seems to spring from nowhere but rather they need to be always linked to human lifecycles starting from the micro-historical scale.

The processes of making of stone artefacts is already a topic of interest for pretty much all mainstream archaeological approaches. However, within a relational orientation making is not an essential mechanism (as in an inherently stable or background procedure) rather it is the fundamental process through which things come into being and through which enskilment takes place and is continuously enacted. This orientation shifts our attention to a more nuanced understanding of what things are as well as their connections to people’s lives. It may also shift our focus, as Harrison (2010, 2015) has suggested, to the effect of stone artefacts beyond what they tell ‘us’ about particular trajectories of change (see also Porr 2005). These implications are clearly linked to increased attention on process in archaeology and attempts to consider human behaviour in a more holistic and relational sense (Gosden and Malafouris 2015; C. Watts 2014a). In this way, a relational orientation could be significant if it refuses the tendency to reduce the lives of hunter-gatherers to rationalist meta-narratives, which tell us more about the modern West than they do about the ‘past’.

Implications for Material Culture

The nexus of interest in topics of ontology and learning for archaeology is the impact this has on our understanding of and approaches to material culture. This section will further elucidate on the importance of a move toward a relational orientation for understanding the things central to archaeology. As I have tried to
make clear above, and in previous chapters, a relational approach emphasises embodied and enmeshed understandings of things and where they originate. This point is critical because our narratives of stone artefacts cannot be held apart from human lives and assumed to be unproblematically available for characterisation by archaeologists. A relational orientation thus necessitates a re-evaluation of dualistic conventions and a shift toward the meshwork; a core implication I discuss in this section.

Throughout this thesis, I have highlighted the issues that arise with assuming that modern Western thought has privileged access to universal explanations of the world and its functioning, which contrast increasing concerns with enacting a pluriverse and fundamentally recognising plural ontologies (Sundberg 2014). I focus in this section on the ongoing influence of dualistic thinking, particularly the dualism nature/culture or as it manifests in stone artefact research utility/sociality. A key reason why we need to subvert the utility/sociality dualism is that the dominant tendency is to look for utilitarian arguments, often based on economics, which continues to assert a naturalised understanding of Aboriginal people and their histories. One can object to naturalised narratives on many grounds. Foremost from my position is the negation of the complexity of past peoples’ live, which, as Thomas (2004:90) put it, ‘is a denial of the contingent character of human action’. Furthermore, as McNiven (2016:34) has argued:

... the imposition of modernist Western ontologies and worldviews (e.g., dualisms such as mind/body, matter/meaning, secular/sacred, culture/nature, humans/animals, animate/inanimate) on Indigenous pasts may be misleading at best and colonialist at worst ...

However, one key thing to recognise about the issue of dualistic thought is that it is not restricted to only the dominant mode or scientific approaches. Rather, nature/culture or utility/sociality dualisms also appear in many social approaches configured as alternatives to the mainstream. For example, J. Peter White (2011)
raised the question of the adequacy of utilitarian explanations (e.g. economic choices, foraging risk) for the proliferation of backed artefacts across vast areas of Australia in the mid- to late Holocene, suggesting instead that social factors should be given more weight in archaeological explanations of why this technological change occurred. While the concerns J.P. White raised about the privileging of utilitarian explanations in this context are indeed valid, an issue many respondents raised was the tendency of social explanations becoming the default when utilitarian arguments fail. As commentator Steven Kuhn (in J.P. White 2011:70) put it: ‘Too often, social explanations are ‘validated’ by simply undermining materiality ones, a strategy that is wanting in many ways.’ So even though the challenge to dominant modes of explanation in J.P. White’s argument finds much congruence with my position, the continuation of separating so-called utilitarian and social factors remains problematic. This example is not isolated. Indeed, many approaches to stone artefacts in Australian archaeology have sought to incorporate ‘the social’ either by first invalidating the competing economic arguments or by incorporating social factors into their preferred economic argument (e.g. Doelman and Cochrane 2014; Guilfoyle 2005).

Examining the work of Jean-Michel Geneste et al. (2012, see also Geneste et al. 2010) provides a further example of how social arguments can fall into the traps of the modernist assumptions they claim to be abjuring. Geneste et al. (2012:2) utilised the concept of symbolic storage to frame their discussion of the implications of the discovery of what was then the oldest known ground-edge axe flake in the world, recovered from Nawarla Gabarnmang in Arnhem Land (see now Hiscock et al. 2016). Symbolic storage, they wrote, is a trait of modernity; it reflects ‘the way in which objects store information about meaning’, and ‘imbues things, physical and non-physical, with a presence enhanced by social value’. The authors positioned their argument against economic rationalist explanations that they argued silence meaning. However, they still relied on the objectified assumption that things are inert until they are imbued with meaning by humans,
which is also at the heart of economic rationalist explanations. Furthermore, in regards to the meaning of objects like ground-edge axes, Geneste et al. (2012:10 original emphasis) claimed a universal point that: ‘objects are always socially meaningful — and thus always have social value and thus social use-value over and above their more conventionally considered ‘economic efficiency’’. While there are certain parallels here with arguments I have advanced, presenting this as a universal argument assumed to be meaningful across time and space is still based on historically specific Western ideas (e.g. objectification and dualistic separation of social and economic factors), which ultimately renders it suspect.

The core issue at play in the two examples discussed above is that the revisions such approaches made do not address their ontological commitments, which I have been pointing out throughout this thesis is an important move to guard against replicating the very problems we are critiquing. Dualisms, objectification and universal narratives are engrained in the fabric of Western thought, and since revisions in this field of research have not fundamentally challenged their ontological commitments, many alternative approaches continue to hinge their arguments on the same problematic ideas that the mainstream privileges. The key point here is that approaches presented as ‘social’ by Western social science are not necessarily always superior in their accounts of the world.

Recently in heritage studies, Harrison (2015) began his discussion, of the ontological politics of and for heritage, from a position where the nature/culture dualism was already dissolved, rather than repeating arguments about how untenable it is. In making this move, Harrison sought to reorient and reconceptualise heritage and draw attention to the need to reconsider assumptions of universality and the homogeneity of existing, dominant models of heritage. Similarly, many authors engaging with relational ontology, particularly those who collaborate closely with Indigenous communities, emphasise that this renders the division of nature and culture nonsensical (Suchet-Pearson et al. 2013;
Porr and Bell 2012). The monist position central to my orientation is clearly contrary to the dualist one inherent and naturalised in the dominant mode. I argue that the principal contribution of this move is the potential to enrich archaeology by prioritising relations alongside a focus on the practical engagement of people in their worlds.

Meshwork—the idea that things and entities in the world are enmeshed through their relations—is crucial here for further establishing the alternative position offered by this orientation. Ingold’s (2013b) conception of things encourages us to pay attention to how they become ‘thingly’ and the multiple trails of growth and transformation implicated in their creation. Understanding that things are based in a world that is in flux is an important way to consider more dynamic perspectives on materials and making. This conception sees the world not as constellations of bounded entities but rather as a meshwork of things that unfold as lives proceed and undergo perpetual formation. Meshwork, as conceived by Ingold (e.g. 2014), is a relational position that suffuses the strict boundaries between materials, things and living beings, shifting focus instead to their entangled, non-static and continually unfolding nature. Meshwork also relates to a broader relational understanding of being and matter as articulated by key researchers such as Barad (2007) and Joyce (2015b). While the dominant ontologies of Western science bound and objectify things, relational ontology sees things and materials as inseparable from their relations and requires an inversion of the movement that solidifies them as objects. Fundamentally these arguments lead to the recognition that things do not have relations rather, they are their relations (Ingold 2011c:70).

**Overview of Core Implications**

In the above discussions, I have presented an expanded version of my relational orientation and drawn out some of its critical interventions and implications specifically related to the study of stone artefacts. In this section, I shift to a
broader level to summarise these core implications and discuss the potential of such an orientation for future research applications.

The essentialist ontology at the heart of modern Western science seems to have created its own material reality, which reinforces its underlying authority and perceptual schemes. Relational ontology instead emphasises the importance of local understanding and process, which means that in itself it cannot enforce a universal understanding but rather appears as a suggestive force directing our attention to more process-orientated aspects. A relational orientation, therefore, cannot be too rigid or prescriptive about its application, especially when compared to other kinds of frameworks (behavioural archaeology, processual archaeology, etc.) since that would defeat the point of its being ‘relational’ in the first place. Now, this argument might be taken as a shift toward relativism as it is fundamentally open to incursions from ethnographic and oral history sources as well as insisting on being locally and historically configured. I would maintain, however, that it has more in common with Viveiros de Castro’s re-positioning of anthropology as comparative relativism and his explication of how to take seriously the alterity that is anthropology’s (and archaeology’s!) subject matter. In discussing four formulations of the art of anthropology, Viveiros de Castro (2011:145 original emphasis) presented us with his own:

In the same spirit, we might say that anthropology is alterity that stays alterity or, better, that becomes alterity, since anthropology is a conceptual practice whose aim is to make alterity reveal its powers of alteration — of making a life worth living. Cosmology is gossip; politics is sorcery; and anthropology is alterity that becomes alterity (and I mean ‘becomes’ also in the sense of ‘that hat becomes you’). This fifth formula is mine and suggests the proper way of taking life — our own as much as any other — seriously.

The suspension of adjudication in Viveiros de Castro’s understanding of what it is to take something seriously is also fundamental to how archaeology approaches
its subject matter: the alterity of past peoples’ lives. On the distinction between Viveiros de Castro’s new relationism and traditional relativism, Candea (2011:147) wrote that ‘relationism is not some loose form of generalized ‘tolerance’ but a precise and controlled instance of asymmetry.’ Whereas relativist approaches might be charged with accepting any ideas presented, relationism as Candea conceived of Viveiros de Castro’s position, is more concerned with subverting dominant approaches to knowledge and taking seriously the myriad of otherwise positions. Indeed, the emphasis I have placed on self-reflection and ethics throughout this thesis further supports the fundamental importance of an asymmetrical commitment in archaeology that seeks to take the radical alterity of the past seriously (cf. Witmore 2007).

I find similarities here with Thomas’ (2004:238) suggestions for a counter-modern archaeology, which insists that the relationship of an archaeologist to past people is always an ethical one and where our attitude to those we study is taken as indicative of our attitude toward other human beings more generally. Or as Toren (2012b:64) has argued where our conception of human beings structures what we are capable of finding out. Clearly, this ethical relationship is even more pressing in the context of Australian deep-time archaeology where those ‘past people’ are the ancestors of contemporary Indigenous peoples, whose voices are often excluded from the dominant archaeological literature (Allen and Phillips 2010; McNiven and Russell 2005). This point relates back to issues of naturalised authority of the dominant discourse of archaeology. As Atalay (2008:34) has argued in relation to multivocal Indigenous archaeology:

> Integral to decolonizing efforts is the realization and acknowledgment that Western ways of knowing are not in any way superior or natural – they are produced in specific contexts and are reproduced through daily practice.
Atalay’s argument connects to Joan Gero’s (2007:313 original emphasis) assertion that we should ‘work towards an archaeology that interrogates the past instead of advancing conclusions as exclusively and exhaustively final and ‘right’.’ The action suggested by the verb ‘interrogate’ in Gero’s argument stands out to me and connects to the idea of archaeology enacting rather than representing the past (Hicks 2010), highlighting the active role archaeologists play in the production of the past. Following these arguments, I would emphasise that while I put forward a ‘relational orientation’ as an alternative theoretical stance, it is still an approach very much contingent on my understanding of the archaeological record, the existing literature concerning that record, and more importantly, some of the diversity and alterity it represents.

Given that a relational orientation will privilege the local and consider processes as ontologically fundamental, it is critical to acknowledge some of the limitations of this for archaeological applications. Practically this might mean that there are some research questions that this orientation is extremely well suited to addressing and others that it is not. I want to be clear here that I do not think there is any single approach that solves all possible archaeological problems or questions, and the universalising assumption that such approach could exist goes against the underlying philosophy of relational ontology or indeed any post- or counter-modern approach. If there is nothing essential about a human being, then there can be no essential explanatory framework related to human beings. Our explanatory frameworks could have similar overarching principles, for example, the understanding that all humans come into being in relation to their environment, but this would still need to be locally and historically grounded to have relevance in application. Hence, I have referred to my position as an ‘orientation’, as in a direction or course one can follow, rather than a ‘framework’, as in a directive or order one must follow.
While small-scale and local patterns do appear to be a more comfortable fit for such an approach, it is important to emphasise that this work also affects our understanding of large-scale patterns. Unquestionably, a relational approach necessitates rethinking the traditional focus of archaeology on meta-narratives, which encompass large chunks of time and space and ignore important local or cultural factors that influence such patterns. The impact of learning on material culture, for example, has significant implications for understanding and interpreting long-term, regional distributions of stone artefacts—a key research concern of Australian archaeology. In such a situation, a relational approach would draw into consideration factors that other approaches have ignored or treated as epiphenomena, such as the cultural mechanisms behind the persistence of archaeologically visible artefact styles or forms.

The question of scale is also important regarding a position focused on learning and making. Clearly, the micro-historical is not a topic that archaeology is typically comfortable approaching. However, as I have argued it is not so much the process of identifying these aspects in the archaeological record but rather how they affect our approaches towards the record and how we reconceptualise what we are doing. In this sense, thinking through micro-historical processes can inform our understanding of broader processes with which archaeology might profitably engage, such as skill development (e.g. Bamforth and Finlay 2008; Downey 2010;) or processes of making (e.g. Gosden and Malafouris 2015; Ingold and Hallam 2013).

Given the push towards rethinking and unpacking the authority invested in Western traditions of knowledge production at the core of this thesis, I also need to emphasise the idea that research will always be a product of the society that produces it. Thus, we need to acknowledge that reorienting disciplinary ontologies requires actual, and in many cases uncomfortable, cognitive dissonance. Todd (2016:17) has made this point particularly clear in regards to
anthropology, emphasising that good intentions do not automatically equate to structural changes; a lesson archaeology needs to heed too. To be clear, the connection I make between relational ontology and Indigenous ontologies is not to suggest an ontological syncretism (cf. McNiven and Russell 2005:254) or joining between Western and Indigenous worldviews. Rather, what I am suggesting is that this alternative disciplinary ontology is better suited to sit alongside the diversity of Indigenous perspectives (e.g. two-way thinking as suggested by Porr and Bell 2012). This could tell an archaeological narrative in language that is more reflective of life and sympathetic to Indigenous ontologies (McNiven 2016:34) and which does not reproduce colonial forms of epistemic violence (Hunt 2014). In some ways, this follows Thomas’ (2004:242) call for a ‘pluralist dialogical ethics’ in archaeology as a counter to mainstream modern thought. Such an ethics would need to ‘recognise that different points of view need not be reduced to one another for the encounter between them to be productive.’

The ethical implications of a relational orientation are not only connected to the relationship between non-Indigenous and Indigenous thought; though that is indeed important. There is also a broader level at stake here because there is always an ethical relationship between how archaeologists in the present treat people in the past (Thomas 2004:235). There is a fundamental responsibility here not to allow archaeological narratives to operate at an uncritical level focused on essentialist assumptions, which tend to be formulated directly from present political and social conditions and agendas (e.g. Povinelli 2002, 2013) as well as out of specific historical conditions (e.g. Anderson 2007; McNiven and Russell 2005). The point I am making here is not just about respect but it is also about not allowing the past constructed and enacted by archaeologists to only mirror the present or fall into epistemic laziness (Rizvi 2015). Some of the assumptions of mainstream Western archaeology that the relational orientation I have articulated directly contradicts include assuming: uniform values across time;
that the goals of people in the past were directed toward ‘optimal’ end-points; that past hunter-gatherer lives can be reduced to economic decision-making; that the cost/benefit rationales of the modern West are natural throughout time and space; that objectification is always an appropriate way to engage with material culture; and that dualisms are ‘common-sense’. At the centre of this insistence on ethical consideration is the fundamental idea that archaeology is enacting the past, which then means we need to take care of what kinds of pasts we enact and examine whether the relationship between the present and the past is productive (Atalay 2008:34; Hicks 2010:87). As A. Jones (2015:326) has argued: ‘Observations of the world do no simply represent the world; they help to bring the world into being.’

Insights and critical incursions from ethnography and oral history sources, as well as points raised by Indigenous scholars themselves, have been central to the formulation of this theoretical orientation. Thus, it is important to emphasise the implications of looking at ethnographic analogy differently and taking Indigenous thought seriously. Thomas (2004:241) highlighted how ethnographic analogy can trouble or disrupt what we already think we know about the past, which links to Hunt’s (2014:30) entreaty that engagement with Indigenous ontologies needs to involve destabilising dominant ways of knowing rather than neutralising their challenge. The overall implications of taking ethnographic analogy and comments from Indigenous scholars more seriously are a shift in priority to the otherwise and away from the dominant mode. This shift involves decentring the authority of Western science to speak about an otherwise past that cannot be assumed to always already reflect assumptions of the modern West nor to be heading directionally to that end (Porr 2011). This work is about opening up space to new interventions and inspirations that do not come from the modern West, which links to the idea that we cannot assume universal narratives exist or that any single intellectual tradition could alone access them.
Chapter Summary

The goal of this chapter was to review how I have addressed the research problem, answered the research question and aims, and drawn out the implications of the relational orientation I have established through this thesis. I focused this work around implications for stone artefact studies in Australia and thus I started this chapter by re-contextualising my arguments concerning the research problem and why this necessitated attending to ontology. Following the general format of this thesis, I then considered, in turn, the implications of my engagement with the topics of relational ontology, learning and skill development, and material culture. In each section, I discussed examples that spoke directly to the research context of archaeological studies of Aboriginal stone artefacts in Australia. I closed out this chapter with an overview of the core implications of my orientation and by positioning it within the broader revisionist theoretical literature to provide clarity on potential future research directions.

The relational orientation I have articulated throughout this thesis calls for a move toward archaeological research that seeks to be complementary in relation to Indigenous knowledge and indeed to learn from and take seriously points of alterity. Such an approach explicitly aims not to reduce alterity or seek to subsume it into one united viewpoint or explanatory framework, which I argue aligns with Hunt’s (2014:31) entreaty to non-Indigenous scholars to destabilise and expose gaps in the dominant forms of academic knowledge production that we are complicit in. Thus, I have sought to make clear that a relational orientation, as I articulate it, must acknowledge and embrace the political implications of this work. As Povinelli (2012) has made clear, movements against the pervasiveness of self-evident ‘truths’ in Western society (which includes archaeological research) entail a risk of being ethically otherwise. I suggest that rather than rendering the entire discipline undone, such work opens new avenues for exploration, including new ways of thinking about matter, materials and
making. This point has been made most succinctly by Haraway (1988:590) who argued that: ‘The goal is better accounts of the world, that is, science.’
Chapter 7: Conclusion

This research has addressed a core problem in Australian archaeology in regards to stone artefact research and has established an alternative, relational orientation in response. My contention from the start of this thesis was that developing a relational orientation would be one way to facilitate more diversity in narratives about stone artefacts and would contribute and speak to archaeological current interests in relational thinking, ontology and alterity. In this final chapter, I summarise the original contribution to knowledge that this research has made, highlight future implications for archaeological theory and practice, address some of the limitations of this project, and explore future avenues of research.

The way I have gone about addressing this problem, as an ontological/theoretical intervention rather than an epistemological revision is a fundamental departure from existing practice. This work has established the value of an alternative means of critique and sought to destabilise the authority normally granted to Western essentialist ontology, which rather than rendering the entire discipline undone productively shifts priority and scholarly attention to all those otherwise modes of existence. These interventions affect the core of archaeological inquiry and have pushed me to rethink core concepts and expectations of how we construct narratives about the past using material culture.

In a similar way to anthropological discourse, in archaeology there are growing engagements with the limitations of mainstream scientific approaches as well as attempts to take alterity seriously and impulses toward more relational and process-oriented positions. What I have contributed to these broader theoretical discussions is an exposition on why they matter in the Australian archaeological context. Furthermore, I have shown how ontology can be a productive way to
think more critically about the differences between mainstream and otherwise positions, and demonstrated the value of understanding such positions as enactments of the world rather than merely contrasting descriptions or perspectives. In exploring these aspects, I have established the potential of an ontological archaeology and specifically asserted a relational orientation as one way to bring this to fruition. Since this project was a novel intervention and necessarily literature- rather than application-based, the suggestions I have made are unavoidably preliminary but nonetheless are suggestive of productive new avenues of exploration that could positively contribute to the future of the discipline.

Based on my research it is unjustified to continue to assume that the archaeological record represents the past behaviours of people who were ‘just like us’ (Ingold 1995), guided by the same values, rationales and essential core commitments as contemporary archaeologists whose discipline arises from the particular historical conditions of the modern West (Thomas 2004). This research has made clear the exacting finitude of any account of the past, which is always the product of a unique interplay between the archaeologist and archaeological evidence (Atalay 2008; Gero 2007). Furthermore, this research insists on honouring the complicated ethical relationship between the present and past in which there is no longer any room for uncritical assertions of universals or essentialised understandings of being human. The orientation I have established creates serious problems for current approaches that rely on variously configured (and often implicit and unacknowledged) rationalist, essentialist, adaptionist and functionalist frameworks. It does this because the move to ontology challenges epistemological and methodological conceits by revealing underlying tendencies and commitments that have gone unchecked for too long.

The relational orientation I established in this thesis necessitates a shift in frames of reference. It instigates a movement away from ecological rationalising and
toward enmeshed relational understandings of things and people across time and space. This research also subverts the accepted scales at which mainstream archaeology operates (particularly when it concerns stone artefacts). Previously stone artefact research has been valued if it established universal narratives of rational decision-making, connected findings to global narratives of technological development or demonstrated how regional trajectories correlated with large-scale environmental changes. Such approaches rely, however, on apparent assumptions about being human and what trajectories of change should tell us about the course of human history, which my research has suggested is an untenable commitment. Through this research, I have also rejected approaches that are primarily concerned with description and characterisation extrapolated on immense scales and instead emphasised the need to consider the processes and relations through which things come into being. Focusing on the local scale, I have argued, offers the opportunity to connect archaeological narratives to more dynamic and complex understandings of being and becoming human, which might, for example in the case of stone artefacts, direct attention to previously ignored aspects such as the role of skill development in the establishment of cultural patterns.

This research has pointed to alternative ways of enacting the past that hold value for future archaeological practice because they engage with the problematic underlying tendencies ingrained within the dominant mode (e.g. essentialisation of being human, objectification of material culture, reliance on the hylomorphic model, adherence to dualisms, etc.). My research thus presented suggestions to ensure we no longer uncritically perpetuate these tendencies. Engaging with the challenge of alterity from this position draws into question what kinds of information should be admissible in archaeological accounts of the past drawn from stone artefact studies. As I have emphasised throughout this thesis, the impact of ethnography and oral history could be immense for this kind of research. There is an ongoing need to challenge previous pejorative treatments of
such knowledge and work to better engage and integrate it into archaeological theory and practice. The advocacy for better engagement and integration of Indigenous knowledge, not just for tokenistic insights but fundamentally in its own right and as a challenge to mainstream Western assumptions, is connected to my interest in two-way thinking (Porr and Bell 2012) and the overall postcolonial and ethical motivations of this thesis.

Clearly, developing, exploring and implementing stronger, relational forms of inquiry could play a central role in better integrating ethnography and oral history in archaeological research. Such intergration would need to focus on local logic and culturally-specific relations or meshworks of relations, such as those we find in Bradley’s (2008) work with the Yanyuwa people or R. Jones and N. White’s (1988) research at Ngilipitji quarry. The similarities and differences between such accounts and the archaeological context under investigation could be productively evaluated and utilised in interpretation if we took a more critical approach to establishing the frames of reference in which we are operating (in other words, engaging with an ontological archaeology). I argue that, while daunting, such work would be extremely valuable compared to continuing to rely on implicit, culturally-specific Western assumptions about the relationship between human behaviour and stone artefacts or continuing to deny that ethnography or oral history has a valuable role to play because of the dramatic changes Aboriginal society and lifeways have experienced post-invasion.

I have been quite deliberate throughout this thesis about putting epistemological and methodological concerns on hold to give more space to ontological considerations. However, for the relational orientation I have proposed to be applied more thoroughly we would need to bring these aspects back into the conversation. While ontological interventions unquestionably connect to high-level theory (i.e. at an interpretative, conceptual level as previously discussed), what I am still unclear about is how these changes filter through to the
methodological or technical level of practice. Furthermore, the structural commitment to ontology and epistemology as separate entities can itself be understood as a limitation. I have gone to great lengths to critique the pervasive nature of the intellectual legacies of the modern West, yet certain aspects of this legacy remain in my own work. While I have engaged with critiques from Indigenous scholars who have highlighted the limitations of the ontology/epistemology structure (such as V. Watts 2013), I have still adhered to it since it speaks to the particular intellectual history of archaeology with which I am concerned. In this thesis, I have made attempts to hold apart discourses about the nature of reality and discourses about how we know that reality given that the latter has been historically dominant in this research context. In the future deconstructing this structural commitment should be a priority.

Throughout this thesis, I have emphasised how the orientation I have developed affects the practice of archaeology and specifically the study and understanding of stone artefacts. However, there is no clear answer on how this theoretical orientation articulates on an epistemological or methodological level; as such establishing this connection through specific archaeological cases will be a key avenue for future research. Furthermore, this research has raised major issues related to archaeological inferences and preferred causalities that connect human behaviour and material culture. Precisely how the nature and configuration of archaeological inference and understandings of causality will shift in the wake of a relational orientation remains an unresolved but energising possibility for future research. There are suggestions in the literature on how such theoretical work affects archaeological practice beyond the theoretical level, for example, A. Jones’ (2015) work on intra-action or Conneller’s (2011) on materials, but these suggestions still need to be evaluated in relation to the local Australian context. Additionally, I would raise the point that such work does not merely affect the veracity of our interpretations or suggest improvements to practice alone but relates more fundamentally to how archaeology enacts the world. While I have
not explored this aspect explicitly, this relational orientation also affects the construction of knowledge, what it is and how we represent it. Thus, the interrelationship between content and form should be another critical dimension of future research within a reflexive and ontologically aware orientation (e.g. Ingold 2011b; Porr and Bell 2012; Sundberg 2014).

A fundamental point I need to make here in closing is that the relational orientation I have presented in this thesis is not a finished theoretical product. I recognise that there is immense scope to continue to expand and modify this orientation as there is to continue to explore its implications, which is in keeping with its overarching commitments to relationality and the local.

In sum, there are three central take-away messages from this thesis. First, ontology matters. It matters for how we go about rethinking and continuing to improve our accounts of the past and it matters for understanding where those accounts originate. Second, a relational orientation has significant implications for archaeological practice and interpretation, which are both relevant and meaningful in the research context of stone artefact studies in Australia. Third, research that engages with ontology and relational thought can (and in this case, has!) establish new possibilities for interpretation, representation and understanding, and embraces the risk of becoming otherwise.
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