Viewpoint

Can Archaeology Recover Past Intentions?

The issue of intentionality lies at the heart of most archaeological interpretation. In the course of excavation or analysis we uncover the traces of sequences of human actions that we then proceed to interpret in terms of an original form or an original purpose or meaning that lay inside the minds of prehistoric or early historic individuals.

To take a very simple example, we see a polished stone axe as an intentional end-product, and an axe rough-out as evidence of an arrested process, on the assumption (perhaps quite a reasonable one) that the desired objective was in each case to produce a polished stone axe. Many of those abandoned at the rough-out stage are interpreted by archaeologists who look for imperfections in the raw material or other blemishes — which again assumes a particular intentionality — that the makers would have completed the work if only some such factor had not come to dissuade them. The problem of 'intended' form underlies (and indeed threatens to undermine) many typological approaches in archaeology; at the very least it questions whether the patterning that we see corresponds to some desired and intended end-product. It is easy to assume that Palaeolithic flint-knappers had in mind the image of an end-scraper or a backed knife when they set about their task, but is this borne out by ethnography?

Such ambiguities are not restricted to artefacts but apply also to settlement, economy and symbolic or ritual behaviour. Were prehistoric burial mounds designed as finished wholes and built stage by stage, by successive generations, according to a preconceived plan? Or were they constantly in process of modification and redescription? Can we distinguish sacred spaces from profane? Can we determine whether particular effects were intended or were merely chance by-products; the acoustics of enclosed spaces such as burial chambers pose particular challenges of interpretation. Rock art may appear to depict animals such as deer or boar: but are these real, living animals or are they mythical or symbolic beings?

The concern with the built and the made extends into the wider prehistoric landscape when we consider the meanings traditionally attached to rivers, lakes or mountains. These are sometimes materialized (or at least hinted at) through special practices of deposition or though the carving or painting of images at sacred locations. This may lead us to suppose that particular places in the landscape held a special significance, but can or should we seek to go further, and suggest what meaning or meanings were attached to them?

The contributions to this Viewpoint consider issues of intentionality across a range of archaeological contexts, from lithics to landscape. There are no simple answers, but a careful reading of patterning and innovation may allow informed insights into the ways in which past individuals interacted knowledgeably and intentionally with their surroundings and with each other.

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Drinking from the Penholder: Intentionality and Archaeological Theory

Lynette Russell

Archaeology as a discipline has, over the last few decades, been somewhat of an eclectic forager, taking theoretical constructs, epistemes and heuristic models from a range of divergent academic fields and intellectual traditions. Whether or not this has been a useful way to advance the theoretical basis of the discipline is open to debate. It is clear, however, that we are now sufficiently advanced to continue to develop and refine a highly theorized archaeological epistemology. This essay represents an attempt to do this in relation to the question of 'can archaeology recover past intentions?'

For more than a century the concept of 'intention' and its correlate 'intentionality' has received considerable attention within the field of philosophy and the related disciplines of psychology and jurisprudence. In each of these areas intention is understood within a phenomenological framework. Phenomenology states that our awareness and subsequent comprehension of things (objects and concepts) can be readily divided into direct and indirect knowledge. Direct knowledge is formed experientially and relates to knowledge of universal properties, while perceptual objects can only ever be known indirectly (subjectively) — through what phenomenologists refer to as the object's aspect. Perhaps the most important contribution made by phenomenology is the understanding that the subjective view of experience is 'a necessary part of any full understanding of the nature of knowledge' (Moran 2000, 21).

Intention can only be known of subjectively and indirectly; it is according to Michael E. Bratman (1987) a functional phenomenon. Bratman proposes that believing and desiring social beings with limited time for deliberation, whose existences are consistent and co-ordinated with others, require states of mind that assist in making them effective agents. When Bratman's functional aspect is compared to Franz Brentano's understanding that 'the intentional object . . . [is] the mentally immanent object' (Moran 2000, 49), it becomes clear that intention is the crucial ingredient in action and in all manner of classes of actions. The distance between deliberation and action is mediated by the causality of intention. Determining intention archaeologically will be dependant on recognizing this link.

Contextual clarity is achieved by unravelling the layers of intention as presented within archaeology. At the most basic level there is the intention of object manufacture. Put simply, the identification of a recognizable artefact within an archaeological assemblage can enable the observation (or at least inference) of the manufacturer's intention, i.e. to create the object. Similar statements can be made for interments and inhumations, where it is clear that the intention was to bury the dead. Although these overly simple observations border on the banal, they nonetheless provide an important starting point. Using Bratman's functional postulate we can argue that intention/intentionality at this level provides a glimpse of agency.

While agency and intention beyond this level are considerably more difficult to ascertain, that difficulty presents an opportunity to expand our theoretical models. The production of an object, say a cup, may well demonstrate the intention of the manufacturer to make a cup. Understanding the intended use of that cup, whether it is to hold liquids, or sit on a desk holding pens is more speculative and open to theorization. Use-wear studies might alert us to the object's range of uses — ink residues suggest it was a penholder; tea and coffee residues indicate a drinking vessel. The tea residues, will not necessarily, however, indicate a tea-drinking ceremony. Indeed it would be open to speculation whether the tea was consumed in a religious or ritual context or simply as a morning beverage. Furthermore, use cannot be assumed to be synonymous with intention. Drinking vessels can become penholders, when a crack in the material makes it no longer waterproof, when a handle is snapped off, or when the object's attribution is changed. A gift or souvenir cup might well be more likely to become a pen holder as its significance as a drinking vessel is seen as less important than its relationship to a particular place or person. A manufacturer's intended function may not match a consumer's intended use. In this sense, *intentionality is a conceptual space that both separates and links potential function and praxis (as socially embedded individual action)*.

Whilst we might consider determining the cup/pen holder's intention to be difficult (though clearly not impossible), attempting to determine the intention/intentionality of non-physical phenomena is even more complex. Brentano posed a puzzle that is useful for archaeologists to consider. How, he asked, could a mind think about things that do not actually

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exist? This phenomenon is observed in religion, dreams, and fantasy, and even art. Thinking about things that do not exist in the physical world is according to Brentano and Husserl 'intentional inexistence'. For the archaeologist, perhaps the two areas most likely to comprise intentional inexistence are art, and religion or ritual.

The intended production of an object does not mean that the production was inevitable. Stone artefact assemblages frequently exhibit this situation when an item clearly intended to be a particular tool type (e.g. an arrow head) fractures during manufacture and the artisan chooses to take either one or both of the broken pieces and create different artefact(s). Intention in this instance can be seen to shift with each step of production. It was not, at the commencement of the process, the producer's intention to complete two artefacts. After the unintended breakage of the material, however, a change in intention occurred which from an archaeological perspective we can ascertain with a significant degree of plausibility. Similarly Bordes (1969, 1) has argued that 'one can drive a nail with the head of a monkey wrench' but that does not make it a 'true hammer'.

Intention in the above instance relies on conceptual consciousness or the presence of 'mental maps' of both the intended object and other potential objects. The existence of such maps can be detected in the regularity of artefact forms. Patterning evident through typology demonstrates the presence of a cognitive-template (Cahen & van Noten 1971; Adams & Adams 1991). According to Brentano's analysis, intentionality is a characteristic of mind that can not be explained in materialist terms. Yet within archaeology we have a possibility of exploring the material correlates of intention and determining intention from the material world.

An artefact's use and life-history challenges our capacity to grapple with intention in a way that is both instructional and theoretically constructive. Kopytoff explores the 'biographical expectations' of an object categorized as art and notes that the range of 'cultural responses to such biographical details reveal a tangled mass of aesthetic, historical, even political judgements, and of convictions and values that shape our attitudes to objects labelled 'art' (Kopytoff 1986, 67). Following Kopytoff (1986, 66–8), a car in Africa that was intended to function as a means of transport can be used to express status, provide parts for other cars and finally in disrepair it might provide shelter or housing for livestock. None of these uses were intended at the moment of manufacture but rather as the artefact's life history progressed decisions were made (reflecting the agency of the object's owner) that changed the object's intention. It is unlikely that even if we were to detect archaeologically the re-use of the object (e.g. car) that we would assume that this was the manufacturers intention, for to do so would run the risk of assuming '*post hoc, ergo propter hoc*'.

The issue of biography comes into play when attempting to determine the effects of multiple resharpening events upon scraper morphology. A classic example of this process is tula adze reduction by Aboriginal people of Central Australia. Each tula adze is produced with the potential to be resharpened many times until it becomes too small for hafting and the final, morphologically highly regular 'slug' form is discarded (Mulvaney & Kamminga 1999, 248–9). Many archaeological sites reveal, however, tula adzes that are only partly reduced. This inference is only possible because archaeologists possess a cognitive-template of the tula adze reduction process. All tula adzes are produced with the potential to be reduced to a 'slug' form, but not all reach this final stage. Such insights are only possible by examining large samples of artefacts and demonstrating the existence of multiple reduction end-points. Intentionality in this instance relates to the production of an artefact that has the potential to be morphologically dynamic through multiple resharpening events; it does not seem to refer to the eventual production of a slug form *per se* (see also Hiscock 1994, for a related discussion on the changing morphology of points). Under what circumstances the 'complete' reduction of a tula adze is not realized is a different question.

My current research project focuses on colonial Australia and concerns the history and archaeology of Aboriginal/European interaction. Intention in the form of Aboriginal agency and action is a central concern in my exploration. Some of the non-mutually exclusive categories of interaction include resistance, accommodation and appropriation. Aboriginal resistance is defined as those overt and violent, covert and subversive (e.g. sorcery) actions intended to repel or control the European invaders. Accommodation, a much disputed term, implies a negotiated or non-violent coexistence, while appropriation refers to the uptake of new technologies, materials or resources by either the colonizing Europeans or the Indigenous landowners. Theorizing the dialectics of each of these categories provides scope for an exploration of archaeological intention.

From an archaeological perspective the impact of colonial contact can be difficult to assess. Throughout the colonial world (e.g. America, New Zealand,

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Canada and Australia) indigenous people attempted to incorporate invaders and newcomers and the concomitant changing circumstances into their material and spiritual worlds. Some have argued that the application of 'traditional' techniques to new materials can be interpreted as a form of resistance — an intentional adherence to, and maintenance of, traditional activities (see Leone & Potter 1987; Birmingham 1992; Farnsworth 1992). Similarly, the refusal to take up new technologies, objects and materials might be judged an intentional act of resistance. Such suggestions presuppose an explicit intention to reject the new in favour of the old. Others have implied that changes in artefact composition, decoration and even function can be interpreted as a subversive reassertion of tradition or a form of passive resistance (cf. Adams 1989, 85). Intention at this level of abstraction becomes highly problematic and it is clear that interpretation is both fluid and inconclusive.

The relationship between resistance (and our capacity to recognize this archaeologically) and intention is vitally important to an exploration of agency and subjectivity. In my current project this relationship is of paramount significance as I am exploring the relationships between Australian Aboriginal and Maori women and the sealers and whalers of the late eighteenth and early nineteenth centuries. For the sake of brevity I will discuss one example. Kangaroo Island off the coast of southern Australia was home to itinerant sealers and their Indigenous 'wives' between 1802 and 1835. These women (and some Indigenous men) were kidnapped, traded and taken voluntarily from their homelands in Tasmania and South Australia. Archaeological sites and materials dating to this period suggest that it is virtually impossible to tease apart Kangaroo Island society into its constituent elements. It is precisely these reasons that make Kangaroo Island an ideal place to explore the (im)possibility of an archaeological exploration of intention.

Using traditional archaeological paradigms has resulted in a conservative view of the archaeology of Kangaroo Island. Such conservatism has, I argue, removed the agency from the historical actors and hence their intentionality. The stone and glass tools found around the sealers' camps are described as 'traditional' and are generally assumed to have been made by Aboriginal women. These objects, previous researchers suggest, demonstrate that the women were resisting their servitude and maintaining their cultural traditions. Indeed very little exploration is devoted to alternate views, as most archaeologists have assumed (unproblematically) that the women were responsible for manufacture (and probable use) of the stone and glass scrapers which are found associated with these sites (Harvey 1941; Campbell & Noone 1943; De Leiuen 1998; Draper 1999; James 2001). My interpretation of the archaeology of Kangaroo Island and the many other islands that were occupied during this period depends on a desire to ascertain the intention and subjectivity of the historical actors. This desire is embedded in an understanding of the relationship between intention, potential and action. Clearly the archaeological detection of past intention needs to be theorized.

The ambivalence of the object's manufacturer, the shifting phases of the artefact's biography or history and the agency of the individual at any given time to change its intention, all need to be thought through and contemplated as broadly as possible. That is not to say, however, that we might ever achieve a fully satisfactory archaeology of intention, but we can at least approximate a plausible, and even testable model. Ultimately, the capacity to answer the question of 'can archaeology recover past intention' can be summed up somewhat enigmatically as yes, no and sometimes. Depending on the level of intention (from manufacture or function through to intentional inexistence) our capacity to respond to the question will be constrained by our capacity to imagine and our ability to surmise.

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Lynette Russell holds the Chair in Australian Indigenous Studies at Monash University. She trained as an archaeologist before turning to historical and Indigenous studies and the application of post-colonial theory. Her book *Savage Imaginings* (2001, Australian Scholarly Publications) examines historical and contemporary constructions of Aboriginality. She has also written *A Little Bird Told Me* (2002, Allen and Unwin), edited *Colonial Frontiers: Indigenous-European Interactions in Settler Colonies* (Manchester University Press, 2001) and co-edited *Constructions of Colonialism: Perspectives on Eliza Fraser's Shipwreck* (Leicester University Press, 1998). She recently completed writing a book with Dr Ian McNiven on the colonial tenets of archaeology as practised in settler societies.

Intentionality, Agency and an Archaeology of Choice

Bruno David

The Australian archaeologist Claire Smith once noted that 'in theory, artists can depict anything they wish, but they don't' (Smith 1992, 29). She was pointing out that while works of art — and by implication other cultural products — are the outcomes of people's intentional actions, these products cannot be reduced to such intentions alone; while people may decide to make an object — a stone tool, a basket or the like — the particular ways they choose to do things are already prefigured by the field of possibilities characterizing the cultural traditions in which they dwell. Secondly, while a person can decide to make or do something, the end product may not necessarily be what was originally anticipated. Thirdly, we may think we understand a creation — and thus its intended place in society — but to what degree do we understand its meaningfulness, and thus its intended conceptual place, to those who made and used it? Questions of meaning necessitate positioning things in their ontological contexts. And fourthly, while a person may intend to create an object, its 'work' on society — its social and material outcomes — cannot usually be entirely predicted, and therefore an object's or action's outcomes are rarely entirely intended. The reason for an object's existence at any particular time is thus not just its originally intended function (be it decorative, extractive or other), but also the conditioning social circumstances of manufacture and use, and its subsequent life history. The problem is, as Umberto Eco (1994, 58) has noted, that while we may know the intention of the reader, can we know the intention of the text (which is what archaeologists begin with)?

Thus while the existence of a cultural object may allow us to say that an artist or other cultural being intended to *create* something (materially manifest as the object accessible to the archaeologist), it does not of itself allow us to determine the intentionality of the 'work' or life of the object following its creation. An object's intended functions can be examined from the material traces of use, such as residues on stone tools, or hinted functions, such as in the case of inter-tidal fish traps, but the intentionality of the effects of such uses cannot be directly known from the objects themselves; it can only some-

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times be surmised from various relational contexts. Thus an object's existence simply enables us to say that its production was intended within a pre-existing socio-hegemonic and behavioural framework. This, then, is the difficulty facing archaeologists aiming to access agency, intentionality and the individual mind from the archaeological record: while an object generally implies its intentional creation and use, we cannot know from the material remains alone whether or not people were from the outset aware of the eventual effects of their works on the world.

Let us for the sake of this context make a distinction between 'intentionality' and 'agency'. Intentionality concerns a person's conscious awareness — they *mean* to do something. The intention towards an outcome concerns the active and conscious reflection on the work of something, prior to its eventuality. For some — Husserl in particular — consciousness is not abstract, but always directed towards something; consciousness is always applied, and consciousness always involves intentionality. But this leaves us no closer to understanding the role of individual agency in praxis (where human agency is about a person exercising their power to impact on the world through intended actions), or why it is that, as Claire Smith has so aptly put it, 'artists can depict anything they wish, but they don't'. That is, it leaves us no closer to understanding how people both choose *and* are conditioned to act in one way as opposed to another way, nor the intentionality of the products of their actions.

Let us also take as given the proposition that archaeologists dealing with past societies without writing, or with societies that do not have close ethnographic continuities into the present, do not begin investigation with what was once in people's heads — with their consciousness — but rather with the material outcomes of their actions. While all acts contain elements of intentionality, not all outcomes of those acts are intentional. And herein lies the crux of the problem: as archaeologists we begin with the material outcomes of human actions rather than with intentionality itself, and from these we try to arrive at the original intentions (whose outcomes can rarely, if ever, be entirely predicted). This, then, is the problem: how can we deduce information about the things that led people to behave in certain ways (their intentions) via the material products of those behaviours? To understand how things come about we have to address not only people's conscious intentions ('I want to do this particular thing'), but also the field of determinate possibilities that has already prefigured the range of possible actions. This latter field of possibilities concerns what Gadamer has termed preunderstanding, the enactment of which Bourdieu described as *habitus*.

Hans-Georg Gadamer's (e.g. 1975; 1985; 1988) concept of 'preunderstanding' drew from Martin Heidegger's (1962) notion of '*Vorgriff*' in *Being and Time*. Preunderstanding concerns the initial conceptual conditions through which people understand and act within their worlds. It concerns a world whose presence is already known through the historicity of one's own being. All things appear to us through the cultural framework from which we approach the world. As Brice Wachterhauser (1986, 22) notes, people

> always have inherited a way of looking at things around them long before they begin to modify that way of looking and understanding. Our lives become defined by these preunderstandings; in this sense, we are our preunderstandings and we do not simply have them in the way we have a coat or a pair of shoes.

Like his friend and teacher Martin Heidegger, Gadamer argued that interpretation is overdetermined by a preunderstanding that guides and shapes a person's experience of the world, and in doing so the structure of social action (Bourdieu's *habitus*, as the bodily engagement of preunderstanding). This is the power of the social, articulated in material culture by the way objects make demands on our attention. What we therefore need to get to intention, as an act of conscious *choice* — and in doing so approach an archaeology of agency — is evidence of: 1) choices made from a range of possible alternatives; or 2) how people's actions transcend the social normative (as we have come to characterize it in preunderstanding and *habitus*), for such actions signal decisions made beyond the established alternatives. In such cases, we can assume that people intended one thing rather than another; in the case of 2) above, that people intended to go beyond the established norm (see below).

Having said this, let us now refocus our original question — 'can we recover past intentions from archaeological material' — to 'can we can recover past agency' (as intentional behaviour aiming to affect the world) from archaeological materials. Refocusing the discussion will better enable us to answer our original question. I suggest that a recovery of past agency is possible under two conditions of the archaeological record:

1. access to historical *events*; and
2. addressing *change*.

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The reason for this dual approach to the archaeological investigation of intentionality is that change implies the transcending of present (normative) ways of doing things, which in turn implies a break from existing social powers and hegemony. Can we say that one *intends* to do something any less where change is not evident because he or she follows an established way of doing things? No, but when a new way of doing things appears in the archaeological record, we can surmise a conscious awareness of choice and the intent to do something other than the established normative. With access to the social and other circumstances of change, we may then position ourselves to infer contextually the nature of that intentionality. Intentional decision-making beyond the act itself is more difficult to assume when evidence for innovation and for a set of alternative choices is absent. When we see a site or monument (or artefact) altered to a new purpose, archaeological patterns can thus reliably reveal the intentions of individuals or groups: we can with appropriate contextual details infer reasons for that change because change implies innovation, and innovation implies choice between a new idea and what came before it. Innovation implies people employing their power of agency. Such agency may take place when people in élite positions apply the system to further explicit aims or for personal benefit, or when subordinated individuals break through existing hegemonic practices to transcend their social subservience; there are many other possible social contexts for agency towards change. It is to one such archaeological example that I now turn.

The Wardaman are an Aboriginal territorial and language group in the Victoria River district, in Australia's Northern Territory. Wardaman country represents the lands whose owners under customary law were given the Wardaman language during the creative acts of the Dreaming (Sutton 1991, 50). The people who trace their ancestry as Wardaman hold exclusive primary indigenous associations with the land. The land, 'conceived in religious terms, is considered as having a cultural identity which it projects onto those people who are affiliated to its sites' (Kearney 1988, 7) (see Langton 2002, for a detailed discussion of similar Aboriginal relations with the land in another part of Australia).

During the recent past and into the present, Wardaman country was divided into 11 totemically-based territorial clan estates, each of which recognized a cosmological identity with specific Dreaming beings (e.g. Merlan 1994). While the entire landscape thereby gains its identity and is made discontinuous by its affiliations with disparate localized and landed Dreaming beings and events, some of which identify patri-estates, the entire landscape is united into a cosmological whole by its common participation in a unified system of beliefs informed by the Dreaming. In this sense, the way in which the various estates are divided and inter-linked at various levels reflects the pattern of Wardaman land tenure, land use, identity and cosmology. The land is inscribed with meaning, and all things present are sensual proof of the truth of those meanings.

Paintings and engravings in Wardaman country today and in recent times portray specific historical events and designate the identity of the local Dreaming spirits who give identity to places. In that people's own identities are defined by their Dreamings, rock art represents an assertion of the self in place (for details, see David 2002).

The arrival of Europeans and the concomitant establishment of cattle stations in the 1880s were experienced by the Wardaman as violent acts of invasion. One contemporary eye-witness account suffices to illustrate the point (see David & Wilson 2002a; Rose 1991; 1992 for further examples):

> Native life was held cheap, and a freemasonry of silence among the white men, including often the bush police, helped keep it that way. In far-off Perth, clerics and various 'protection' societies tried to get at the truth of stories of native killings . . . but up in the north men kept their mouths shut. The basic philosophy . . . was that the cattlemen had battled their way into this empty land with great hardship and high cost in lives and money; that they were there to stay, and if the wild blacks got in the way, or in other words speared men and killed and harassed cattle, they would be relentlessly shot down. It was as simple and as brutal as that. (Broughton 1965, 53, writing of his experiences in 1908, cited by Rose 1992, 9.)

By the 1930s, within the first 50 years of European intrusion, many Victoria River district groups were almost entirely exterminated, including the Karangpurru who had numbered more than 500 in 1880, the Bilinara, the Dagoman, and at least one portion of Ngarinman. Rose (1992, 7) estimates that 'Over the years, somewhere between 86.5 per cent and 95.6 per cent of the Aboriginal population of the VRD area was lost'. Although other (related) factors such as disease were also involved, to a very significant degree the losses can be directly attributed to the murder of Aboriginal people.

During the last years of the nineteenth century and early years of the twentieth century, when invasionary terrorism was at its worst, indigenous

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peoples in the Victoria River district began to paint very large, paired and striped figures of Dreaming beings on their lands — Dreaming beings who signal the land's identity and the Dreaming affiliations of the land's traditional owners. The paintings thus signalled territoriality and emplacement — these were signposts announcing land tenure and the people:Dreaming:land triad. These new paintings followed previous conventions but in new combinations: very large anthropomorphic images, paired, striped, one anthropomorph usually carrying a weapon (e.g. axe, boomerang).

Through their acts we know that people *intended* to paint images in places still accessible to them during times of invasionary terrorism. We can also contextually deduce that by beginning to paint (highly visual) images on cave walls at a time of invasion and terror, people were intentionally asserting their rights to be-in-place; indeed the novel images were painted in places of refuge from the invaders. The new artistic conventions were undertaken as an assertion of rightful emplacement, as resistance to the possibility of exclusion. Through their artistic decisions — in particular the choice of novel painting conventions — we can surmise that people not only intended to paint images, but also that these images were intended to operate under new social circumstances. By writing themselves onto the land the Wardaman and neighbouring groups intentionally asserted their rights to place — the intention was an act of affirmation of rightful emplacement, which from the outside we recognize as an act of resistance. The intentionality of the distal, less immediate work of the same artworks on society remain unknown, however, for such intentions remain indeterminate archaeologically: Derrida (e.g. 1973; 1982) has noted that the mark divides, creates disjunctions, but there is no way of telling to what degree people intended the art to engender social disjunctions beyond the affirmation of emplacement.

There are numerous questions that could be asked of an archaeology of intentionality and agency. For example, can we get to intentionality and agency from time-averaged data? Does intentionality concern individuals only, or can we get to a social intentionality? Space does not permit further discussion of these and other related questions. Without writing or recourse to oral details, archaeology rarely allows us to delve deeply into people's intentions to change the world (i.e. people as agents). But detailed investigations of contexts of production and/or use will often allow us to make specific statements about how people intended an object to 'work' in social praxis — it enables us to infer 'why' an object was originally created and/or subsequently used — as I have tried to do in the Wardaman example above. More commonly, however, we can access through social theory how objects work, how they make demands on people's attention, without broaching the subject of intentionality. Because of this, we can tell more about how the social use of objects creates hegemonic (power) relations (e.g. Umberger 2002) without recourse to intentionality; that is, more commonly we are able to address how people are affected by their products rather than how people intentionally affect the world. Yet despite this, what is largely missing from the discipline is an archaeology of hegemony, of the subliminal forces within which people dwell and act. If, as archaeologists, we wish to research patterns of social behaviour — that is, if we wish to understand patterned social behaviour in a particular place at a particular time — then to what degree are we asking questions about intentionality, and to what degree are we asking questions about the (social) forces that constrain, delimit, and direct potential intentions? Rephrasing our original question by turning it on its head, can we get to an archaeology of hegemony, of the subliminal social forces that condition intention? To use Claire Smith's illustrative phrase, what is limiting the range of things an artist *wishes* to depict in the first place? For while 'artists can depict anything they wish', their intentions (including their wishes) are from the outset delimited by a cultural field of possibilities.

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Slippery and Billy: Intention, Selection and Equifinality in Lithic Artefacts

Peter Hiscock

Although the most appropriate explanation for human activities has been long debated in the social sciences, few observers deny the purpose-driven nature of many aspects of modern human behaviour. One reflection of this opinion is the concentration of research effort on the exploration of prehistoric cognition. For instance, the mental processes underlying behaviour represented in the archaeological record are a specific focus of many archaeological studies. A fundamental issue being explored in such studies is the nature of cognitive differences between ancient hominids and the context and processes by which modern mental processes emerged. Stone artefacts play a central role in those deliberations, but the basic strategy of inferring ancient intent is increasingly under attack (see Bleed 2002; Dibble 1984; 1987; 1995; Hiscock & Attenbrow 2003; in press). Concerns often pivot on the existence of powerful mechanisms that may cause non-random archaeological patterning. Such patterning may not be the consequence of ancient knappers following a prepared plan leading to a fixed and specific, designed end-product — the proposition embedded in typological analyses of lithic assemblages.

Lithic typology is an analytical framework that reduces variability in artefact assemblages by focusing on describing the central tendency of only a small portion of the assemblage: retouched specimens and specific unretouched flakes and cores. This normative focus is usually justified by reference to the design presumed to be reflected in the form and abundance of retouch, employing the principle that artefact form is explicable in terms of the presumed purposes for which it was created (see Dibble 1995; Hiscock in press a; Steffen *et al.* 1998). Using this framework, lithic analysts infer intentions on many levels: distinguishing designed tools from debris, end-products from unfinished items, one functional design from another, and so on. Such analyses are typically based on the presence of a complex combination of morphological characteristics that are taken to be suggestive of design: repeated shapes, regular (usually symmetrical) form, morphological features in excess of those needed for the performance of activity, and extensive modification of a specimen

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(using the proposition that the more the specimen is shaped, the more obvious the design becomes). These traits are taken to be material expressions of the designs held by the artefact maker. In recent decades these principles have been employed not only in typological classifications, but also in depictions of the intents guiding manufacturing process. In this context Dibble (1995, 304) has explained that the *chaîne opératoire* '. . . is based on a very strong notion of intentionality on the part of prehistoric flintknappers, i.e. that every stage of manufacture is preconceived for the production of certain final and desired end products' (see also Sellet 1993).

One of the strongest critiques of typological-based statements of intent is founded on the problem of equifinality. Perhaps the best-known Palaeolithic example is the explanation of implement form in terms of the point at which specimens were discarded in a process of ongoing morphological modification incurred by resharpening. This mechanism has proved to be a powerful depiction of archaeological patterns at some sites, and a severe challenge to typological assertions of intent because it is an explanation that does not require archaeologists to presume types were end-products or reflect designs (see Dibble 1995). Resharpening models do not deny that the knappers' actions may have been laden with intention, but they do suggest the knappers' plan centred on goals of prolonging useability rather than creating specific implement morphologies. Debates about this and similar mechanisms have highlighted the question of how archaeologists might distinguish patterns associated with predetermined design from those that are not. By acknowledging the existence of pattern-generating mechanisms other than prepared design of end-products, lithic analysts are obliged to acknowledge the methodological complexities of identifying that aspect of intentionality from the material consequences of knapping behaviour, and the implications of being unable to do so unambiguously.

Concerns have also been expressed about the capacity of simple notions of directional and standardized manufacture of a designed end-product to account for the complexity of all lithic assemblages. For instance, Bleed (2002) observed that archaeologists often employ linear models to describe technological activities, while the archaeological evidence is frequently so variable and complex that linear models seem inappropriate. Concluding that ancient knappers '. . . did not think like modern archaeologists' Bleed (2002, 341–2) proposed that researchers should consider non-linear conceptual systems for understanding the non-random behaviours of ancient people. This is an intriguing suggestion, but the notion that non-random manufacturing patterns may not be explicable in terms of linear plans can be extended and explored both archaeologically and ethnographically.

One of the more productive uses of ethnographic observations is as a test of archaeological principles. Here I shall describe an example of Aboriginal knapping from the Australian desert that has implications for interpretations of intentionality in lithic material. As such, it adds to the observations of Australian Aborigines working stone, which have on occasion revealed alternatives to conventional principles used in archaeological analyses. It is a mistake, however, to consider ethnographic displays from Australia as aberrant or unique to that landmass. Hayden (1977) called the challenging ethnographic observations of Western Desert Aboriginal knapping 'surprises', because they presented images of artefact manufacture that were radically different from those presented by archaeologists; but it should hardly be surprising that modern human manufacturing behaviour is diverse, creative and socially complex. The only surprise is that archaeologists might expect ancient knapping to be otherwise. Late Holocene Australia may be considered to offer an exemplary opportunity to comprehend modern human knapping, since it contains not only abundant ethnographic observations of knappers but also archaeological evidence of the production of all major classes of stone implements: bifaces and bifacial points, 'microlithic' backed artefacts, scrapers, ground-edge axes, grindstones, and so on (see Hiscock 1994). Since there is no reason that the kinds of knapping activities observed in Australia were, in the past, restricted to Sahul, the following model of human knapping may have value in archaeological interpretations of both the Old and New World. Failure to consider this antipodean information would condemn archaeological interpretations to reproduce only one of a number of possible images of past intentionality; an outcome that could obscure variability in past hominid organization.

Ethnographic knapping in Australia

In September 1978 I spent time with Slippery Morton and Billy Dempsey, who were then old men, Alyawerre (Alyawarra) speakers from Amaroo, in Central Australia. Slippery and Billy were old enough to have been exposed to traditional practices of stone knapping and resin preparation when they were

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Figure 1. *Illustration of the body position of Billy Dempsey while knapping.*

young men at the start of the twentieth century. During that period Slippery was somewhat subdued because of a recent coronary and left most of the active roles to Billy. Slippery's incapacity may have modified their behaviour, but the activities I observed were virtually identical with the previously filmed knapping of these men.

Over one two-day period Slippery and Billy spent six hours knapping stone, a labour which produced 12 stone 'knives' set in resin handles. The men claimed to have a distinct image of suitable specimens: white quartzite flakes more than 8 cm long and with strong, circular edges. They described the functioning of these 'knives' as a cutting motion produced by a circular movement of the wrist. Billy and Slippery regarded the colour of the material on the cutting edge and main faces of the artefact as the most important trait. To qualify for selection, the colour of the flake had to be the brilliant white that was found in the unweathered inner section of quartzite boulders, rather than the grey or orange cortex encasing the boulder, a requirement often noted by observers of Aboriginal knappers from central and northern Australia (see Taçon 1991).

Despite these stated goals the specimens that were given resin handles were morphologically variable. They ranged from 6 cm to 15 cm in length, and had edge angles of 43° ± 15°. While some were circular in shape, others were semi-circular, or elongated with circular ends. Some flakes had feather termina-

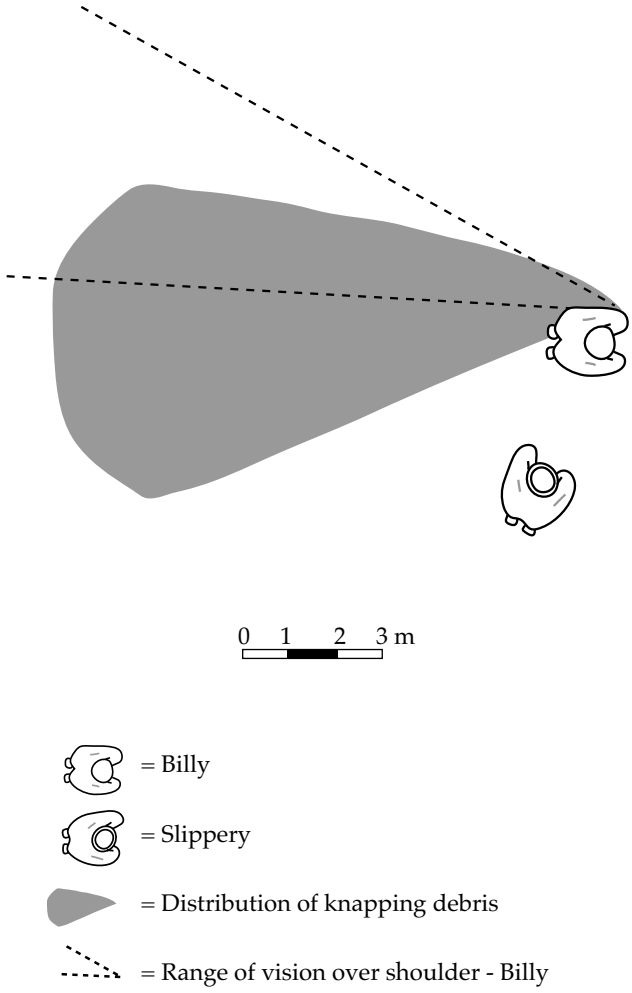


Figure 2. *A depiction of the spatial distribution of knapping debris in unvegetated areas. (From Hiscock in press b.)*

tions, while others had hinge terminations. Most specimens were unretouched, but one was retouched. This variation in tools can be partly understood in terms of the dynamics of the manufacturing process. The knapping involved a distinctive twisting, cross-body motion that struck flakes behind the knapper; a system commonly observed in Australia and which I have termed reverse knapping (Hiscock in press b).

The typical knapping posture for Billy was kneeling on the ground (see Fig. 1). The core rested on the ground to the left and in front of Billy's left knee, between 0.3 and 0.8 metres from his body. This core was positioned and manipulated by Billy's left hand. The hammerstone was held in his right hand. In the act of knapping Billy would bring the right hand round in an arc and down toward his left kidney, hitting the uppermost part of the core by his left knee.

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Table 1. *Retouching pattern.*

	Unretouched	Retouched	Total
Not selected	24	12	36
Selected	34	1	35
Total	58	13	71

$\chi^2 = 9.077$, d.f. = 1, $p = 0.003$, Cramer's V = 0.394

Successfully detached flakes would fly to the left and behind the knapper, hence the description of this as 'reverse knapping'. Figure 2 shows schematically the spatial relationship between Billy, the scatter of flakes he produced, and his field of vision when seated. Knapping created an elongated cone-shaped distribution of artefacts behind the knapper. Detached flakes landed out of Billy's sight and anywhere from centimetres to twelve metres from his back. The highest density of material was found up to four metres behind the knapper, and could not be viewed by him. Because Billy was unable to observe flakes he struck off, it was his habit to have an aide, in this case his friend Slippery. Slippery looked at the flakes that had been detached behind Billy's back and retrieved some for closer inspection. Slippery sat to the right of the knapper and parallel to, or slightly behind him (see Fig. 2). In that way Slippery was protected from any airborne flakes, but he remained some distance from the landing flakes; and on occasions where he was not far behind the knapper he also had to twist his torso to examine the knapping results. This created the intriguing circumstance in which a knapper was often unaware of the flakes that were produced, and the identification of flakes suitable for use was made by someone other than the knapper.

This circumstance provided the selection of flakes for hafting through negotiation between Slippery and Billy; a process that produced variable outcomes because of the different information available to each man. As Billy knapped he sang quietly to himself (a song he believed assured the eventual success of his activity) and at certain points in the song he had a strong expectation of producing a useable flake; he often exclaimed after striking those flakes. In addition Billy used the feel and sound of the blow as cues to alert him to those flakes which deserved inspection. Sitting to Billy's right Slippery's main cue was visual, reinforced with the sound produced as the flake was removed. Slippery often exclaimed when he saw a promising flake land behind Billy. Sometimes Billy did not suspect the possibility of a successful flake and continued both knapping and singing until interrupted by Slippery's yell. When either man felt a flake was worth examining he would alert the other, and both men would retrieve the specimen and discuss whether that flake was acceptable. Often the two men initially failed to agree on whether a flake was suitable, and the negotiation continued until one yielded. An example will illustrate the consequences of these different expectations and cues during the negotiation. On two occasions Billy, having struck off a flake, exclaimed loudly to the effect that he could 'feel' that a suitable flake had been removed. In both instances the flake in question had shattered and dispersed in fragments, although neither Billy nor Slippery saw this. Slippery was bemused at the absence of any 'good' flake behind Billy. The strength of Billy's conviction was great, however, and he strained, turning to his left, in an attempt to find his flake. Influenced by his friend's determined conduct, Slippery reached over and picked up a flake. Both Billy and Slippery accepted this artefact as a suitable knife, though both had previously examined and rejected it. This kind of negotiated outcome characterized the interactions of Slippery and Billy throughout the core reduction, as they selected thirty-five flakes for possible hafting. These flakes were placed in a box and moved to a site where resin handles would be applied.

The next selective activity took place at a different locality following transportation and involved taking flakes from the top of the box without any inspection. The top six flakes in the box were taken out and laid on the ground in front of Slippery and Billy. It was from this fraction of the thirty-five flakes in the box that a selection of flakes was taken for hafting. The choice of specimens was made after negotiation between the two men. When only two or three of the initial six flakes remained on display, or too few seemed suitable, more would be added from the uppermost flakes in the box, to provide a choice of five to seven displayed flakes. This process of 'blind', effectively haphazard, removal of specimens from the box to replace displayed ones that had been hafted continued until all of the resin had been used, leaving some flakes in the box which had not even been examined for their suitability during this second stage selection. The consequence of selecting from a haphazardly constructed sub-set of specimens rather than from all of the thirty-five flakes in the box was that the specimens hafted, and the order in which they were hafted, might depart substantially from the preferred rank order given by Slippery and Billy. If movements of the box had produced a size- or shape-sorted collection, that departure may have been regular and directional.

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Retouching was not a common practice in these initial stages of manufacture; flakes that were selected as suitable were rarely modified. However, when Slippery and Billy found flakes that had some appropriate characteristics but were not entirely acceptable, they sometimes altered them in an attempt to make them more suitable. Most commonly, this alteration was done by breaking (or attempting to break) the flake with the fingers. Only when this was unsuccessful did Billy retouch a specimen. On some flakes he tried to remove cortex, while on other flakes he retouched the sharp margin. This retouch usually produced a jagged edge and edge-angles with which Billy was unhappy. In fact, with one exception these attempts to modify unacceptable flakes were failures and each retouched flake was discarded without ever having been used (Table 1). Of those specimens examined and compared during core reduction there is a clear pattern of rejecting specimens that had been retouched.

Conclusion

This brief example of modern human knapping is congruent with many other ethnographic observations in challenging the narrow set of principles employed in archaeological classification. Emerging from this case study are three implications for inferences of intentionality developed from Palaeolithic artefacts.

The first and most obvious implication is a reminder that retouch, even extensive retouch, cannot be taken universally as an indication of the nature of design or as a signature of use or resharpening. This is hardly surprising, since Palaeolithic researchers have always understood that artisans could make mistakes, but this case study is spectacular in the consistency with which retouch is associated with items that were unacceptable to the artisan. This pattern operates for early stage production, those flakes retouched prior to hafting in an attempt to make them suitable for hafting and use; whereas later stage hafted flakes which were retouched to resharpen them are more likely to correspond to forms acceptable to the maker. Contextual distinctions of this kind may assist archaeologists in developing filters to identify better those specimens for which discussions of intent may be robustly developed; but in the absence of considerations of this kind the design status of retouched implements must be considered ambiguous, a manifestation of equifinality. Associations of morphology and use-wear are rarely simple in Palaeolithic assemblages (e.g. Beyries 1988), and in any case the argument that morphologies are designed to facilitate specific uses is problematic (see Dibble 1995; Hiscock & Attenbrow in press).

A more radical surprise is the observation of selective mechanisms involving the random or haphazard drawing of specimens from created subsets constraining the choices made by the knapper. While the example presented above involved the selection of unretouched flakes for transport and hafting, similar blind selections might conceivably operate in the selection of specimens for retouching, use, or resharpening. Where such procedures are in place they may have a powerful effect on the outcome of the manufacturing process, including the variability displayed by tools. The processes by which specimens are chosen for transport, reworking or use warrant close examination simply because of their consequences for inferences about knappers' intentions. Slippery and Billy remind archaeologists that the interpretive choice is not between design and randomness in human tools, any more than it is in biological systems. Selective mechanisms may act to create patterns which need not be congruent with ethno-taxonomic categories or with the stated goals of the knapper. A process of this kind generates significant complexities in developing inferences concerning the designs of ancient knappers. Yet selection itself may be an indication of intention, and the existence of complex selective processes may provide archaeologists with an insight into the mode by which decisions were made in ancient societies.

This proposition is visible in the most intriguing and significant observation provided above: that many of the key decisions made by Slippery and Billy did not involve the predictable application of predefined and inflexible templates, but were instead negotiated through a complex social interaction between the two men. Decisions they reached were dynamic and contingent on the social context in which they operated, the outcomes variable and unpredictable. A view of decision-making in knapping as socially negotiated, as co-operative rather than individual, and as contextual rather than normative, creates new interpretive possibilities for Palaeolithic archaeology. In particular it yields a novel perspective on implement variation. Many archaeological studies of implement variation imply ancient knappers created standardized items as far as production technology and perceptual system permitted (e.g. Eerkens & Bettinger 2001), raw material shape and quality allowed (e.g. Brantingham *et al.* 2000; Dibble 1985), or functional and economic pres-

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sures encouraged (e.g. Torrence 1986). Such studies sometimes presume knappers hold a defined image of the objects to be reproduced and that their capacity to manufacture artefacts resembling that image is dependent on the precision of the production process and the advantage conferred by standardization. Elements of this framework are embedded in the idea that typological variation may measure the abundance of predefined normative images held by knappers, as measured by the number of implement categories in any assemblage (e.g. Foley 1996). These views of the fixed character of predefined plans and the rigid process by which they are given material form are not compatible with the process of ongoing social negotiation during manufacturing activities that Slippery and Billy reveal. While archaeologists have concentrated on a vision of knapping as an isolated activity in which the knapper replicates a predefined norm, this is only one mode of lithic production, and co-operative processes involving social interaction represent an alternative mode. The existence of at least two distinguishable expressions of intentionality in knapping, one that attempts to 'impose form' (*pace* Mellars 1989; 1996), and another that 'negotiates form', raises the spectre of equifinality again and demands an exploration of the criteria by which archaeologists will recognize each process in Palaeolithic implements. The exploration of this issue is likely to be intricate, since we can anticipate that there may have been multiple mechanisms of social interaction operating at different intensities and creating different patterns of implement variation.

The importance of distinguishing these contrasting expressions of intentionality may be illustrated by reference to significant archaeological transformations. One transition in Australia has been cited by Hiscock & Attenbrow (2003) as indicating the theoretical challenge we face: a transition from assemblages with no obvious imposed form, in which the extent of reduction is responsible for all implement variation, to assemblages dominated by standardized and carefully constructed implements. The interpretive challenge in Australia exists because modern humans manufactured all the assemblages, and an explanation that people lacking complex cognitive capacities created earlier assemblages is not tenable; a different explanation must be offered. The Australian situation stimulates a re-examination of other major archaeological changes of the same kind, such as the Middle to Upper Palaeolithic transition. Perceived difference in the production of tools between the Middle and Upper Palaeolithic has sometimes been explained by reference to the emergence of symbolism and conceptualization in the hominid lineage: with no well-defined or distinctive tool concepts present in the European Middle Palaeolithic and the appearance of these cognitive frameworks around the time that the Upper Palaeolithic began (e.g. Mellars 1991; 1996; Noble & Davidson 1996). Conventional typological depictions of this transition in terms of the emergence of large numbers of predefined implement concepts is an interpretation grounded in a view of individual knappers passively reproducing fixed social norms. Such a model may be obscuring the role of dynamic social constructions of implement variability at some periods or in some contexts. For instance, one possibility is that the Middle to Upper Palaeolithic transition in western Europe does not simply mark the development of 'imposed form' (Mellars 1989; 1991; 1996), but may indicate a change in the way social dynamics are played out in knapping; reflecting an emphasis on dynamic corporate decision making in the Middle Palaeolithic and a shift to more private, passive or normative decision making in the Upper Palaeolithic. From this perspective the proposition that continuous variation in archaeological assemblages necessarily indicates an absence or simplicity of cognitive capacity might be confronted by an alternative model in which dynamic social interactions underpin the archaeological configurations we observe.

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Mind and Body in Landscape Research

Christopher Tilley

> 'Don't you find it all a bit depressing in the end? You'll never really know what was going on' (student comment)

Intentionality would seem to be the fundamental concept in all prehistoric landscape research. We want to know the reasons why people chose to settle in one place or another, built particular types of monuments where they did, how they moved around the landscape, procured, exchanged and consumed material and non-material resources, deposited artefacts, etc. If, then, we are hoping to interpret the patterns we perceive in the landscape in terms of intentions or reasons, archaeological research becomes inevitably cognitive in nature: we all have to be mind-readers.

From a traditional perspective, understanding the nature of prehistoric minds supposedly provides the key to interpreting material culture because the latter is a product of the former. We have to try and reconstruct the way people thought about the landscape in order to understand the manner in which they lived in it. Reconstructions of these prehistoric

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mind-sets in the literature — usually implicit, because particular types of cognitive processes are rarely discussed — currently range between the extremes of a utilitarian logic of practicality and functionalist efficency, and a symbolic logic without any apparent constraint apart from, perhaps, its own internal coherence. Landscapes and environments either more or less determine what people do or they are blank slates in which anything becomes possible.

Yet whatever kind of logic we infer we're all bad mind-readers at the end of the day. Almost all statements in archaeological publications are replete with standard qualifications, the words: 'perhaps', 'possibly', 'could be', 'might be' fill our texts simply because the one thing that we can be certain about is that we can't think like prehistoric people and can never know their minds.

This, of course, is only the tip of the interpretive iceberg. Besides people having intentions or reasons for their actions we may need to consider differences between individual intentions and collective intentions. Then there are the unintended consequences, or outcomes of actions, which need to be taken into account, differences between the reasons behind making something and how it is received and understood by others. Furthermore, differences between discursive consciousness and practical, routinized or 'habitual' thought may be important. A classic understanding in anthropological research is that people frequently say one thing and do another. The reasons for their actions may typically be rationalized afterwards and therefore do not provide a reliable guide anyway to understanding why they have acted in one way or another. Fortunately this is not a problem for archaeologists as the archaeological record is the outcome of actual practice. Nevertheless, unacknowledged reasons or intentions are often fundamental: people may not be fully aware themselves of what they are doing and why. So the intentions an archaeologist might reconstruct would often not be the same as those which might have been held by prehistoric agents if we could only interview them. To cap it all, intentions or reasons for actions are rarely simple and singular. They are often complex and multiple and change through time.

Consequently there is never likely to be one way to understand landscapes in terms of intentions, but many. It becomes a multiple field of interpretive possibilities, a dialogue between the archaeologist and the material remains of practice. The only reason to be depressed about this is if we are striving for certainty. But that is not the name of the game in any social science. Just as we can't read past minds, we can't read those in the present either. Whether we can even understand our own individual minds adequately is inherently problematic. We try to make sense of the material with which we work, explore interpretive possibilities which may throw more, or less light, on that which we seek to understand.

Material culture bears meaning and, because it has meaning, a recourse to mind in terms of seeking reasons or intentions for its production seems almost inevitable, bringing with it all the kinds of considerations mentioned above. Fieldwork in landscape archaeology crucially depends on the assignment of intentionality. The art of being able to make the statement 'this is a round barrow', 'this is a megalithic tomb', as opposed to a natural undulation or rock in the land surface, instantly makes a place meaningful for us. Then we can ask: why is it there? and what was it for? We do not ask such questions with regard to natural features. This culture/nature distinction, however, is in many ways problematic. A hill or a rock formation which nobody has made can, of course, be as meaningful as the round barrow or the megalith and sometimes more so. Consequently we need to uncouple the concepts of meaning and intentionality. The former is always assigned, the latter occurs because of human involvement. One of the problems of landscape research until recently has been a failure to do this so that the significance of 'natural' places for human settlement and land use have typically been downplayed or ignored.

Meaning may, in principle, reside anywhere in a landscape. Intentionality, by contrast, is fixed in it through human action, but both are invested in specific places. By investigating the relationship between natural places and cultural places in the landscape we can hope for a fuller and more nuanced interpretation. In doing so, an interpretive stress on mind in terms of intentions and reasons becomes radically altered. We do not require these concepts when investigating the potential significance of hills or stones but we are, of course, still interested in the manner in which people may have thought about and related to these places. This is a question of perception.

The traditional view of perception is that it flows from the mind. We are therefore dealing solely with cognitive processes. An alternative phenomenological view suggests that perception flows from the mind in the body. In other words, the manner in which humans perceive the world is intimately bound up with the kinds of bodies we all have, and in a basic sense, share. We see the world in and through the fleshiness of our bodies: perception is embodied. Now this perspective moves us away from

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a focus on intentionality and meaning as traditionally understood and in the manner discussed so far. We do not just interpret with our minds in a distanciated way, but through our sensing bodies. The body, in effect, becomes a primary research tool. We understand landscape not just through thinking about it, employing concepts of meaning and intentionality but through feeling it, through being there: the significance of the stone or the hill as experienced through the body. The logical outcome of this perspective is to call radically into question all forms of landscape research which are purely cognitive and attempt to reconstruct reasons or intentions without relating these to the physicality of bodily experience, at rest or in movement, in the landscape itself.

There is a further and more radical consequence of this stress on the embodied nature of experience: the need to call into question a distinction between persons with their minds and intentions, or reasons, and stones and hills and megaliths and barrows without any of these. A notion of intentionality has always been the key attribute of agency. It creates the familiar distinction between active subjects who think and passive objects that are inert and may have meanings ascribed to them or not. However, natural features of the landscape have effects on people as do cultural products. They may constrain or determine how one may move and what one perceives. In this sense they possess agency without thought or intentionality: they are more like subjects than objects (Tilley 1999). The power of this agency has profound effects on the manner in which we experience them and think them through our bodies. Landscape research then becomes the art of describing and discussing what kinds of effects natural features and cultural monuments have on us through our bodily experience of them. Quite crucially this leads to a redefinition of meaning in which we move away from considering it simply in traditional cognitive terms and linking it with a notion of intentionality. In other words we can discuss the bodily effects of landscapes: *how* landscapes come to be meaningful; and uncouple this question from *what* these landscapes meant. We can suggest reasons why the position of a natural stone or the location of a barrow was significant without necessarily having to translate this further into specific statements such as: 'it was significant because it may have represented a founding ancestor'.

I will try to illustrate this point by referring to an ongoing study of rock art in the landscape (see Tilley 2004, ch. 4; Tilley n.d.). While rock art typically occurs on 'natural' stones in landscape settings most work has ignored both. The study of rock art has always been dominated by the attempt to interpret the specific images. On one level this is simply about denotative meaning: is it a horse or a deer, a boat or a sledge? Then we move on to questions of connotative meaning and almost automatically want to know: what does this representation symbolize? What was its significance in the mind of the person who carved it? We go straight back to all the problems of trying to grapple with intentionality and meaning discussed above. We may get depressed and give up altogether, or simply write the images off in some way according to a standard rote formula, e.g. as yet another example of so-called 'entoptic phenomena,' or seek another kind of solace in the acts of documentation, and counting and measuring the images.

The alternative to this is to investigate: 1) the relationship between the images and the form and character of the rocks on which they occur; 2) the landscape settings and relationships between these rocks; and 3) the manner in which the carved panels and the individual images physically impact on an observer and the manner in which perception of them is mediated through the human body itself, either at rest, or in movement. It is this last point I will expand on here.

The images themselves, according to their specific arrangement on the rock surface, clearly perform work. They exert an agency through the body that must look down, look up, move among them, or view them at a distance, walk to the right or to the left, turn and so on. They may also, to various degrees, exert a purely visual fascination and power by drawing in and transfixing vision, acting as 'traps' (see Gell 1998). Moving around, between and over the decorated rocks always involves an encounter with image fields of different densities and intensities: those that hold attention, and those that only require a glance, those that make you stand still and those that demand changes of position and posture. There is thus a theatrical and performative element to the power of these images in terms of the degree of attention they hold and the experience of their encounter. We can thus discuss these images and the powerful effects they have on an observer's body entirely without recourse to a traditional emphasis on intentionality and meaning. Furthermore we can compare and contrast the different bodily effects of images on different rocks: on this rock I must move along it in a linear fashion in order to see them, on another rock I must move around the images in a circular motion and so on. This is important because

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part of the reception, and therefore the significance of the images, was how they are perceived by an observer. Whether the effects these images have on our bodily reception of them was discursively intended by the rock carver(s) or an unintended consequence of their action(s) is something that we can then go on to discuss. What is important here is that we can describe and discuss the bodily effects of the images in an adequate fashion entirely without needing to make reference to specific intentions in the mind of the rock carver with regard to the meaning of the imagery (e.g. the circle cross was a sun symbol).

Similarly, we can describe the bodily effects of rocks, hills, monuments, etc., and their relationships in the landscape, without recourse to a traditional notion of intentionality and meaning. My answer then to the question under debate 'can archaeology recover past intentions?' is that we can indeed do this from a phenomenological perspective stressing embodiment, but not from a traditional cognitive viewpoint demanding that we interpret what things mean or connote.

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