

Open Research Online

The Open University's repository of research publications and other research outputs

Stone tools

Book Section

How to cite:

Harrison, Rodney (2010). Stone tools. In: Hicks, Dan and Beaudry, Mary C. eds. The Oxford Handbook of Material Culture Studies. Oxford Handbooks in Archaeology. Oxford: Oxford University Press, pp. 521–542.

For guidance on citations see [FAQs](#).

© 2010 Oxford University Press



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Version: Accepted Manuscript

Link(s) to article on publisher's website:

<http://ukcatalogue.oup.com/product/9780199218714.do>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's [data policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk

26. Stone Tools Rodney Harrison

Introduction: Making as Copying

The history of stone tool research is linked integrally to the history of archaeology and the study of the human past, and many of the early developments in archaeology were connected with the study of stone artefacts (Odell 2003: 1). The identification of stone tools as objects of prehistoric human manufacture was central to the development of nineteenth-century models of prehistoric change, and especially the Three Age system for Old World prehistory (Stone Age, Bronze Age, Iron Age; see Trigger 1989: 73-9). During the twentieth century, however, a narrow focus upon prehistoric technology meant that the formulation of models that describe the processes by which stone artefacts are produced and discarded has formed the principal goal of stone tool studies. This tradition produced, for example, the analysis of the 'reduction sequences' of the steps through which a tool was created from a stone core and Michael Schiffer's model of five steps in what he termed the 'life cycle of durable elements' such as worked stone: from procurement to manufacture, use, maintenance and discard (Schiffer 1972: 158, 1976). In Schiffer's terms, once a stone tool was discarded it moved from 'systemic context' to 'archaeological context' it became inert, and its abandonment as a tool that was no longer functionally useful represented the end of its efficacy or significance (see figure 1). While such models have been very important in contributing to a greater understanding of the social and material processes involved in the production of stone tools, they have drawn attention away from any aspects of the efficacy of stone tools which do not relate to their production and use.

Figure 1: Schiffer's five steps in the life cycle of durable elements (after Schiffer 1972).

In contrast, in this chapter I draw on concepts derived from inter-disciplinary material culture studies to consider the role of the artefact *after* discard. I suggest that it is impossible to understand the meaning or efficacy of stone tools without understanding their 'afterlives' following abandonment. Where the concept of social agency has recently been mobilised to attempt to explain the efficacy of stone tools, I argue that it is only when we consider stone tools as embodying material agency of their own (rather than remaining passive players in a series of social relations which are entirely determined by human actors) that we will develop new understandings of the role of stone tools and other material objects in both past and present. In doing so, the chapter aims to complement contemporary metrical studies of the identification of stone tools and the description of their production (see Andrevsky 2005; Holdaway and Stern 2004; Odell 2000, 2001, 2003; Clarkson and O'Connor 2006). Such studies make important contributions to archaeological knowledge, but on their own will lead to accounts that focus only upon on production, at the expense of consumption, such as those that have been widely discussed in anthropological material culture studies (Douglas and Isherwood 1979; Miller 1991, 1995, 1998). Moreover, metrical studies have often tended to privilege a particular attitude to manufacture, in which a mental design is imposed upon the material to create the form of the artefact. Instead of seeing the creation of artefacts as involving the transcription of a design from a prior mental template in this manner, I want to follow the suggestion of anthropologist Tim Ingold that artefact forms 'grow' like organisms, generated from complex interactions between the artefact-maker, their social and natural environment, and the raw materials themselves:

'form-making involves a precise co-ordination of perception and action that is learned through copying the movements of experienced practitioners in socially scaffolded contexts. Making, in other words *is* copying; it is not the realisation of a design that has been copied... Whatever variations may be introduced in the process lie in the dynamics of the making, not in errors of transmission' (Ingold 2000: 372).

Moving away from the 'mental template' model of artefact manufacture directs our attention towards the network of both physical and social relationships in which things are bound up, and

towards practices of making, copying and repetition over time. In the case of stone tools, such perspectives may be used to probe those aspects of the life histories of stone artefacts which have been most neglected in archaeology: the ongoing influence of stone artefacts after they cease to be 'functionally' useful, and the material agency of artefacts. After a review of the history of stone artefact studies in archaeology, the chapter draws on insights into the material agency of stone tools from two arenas: cultural heritage management, and the study of museum collections. These two fields allow us to consider the interaction between objects from the past, and people (and other objects) in the present. The survival of objects across time periods is what makes archaeology possible, and stone tools are among the most durable of archaeological materials. However, an awareness of such survival or 'residuality' in the contemporary world has not always been well integrated in archaeological analyses, even by those with an explicit interest in the idea of 'the past in the past' (cf. Bradley 2002). Can the meaning and social role of a stone artefact continue to change not only during the course of its 'life history' with each transformation in its cycle of use, but also after it has been discarded? By working through the changing meanings of prehistoric stone artefacts in the modern world, we may also rethink how we study the meaning and material agency of stone artefacts in the past.

A brief history of stone tool studies in archaeology

The ability to correctly identify humanly modified stone tools forms a fundamental facet of modern archaeology (Odell 2003: 1). As Gosden (1999, 2004) notes, the recognition of stone tools as the result of human behaviour was directly linked to the encounters of Europeans with stone-artefact using peoples from the early modern period, and the records of colonial encounters with stone artefact-producing peoples has become a source for archaeological study in the present (eg. McBryde 1978; Gould 1980). Stone tools were collected along with other 'curios' in both the Old and New Worlds by amateur collectors, naturalists and enthusiasts, who were engaged as much as their academic counterparts in the production of a 'historical imagination' (Griffiths 1996: 1) which led to the development of archaeology as a profession. In addition to influencing popular ideas about the human past through their collections, eighteenth and nineteenth century antiquarianism can be seen to have contributed to a more sinister uncoupling of Indigenous peoples from the material remnants of their past (Byrne 1998), and concepts of 'otherness' which were integral to the culture of colonialism (N. Thomas 1994).

The earliest systematic analyses of stone tools were undertaken by antiquarians in the late nineteenth century, such as John Evans in England and France, and William Henry Holmes in the United States (Evans 1872; Holmes 1894; see Lucas 2001: 67). Evans and Holmes noted the potential of stone tools as chronological markers, and undertook research into the form and function of stone artefacts and their processes of manufacture and use (Andrevsky 2005: 3-4). This early research was dominated by the idea that stone tools represented not only chronological, but also cultural markers which provided evidence for the evolution of increased cultural diversity. Holmes' work was particularly influential in highlighting the process of tool manufacture, especially in his suggestion that crudely-shaped bifaces represented tools in earlier stages of the production process rather than simply poorly-made tools (Odell 2003: 3). Despite this, it was not until the late 1930s that Barnes (1939) published the now commonly accepted criteria for distinguishing humanly modified stone artefacts from naturally fractured stone, which derived from his study of the edge angles produced by human processes of stone fracture and a comparison with the edge angles of stone fractured naturally.

An important concept which came to dominate stone tool research throughout the twentieth century was developed by the French archaeologist Leroi-Gourhan, who was concerned with documenting the chain of processes by which raw materials were selected and transformed into cultural artefacts. A student of anthropologist Marcel Mauss, during the 1950s he drew on his teacher's discussion of 'techniques' as socially transmitted aspects of the *habitus* and combined

them with the work of early archaeologists such as Holmes to suggest a more process-oriented approach to stone tool analyses (or, indeed, any form of technology). In *La Geste et La Parole* (1964), Leroi-Gourhan coined the term *chaîne opératoire* and defined it in terms of ‘techniques [that] involve both gestures and tools, organised in a chain by a veritable syntax that simultaneously grants to the operational series their fixity and their flexibility’ (1964: 164; cf. Schlanger 2005: 27). This process oriented approach was seen as having major implications for the study not only of individual technologies, but also the study of societies and technical processes at a variety of spatial and chronological scales. The concept of the *chaîne opératoire* was further developed by Pierre Lemonnier (1986, 1992), who drew a distinction between ‘strategic tasks’, fixed operations which cannot be altered in timing or sequence without sabotaging the entire process, and ‘technical variants’, flexible choices which are arbitrary in terms of the outcome of the *chaîne opératoire* but which nonetheless have cultural or social implications. The idea of the *chaîne opératoire* was also implicit in the stages of stone tool production suggested by Schiffer in the 1970s and discussed earlier in this chapter.

Research on the *chaîne opératoire* of stone tool manufacture stimulated an interest in the individual mechanical processes involved in the production of particular stone tools in the past. The 1950s and 1960s saw sustained stone tool reproduction experiments by archaeologists such as Francois Bordes and Don Crabtree, which informed the subsequent development of reduction sequence analysis (eg. Bradley 1975) and tool refitting research. Taken together, experimental flint knapping, and ideas such as the *chaîne opératoire*, reduction sequence analysis, or Schiffer’s (1972) stages of production promoted a particular view of the ‘life history’ of the stone tool, which was related to the manufacture and use of stone tools. The dominant paradigm during this period stressed the close association of stone artefacts form with function, allowing the role of a stone tool to be ‘read’ through the study of its morphological characteristics.

Meanwhile, another area of stone tool studies sought to move beyond purely morphological analyses. Sergei Semenov’s 1957 study *Prehistoric Technology*, which was translated into English in 1964, was influential in suggesting that stone tool morphology did not always coincide with stone tool function. He demonstrated the possibility of the functional analysis of stone tool edges using microscopy through the magnification and recording of the working edges of stone tools, which led to the development of use-wear and residue studies in contemporary archaeology (Andrevsky 2005: 4). The study of microscopic use-wear and residues grew throughout the 1980s and 1990s to become one of the dominant areas of metrical stone tool analysis in archaeology. In an influential paper, George Frison (1968) built on the ideas put forward much earlier by Holmes in relation to Palaeolithic stone axes to suggest that if artefact morphology changed during a stone tool’s use life, then stone tool typologies would have to reflect these changes if they are to be useful in determining chronology, site function and patterns of site use. Frison’s work, combined with other developments in the New Archaeology of the 1960s, led to archaeologists perceiving a stone tool’s form as dynamic throughout its use. These developments saw a shift away from the correlation of archaeological tool types with prehistoric cultures that characterised culture-historical archaeology, and challenged the widely accepted view that artefact shape was a direct correlate of artefact function (Andrevsky 2005: 5). Odell (2000: 47-8) describes the ways in which this idea influenced the study of projectile points from the Great Basin region in North America during the 1980s and 1990s. Here, the extent to which reworking of broken projectile points can be seen to have given rise to ‘new’ projectile point forms, which were represented in traditional typological analyses as separate point forms, has been widely debated.

The study of the exchange, rather than simply the production and use, of stone tools has also been a major area of archaeological research since the 1970s. The increasing use of geophysical and geochemical methods in archaeology has led to developments in determining the source of stone used in the manufacture of stone tools, which has led to a greater understanding of trading networks

and the circulation of both stone tools and stone raw materials in prehistory, for example in the study of the wide ranging trade in obsidian for the production of stone tools in the European Neolithic (eg. Torrence 1986). Ethnoarchaeological studies have been important both in allowing deeper insights into technological processes of stone tool manufacture (e.g. Gould 1980) as well as the meaning of stone tools within the societies that manufacture them (e.g. Jones and White 1988). For example, Bradley and Edmonds (1995) documented the changing nature and context of the production and exchange of stone axes based on their study of one of the largest sources of raw materials for stone axe manufacture in Britain.

George Odell (2000, 2001) has suggested that the systematic study of stone tools in the last two decades of the twentieth century focused on two main areas—procurement (understanding the pursuit and trade of raw materials) and technology (understanding the various processes that contribute to the production of stone tools). This involved research on the areas of artefact classification (including stone tool typology, debitage analysis, use wear and residue studies) the study of behavioural processes (including subsistence strategies, risk minimalisation and trade), and conceptual approaches (models which help archaeologists explain their data, including approaches that foreground gender and aspects of design theory). Despite this proliferation of methods and approaches over the 1980s and 1990s it is possible to say that throughout the twentieth century, the formulation of systems which described the processes by which stone tools were produced and discarded in the past had formed the fundamental goal of stone tool analysis.

Agency and ‘Interference’

The emergent interest in symbolism, ideology and individual choice that accompanied the development of interpretive archaeologies during the 1980s and 1990s (e.g. Shanks and Hodder 1995) stimulated the development of new conceptual approaches and a new found interest in the symbolic aspects of stone as a raw material (e.g. Ingold 1990; Sinclair 1995; Tilley 2004). Around the same time a new interest in stone tools as markers of gender also emerged (Gero 1991; Sassaman 1992; Dobres 1995). However, due to the widespread adoption of a semiotic approach to emphasise artefacts as a series of signs, critics (e.g. Dobres 2000; Dobres and Robb 2000; and more generally J. Thomas 1995, 1996) noted that such approaches tended to downplay the experience of those who made, used and consumed stone tools. This new focus on meaning produced an effective rift between those studies concerned with the technical aspects of stone tool production, and those which focussed on stone tools as symbols.

In an attempt to shift the paradigm in stone artefact studies away from the split between symbolic and technical aspects of stone tool manufacture and use, several researchers began to employ the concept of ‘social agency’. The relationship between human agency and historical structures was developed by Pierre Bourdieu (1990 [see also Robbins 1991]) and Anthony Giddens (1982, 1984). Bourdieu argued that practice was conditioned by the *habitus*, a system of historically produced structuring dispositions. The *habitus* varies between individuals, and action mediated by the *habitus* is instinctive and regulated (Robbins 1991). Bourdieu utilises the metaphor of a sport, where players have a ‘feel for the game’ that equips them to pursue conscious strategies (see discussion in Last 1995): “One’s feel for the game is not infallible; it is shared out unequally between players, in a society as a team” (Bourdieu 1990: 86).

Anthony Giddens developed the theory of ‘structuration’ to account for the same problem. The concept of structuration is similar to the *habitus* in that structuration is the set of conditions that intervene between structure and practice to allow the reproduction or transformation of that structure. Social practice (or agency) and social structure are linked dialectically. Structures form a medium for practice by both enabling and constraining it, while at the same time they are the outcome of human agency and are reproduced or transformed by it (Shanks and Tilley 1992: 128). It is the high degree of routine in practice that ensures continuity in action. Both change and

stability are outcomes of the reproduction of social practice. Agents generate power through being able to mobilise both material and productive resources—power ‘is generated in and through the reproduction of structures of dominance’ (Giddens 1984: 258). Social change tends to occur at the ‘time-space edges’ between different sets of routinised structures and practices (Last 1995: 152).

In her study of *Technology and Social Agency*, archaeologist Marcia-Anne Dobres (2000) drew on the work of Anthony Giddens and Pierre Bourdieu to describe the ways in which technologies entail social relationships and engender meaning. For Dobres, it is human agents and their social relations that are central to the everyday reproduction of their social conditions. People experience technology and material culture as physical arenas within which interactions, both material and social, occur as they undertake practical or material action. Hence both people and the material world simultaneously constitute, shape and become shaped by one another (Dobres 2000: 127).

Technologies are socially constructed practices through which material objects develop their own life histories, taking on a multiplicity of meanings. They are also the means of bodily engagement with the world, and in the process, producers become social products. A recursive process binds together human actors, products, artefacts, landscapes, materials and meaning—“agency and practice are no less the heart and soul of human technology” (Dobres 2000: 128). Thus material objects are also involved in the complex web of agency and structure, as conduits through which human actors produce and are produced by their interactions with other agents and the world.

Social agency has been seen as problematic in stone artefact studies, not the least reason being because stone artefacts have often remained apparently static in their form throughout long periods in the past (Wobst 2000; Sassaman 2000). How are we to see the influence of individual social actors and agency faced with an absence of change in technology over millennia? Archaeologist Martin Wobst suggests that this stasis itself should actually be seen as quite remarkable, given, for example, the widespread effort to manufacture stylistically identical stone artefacts using raw materials with extremely different flaking properties. For Wobst (2000: 47), such periods of stasis should be seen as the most socially and politically contentious, as they involve the most effort to maintain and control the *habitus* by prehistoric peoples (cf. Wobst 1974).

Thus, Wobst emphasises the ways in which stone artefacts, like other kinds of material objects, could in the past form reference points in the ways in which humans choose to behave and respond to particular circumstances in the past. The production of artefacts can be thought of as an ‘interference’ in a particular situation, the intentional insertion of a material object into a circumstance which the artefact maker wished to influence or change by doing so (Wobst 2000: 42). We can think about such interferences as being made with reference to both the physical and social world. Indeed, Wobst (2000: 48) suggests that the development of stone artefacts in the Lower Palaeolithic can be conceptualised as establishing the possibility of forms of interference which stressed and expressed social difference, which have remained unresolved throughout human history.

These various ideas about stone artefacts and social agency establish certain parameters for the study of the life histories of stone artefacts, and in particular their ‘afterlives’. I use the term ‘afterlife’ to define the period after which a stone tool ceases to be functionally useful, after which it would most usually be discarded, but at which point it may also be curated or subsequently lay dormant before being ‘rediscovered’ at some point in the future. One problem with these studies of social agency in stone tool production and use is that, just like the metrical analyses described above, they tend to focus almost entirely on the experience of production and tool use, rather than on other moments in the life histories of stone tools. Indeed, the focus on agency in stone tool studies has done little to move beyond the focus on the process of stone tool manufacture,

maintenance and discard embodied in the *chaîne opératoire* and Schiffer's model of the five steps in the life cycle of durable elements. They adopt ideas from the work of Frison and others, which suggest that changes in form relate to different phases in the cycle of stone artefact use. Further, they draw on the work of interpretive archaeologies to suggest that the *meaning* of artefacts can change according to their passing from one context to another. However these approaches to agency in the study of stone tools have tended to depict stone tools themselves as largely passive—the agency they describe is purely social agency. In the rest of the chapter I want to explore some ideas about material agency and the ways in which they might inform our understanding of the relevance of the afterlives of stone tools in both past and contemporary societies.

Material Agency and the 'captivation' of stone tools

In this section, I want to explore the idea of the efficacy of artefacts beyond production and functional use, with reference to social anthropologist Alfred Gell's idea of 'captivation' or 'enchantment' (Gell 1992, 1996, 1998). The anthropological perspectives on material culture developed by the late Alfred Gell provide a very useful way of thinking through the social efficacy of artefacts. Gell presents a model in which material objects can mediate the social agency of humans, acting as the 'indexes' of this agency, as 'material entities which motivate inferences, responses or interpretations' (N. Thomas 1998: ix). The theory of the 'art nexus' describes the mediation of agency by way of a series of 'agent-patient' relationships that are described according to four main referents which are said to exist in the vicinity of objects: artists, indexes, prototypes and recipients. For Gell, the social relations that surround artefacts can only exist when they are made manifest in the form of actions (Gell 1998: 26). Those people or things that perform social actions are agents with reference to those things on which they perform social action, which are known as patients. Drawing on Marilyn Strathern's (1988) concept of the distributed person in Melanesian anthropology, Gell explains the way in which objects become part of the distributed personhood of the 'artist' – the person who is considered to be responsible in the first instance for the existence of the index, or art object (cf. Wagner 1992). Thus for Gell, humans are not confined to a spatial or temporal framework particular to their physical body,

but consist of a spread of biographical events and memories of events, and a dispersed category of material objects, traces and leavings, which can be attributed to a person and which, in aggregate, testify to agency and patienthood during a biographical career which may, indeed, prolong itself long after biological death (1998: 222-3).

Gell distinguishes between the *primary* agency of intentioned and conscious actors, and the *secondary* agency of objects. He uses the gruesome example of the land mines placed by Pol Pot's soldiers (1998: 20-21), describing them as components both of Pol Pot's person, as well as objects that function as secondary agents (in the sense in which they are not sentient, so can only initiate agency with reference to another external agent). Gell sees the land mines as not simply tools used by a soldier, but as part of the material index which defines the soldiers' 'soldier-ness'. The guns and land mines carried by the soldiers are 'a part of' the soldier and act to define the soldier as such. To speak of Pol Pot's soldiers is also to speak of the weapons, military tactics, and their social context. The land mines *themselves* do not initiate happenings or actions 'through acts of will for which they are morally responsible', but nonetheless are 'objective embodiments of the power or capacity to will their use' (1998:21).

Discounting an 'aesthetic' model for understanding art and art objects, Gell acknowledges the special kind of agency exhibited by particular art objects, which are:

made with technical expertise and imagination of a high order, which exploit the intrinsic mechanisms of visual cognition with subtle psychological insight, then we are dealing with a canonical form of artistic agency which deserves special discussion...with artefacts which announce themselves as miraculous creations...their power rests partly on the fact that their origination is inexplicable except as a magical, supernatural occurrence (1998:68).

Gell had previously described the concept of captivity in relation to the efficacy of the prow boards of Trobriand canoes as psychological 'weapons' in ceremonial 'kula' exchanges

(1992). He argued that the impressive carvings present on prow boards were considered to be magically potent, establishing a sense of inequality between the exchange partners who were viewing the boards for the first time, and the artist(s) who carved them. While ‘captivated’ by the virtuoso carvings, the trading partners were weakened and engaged in unequal exchanges to the benefit of the artist(s).

Captivation or fascination—the demoralization produced by the spectacle of unimaginable virtuosity—ensues from the spectator becoming trapped within the index because the index embodies agency which is essentially indecipherable (Gell 1998:71).

In *Art and Agency* Gell describes the ‘captivation’ of Vermeer’s painting *The Lacemaker* as embodied by an inability to conceive of the possibility of producing the artwork (1998: 69). While we can imagine how to mix the paint and move brush over canvas, the technical proficiency of the painting defies our imagination, or more accurately, our ability to conceive a resemblance of our agency to the agency which originated the artwork. This is not simply a case of aesthetic impact (Bolton 2001: 101), but relates to a ‘blockage in cognition’ which manifests itself at the point when a spectator cannot reconstruct or follow the sequence of steps in an artist’s performance. Captivation is ‘produced by the spectacle of unimaginable virtuosity’ in which the index ‘embodies agency which is essentially indecipherable’ (Gell 1998:71). As Bolton (2001: 101) notes, captivation is ‘a special kind of agency effected through performance, and embodying indecipherability’.

Kimberley points as captivating objects

I would like to turn now to how these ideas about the agency of material things which possess the power to ‘captivate’ or ‘enchant’ might be employed to help us to understand the efficacy of stone tools in their afterlives. Figure 2 shows a Kimberley Point from the collection of the Pitt Rivers Museum in Oxford, UK. It is labelled with an accession number [1898.75.29], and its accession book entry, dated 1898, identifies it as one of four glass Kimberley Points which were sold to the museum by the collector Emile Clement along with another 109 ethnographic specimens from northwestern Australia for which the museum paid £11.0.0. It is one of at least 24 Kimberley spearpoints, most of them made using glass, which were obtained by the Pitt Rivers Museum over the period 1898 to 1953. Emile Clement made at least three trips to Western Australia over the period 1895-1900, during which time he amassed a large collection of ethnographic and botanical specimens which he subsequently sold to museums and collectors throughout the UK. We know something of his collecting activities as he published a series of notes and ethnographic observations, along with a catalogue of the objects he collecting in a short treatise in 1904 (Clement 1904). While its possible to understand the social agency involved in the acquisition of glass as a raw material from Europeans within the context of the Australian colonial frontier, the subsequent agency of the toolmaker in producing the tool, and the agency involved in the transactions by which Clement acquired and subsequently sold the point, we might think that its curation within the Pitt Rivers Museum would represent the certain end point of its efficacy as a tool. Lying inert on dusty museum shelves, surely it cannot be understood to continue to have material or social agency and involve itself in social relations as an actor once it is locked away in the museum?

Insert figure 2: Glass Kimberley Point from the collection of the Pitt Rivers Museum in Oxford, collected by Emile Clement and sold to the museum in 1898

What is clear is that in fact glass Kimberley points did continue to have a form of agency after they were collected and removed from their context of manufacture and use. We can use Gell’s ideas about the captivation of art objects to help us to interpret the agency of stone and glass spear points from the Kimberley region of Western Australia (Harrison 2006). Bifacially pressure-flaked ‘Kimberley’ points were a specialised stone tool form, which only began to be manufactured approximately one millennium before Europeans first settled in Australia in a geographically

limited area of Australia's north west. They appear to have functioned as spearheads, but in the nineteenth and early twentieth century, more often appeared in symbolic gift exchanges and in trade with colonial collectors. After Aboriginal people from northwestern Australia began to come into contact with Europeans, these points became increasingly formalised in their shape, grew in size and became increasingly finely worked at the precise time that their function as spearheads became far less relevant due to the availability of steel and guns (Harrison 2004a). They were increasingly manufactured using European bottle glass as a raw material, which allowed for the manufacture of larger points, but which made them functionally less useful as spearheads. They also appear to have, contradictorily, been made in the greatest numbers on settlements and reserves associated with Europeans, where food rations were being provided and they would arguably be less necessary as functional spearheads for hunting land game. Within the groups that manufactured them, points (and the manufacture of points) acquired new meanings as symbols of masculine status at the same time that their role as functional spearheads was being diminished (Harrison 2002). Despite the emphasis of collectors and antiquarians on collecting 'functional' and 'Stone Age' objects, these 'replicas' of stone spearheads made using glass were collected widely in colonial Australia, and circulated in large numbers amongst museums and collectors across the globe. More recently, despite archaeologists' awareness that the form of these particular large, symmetrically pressure flaked bifacial point forms were related more to the demands of a colonial art market than the functional needs of Aboriginal Australians, they have gained an important space in disciplinary self representations of Australian Aboriginal prehistory. For example, Australian archaeologists have often used images and descriptions of Kimberley Points to represent Australian Aboriginal stone tool technology in general, despite the fact that it is widely known that the large invasive bifaces which were made for trade with Europeans in the late nineteenth and early twentieth century were largely an invention for the colonial art market. Elsewhere (2006) I described in detail the use of the generic term 'stone tool' in particular museum displays of Kimberley Points in Australia, despite the fact that this rather specialised form of stone (and more importantly, glass) working technology has relatively little in common with the geographic and chronological majority of prehistoric Aboriginal stone tool technology from Australia.

Gell's ideas about the captivation or enchantment of virtuoso objects help to explain the ways in which Kimberley points acted as agents in distracting and enthralling both colonial collectors and antiquarians in the past, as well as their continued role in captivating archaeologists in the present. Their apparently mysterious method of manufacture and the extremely fine working of these spearpoints both metaphorically and physically 'dazzled' colonial collectors, but even after their method of manufacture had been discerned, they presented a paradox to antiquarians—a delicately worked glass *objet d'art* manufactured using 'Stone-Age' technologies. This clever contradiction allowed them to find a market amongst those antiquarians and museums who were primarily interested in 'authentic', 'prehistoric' objects, who might normally have passed them over as souvenirs created specifically for a collector's market. Not only does such an analysis reveal the ingenious engagement of Indigenous Australians with a late nineteenth-century global colonial art market, but also the ongoing agency of these spear points themselves as they continue to enthrall and captivate archaeologists and a museum-going public in the present.

Beyond social agency: heritage, politics and the material agency of stone tools in the modern world

One of the main criticisms of Gell's model of captivation (see Layton 2003) has been the way in which it minimises the importance of an individual's cultural background in determining their 'reading' of art objects. Indeed, much of the subsequent research that has employed aspects of Gell's model has discussed the ways in which individuals within particular societies are socialised to receive particular kinds of material 'messages' as a starting point (eg. Campbell 2001; Kuchler 2002). Understanding the ways in which an individual is socially conditioned to receive particular messages from artefacts has largely been understood to form a necessary starting point for any

consideration of the efficacy or agency of stone tools (or indeed any material object). This idea is also an integral aspect of the approaches to social agency in stone tools discussed above (eg. Dobres 2000; Wobst 2000).

A recent critique of Gell's ideas by Leach (2007) suggests that it is only if we take the direct opposite approach to that suggested by Layton that we could ever allow the sort of material agency which appears to be a part of the concept of captivation or enchantment to be understood. Leach argues that it is impossible for objects themselves to have agency if we assume that all objects are necessarily an index of something else. This notion appears in Gell's discussion of the 'abduction' of agency, or the mediation of agency by way of a series of agent-patient relationships as described above. Leach perhaps more helpfully refers to this as the 'artist-author' relationship, in which the creativity embodied by an artwork (or artefact) is assumed to wholly reside within the artist, and not within a distributed network which might involve the materials he or she uses to create the artwork, and the creative tension of the circumstances within which it is made, or within the artwork itself. He suggests that Gell's anthropological theory of art should be seen as essentially flawed, as it places primary agency only in the hands of human actors (or 'artists' in Gell's words) who are seen as the ultimate starting point in the chain of agent-patient relationships he describes. It is only when we effectively admit that an artefact or art object might have primary agency of its own that we can use the distinctive life histories of material objects to generate innovative critical positions and alternate models of the efficacy or agency of stone tools.

My objection, then, is to the theory of the abduction of agency and the notion that we should treat an object as an index of something else. I point out that questions about what an object is an index of may obscure something that is very important about the object in diverse contexts (Leach 2007: 184).

Indeed, in my own analysis of glass Kimberley points recounted here, I was unable to move beyond the primary agency of the Indigenous manufacturers of glass points and the trope by which they dazzled collectors (and its effect on contemporary archaeologists) to develop an argument regarding their material agency which functioned independently of the intention of their makers. In an attempt to move beyond the limits of the artist-author concept and its constraint on the analysis of material agency, I want to consider the persistence of stone tools in the modern world, returning to Australia as a case study of the contemporary social role of stone artefacts, focussing on the function of stone artefacts in Indigenous heritage discourses. Australia provides an appropriate case study as a place where stone tools have developed new meanings and forms of value for Indigenous people in the context of the politics of post-colonialism and heritage. Indeed, my work with contemporary Indigenous Australians who work in archaeological heritage management suggests that for many Aboriginal people, their encounters with stone artefacts forms the basis for a creative reformulation of identity and self knowledge as well as poignant tangible objects around which to make concrete various political debates and issues. At the same time, this case study has the potential to relate to other contemporary settler societies such as the United States, Canada and New Zealand (Lilley 2000), as well as providing insights which can help us understand the agency of stone tools in their afterlives in the more distant past.

After human skeletal remains, stone artefacts have formed the most important nexus for debates around the repatriation of Indigenous cultural remains in Australia. While some of these debates have been public (Murray and Allen 1995), the return of stone artefacts excavated by archaeologists as part of both research and commercial archaeology has now become relatively routine in Australia under circumstances where Indigenous representative bodies request it. Byrne (2003, 2004) has characterised this activity as a form of 'archaeology in reverse' as it often involves the reburial of stone artefacts and other archaeological remains excavated by archaeologists.

Labouring on archaeological excavations as untrained field assistants and being involved in field walking surveys to locate archaeological sites is one of the important ways in which

Indigenous people in southern, settled Australia¹ gain physical access to stone artefacts and engage in creative encounters with them. It is also a way for Aboriginal people to engage in the cultural ‘work’ of heritage (after Byrne 2008). Where such work has become more broadly associated with colonialist practices in other countries (eg Shepherd 2003), the insistence of Aboriginal people to continue this involvement in archaeological labour has tended to draw it away from criticism in Australia. While criticised by many authors on community archaeology, who have rightly pointed out that the employment of Indigenous community members on archaeological excavations is not a substitute for consultative practices or a collaborative approach to archaeology, the involvement of Indigenous people in the physical work of archaeological heritage management has become a key element of contemporary archaeological heritage management in Australia, as it has in other settler societies such as the United States (Smith and Wobst 2005). For the Aboriginal people to whom I spoke about their involvement in archaeological fieldwork, it was clear that the involvement with artefacts in archaeology provided them with a sense of collective identification as Aboriginal people in the present.

Indeed, when I interviewed Indigenous Australians in settled, southeastern Australia who work in the field of archaeological heritage management, they appeared to be engaged in a creative re-imagining of their history and culture which derives from their encounters with stone artefacts in the present. Stone artefacts often hold an intense poignancy for Aboriginal people, not only as symbols but also as physical objects which can provide a material connection with the lives of their ancestors. For example, for descendants of the Muruwari Aboriginal people who used to live on the Dennawan Reserve, a former Aboriginal encampment occupied until the 1930s in western New South Wales, the dead often visit the living in dreams (see further details in Harrison 2003, 2004b, 2005). During site visits, particularly to pre-contact archaeological sites, Muruwari people with whom I worked over the period 2000-2004 would often rub artefacts such as flaked stone artefacts against their skin. Vera Nixon, an Aboriginal woman from western NSW who had been involved in recording archaeological sites with NSW National Parks and Wildlife Service staff, explained:

...when you're rubbing the stones over your skin you can get the feel of...you sort of get the feeling of the spirits coming into your skin somehow or another. I dunno, it's a strange feeling, but it's a good feeling (Vera Nixon, 18th November 2001).

A belief that an ancestor's spirits are associated with the objects that they used during their lifetimes structures people's interactions with the remains of the former settlement. Josie Byno, Vera's sister explained further:

When we go and visit the place and see the artefacts that they used to use and the fire there, the oven...we get very emotional. Not only that, there is a special feeling in the air that surrounds us. We can feel that spiritual feeling wherever we go, and we know that they are with us (Josie Byno, 18th November 2001).

While it is important for people to be able to touch and interact with the artefacts on site, it is considered dangerous to remove them. People who do this are tormented with bad dreams or sickness. These ill effects are not produced by the spirits of the ancestors who made the artefacts, but by the artefacts themselves. In contrast, just being at the site and touching its artefacts is considered to make Muruwari people feel physically healthy. Arthur Hooper (at the time in his seventies), who lived at the site in the 1940s, noted:

Ever since I've been coming out here, doing a little bit of work for people, I've been feeling really great. I'm really happy to see the old place again. And my feelings—inside me it's a very glad feeling, I have no worries

¹ I use this term to refer to Aboriginal people in those parts of Australia who experienced the earliest and greatest disruption by European invasion. The extent and nature of cultural and physical dislocation experienced by Aboriginal people in Australia was extremely variable across the country, but in general terms, Aboriginal people in northern and central Australia were able to maintain a physical presence within their country for much longer, and experience a lesser disruption to their traditional lives than did Aboriginal people in southeastern Australia.

about anything else. No aches and pains, I just walk around the place for hours and hours without getting tired. (Dennawan, 18 November 2001)

Archaeological sites like Dennawan hold power and fascination for Indigenous Australians as places where local traces and memories persist, challenging and actively assisting in the creation of the past and present. The mutual involvement of people with stone artefacts and other archaeological traces of the past, which both evoke and create collective memories, provide creative opportunities for imagining and connecting oneself with the ancestral past, and building a sense of collective political and social identity in the present. Importantly, Aboriginal people conceptualise these artefacts as having agency of their own which is independent of that of their makers, allowing them not only to act as a nexus between object and spirit worlds, but also to influence the body and minds of people who encounter them in the present.

Figure 3: Arthur Hooper, Vera Nixon, Josey Byno and Dorothy Kelley on a visit to the archaeological site at Dennawan in 2002.

Figure 4: Josey Byno holding a stone artefact at Dennawan.

Many Aboriginal people who I interviewed about their work in archaeology felt creatively engaged with stone artefacts, and spoke of them as exhibiting their own forms of agency. For example, an Aboriginal woman who I interviewed in 2004 who had been working with archaeologists in Armidale, NSW spoke of being able to spot artefacts which the archaeologist couldn't see while they were undertaking a field walking survey as she 'heard the artefacts calling to me'. She had been visiting local archaeological sites for years, not for their traditional associations or to undertake the sort of cultural work which anthropologists would normally identify as the obligations of Aboriginal kinship with the natural world, but to fossick for artefacts with the family and to swim and fish. She spoke of finding a favourite archaeological site which she would often visit. She was driving home one day and it was as 'if the place was calling to her, and when she got out and walked around, it was like being home'. Others spoke of the importance of working with archaeologists and other Aboriginal people as archaeological labourers, and the ways in which this allowed them to develop a sense of identity in spite of their sense of dislocation from their traditional culture.

Stone tools and strategic essentialism

The use of stone tools by contemporary Indigenous Australians to express a sense of collective identity as well as to engage in a creative re-imagining of the past holds problems for those who are interested in the role of archaeology in colonialism and the ongoing influence of colonial discourses in the modern world. One of the major criticisms of archaeology and anthropology during the twentieth century has been the ways in which it has been used to produce stereotyped views of Indigenous people as 'others' which have subsequently been employed by the state to control them (e.g. Russell 2001; Clifford 1988; 1997). In particular, ideas about the connection between culture and race and the misrepresentation of Aboriginal people as 'living fossils' has been used by the state in Australia to argue for the need for paternalism and control of Aboriginal people (McNiven and Russell 2005), and their position as both non-citizens and wards of the state. It seems problematic that at the same time that archaeology and anthropology has begun to criticise itself for these representations, Indigenous people have begun to rediscover and draw on the power of these same older stereotypes which represent Indigenous Australians by the material traces of their past to objectify themselves. In relation to archaeological heritage, this has been particularly visible in Indigenous self-representations within settler societies in Australia (eg. Lilley 2006; Lilley and Williams 2005) and elsewhere (Fischer 1999; Clifford 2004; Kuper 2003), where Indigenous people have adopted what might be considered to be a rather conservative or old

fashioned association between race, culture and material artefacts to represent themselves in the modern world.

The term 'strategic essentialism' was developed by Gayatri Chakravorty Spivak (1996: 214) to describe circumstances under which it may be advantageous for minority groups who hold quite disparate characteristics and ideals to represent their identity as a group in a simplified or stereotypical manner, either as part of a strategy to undermine these same stereotypes by drawing attention to them in a way that deconstructs them, or one which allows people to achieve particular outcomes when grouped in such a manner. Strategic essentialism could be understood as a form of performance in which minority peoples 'play up' to the stereotypes which they have been subject to as part of colonial domination or state control.

As Denis Byrne (2003: 77) notes, Aboriginal people in southern, settled Australia have responded to a sense of being made invisible in a colonised landscape by expressing a sense of fundamental connection to the many thousands of archaeological sites and stone artefacts spread across the country. In doing so, they express a certain level of identification as a group, at the level of an Indigenous 'nation', which would never have been the case in the past. In a sense, such a position is a surprise to Byrne, who notes the awareness of Aboriginal people with the ways in which an identification of 'real' Aboriginal people with stone artefacts and the past has allowed them to be effectively controlled and objectified by the state's program of archaeological heritage management. Byrne has argued that the emphasis in cultural heritage management in Australia on the protection of archaeological sites has been driven by a desire by settler Australians to disassociate a heroic and authentic 'Aboriginality' from contemporary Aboriginal people. However, the fact the Aboriginal people so closely associate with stone artefacts suggests a strategy. Byrne compares this complicity of Aboriginal people with state-directed archaeological heritage management with Spivak's notion of 'strategic essentialism' (Spivak 1996: 214). This complicity has, Byrne argues, meant that to some extent, Aboriginal people 'have to play up to white expectations and produce performative versions of traditional culture when this is what white people want to see' (2003: 78). He suggests that archaeological sites with physical remains such as stone artefacts have been chosen because they are visible places which, at the very least, remind broader settler society of the historical presence of Aboriginal people in a landscape from which they have been excluded.

For the vast majority of contemporary Aboriginal and settler Australians who live in large urban centres, the sense of being dislocated from the past is extreme. Jeremy Beckett, in commenting on nostalgia and its relationship with place in Indigenous oral historian Myles Lalor's history, notes that for Aboriginal people in southern, settled Australia in the period 1950-70, 'the emphasis was on the present, while the past was a source of unease and embarrassment rather than empowerment' (1996: 321; see Lalor 2000). Beckett suggests that for Lalor and his generation, self identity, which had traditionally derived from the connections between groups of people and place, had to transform itself in the light of the widespread forced removal and dislocations of Aboriginal people from their homelands. He sees in Lalor's oral history a refusal of nostalgia, in its sense of longing for lost places, by asserting his sense of self and an emergent collective sense of Aboriginality through a narrative which emphasises social connections over spatial ones. However, the 1970s in Australia saw a changed political climate and the emergence of a revival of the past as a key source for the creation of a collective sense of identity for Aboriginal people. Transformed once again, Aboriginality was expressed through connections to the past, emphasising the subaltern histories of particular places in the physical Australian landscape and national imaginary. This creation of a national collective Aboriginal identity by Indigenous Australians themselves reclaimed and subverted the State's creation of Aboriginality as a racial, rather than cultural collective. The fragmentary remains of stone artefacts had come to represent a poignant memorial to lives once forgotten, buried and then subsequently both physically and metaphorically excavated from the dustbin of history.

For many Indigenous people, involvement in archaeological excavations not only allows an active physical engagement with the stone artefacts and other physical traces of their past, but represents a way of performing and realising Aboriginal identity and community (cf. Anderson 1983; Appadurai 1996, 2001). As Amit and Rapport (2002) note, modern forms of trans-local community are often formed by common interest groups who emphasise their sense of shared experience in preference to their shared histories (cf. Amit 2002; Gupta and Ferguson 1997). Byrne (2008) points out the cultural ‘work’ of heritage, in this case the excavation and interaction with stone artefacts through untrained archaeological field labouring, is the ‘glue’ which people use to create a sense of community and locality in the present. Aboriginal people who are employed on such excavations fill a particular role, as ‘consultants’ and members of a ‘local community’ who are being consulted over ‘their’ heritage. In southern, settled Australia, like many other areas within the major Anglophone settler societies where Indigenous people have largely been denied access to those local places which form their homelands, such radically localising forms of performed identity provide a rare opportunity for the development of a sense of shared community. While archaeologists have generally perceived the communities with which they are expected to consult as relatively fixed entities, it is clear that they are created dialogically through this process of consultation and the new fields of social relations formed around stone artefacts and other archaeological remains, as much as they exist independently of it. For those Aboriginal Australians involved in this creative engagement with them, stone artefacts have become symbols of local community as well as the (literal) foundation stones for new forms of Aboriginal nationalism in postcolonial Australia (see also Lilley 2006).

Conclusion

The discussion of the meaning of stone tools in contemporary Australia has demonstrated the latent efficacy of stone tools long after their discard once they have ceased to be functionally ‘useful’, as well as the importance of understanding the afterlives of stone tools. This has also raised questions about the ‘afterlife’ of stone tools in the past. The memory of the manufacture of particular stone tool forms, as well as encounters with older, discarded stone tools would potentially have impacted continuously on the production of new stone tools by stone artefact producing peoples in the past. In the same way that stone artefacts exercise a form of material agency in contemporary Australia which is entirely removed from the agency of the artist/author who produced them, encounters with ancient discarded stone tools in the past must also have enacted forms of material agency. These interventions might have taken the form of the continued production of stone tool forms which were associated with the archaic past in an attempt to maintain the *habitus* as suggested by Wobst (2000), or the creation of new tool forms in reaction against them. However, we should not assume the only interventions were those which derived from people themselves, but instead, allow for the possibility that stone artefacts might have generated creative engagements of people and objects which were entirely independent of those intended by their makers.

This chapter has considered the contribution of interdisciplinary material culture studies to understanding the political power and material agency of stone tools. Drawing on theories of social and material agency and Gell’s discussion of the captivation of art objects, I have suggested that the meaning and social role of a stone artefact changes throughout the course of its life history with each transformation in its use cycle, and more importantly, that stone artefacts continue to have material agency and do social ‘work’ even after they have been discarded. The particular contribution of Gell’s work is the way in which it suggests a structure for understanding and conceptualising the ongoing influence of prehistoric objects both in the past as well as in contemporary social relations. However, we need to go beyond Gell’s focus on the primary agency of human author-artists to acknowledge forms of material agency which stone artefacts and other objects might hold which are independent of them. The challenge for modern stone tool studies is to consider the ways in which we might undertake research in which stone tools and other forms of

prehistoric material culture are viewed as embodying material agency rather than remaining passive players in a series of social relations which are entirely determined by human actors.

References

- Amit, V. 2002. Reconceptualizing community. In V. Amit (ed.) *Realizing community: Concepts, social relationships and sentiments*. London and New York: Routledge, pp. 1-20.
- Amit, V. and N. Rapport 2002. *The Trouble with Community: Anthropological reflections on Movement, Identity and Collectivity*. London and Sterling: Pluto Press.
- Anderson, B. 1983. *Imagined communities: reflections on the origin and spread of nationalism*. London and New York: Verso.
- Andrevsky, A. (1998)2005. *Lithics: Macroscopic approaches to analysis*. Second edition. Cambridge: Cambridge University Press.
- Appadurai, A. 1996. *Modernity at Large*. Minneapolis and New York: University of Minneapolis Press.
- Appadurai, A. 2001. The globalisation of archaeology and heritage: a discussion with Arjun Appadurai. *Journal of Social Archaeology* 1(1): 35-49.
- Barnes, A.S. 1939. The difference between natural and human flaking on prehistoric flint implements. *American Anthropologist* 41: 99-112.
- Beckett, J. 1996. Against Nostalgia: Place and Memory in Myles Lalor's 'Oral History'. *Oceania* 66(4): 312-322.
- Bolton, L. 2001. What makes *Singo* different: North Vanuatu textiles and the theory of captivity. In C. Pinney and N. Thomas (eds) *Beyond Aesthetics: Art and the technologies of enchantment*. Oxford and New York: Berg, pp. 97-116.
- Bourdieu, P. 1990. *The logic of practice*. Cambridge: Polity Press.
- Bradley, R. 1975. Lithic reduction sequences: a glossary and discussion. In E. Swanson (ed.) *Stone Tool Use and Manufacture*. The Hague: Mouton Press, pp. 5-14.
- Bradley, R. 2002. *The Past in Prehistoric Societies*. London and New York: Routledge.
- Bradley, R. and M. Edmonds 1995. *Interpreting the Axe Trade: Production and Exchange in Neolithic Britain* (New Studies in Archaeology). Cambridge: Cambridge University Press.
- Byrne, D. 1998. Deep Nation: Australia's acquisition of an indigenous past. *Aboriginal History* 20: 82-107.
- Byrne, D. 2003. The Ethos of Return: Erasure and reinstatement of Aboriginal Visibility in the Australian Historical Landscape. *Historical Archaeology* 37(1): 73-86.
- Byrne, D. 2004. Archaeology in Reverse. In N. Merriman (ed.) *Public Archaeology*. London and New York: Routledge; pp. 240-254.
- Byrne, D. 2008. Heritage as social action. In G. Fairclough, R. Harrison, J. Schofield and J. Jameson (eds) *The Heritage Reader*. London and New York: Routledge; pp. 149-173.
- Campbell, S. 2001. The captivating agency of art: Many ways of seeing. In C. Pinney and N. Thomas (eds) *Beyond Aesthetics: Art and the technologies of enchantment*. Oxford and New York: Berg, pp. 117-135.
- Clarkson, C. and S. O'Connor 2006. An introduction to stone artefact analysis. In J. Balme and A. Paterson (eds) *Archaeology in Practice: A student guide to archaeological analyses*. Malden, Oxford and Carlton; Blackwell, pp. 159-206.

- Clement, E. 1904. Ethnographical notes on the western Australian Aborigines: With a descriptive catalogue of a collection of ethnographical objects from Western Australia by J. D. E. Schmeltz. *Internationales Archiv für Ethnographie* 16.
- Clifford, J. 1988. *The Predicament of Culture: Twentieth-Century Ethnography, Literature and Art*. Cambridge Mass. and London: Harvard University Press.
- 1997. *Routes: Travel and translation in the late twentieth century*. Cambridge, MA: Harvard University Press.
- 2004. Looking Several Ways: Anthropology and Native Heritage in Alaska. *Current Anthropology* 45(1): 5-30.
- Dobres, M.A. 1995. Gender and prehistoric technology. *World Archaeology* 27(1): 25-49.
- Dobres, M.A. 2000. *Technology and Social Agency: Outlining a practice framework for archaeology*. Oxford: Blackwell.
- Dobres, M.A. and J. Robb (eds) 2000. *Agency in Archaeology*. London and New York: Routledge.
- Douglas, M. and B. Isherwood 1979. *The World of Goods: Towards an Anthropology of Consumption*. London and New York: Routledge.
- Evans, J. 1872. *Prehistoric Stone implements Weapons, and Ornaments of Great Britain*. London: Longmans.
- Fischer, E.F. 1999. Cultural logic and Maya identity: Rethinking constructivism and essentialism. *Current Anthropology* 40(4): 473-499.
- Frison, G.C. 1968. A functional analysis of certain chipped stone tools. *American Antiquity* 33: 149-55.
- Gell, A. 1992. The enchantment of technology and the technology of enchantment. In J. Coote and A. Shelton (eds) *Anthropology, Art and Aesthetics*. Oxford: Oxford University Press, pp. 40-67.
- Gell, A. 1996. Vogel's Net: Traps as Artworks and Artworks as Traps. *Journal of Material Culture* 1(1):15-38.
- Gell, A. 1998. *Art and Agency*. Oxford: Oxford University Press.
- Gero, J. 1989. Assessing social information in material objects: how well do lithics measure up? In R. Torrence (ed.) *Time, energy and stone tools*. Cambridge: Cambridge University Press, pp. 92-105.
- Gero, J. 1991. Genderlithics: Women's roles in stone tool production. In J.M. Gero (ed.) *Engendering Archaeology: Women in Prehistory*. Oxford: Blackwell, pp. 163-93.
- Giddens, A. 1982. *Profiles and critiques in Social theory*. London: Macmillan.
- 1984. *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity Press.
- Gosden, C. 1999. *Archaeology and anthropology: A changing relationship*. London: Routledge.
- Gosden, C. 2004. *Archaeology and Colonialism: Cultural Contact from 5000 BC to the Present*. Cambridge: Cambridge University Press.
- Gould, R. 1980 *Living Archaeology*. Cambridge: Cambridge University Press.
- Griffiths, T. 1996. *Hunters and Collectors: The antiquarian imagination in Australia*. Cambridge: Cambridge University Press.
- Gupta, A. and J. Ferguson 1997. Culture, Power, Place: Ethnography at the end of an era. In A. Gupta and J. Ferguson (eds) *Culture, Power, Place: Explorations in Critical Anthropology*. Durham, NC and London: Duke University Press, pp. 1-21.

- Harrison, R. 2002 Archaeology and the colonial encounter: Kimberley spear points, cultural identity and masculinity in the north of Australia. *Journal of Social Archaeology* 2(3): 352-377.
- Harrison, R. 2003. The archaeology of 'lost places': ruin, memory and the heritage of the Aboriginal diaspora in Australia. *Historic Environment* 17(1): 18-23.
- Harrison, R. 2004a. Kimberley points and colonial preference: new insights into the chronology of pressure flaked point forms from the southeast Kimberley, Western Australia. *Archaeology in Oceania* 39(1): 1-11.
- Harrison, R. 2004b *Shared Landscapes*. Sydney: UNSW Press.
- Harrison, R. 2005 'It will always be set in your heart': archaeology and community values at the former Dennawan Reserve, northwestern NSW, Australia. In N. Agnew and J. Bridgeland (ed.) *Of the Past, For the Future: Integrating Archaeology and Conservation*. Papers from the Fifth World Archaeological Congress (WAC 5). Getty Conservation Institute, Los Angeles, pp. 94-101.
- Harrison, R. 2006. An artefact of colonial desire? Kimberley points and the technologies of enchantment. *Current Anthropology* 47(1): 63-88.
- Holdaway, S. and N. Stern 2004. *A Record in Stone: The study of Australia's flaked stone artefacts*. Canberra: Aboriginal Studies Press.
- Holmes, W.H. 1894. Natural History of Flaked Stone Implements. In C.S. Wake (ed.) *Memoirs of the International Congress of Anthropology*. Chicago: The Schulte Publishing Company, pp. 120-39.
- Ingold, T. 1990. Society, nature and the concept of technology. *Archaeological Review from Cambridge* 9: 5-17.
- Ingold, T. 2000. *The Perception of the Environment: Essays in livelihood, dwelling and skill*. London and New York: Routledge.
- Jones, R. and N. White 1988. Point Blank: stone tool manufacture at the Ngilipitji quarry, Arnhem Land, 1981. In B. Meehan and R. Jones (eds) *Archaeology with Ethnography: An Australian Perspective, Department of Prehistory Research School of Pacific Studies, The Australian National University, Canberra*, pp. 51-87.
- Kuchler, S. 2002. *Malanggan: Art, memory and sacrifice*. Oxford and New York: Berg.
- Kuper, A. 2003. The return of the Native. *Current Anthropology* 44(3): 389-402.
- Lalor, M. 2000. *Wherever I go: Myles Lalor's 'Oral History'*. Edited, with an introduction and afterword by Jeremy Beckett. Carlton South: Melbourne University Press.
- Last, J. 1995. The nature of history. In I. Hodder, M. Shanks, A. Alexandri, V. Buchli, J. Carman, J. Last and G. Lucas (eds) *Interpreting Archaeology: Finding meaning in the past*. London and New York: Routledge, pp. 141-157.
- Layton, R. 2003. Art and Agency: A reassessment. *The Journal of the Royal Anthropological Institute incorporating Man* 9(3): 447-464.
- Leach, J. 2007. Differentiation and Encompassment: A critique of Alfred Gell's theory of the abduction of agency. In A. Henare, S. Wastell and M. Holbraad (eds) *Thinking Through Things: Theorising Artefacts Ethnographically*. London and New York: Routledge, pp. 167-188.
- Lemonnier, P. 1986. The study of material culture today: Toward an Anthropology of Technical Systems. *Journal of Anthropological Archaeology* 5: 147-86.

- Lemonnier, P. 1992. *Elements for an Anthropology of Technology*. University of Michigan Museum of Anthropology, Anthropological Paper No. 88. Michigan: University of Michigan Museum of Anthropology.
- Leroi-Gourhan, M. 1964. *Le Geste et la Parole, vol 1, Technique et langage, vol 2, La Mémoire et la rythmes*. Paris: Albin Michelle.
- Lilley, I. 2000. Professional attitudes to indigenous interests in the Native Title era: settler societies compared. In I. Lilley (ed.), *Native Title and the Transformation of archaeology in a Postcolonial World*. Sydney: Oceania Publications, University of Sydney, pp. 99-120.
- Lilley, I. 2006. Archaeology, diaspora and decolonization. *Journal of Social Archaeology* 6(1): 28-47.
- Lilley, I. and M. Williams 2005. Archaeological Significance and Indigenous Knowledge: A View from Australia. In C. Mathers, T. Darvill and B. Little (eds) *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*. Gainesville: University of Florida Press, pp. 227-57.
- McBryde, I. 1978. *Records of times past: Ethnohistorical essays on the culture and ecology of the New England tribes*. Canberra: Australian Institute of Aboriginal Studies.
- McNiven, I. and L. Russell 2005. *Appropriated Pasts: Indigenous Peoples and the Colonial Culture of Archaeology*. Walnut Creek: AltaMira Press.
- Miller, D. 1991. *Material culture and mass consumption*. London and New York: Blackwell.
- Miller, D. (ed.) 1995. *Acknowledging Consumption: A Review of New Studies*. London and New York; Routledge.
- Miller, D. 1998. *A Theory of Shopping*. Cornell University Press.
- Murray, T. and J. Allen 1995. The forced repatriation of cultural properties to Tasmania. *Antiquity* 69: 871-4.
- Odell, G.H. 2000. Stone Tool Research at the End of the Millennium: Procurement and Technology. *Journal of Archaeological Research* 8(4): 269-331.
- Odell, G.H. 2001. Stone Tool Research at the End of the Millennium: Classification, Function, and Behaviour. *Journal of Archaeological Research* 9(1): 45-100.
- Odell, G.H. 2003. *Lithic Analysis*. New York: Kluwer Academic/Plenum Publishers.
- Robbins, R. 1991. *The work of Pierre Bourdieu: Recognising society*. London: Open University Press.
- Russell, L. 2001. *Savage Imaginings: Historical and contemporary constructions of Australian Aboriginalities*. Kew (Vic): Australian Scholarly Publishing.
- Sassaman, K.E. 1992. Lithic technology and the hunter-gatherer sexual division of labour. *North American Archaeologist* 13: 249-62.
- Sassaman, K.E. 2000. Agents of change in hunter-gatherer technology. In M.A. Dobres and J. Robb (eds) *Agency in Archaeology*. London and New York: Routledge; pp. 148-168.
- Schiffer, M.B. 1972. Archaeological context and systematic context. *American Antiquity* 37: 156-65.
- Schiffer, M.B. 1976. *Behavioural Archaeology*. Academic Press.
- Schlanger, N. 2005. The chaîne opératoire. In C. Renfrew and P. Bahn (eds) *Archaeology: The key concepts*. London and New York: Routledge; pp. 35-31.

- Semenov, S.A. 1964. *Prehistoric Technology: An Experimental Study of the Oldest Tools and Artefacts from Traces of Manufacture and Wear*. London: Cory, Adams & Mackay.
- Shanks, M. and I. Hodder 1995. Processual, post-processual and interpretive archaeologies. In I. Hodder, M. Shanks, A. Alexandri, V. Buchli, J. Carman, J. Last and G. Lucas (eds), *Interpreting Archaeology: Finding meaning in the past*. London and New York: Routledge, pp. 3-29.
- Shanks, M. and C. Tilley 1992. *Reconstructing Archaeology: Theory and Practice* (Second Edition). London and New York: Routledge.
- Shepherd, N. 2003. 'When the hand that holds the trowel is black...': Disciplinary practices of self-representation and the issue of 'native' labour in archaeology. *Journal of Social Archaeology* 3(2): 334-352.
- Sinclair, A. 1995. The technique as symbol in late glacial Europe. *World Archaeology* 27(1): 50-62.
- Smith, C. and H.M. Wobst (eds) 2005. *Indigenous Archaeologies: Decolonising Theory and Practice*. London and New York: Routledge.
- Smith, L. 2004. *Archaeological theory and the politics of cultural heritage*. London and New York: Routledge.
- Spivak, G.C. 1996. *The Spivak Reader*. Edited by Donna Landry and Gerald MacLean. New York and London: Routledge.
- Strathern, M. 1988. *The Gender of the Gift*. Berkeley: University of California Press.
- Thomas, J. 1995. Reconciling symbolic significance with being-in-the-world. In I. Hodder, M. Shanks, A. Alexandri, V. Buchli, J. Carman, J. Last and G. Lucas (eds), *Interpreting Archaeology: Finding meaning in the past*. Routledge, London and New York, pp. 210-211.
- Thomas, J. 1996. *Time, Culture and Identity: an interpretive archaeology*. Routledge, London and New York.
- Thomas, N. 1994. *Colonialism's Culture: Anthropology, Travel and Government*. Cambridge: Polity Press.
- Thomas, N. 1998. Foreword to A. Gell *Art and Agency*. Oxford: Oxford University Press.
- Tilley, C. 2004. *The Materiality of Stone: Explorations in Landscape Phenomenology*. Oxford and New York: Berg.
- Torrence, R. 1986. *Production and Exchange of Stone Tools: Prehistoric Obsidian in the Aegean*. Cambridge: Cambridge University Press.
- Trigger, B. 1989. *A history of archaeological thought*. Cambridge: Cambridge University Press.
- Wagner, R. 1992. The fractal person. In M. Godelier and M. Strathern (eds) *Big Men and Great Men: Personifications of Power in Melanesia*. Cambridge: Cambridge University Press, pp. 159-173.
- Wobst, H.M. 1974. Boundary Conditions for Palaeolithic Social Systems: A simulation Approach. *American Antiquity* 39: 149-8.
- Wobst, H.M. 2000. Agency in (spite of) material culture. In M.A. Dobres and J. Robb (eds) *Agency in Archaeology*. London and New York: Routledge, pp. 40-50.